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A political integration perspective

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Cross-border cooperation in the Fehmarn Belt Region

A political integration perspective

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Ph.d. Thesis
Roskilde Universitet

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Ph.D. Thesis by:

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July 2015

Preface and Acknowledgments

This research project was developed as a part of the Green STRING corridor project, which ran from November 2011 to December 2014 and aimed at analysing the potential for developing a green transport corridor through the STRING region. The PhD project itself addresses the potential for cross-border cooperation between regional actors in the Fehmarn Belt Region, resulting from the decision of the Danish and German governments to build the Fehmarn Belt Tunnel and from the activities aiming at developing a green transport corridor in the region. It was develop in contact with public and private actors involved in cross-border cooperation, from which part of the knowledge originates. It has been financed at 50% by Roskilde University and 50% by the European Union.

I would especially like to thank, my supervisors Per Homann Jespersen (Assistant professor at Roskilde University) and Leif Gjesing Hansen (Senior consultant at Region Sjælland) for their supervision, which helped me to clarify and polish the research design and the manuscripts.

Marianne Jacobsen, Hannah Ellingsgaard and Jean Endres for participating in sustaining a small but lively transport research group at Roskilde University, with room for good academic and social exchanges.

Cormac Walsh from Hamburg University and Frank Othengrafen from Hannover University for their participation to publication 5 and the valuable reviewing they provided, and especially Cormac for having made possible a guest visit at the Geography department of Hamburg University that triggered the discussions addressed in this publication.

Pierre Johnson from Blekinge Institute of Technology for his valuable help in proofreading most of the texts in this thesis.

And last but not least, my wife Luanne for her understanding during the many long nights in front of the computer and the travels abroad that this research has necessitated.

Summary

The present thesis analyses the potential for cross-border cooperation triggered by the coming Fehmarn Belt Tunnel, which will shorten the distance and travel time between northern Germany and the Öresund Region. Besides considerations related to transport flows and transport infrastructures, this tunnel is expected to trigger the economic and political integration of Scandinavian and north German regions into what is now being labelled as the Fehmarn Belt Region.

This research is a theoretically informed case study of the Fehmarn Belt Region based on empirical data collected from printed and online documents, Interreg databases, expert consultations and field observations to cross-border activities, which aims at understanding cross-border cooperation in practice, while refining the conceptual framework in the light of the collected data. The result is a reflection on existing theoretical approaches to cross-border cooperation and a critical reflection on the TEN-T strategy based on its territorial impact in the Fehmarn Belt Region.

Cross-border cooperation is thus the starting point of the study. However, neither the Fehmarn Belt Tunnel, nor transport policies, nor cross-border cooperation develop in a political and legal vacuum. The research progresses thus from the overarching TEN-T and Cohesion policies down to the cross-border cooperation activities they trigger at the subnational level. The final objective is to find which institutional and structural factors are important for cooperation of subnational actors in the region, in order to discuss how to enhance it. Cross-border cooperation is approached as the agglomeration of multiple overlapping networks involving policy-makers and experts, which serve as spaces for the exchange of knowledge, agglomeration of interests, bargaining, and development of common visions that can support the coordination of policies related to the coming Fehmarn Belt Tunnel.

In order to study those networks, the research starts with a conceptual framework combining policy networks and multi-level governance, as used in EU studies. This contextual approach is chosen because the cross-border cooperation of regional actors is subject to external stimuli from supranational and national policies as well as from the position of subnational actors in domestic policy-making and

administrative processes. The objective is to provide a more complete picture of the processes inside those networks in relation to the structural context in which they develop, to observe the internal and external structural challenges actors face, and evaluate how they can serve as support for political integration and joint policy-making in the region.

The results indicate that challenges to cooperation in cross-border networks can be aggregated into administrative discrepancies linked to different governmental structures, discrepancies of geography and scale, prioritization of resources, access to funds, intergovernmental behaviour, and cultural mismatch. Intergovernmental behaviour, which qualifies a tendency to develop cross-border strategies in a domestic forum based on domestic issues, seems to be a significant challenge for cross-border cooperation in the region. Additionally, it seems that two types of networks develop following two distinct logics, a territorial one based on institution-building and a functional one based on functional issues. Those two logics conceive different spaces and split policy-makers in political actors and practitioners/experts, which makes the overall harmonisation of a cross-border policy-making process more difficult.

A political integration perspective supports the capacity of functional logic to mitigate the aforementioned challenges linked to a largely intergovernmental behaviour of regional actors. An integration of the functional types of cooperation to existing institutional networks seems thus to be a necessary step to intensify cross-border integration in the region. This functional logic is particularly strong among planning practitioners (civil servants, experts), which have a significant influence on the knowledge used for policy formulation. Strategies to integrate them further into institutional networks would thus be a constructive way to support cross-border cooperation in the region. Such a functional integration would require the establishment of joint-planning committees. However, policy-making and planning are by essence rooted in space and culture. As a result, such an integration is hampered by being split in different national systems while at the same time inducing a mutation of the spaces and conventions of reference of the participants. Improving cross-border cooperation requires thus a better understanding of how to reduce those discrepancies in practice.

Dansk Resumé

Denne Ph.d.-afhandling analyserer potentialet for grænseoverskridende samarbejde muliggjort af den kommende Femern Bælt-tunnel som vil forkorte afstanden og rejsetiden mellem Nordtyskland og Øresundsregionen. Udover overvejelser vedrørende transportstrømme og transportinfrastruktur forventes denne tunnel at udløse en økonomisk og politisk integration mellem de skandinaviske og nordtyske regioner i hvad der nu er blevet stemplet som Femern Bælt-regionen. Denne forskning er et teoretisk informeret casestudie af Femern Bælt-regionen baseret på empiriske data indsamlet fra trykte og online dokumenter, Interreg databaser, ekspertkonsultationer og feltobservationer som sigter efter at forstå det grænseoverskridende samarbejde i praksis samt at raffinere begrebsapparatet i lyset af de indsamlede data. Resultatet er en refleksion over eksisterende teoretiske tilgange til grænseoverskridende samarbejde og en kritisk refleksion over TEN-T-strategien baseret på dets territoriale påvirkning af Femern Bælt-regionen.

Grænseoverskridende samarbejde er således udgangspunktet for undersøgelsen. Men hverken Femern Bælt-tunnellen, transportpolitik eller grænseoverskridende samarbejde sker i et politisk og juridisk tomrum. Forskningen skrider således frem fra de overordnede Samhørigheds- og TEN-T politikker ned til de grænseoverskridende samarbejdsaktiviteter, disse politikker udløser på det subnationale niveau. Det endelige mål er at finde ud af hvilke institutionelle og strukturelle faktorer der er vigtige for de subnationale aktørers samarbejde for at diskutere hvordan man kan forbedre det. Tilgangen er at grænseoverskridende samarbejdet anskues som et agglomerat af flere overlappende netværk, der omfatter politiske beslutningstagere og eksperter, og virker som et rum for vidensudveksling, interesse-agglomerering, forhandlinger og visionsudvikling der kan understøtte en koordinering af politikkerne angående den kommende Femern Bælt-tunnel.

For at studere disse netværk, starter undersøgelsen med et begrebsapparat der kombinerer policy networks og multi-level governance (MLG) som det anvendes i EU-studier. Denne kontekstuelle tilgang er valgt, fordi det regionale grænseoverskridende samarbejde er underlagt eksterne stimuli fra overnationale og nationale politikker samt aktørernes placering i den politiske beslutningsproces. Formålet er at give et mere fuldstændigt billede af de processer som udvikler sig i disse netværk i forhold til den strukturelle kontekst, hvori de udvikler sig. En forståelse for disse

processer bruges for at forstå de interne og eksterne strukturelle udfordringer, aktørerne står overfor, og vurderer hvordan de kan bruges til at understøtte politisk integration og grænseoverskridende policy-making i regionen.

Resultaterne viser at udfordringerne for samarbejdet i grænseoverskridende netværk kan aggregeres i *administrativ diskrepans* som stammer fra forskellige statslige strukturer, *geografisk og MLG diskrepans*, *ressourceprioritering*, adgang til *midler*, *intergovernmental adfærd* og *kulturelle forskelle*. Intergovernmental adfærd, som betegner en tendens til at udvikle grænseoverskridende strategier i et nationalt forum baseret på nationale spørgsmål, synes at være en betydelig udfordring for det grænseoverskridende samarbejde i regionen.

Derudover ser det ud til at netværkene udvikles efter to forskellige logikker, en territorial logik baseret på opbygning af institutioner og en funktionel logik baseret på løsning af funktionelle spørgsmål. Disse to logikker har forskellige rumlige forankringer og segmenterer de politiske beslutningstagere i *politiske aktører* og *planlægningspraktikere/eksperter*, hvilket gør den overordnede harmonisering af en grænseoverskridende policy-making vanskelig.

Et politisk integrationsperspektiv underbygger den antagelse af en funktionel logik kan nedsætte de ovennævnte udfordringer som stammer fra en intergovernmental adfærd fra de regionale aktører. En integration af den funktionelle logik i de eksisterende institutionelle netværk synes således at være et nødvendigt skridt for at intensivere den grænseoverskridende integration i regionen. Denne funktionelle logik er særlig stærk blandt planlægningspraktikere (embedsmænd, eksperter), som har en betydelig indflydelse på den viden der anvendes til politikformulering. Strategier for at integrere dem yderligere i institutionelle netværk vil således være en konstruktiv måde at støtte det grænseoverskridende samarbejde i regionen. En sådan integration kunne gå gennem etableringen af fælles planlægningsudvalg. Dog udfordres praktikeres grænseoverskridende samarbejde af divergerende rumopfattelser og af forskellige planlægningskulturer. En sådan integration kræver derfor en bedre forståelse for planlægningskulturer og rumlige forestillinger hos praktikere i landene på begge sider af grænserne.

Abbreviations

CBC – Cross-border cooperation/collaboration
CBR – Cross-border region
CB – Cross-border
CEF – Connecting Europe Facility
EGTC – European Grouping of Territorial Cooperation
ECSC – European Coal and Steel Community
ERTMS – European Rail Traffic Management System
EU – European Union
FBR – Fehmarn Belt Region
FBT – Fehmarn Belt Tunnel
GC STRING - Green STRING corridor project
LVB - Landesbetrieb für Verkehr und Straßenbau
MBBL - Ministeriet for By, Bolig og Landdistrikter
MELUR - Ministerium für Energiewende, Landwirtschaft, Umwelt und ländliche Räume (Schleswig-Holstein)
MLG – Multi-level governance
ÖR – Öresund Region
PNA – Policy networks analysis
SNA – Social network analysis
TEN-T – Trans-European transport network
WP1 – Work package 1

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Section 1

Conceptual framework and synthesis
This section situates the research within its broader theoretical background, gives a detailed account of the methodology, summaries the publications and concludes the research. Its purpose is to present the common thread of the research and enlighten the reading of the publications.

1. Introduction

The coming Fehmarn Belt Tunnel, which is a priority project of the EU's TEN-T strategy, will shorten the distance and travel time between northern Germany and the Öresund Region. Together with the Great Belt Bridge and the Öresund Bridge, it is the last missing link to complete the connection between Scandinavia and continental Europe started by the Danish and Swedish governments some 25 years ago. As such, it will increase transport capacity for people and goods from Scandinavia to the rest of the EU. However, besides considerations purely related to transport flows and transport infrastructures, this tunnel is also expected to impact the integration of Scandinavian and north German regions, both economical and politically, in the way the Öresund Bridge did between Denmark and Sweden. Such an impact can already be observed through the increasing cross-border activities in the region and through the appearance of a new cross-border region under the name: Fehmarn Belt Region. There are already two cross-border political platforms spanning over the Fehmarn belt straight and many cross-border projects dealing with the expected construction of the tunnel, but the recent validation of the construction budget by the Danish parliament means that the tunnel is getting closer to the mind of subnational authorities and private actors in the region. However, while the Great Belt Bridge connected two parts of the same national economy and the Öresund Bridge linked two neighbouring urban areas, the Fehmarn belt connects rural territories with weaker economies. Nonetheless, public actors in the region expects benefits on local, regional and inter-metropolitan integration between Copenhagen and Hamburg and for the international transport market.

Because of its high cost for the Danish state, many Danish national and regional actors have an interest in stimulating the use of the tunnel, but it is still unsure how it will affect the region and to what degree it can foster political, economic and labour market integration. The purpose of the present thesis is to explore the

political integration perspective and the effect such a large infrastructure investment has on the cross-border cooperation of subnational actors.

Neither the Fehmarn Belt Tunnel, nor the transport policies, nor cross-border cooperation happen in a political and legal vacuum. All national and subnational actors evolve within a multi-level governance (MLG) structure influenced by European policies like the Single Market, the Cohesion policy and the Trans-European Network strategy (TEN). Each of those policies influence the topics on the agenda, the rationale for cooperation and the development of national and regional strategies. They contain legislation, guidelines and funding opportunities that influence the decisions made by national and subnational actors in their cross-border activities. For this reason, understanding cross-border cooperation in the region requires both to understand the policy context in which it arose and the structural conditions for cooperation of subnational actors across borders.

Since the Single Market cannot be fully realized without removing the national barriers, which isolate national systems from each other, the Single Market, the Cohesion policy and the TEN strategy are deeply interrelated and often overlapping. The Single Market is the main motivator of European integration since the adoption of the Single European act in 1986 and a large part of EU legislation is focused on removing national barriers. Because of this, the EU has developed a comprehensive policy under the name of trans-European transport network (TEN-T), which has had a significant impact on national authorities all over Europe since the mid-80s (cf. REGULATION (EU) No 1315/2013). This strategy is one pillar of the overall strategy to strengthen the Single Market through the establishment of a single integrated transport, energy and communication network[7], which could support the smooth functioning of the single market and the economic, social and territorial cohesion of the EU. Because those three policies are at the core of the European economy, their transnational coordination at the EU level is likely to affect the transnational cooperation of many national and subnational actors. In order to weaken the barriers between national systems of governance, the EU has developed a series of policies tackling intergovernmental and cross-border cooperation. What interests us in this case, is the strategy tackling interregional cross-border cooperation.

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7 Cf. the Innovation & Networks Executive Agency at http://inea.ec.europa.eu/en/home/ for an overview of the extent of the strategy

Through the Cohesion policy[8] and the Interreg programs the EU actively supports cross-border and transnational cooperation. This situation is affecting national and subnational political and planning authorities. It affects the very structure in which public actors are planning by bridging national policy spaces, which usually served as container for their activities, and bringing actors from supranational, national and subnational levels together in loose cross-border constellations.

The Fehmarn Belt Tunnel is part of a strategy to remove a bottleneck on the ScanMed corridor[9] and trigger transnational activities related to transport infrastructure, transport operations and their impact on regional and national economies. In the Scandinavian area, it is manifested through the development of green transport corridors projects involving many regional authorities on questions of green transportation and logistics because of the importance of transport for regional economies. A focus on green freight corridors was rapidly complemented by regional perspectives on the use of transport for sustainable regional development, and the importance of businesses as well as urban and interurban contexts for the actual implementation of green transport corridors[10]. This is the starting point of the research, which questions in which way such a system might work as a neofunctional catalyst for regional integration and the development of cross-border networks, which can facilitate the cooperation of public authorities over the Fehmarn Belt Tunnel in the way the Öresund Bridge supported integration around the Öresund straight.

Cross-border cooperation triggered by the TEN-T and the Cohesion policy are thus the starting point of the present study, which aims at understanding how this context influences the participation of subnational actors to cross-border cooperation projects, networks and organizations in the Fehmarn Belt Region. The research progresses from the overarching EU structure down to the subnational level and the cross-border activities found at this scale. The final objective is to find which institutional and structural factors have the most importance for cooperation of subnational actors in the region, in order to discuss how to intensify the cooperation triggered by the Fehmarn Belt Tunnel and EU policies. However,

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8 Cf. Directorate-General for Regional and Urban Policy for an overview of the overall strategy http://ec.europa.eu/regional_policy/index_en.cfm
9 Scandinavian-Mediterranean transport corridor. Part of the TEN-T policy
10 See for example policy documents from the STRING network, www.stringnetwork.com and Green STRING corridor www.stringcorridor.org.

instead of focusing on cross-border regions as independent entities, the present research approaches cross-border cooperation as the agglomeration of multiple overlapping networks involving policy-makers and experts, which can serve as spaces for the exchange of knowledge, agglomeration of interests, bargaining, and development of common visions that can support the coordination of policies related to the coming Fehmarn Belt Tunnel.

In order to study those networks, the present research employs a policy networks analysis, an approach which has recently been applied on the analysis of metropolitan cross-border integration based on issues of transport planning and operation (Decoville, Durand, Sohn, & Walther, 2013; Dörry & Decoville, 2013; Dörry & Walther, 2015; Sohn, Christopoulos, & Koskinen, 2013; Sohn & Giffinger, 2015) However, instead of focusing on social network analysis to map policy networks, this study follows a qualitative approach. The main goal is to provide a more complete picture of the processes inside those networks in relation to the structural context in which they develop. This approach aims at understanding the internal and external structural challenges they face, and at evaluating if they can serve as support for political integration and joint policy-making in the region.

This study sees cross-border cooperation as going beyond the construction of all-purpose institutions like cross-border regions, platforms, committees, EGTCs, and observes the development and evolution of consistent policy networks that can help coordinating policies produced on each side of the borders. In order to observe such a process, it starts from a conceptual framework combining multi-level governance and policy networks, as used in EU studies. This contextual approach is deemed necessary because cross-border cooperation of regional actors is subject to external influence from supranational and national policies as well as from the position of subnational actors in the policy-making and administrative process.

Policy networks analysis itself is a political science concept originally developed for the study of inter-organizational governance in national context. As such, it can be relevant for the study of cross-border cooperation, which also relies on inter-organization governance. This approach calls for a study of organizational processes in more or less formal networks, that cannot be controlled for testing purposes and that are not always accessible for observation. A triangulation of several sources of information can thus help to obtain a more reliable picture of what is happening on the ground.

In short, this study is a theoretically informed case study based on empirical data collected from printed and online documents, expert consultations and participant observations, which aims at understanding a cross-border cooperation in the Fehmarn Belt Region through theoretical considerations, while refining them in the light of the collected data. The result is a reflection on existing theoretical approaches to cross-border cooperation and a reflection on the regional impact of the TEN-T strategy in the Fehmarn Belt Region. Based on this analysis, it is concluded by an informed discussion on strategies to strengthen such a cooperation. The practical sources of information that have been used are legal documents, policy documents, official publications (both in print and online), consultancy reports, Interreg databases, online communication documents (websites), expert consultations, fieldwork, and Eurostat.

The following research question has been used to select and sort the relevant observations and data among the various sources of information.

2. Research Question

2.1. RESEARCH QUESTION

(See textbox 1. Key concepts on p.13 for a disambiguation of the terms and chapter 3 for a more detailed presentation of the following theoretical assumptions)

In the context of the construction of the Fehmarn Belt Tunnel between Germany and Denmark, the development of green transport corridors through the region and their impact on European territories and on cross-border cooperation, the present research project,

Starting from the assumption that,

1. Political science emphasizes the anarchical organization of international cooperation in comparison to the national context and provides conceptual tools for understanding the nature of the collaboration structures that develop beyond national states' apparatus (cf. Young, 1978).
2. Supranational, transnational and cross-border coordination are manifestations of the development of a multi-level governance system in the EU (cf. Marks, Hooghe, & Blank, 1996).
3. The EU actively supports the involvement of subnational actors in transnational issues through its legislation and funding policies (cf. European Commission, 2015b).
4. The EU actively supports the unravelling of national market boundaries and national administrative boundaries through its legislation and funding policies (cf. European Commission, 2015c).
5. The EU actively supports the integration of national transport systems through its legislation and funding policies contained in the TEN-T policy (cf. European Commission, 2015a).

6. EU policies would benefit from the improvement of the transnational coordination of administrative activities at all levels (i.e. supranational, national and subnational).
7. Functional issues like transport, energy, spatial planning transcend administrative borders,
8. Because of its expected impact on regional development, the Fehmarn Belt Tunnel may perform as a support for cross-border relations between Scandinavia and Germany in a neofunctionalist perspective (cf. E. B. Haas, 1958; Rosamond, 2005).
9. The TEN-T strategy coordinates strategic planning of transport corridors in the EU and especially rail corridors (Regulation (EU) No 1315/2013; Regulation No 913/2010).
10. Planning is a section of the policy-making focusing on policies related to spatial, energy and infrastructure issues (cf. § 3.2.).
11. Cross-border planning is considered as the aim to coordinate planning across borders and requires the coordination of policy-making processes across borders (cf. § 3.2.).
12. Cross-border cooperation happens through networks of public and private actors with different degrees of influence on the policy-making process (cf. § 3.2).
13. The policy networks analysis approaches focus on understanding the policy-making structures that includes actors beyond governmental structures (Rhodes, 2006).
14. The creation of an extra cross-border administrative layer may be a necessary but not sufficient condition for the development of cross-border cooperation (cf. § 3.1).
15. Political and administrative systems are territorial by essence.

Formulates the following research question:

What challenges affect cross-border networks of public actors working on transport infrastructure and regional development in the Fehmarn Belt Region, with respect to their capacity to develop common policies across borders?

This research questions form the spine of the research project and has been used to develop working questions, orientate data processing, develop five independent publications and orientate a final discussion on how to tackle those challenges.

2.2. READING GUIDE

The thesis is formed of a synthesis section (section 1) and of five publications (section 2). The research design is synthesized in § 4.3, the data collection is presented in § 4.4.1, and an overview of the correlation between the publications and the concepts, research design and data collection is presented in table 1, figure 1 and figure 2 respectively.

Publication 1 provides an overview of the general policy context in which cross-border cooperation is observed. It can thus be read as the contextual background of the study directly after this reading guide and prior to digging into the core of the study.

Publication 2 is the preliminary study produced prior to the refinement of the conceptual framework. Its purpose was to evaluate the utility of policy networks analysis in a multi-level governance perspective. While it should be read as the first publication of the analysis, the reader should keep in mind that it does not contain all the reflections and conceptual refinements found in the theory chapter and in the subsequent publication. Publication 2 has actually initiated some of the conceptual reflections that punctuate the theory and methodology chapters. It has shown the need to discuss the regional impact of such infrastructure upgrades (publication 3), the need to develop a cross-border policy-making space (addressed in publication 4) and the need to understand better the challenges to cross-border planning (addressed in publication 5).

Finally, both publication 1 and 2 have a Multi-level governance focus while publications (3, 4 and 5) focus on the subnational level.

Reading recommendation:

1. *Sections 1*, § 1 to § 2.2
2. Background
   Guasco, C. (2014) *The TEN-T core network and the Fehmarn Belt Region*. Green STRING corridor project - Region Sjælland. Published online in October 2014. Available at http://rucforsk.ruc.dk/site/services/download-register/53316346/notat_green_string_corridor.pdf
3. *Sections 1*, § 3 to § 8
4. Preliminary study:
   Guasco, C. (2014) 'Trans-European transport network and cross-border governance'. In: *Selected Proceedings from the Annual Transport Conference at Aalborg University*. Trafikforskningsgruppen. Aalborg University.
5. Guasco, C. (2015) *The TEN-T policy and the Fehmarn Belt Tunnel: Impact on regional development between the Öresund and Hamburg*. Manuscript. Submitted for publication (Under review for publication in proceedings of the 8th Dokonara seminar. Liechtenstein University)
6. Guasco, C. (2015) *Cross-border policy-making in the Fehmarn Belt Region: A neofunctionalist reading*. Manuscript. Submitted for Publication
7. Guasco, C., Walsh, C. and Othengrafen, F. (2015) *Understanding cross-border planning: Policy networks, soft spaces and planning cultures*. Manuscript.

Textbox 1. Key concepts

This textbox summarises the definitions of key concepts within this thesis. It can be used as reference during the reading of section 1 and of the publications

Anarchical qualifies the absence of central authority to steer the decision-making process and does not necessarily mean chaotic.

Cross-border characterizes the subnational level of international cooperation. National actors can participate in CBC, but the territorial focus of this type of cooperation remains regional

Cultural is customary, result of repeated and internalized procedures.

Functional qualifies a mechanism related to the economic functioning of societies, regions and states such as infrastructures, labour market, healthcare and educational services, etc…

Institutionalization is the formalization, recurrence and resilience of collaboration through recurrent procedures. Institutions are results of this process and can take the form of organizations, networks, treaties and customs.

Intergovernmental characterizes that even though actors operate within a supranational arena, they follow a domestically determined strategy. It relates to a concept of EU integration theory, which considers that domestic interests play a central role in European decision-making and deny the influence of supranational institutions.

Issue networks are temporary networks formed around specific issues that last as long as the issue is relevant for the members, but that can potentially crystalize into more resilient policy networks.

Macro cross-border cooperation qualifies cross-border cooperation at a scale that is larger than local cross-border cooperation but smaller than full-fledged transnational cooperation. (Do not confound with the "macro-regional strategies" of the EU)

Neofunctionalism is a paradigm of EU studies theorizing political integration through the collaboration and surrendering of sovereignty of national governments based on a necessity derived from functional needs.

Organization is a form of institution that has aggregated into an independent entity with administrative and strategic capacity. Organizations are often referred to as institution in the literature because of the used of the word institution to refer to public organizations in English.

Organizational is related to the way collaboration is structured within an independent organization.

Multi-level governance characterises the post-hierarchical quality of the EU system of governance and the entanglement of supranational, national and subnational authorities in the policy-making process.

Planners are practitioners dealing with transport and regional planning and with influence on the development of policy-making, either because of their involvement in producing policy-proposals or because of their quality as policy experts.

Policy refers to a course or principle of action adopted or proposed by a public authority.

Policy networks are networks of governmental and private actors with influence on the policy-making process.

Structural refers in this research to social structures like administrative systems, organizational structures, norms and customs that condition the room for manoeuvre of participating actors.

Subnational qualifies public actors situated below the national level (i.e. not belonging to national authorities

3. Theoretical framework

This section presents the theoretical background of the concepts on which the research is built, and provides a background for the discussions found in each publication. This research is a theoretically informed case study of cross-border cooperation in the Fehmarn Belt Region, which does not start from a single theoretical and methodological approach, but combines several concepts from different traditions for their expected capacity to help systematise the high complexity of cross-border cooperation in practice. By using established concepts that have been empirically tested before, it was expected that the variables they used would be useful for empirical observations in the case studied. Each publication contains a concise literature review, but does not allow for deeper discussions, which would help to understand this project as a whole. Because of this constraint of size, concepts like policy-making, governance, planning, practitioners and cross-border are used in the publications without presentations of their background. For that reason, chapter 3 allows for a better understanding of the disciplinary background and interpretive framework of the research.

Because of a transdisciplinary approach for the choice of concepts, this section intends to present them in a form that can allow scholars from different disciplinary traditions to quickly grasp what they can bring to the debate. Previous reviewing of this research in addition to the collaboration for publication 5 have shown that disciplinary variations affects the interpretation of conceptual frameworks and analysis. This research project being conceptually transdisciplinary, it benefits from the innovative traits of transdisciplinary approaches but also suffers from the lower "disciplinarity" linked to such an approach. Not that this paper presents a radically transdisciplinary approach, but concepts like policy networks analysis multi-level governance and neofunctionalism have developed in parallel in different disciplinary fora and end up carrying different ontological and epistemological considerations. The aim is that this

chapter can help to lessen interpretive discrepancies and enlighten readers from different traditions.

Disciplinary speaking, this research project is situated somewhere between geography and political science, and more narrowly borrows concepts from public administration, International Relations, European studies and planning studies. The main traditions inspiring the following thesis are 1. discussions from EU integration studies regarding political integration, multi-level governance and institutionalisation; and 2. studies of cross-border cooperation and cross-border regions from a geographical and planning studies perspective. The background of the author is itself a mix of EU studies and environmental planning, which are the sources for many of the theories, concepts and terminologies. From the literature referred to in the following paragraphs, one could summarize those backgrounds by pointing out that political science would emphasize political bargaining, aggregation of interests, institutionalisation through political institutions and public administrations; while a geographical perspective would emphasize the territorial features of administration as well as functional elements linked to the physical and demographical characteristics of society. It is the opinion of the author that both approaches can enrich each other and this research attempts therefore at using concepts developed in EU studies and applying them to discussions of cross-border cooperation found in geography and planning studies traditions.

It does not mean that scholars involved in those disciplines do not interest themselves for similar objects of study or that they have no common concepts, but separated scholarly discussions means that terminologies, unannounced assumptions and state-of-the-art problematics differ according to the background of the reader (Stock & Burton, 2011). Indeed, multi-level governance, policy-network analysis and institutionalisation are concepts used in both fields, but not necessarily to refer to the same phenomena. Experience tells that scholars from different traditions would build different frameworks and emphasize different variables. However, since this research considers that both traditions provide useful concepts and empirical observations, chapter 3 presents how they have informed the study. The following subsections set concepts like *governance*, *multi-level governance*, *policy networks analysis*, *neofunctionalism*, *intergovernmental* behaviour, *planning* and *policy-making* in perspective with a discussion on cross-border policy-making. It takes as starting point the framework built by Markus Perkmann (2000), who has also conceptualised cross-border cooperation through

policy-networks, European multi-level governance and the EU Cohesion policy. Instead of using a comparative approach like Perkmann, this research digs deeper in one case. It allows for a stronger qualitative focus on practical cooperation to the detriment of generalisation. The present research also adds an EU integration studies' perspective based on fundamental assumptions about political integration conveyed by intergovernmentalism and neofunctionalism. As a result, it focuses on functional issues and neofunctionalist mechanisms as fundamental elements of cross-border cooperation besides institution building and institutional entrepreneurship posed by Perkmann as the key to cross-border cooperation.

The research relates to approaches focusing on governance and institutionalism in cross-border cooperation studies, with an emphasis on the relation between administrative and territorial aspects. However, while these concepts are used in geography and planning studies, the present research is inspired by EU integration studies, which usually focuses on the relation between supranational and domestic systems. While the level of study differs, concepts used to study political integration at the EU level can bring interesting insights in integration at the cross-border level, since this level can be considered as a section of the European multi-level governance system.

Sequentially, chapter 3 starts with an overview of existing conceptualisations of cross-border cooperation. It continues with a discussion on policy-making, planning and governance; then moves on to a presentation of concepts from EU studies like functionalism, intergovernmentalism, multi-level governance and policy networks analysis, and discusses how they can inform a study of cross-border cooperation focusing on transport planning and regional development.

3.1. THEORIZING CROSS-BORDER COOPERATION

Borders and cross-border cooperation are objects of study, which have been studied from a wide variety of angles in disciplines like anthropology, economics, history, political science and geography (van Houtum, 2000; Wilson & Donnan, 2012). Researchers have been occupied with understanding the effect of borders on social, cultural, political and economic structures for decades and have produced a large body of literature on the subject. As an indication, a quick look in meta-search engines shows that a search limited to peer-reviewed scientific

articles with "cross-border" in their title returns 3121 results in topics as various as business, law, geography, management, political science, economics, ethnography and communication. However, identifying the potential and the key challenges posed by borders seem to aggregate in three approaches: economic, political/institutional and cultural/symbolic approaches (cf. Gualini, 2003; van Houtum, 2000). In the light of such a large number of studies, it is necessary to position this thesis within a political/institutional approach.

The present research relates to cross-border cooperation studies with an institutional perspective, which focus on cross-border organisations, networks and governance. It relates thus to works from, Knippschild (2011), who looks at significant factors constituting cross-border institutions; Fricke (2014) and Blatter (2004), who focus on the difference between territorially and functionally based governance; Dörry and Decoville (2013) who focus on policy-networks in cross-border transport planning, and Perkmann (2000) for his influential work on cross-border institutions within a European multi-level governance framework. It does not replicate any of those approaches, which actually have different methodological and ontological perspectives, but has some degree of conceptual overlapping with each of them because of a focus on the governance of cross-border regions, institutions and networks. Because cross-border institutions are supported by EU policies and EU funding schemes, it also prompts questions of multi-level governance, networks and territories. Finally, the present study does contain some economic and cultural considerations linked to the governance structures itself, but economic (as focusing on market integration) and cultural (as focusing on identity building) are not in focus.

3.1.1. Scale

Discussions on cross-border regions are linked to questions of size and intensity. Cooperation is considered more intensive in cross-border regions of small scales and less intensive in working communities characterised by large-scale, multi-lateral, cross-border cooperation (Perkmann, 2000). The present study focuses on a type of cross-border cooperation that would fall under the "Scandinavian groupings", which present characteristics of large scale macro cross-border regions but with more intensive cooperation than working communities (Perkmann, 1999). The EU distinguishes three types of European territorial cooperation: cross-border cooperation usually between subnational actors directly adjacent to a border (local), transnational cooperation between multiple regions (transnational) and

interregional/network cooperation gathering subnational actors or European experts in networks, which can span throughout the entire EU (DG Regio, 2015). Additionally, subnational actors have the possibility to create European groupings of territorial cooperation (EGTC) to build cross-border entities with legal personality. EGTCs have very different sizes and shapes, some being modelled on euroregions, others based on networks. Finally, the European territorial cooperation policy has seen the recent appearance of macroregional strategies, which are situated at the transnational level, but go beyond the mere distribution of cohesion funds by trying to develop political cooperation and joint strategies independently of the Interreg system. The existing macroregions are the Baltic Sea Region, the Danube Region and the Adriatic and Ionian Region. An Alpine Region is also under discussion. Up to now, they are all based on large geographical elements like seas, water basins and mountain ranges, which might indicate an interest for joint functional elements behind those initiatives.

Table 1. Typology of cross-border cooperation

Type	Level	Main actors	Characteristics
Cross-border	Local/regional	Mostly subnational	Along borders
Transnational	Large scale	Regional and national	International
Interregional	Networks	All types	Non-territorial
EGTC	Variable	Subnational	Legal entities

Within this framework, the present Fehmarn Belt Region represent a large-scale cross-border cooperation (the upper end of the cross-border level). This scale corresponds to working communities and Scandinavian groupings, and occupies the upper limit between cross-border and transnational cooperation. It may be the result of a focus on functional issues like transport and regional development, which cannot be contained within local cross-border scales. Several of those functional topics can also be found in macroregions, but a reference to large-scale cross-border should not be mistaken for a reference to macroregions where national actors actually play a more important role.

To sum up, because of a subnational focus, the present study aligns with Perkmann's scalar conceptualisation of cross-border regions by addressing a large-scale cross-border cooperation. It can be read as a contribution to the understanding of large-scale cross-border cooperation of the Scandinavian groupings class. At this

scale, we are at the border between cross-border and transnational cooperation. The scale of cooperation is not always stated in cross-border studies, but it influences the type of actors involved and their functional focus, and it should thus be considered when reading empirical analyses of cross-border regions/institutions.

3.1.2. Approaches of cross-border cooperation studies

A traditional institutional approach of cross-border studies focuses on official cross-border regions like euroregions, for which Perkmann (2000, 2003) is often used as reference (see also Topaloglou, Kallioras, Manetos, & Petrakos, 2005 for an alternative topology of CRBs). By traditional, I mean that those euroregions are modelled on the original "Euroregio" created in 1958 on the border between the Netherlands and Germany, which is itself modelled on traditional administrative regions from national systems of governance. This approach has resulted in discussions about the reason behind the observation of both successful and unsuccessful cross-border organizations (Deppisch, 2012; Knippschild, 2011; Perkmann, 2003). Moreover, Knippschild (2011) and Löfgren (2008) also discussed a phenomenon of fatigue of the cooperation after the initial euphoria. There are today numerous cross-border entities of all sorts and shapes in the EU, but a correlation between centralized organizations and effective coordination of policies in those regions is still not clear. Focusing on cross-border institutions as the key to understand cross-border cooperation does therefore not give a full picture of the issue. If the mechanisms of cooperation within those institutions are not better understood, some EGTCs and other cross-border institutions can very well turn into institutional shells with limited impact on their territories. The aim of this study is thus to dig deeper among the various institutions and networks that one can observe in most euroregions and understand what motivates subnational actors to cooperate on a daily basis and what deters them.

Cross-border cooperation can also be approached with a focus on the institutionalization of project-based cooperation. This approach is also based on cross-border regions, but it gives more attention to the barriers and facilitators of practical cooperation. Such an approached also brings a focus on cross-border networks involving subnational actors around specific policy issues, instead of formal institutions (Dörry & Decoville, 2013; Dörry & Walther, 2015; González-Gómez & Gualda, 2013; Walther & Reitel, 2012). Some also go so far as to advocate for conceiving cross-border regions based on functional issues, and for producing a new set of cross-border regions based on economic, cultural and demographic

characteristics instead of territorial and institutional ones (Topaloglou et al., 2005). One can therefore make a difference between a focus on cooperation in an organization-building perspective (institutional integration) and on cooperation in a problem-solving/functional one (functional integration). The difference being between institutionalization through multi-purpose territorial organizations (Euroregion, cross-border committees) or institutionalization through policy-based functional issues (cf. Blatter, 2004; and Fricke, 2014). This approach has taken off in the past ten years and several studies have now discussed this dichotomy between institutional and functional logics of cooperation, which are often develop in parallel in the same region (cf. Jacobs, 2014; Korcelli-olejniczak, 2008; Varró, 2014).

Integrating both frameworks in one discussion allows for a more pragmatic approach that does not arbitrarily focus on one process or the other. Therefore, the present study also addresses the interrelation of institutional and functional logics, but instead of limiting them to their use in geography or planning studies, it draws from discussions in EU studies and introduces a political integration angle (cf. 4.3).

One of the central goals of the research is to discuss administrative and policy integration across the borders, and what barriers there are to such an integration. The focus is thus on policy coordination and policy-making process rather than region building. Consequently, institutionalization through formal cross-border organizations is too limited an approach since it does not account for cooperation processes that happen across or beyond those organizations. This research focuses thus on how actors cooperate within *cross-border networks*. It echoes recent studies of cross-border networks dealing with cross-border spatial planning (Durand, 2014; Fricke, 2014; Jacobs, 2014; Knippschild, 2011) and transport planning (Dörry & Decoville, 2012, 2013; Dörry & Walther, 2013; Durand & Nelles, 2014; Walther & Reitel, 2012). Studies of spatial planning focus on the challenges related to the meeting of different planning systems, while those focusing on transport planning are exercises of policy networks analysis based on social network analysis (SNA) methods that study transport planners in the regions around Lille, Basel and Luxembourg. Both approaches are informing the present studies, which adapts them together with political integration concepts (cf. publication 4).

This research project looks at an inherently functional and transnational policy, the transport policy, which opens for an interesting discussion on whether the TEN policy can act as a functionalist element for cross-border cooperation, and whether other policies might have similar effects. Indeed, transport is not the only policy where functional issues transcend borders and require cross-border cooperation. Maritime and coastal zones, energy production, the management of water basins, water resources and mountain ranges, and metropolitan regions also require the cooperation of various administrations to make sense. However, this kind of cooperation is very challenging for administrations, which are not built for this kind of activity. Studying how they fare is thus an interesting activity for observing EU integration, its effect on governmental systems and on the construction of a European governance system. It means that while focusing on functional issues as a base for cooperation, this thesis approaches them from a neofunctionalist perspective. Such a theoretical approach adds valuable knowledge and observation built during the last 60 years of EU studies on how functional issues affects political and administrative cooperation.

Since the main target is to evaluate the possibility for cross-border policy-making, policy networks analysis appears to be a fruitful approach to pick up from. It allows to observe the mechanisms inside cross-border institutions, but should not be limited to a mapping exercise. The policy network approach used in publication 2, 4 & 5 does therefore not see network mapping as an end but as a step towards understanding cross-border cooperation through networks of subnational actors, which requires to be combined with qualitative perspectives. As a result, this thesis does not repeat a SNA method as the aforementioned policy network analyses did, but reflects on how to provide with a more qualitative approach to those networks. Because it is rooted in EU studies, the present study shares some of the conceptual tools described above, but with a stronger focus on a wider EU context. Before digging deeper into theories of European integration, we will look at how political science helps to conceptualize cross-border cooperation and cross-border planning in terms of policy-making processes, policy-makers and governance. This will clarify how the object of study and the actors studied are contextualized within a multi-level system of governance and how those concepts can be used to approach cross-border cooperation related to transport planning and regional development issues.

3.2. PLANNING, POLICY-MAKING AND GOVERNANCE

This study approaches cross-border cooperation as an attempt to coordinate policy-making on each side of the border. Both multi-level governance and policy networks analysis have a governance and policy-making focus, which can help to enlighten this process and combine therefore well in a conceptual. However, the objects of study are policies related to transport planning and its regional impact, where expert knowledge plays a strong role and governmental administration is challenged. For that reason, the study also refers to planning and planners besides policy-making and policy-makers because of their stronger involvement in the policy area in focus. Those terms are widely used in disciplines dealing with economic, social, political and cultural aspects of society. It requires thus a clarification regarding what activities they encompass, who they involve, at what administrative level they are anchored, and what purpose they serve. The main point of § 3.2. is to situate planning from a political perspective in a cross-border context.

Planning, policy-making and governance label processes by which the operation and evolution of society is decided and regulated. In that sense, they overlap on many points and the disciplines involved in their study share conceptual and analytical tools like institutions, networks, regulations, policies, decision-making, governments and administration. However, they focus on different aspects of the process. Where policy-making focuses on politics, democracy, bargaining and the aggregation of interests, governance focuses on the polity, steering and institutional structures, and planning on normative enhancements, knowledge-based management of societal welfare and the well-being of society. This thesis considers that each aspect plays a role in the development of public policies and that a focus on the expert-based side of this process should be situated within the overall system. Those terms need thus to be considered in relation to each other so that it becomes clear how an approach based on policy-making can shed light on cross-border planning and in which system of governance it happens.

3.2.1. Public policy, policy-making and policy-makers
While policy qualifies a "purposive course of action or inaction followed by an actor or a set of actors in dealing with a problem or matter of concern" (Anderson, 2015) , this research is mainly concerned with public policy within EU and domestic contexts (cf. Carson, Burns, & Calvo, 2009; Wallace, Wallace, & Pollock, 2005). For that reason, it focuses on public authorities and on governmental activities

dealing with solving public problems. This activity is regulated by constitutions, treaties, laws and traditions, which means that the actors involved do not follow entirely erratic ways of making decisions and interacting, and that their leeway is relatively constrained.

In that context, policy-making is a term used to refer to the process by "which governments translate their political vision into programs and actions to deliver 'outcomes'- desired change in the real world" (Northern Ireland Department, 2015). Policy-making refers thus to the strategic function of a government. There are two ways to approach policy-making. The first one follows an authoritative perspective with a primary focus on policy-makers with decisional power and dis-regards other societal actors. The second one adopts an interaction perspective and assumes that decisions are influenced by societal actors without formal authority and that governments are but the forum in which actors recognized as having legitimate interest in the issue interact to produce a policy (Maddison & Denniss, 2013). The present research sees cross-border policy-making somewhere between those two ideal types and considers that actors with formal decisional power are important but that they are not the only ones with influence on the policy-making process. Policy-makers can both be the formal holders of authority and societal actors, which those authorities consider as having legitimate interest in the issue at stake. This is even more relevant in a cross-border context, where authority is not clearly established and expertise important. Policy networks analysis excels in this context, because of its capacity to shed light on how governmental and societal actors interact together, and how this interaction affects the policy-making process. Such an approach forms the backbone of publications 2 and 4 as well as of the overall discussions of this thesis.

Policy-making is often described by a cycle going from agenda setting (choice of the problem) to policy formulation, policy adoption, policy implementation and policy evaluation (Anderson, 2015). While agenda setting, policy formulation and policy adoption happen within governmental structures, they are often influenced by other political actors. Whereas implementation and evaluation clearly involve the administration and of stakeholders. In a national context, policy-making is thus the result of the interactions between the Government, the legislative bodies, the administration and their advisers, the judiciary, political parties and interest groups, the media, civil society and private stakeholders. In an EU context, policy-making is even more complex because authority is shared among a larger number of actors,

and involves dissociated supranational, multi-level and domestic processes. In such a context, civil servants and experts producing policy-relevant knowledge have a strong influence on the policy agenda, while policy implementation requires the participation of stakeholders for successful implementation.

Because legislations and customary procedures regulate what kinds of decisions policy-makers may make, the policy-making process varies according to the policy in question. Each policy has its own sets of laws, customs, administrative structure and stakeholders. In the context of this study, transport infrastructure and regional development are rather dissociated policies that, even though they can focus on common problems, involve different administrative and political levels. Especially in the case of large transport infrastructure as entailed by the EU TEN-T policy.

Studies of policy-making inherently focus on power relation and influence. There is usually a differentiation made between official policy-makers, who are internal to the process and have influence or authority over it, and other actors who indirectly affect it (Anderson, 2015). However, even if hierarchical systems do bestow decisional power onto specific authorities, the implementation of the policies requires the participation of all stakeholders and all administrative levels. Because of this, actors with the authority over the policy-making process often need to bargain with other stakeholders. Besides observing governmental processes, studying policy-making requires thus to understand the impact experts, the administration and other civil servants have on it. In a cross-border regional context, a policy-making approach implies that subnational actors and regional stakeholders should be seen as a part of a larger multi-level governance process including national and supranational actors in both vertical and horizontal cooperation processes (Hooghe & Marks, 2001, 2003). Additionally, it entails that all subnational authorities also produce policies of their own and that they must be understood within the overarching structures in which they are produced. A discussion on cross-border integration as the integration of policy-making from each sides of the borders entails thus a focus on supranational, national and subnational actors, but also on experts and stakeholders, which all play a part in the overall process. As a result, when the present research project focuses on subnational authorities, it considers them in relations to other policy-makers, which becomes part of the analysis.

3.2.2. Cross-border governance and multi-level governance
While policy-making focuses on how governments bargain solutions to societal

problems, governance is rather focused on the structure in which this process happens i.e. the polity. Governance is a buzzword that can be found in many disciplines to qualify many different phenomena. Governance often qualifies new ways of coordinating the interactions between public authorities and other societal actors, and put them in contrast with a traditional way of governing within governments (Pierre & Peters, 2005). It "expresses a widespread belief that the state increasingly depends on other organizations to secure its intentions, deliver its policies, and establish a pattern of rule" and as such echoes discussions on policy-making beyond governmental structures (Bevir, 2007b).

It marks a need to move beyond state-centric approaches that have been at the core of political science and many other social sciences. It also implies a departure from "out-dated" top-down coercive approach to governing that are attached to the governmental system. While governments can be seen as a form of governance, governance also qualifies processes, by which public authorities influence the behaviour of societal actors without using legal and regulatory measures, which belongs to the domain of governments (Pierre & Peters, 2005). It is thus a term to refer to many alternative ways of steering policy-making and implementation that does not happen within traditional governmental structures. It does not mean that governance is a substitute to government, but that governance calls for looking at public policy past the boundaries of governments. Moreover, the sudden fashion for referring to governance should not imply that decision-making suddenly began to happen beyond governments as if it had never been the case before. It just emphasizes the importance of those processes in the globalisation of a world emerging from centuries of nationally centred development.

Governance is also the activity of ensuring that the administrative system and all other stakeholders abide by the policy that has been devised. Governance involves all stakeholders in the implementation process as opposed to government that only involves public authorities (Pierre & Peters, 2005).

From an EU studies perspective the concept of governance questions what type of political order the EU is, neither an international organisations nor a federal state, but somewhere in between (Bevir, 2007a). It is embodied in the concepts of multi-level governance (cf. section 4.3), which draws the picture of a system involving supranational, national and subnational institutions into supranational policy-making (Leibenath, 2008). The degree of multi-level governance varies from

policy to policy. In our case, a focus on transport policy and regional development is clearly influenced by both supranational policies and subnational interests, and how this interaction unfolds is a central point of the study. Ultimately, a discussion on cross-border governance entails a cross-border polity involving both political actors, civil servants and experts that a limitation to formal cross-border regions as they are built today cannot grasp.

Finally, the reference to governance in studies of cross-border cooperation also entails a normative perspective discussing the existence of a cross-border polity, or the potential for such a polity to develop, which can support the development of common policies and their implementation across borders. Ultimately, it calls for a discussion on why and how to support the development of such a polity and its capacity to act as a policy-making forum, a discussion that takes up a part of the conclusions of this thesis.

3.2.3. Planning and planners
The point of this section is not so much a grand discussion on what planning is, but to situate planning and planners in relation to the policy-making process that is being studied.

Planning is often considered as the design of knowledge-based plans regarding infrastructure and the physical environment made by public authorities. However, modern governments produce plans in nearly every sectors of society. A look at the EIONET[11] glossary shows the existence of several different planning concepts. While "planning" is defined as "the act of making a detailed scheme for attaining an objective", physical (spatial) planning is "a form of urban land use planning which attempts to achieve an optimal spatial coordination of different human activities for the enhancement of the quality of life". Transport planning is "a programme of action to provide for present and future demands for movement of people and goods", and environmental planning the "identification of desirable objectives for the physical environment, including social and economic objectives, and the creation of administrative procedures and programmes to meet those objectives". One notion those definitions have in common is a normative aim to devise strategies to make society "better". This normative aim is described by John Friedmann (1987) as a reaction to a contemporary belief that market

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11 http://www.eionet.europa.eu/gemet/alphabetic?langcode=en

rationality is the best way to support the development of society, and advocates that collective rationality should have precedence. Friedmann (1987: 21) considers planning as the result of a contemporary equilibrium between those two positions, which considers that market rationality should "be allowed to rein free, but only within legal constraints designed to protect collective interest", and defines it as a "distinctive practice with its emphasis on technical reason and social rationality". Fainstein (2000) also discusses planning as the activity of designing interventions to improve society either by acting as mediator between stakeholders or by producing a physical environment with the capacity to change social patterns. However, the collective interest should be built on scientific and technical knowledge, meaning that regulation should not be exercised on the base of moral principles, but on factual knowledge. In that context, most planners are thus experts involved in the policy-making process to provide evidence-based solutions to the problems identified by the policy-making process, including lawyers, economists, engineers, scientists and scholars, architects, city planners, social workers, etc… Planners are thus individuals holding an expert position in society.

If one goes back to the first definition in the EIONET glossary, planning seems rather close to policy-making. However, planning studies are less focused on the political and bargaining aspect and more focus on problem-oriented approaches with concrete implementation procedures, often taking the form of plans. Fainstein (2005)which depends on a vision of the city rather than simply a method of arriving at prescription; (2 also comments the lack of focus on contextual considerations when discussing planning and explains that planners evolve in a political context and that it is thus necessary to analyse this context if one wants to achieve any of the normative goals behind the concept of planning. From a political science perspective, planning would be a type of policy-making specifically dealing with spatial and infrastructural considerations. However, even though political processes are part of planning discussions, they are but one actor among others. One could even argue that planning ends up focusing on the administration and civil society as the core of the process, rather than at politicians.

Planning is an effort to influence policy-making from a technocratic, knowledge-based perspective with, habitually, a focus on efficiency, the enhancement of societal welfare and the well-being of the population (Friedmann, 2008). It shares the problem-solving focus of policy-making concepts, but adds a very normative and technological perspective on how to support the collective interest. As such, this

process is very much led by civil servants, scholars and other experts in the various fields that planning encompasses. This means that when addressing cross-border cooperation focusing on transport and regional development, one must consider the important role of planners within the policy-making process, together with the governmental actors with formal authority on the matter.

The strategy of this study is to look for structural patterns that challenge the coordination of cross-border cooperation with regard to transport and regional development policies. Planners play therefore an important role in this type of cooperation, which can be referred to as cross-border planning. The ESDP already addresses such coordination under the label of cross-border spatial planning, and states that it is challenged by different planning systems, institutional asymmetry, difficulties to develop cross-border visions and strategies and diverging planning {FormattingCitation}(Leibenath, 2008). However, such challenges can very well be extended to other types of planning fields like transport or environmental planning. The challenges to cross-border planning, which appeared during the study are addressed in more details in publication 4 and 5.

3.2.4. Intermediate synthesis: Cross-border policy-making and planning

This research project looks at cross-border planning from a policy networks perspective. Because subnational actors are particularly involved in planning issues, it considers planning as an important aspect of cross-border cooperation. It understands cross-border planning as the normative intent to coordinate planning activities: plans, strategies, visions, measures, their implementation and their evaluation, across the borders; which it considers as a part of the policy-making processes dealing with physical and infrastructural questions in society. Planning actually embodies a specific segment of policy-making where experts play a strong role, and calls for considering both expert based planning processes and politically focused policy-making in correlation. The focus on both planning and policy-making in this thesis embodies the need to consider political bargaining in relation to the knowledge and expertise that fuels them and ultimately advocates for the need to take a broader range of actors into considerations when looking at cross-border cooperation.

Planning, governance and policy-making studies may be said to share the same object of study but have different degree of normative reaction to it. All concepts

characterise social activities whereby societal actors consider the use of intervention and regulatory measures necessary to mitigate what they have analysed as market failures. Comparing how this phenomenon is conceptualised by each approach gives a fuller understanding by providing different perspectives on cross-border cooperation based on the analysis of different segments of the processes by which decisions affecting society are made.

Planning is particularly linked to experts and civil servants interested in supporting the development of policies informed by scientific knowledge and usually prioritizing collective good. Experts are free to develop their own discourses to the limits that it makes sense for the other policy-makers with whom they want to interact (politicians, civil servants and stakeholders), and civil servants develop their visions within narrower pre-defined policy frames. In that context, planning can be understood as a subsection of a policy-making process that involves politicians, civil servants, experts and stakeholders concerned with the spatial organization of human activities and their associated infrastructural needs, such as energy sources, transport systems, waste treatment, and so on.

In a discussion of cross-border policy-making, those three approaches bring interesting assumptions on the motivations politicians, civil servants, planners, experts and stakeholders have in participating to the policy-making process and the kind of resources with which they "pay" their membership. While politicians and civil servants provide resources related to regulatory capacity, authority and input legitimacy, experts and planners provide expertise and output legitimacy, while stakeholders provide other actors with implementation and output legitimacy (for discussions on legitimacy cf. Newman, 2006). The increasing observation of policy networks indicates that a combination of those resources may provide policies with stronger effects and be the reason why those actors find useful to invest in those networks.

Defining planning in a policy-making and governance context cannot but call for a reflection on the neofunctionalist paradigm, which states that political integration is supported by elites cooperating around expert intensive functional issues focusing on societal welfare, which ultimately are the stronghold of experts and planners. Such an assumption means that cooperation around planning processes is a very favourable context for developing cross-border cooperation and thus cross-border planning as a valuable project to pursue. When talking about cross-border plan-

ning, the actors involved in it are both the experts and civil servants producing knowledge for policy formulation. As such, planning and cross-border planning cannot be dissociated from policy-making process and analytical concepts used to understand policy-making can thus prove useful in understanding planning in relation to a broader governmental context.

3.3. EUROPEAN INTEGRATION

Because cross-border planning qualifies a process of integration of independent planning systems in the EU, it can be useful to approach it with tools from EU integration studies that have been looking at political integration in the EU since the creation of the European Coal and Steel Community.

Cross-border cooperation from the point of view of European integration and EU studies is part of the discussions on the degree of integration of supranational, national and subnational authorities within a single supranational system of governance and on the distribution of power between those levels. This 50-year-old discussion has seen the appearance of three central theories, which have influenced the present research: intergovernmentalism, neofunctionalism and the multi-level governance/policy networks model. The intergovernmental vs neofunctionalist debate has formed the classical disagreement until the end of the 1990s, a debate fuelled by an International Relations approach to EU studies. The third theory is more of a conceptual framework than a macro-theory per se. It gradually took over the stage after the ratification of the Maastricht treaty, in the light of the increasing authority of supranational institutions, the increasing number of policy areas submitted to majority voting and the ensuing integration of EU policy-making. It triggered discussions on how policy-making happened within this new multi-level system, and how to measure the place of national governments in a system that was neither federal nor international. While this research is based on the latest conceptual framework, it does not dismiss the original dichotomy that occupied EU studies during its first 40 years, for within this debate is a fundamental and still relevant discussion on two mechanisms, one pushing for political integration (neofunctionalism) and the other one hindering it (intergovernmentalism). They are therefore two aspect of one integration process, which is oscillating rather than linear.

3.3.1. Intergovernmentalism and neofunctionalism

In its earlier stage, the study of regional integration in the EU was strongly informed by International Relations since the discussion revolved around whether the EU was an emerging governance system or the simple aggregation of national states in an international organization. Therefore, the main debate in EU studies was about the process of political integration itself and if member-states actually gave up sovereignty over their own domestic affairs. Both Intergovernmentalism and neofunctionalism are macro-level theories of international relations focusing on explaining this integration process and predicting its outcome. If they now seem distant from modern discussion on EU governance and the present topic of cross-border cooperation, the fundamental mechanisms of cooperation that they build upon are still relevant to cross-border cooperation since it also involves the integration of independent political actors.

3.3.1.1. Neofunctionalism and the functionalist paradigm

The term "functional" has been used for different purposes in the academia, to address sociological, geographical, technical or political phenomena. It seems thus necessary to precise that the publications in this thesis build upon the revision of a narrow conception of functionalism as it developed in EU integration studies. We are thus not talking about structural functionalism and neofunctionalism as they have developed in sociology. While political functionalism shares some common assumptions with its counterpart in sociology, it has a much narrower focus on political interaction in an international relation context.

In its sociological variant, functionalism theorises society as an integrated organ where social arrangements serve the overall functioning of society and strengthen the integration of the whole (Nielsen, 2007). As such, it is a systemic approach that often disregards individual actors and single events. This approach was systematise by the work of Parsons, who built a model of this social equilibrium based on what he identified as the four fundamental functions of society: 1. adaptation to the environment (economy), 2. goal setting function (politics), 3. integration function (societal community) and 4. the maintenance of social patterns (fiduciary) (Münch, 2001; Nielsen, 2007). As such, this functionalist approach intends to build an overarching theory of the social equilibrium and of why social orders prevails over chaos, and is thus opposed to symbolic interactionism based on individual interpretations and conflict theories focusing on the chaotic nature of the world. However, sociological functionalism focuses on society in a national

context, while political neofunctionalism actually addresses the international context.

While political neofunctionalism as discussed in publication 4 has developed in parallel to the sociological variant, it also adopts a cooperative and systemic approach. Additionally, both variants share a utilitarian perception of society and of the interrelation of social arrangements. Those common traits can be traced back to Durkheim's writings, which also influenced Mitrany and Haas, two central actors authors authors of political neofunctionalism (Verdun, 2002). Moreover, the spill-over mechanisms put forward by Haas' neofunctionalism also echoes discussions from Parsons' theory that a change in one social function automatically result in changes in interconnected functions. He illustrates it by the example that the integration of women to the labour force in the interwar period implied a fundamental adaptation of the family structure, and could not happen before such restructuration had occurred (Fauske, 1996). This fundamental assumption of the interconnection of all social arrangements in one single functional system is thus fundamental for functionalist approaches.

Functionalism in sociology has been criticised for its emphasis on harmony and incremental evolution to the detriment of the conflicting and chaotic nature of the world (Nielsen, 2007). This critic also touched Haas' neofunctionalism during the chaotic and conflicted evolution of the European integration in the 60s and 70s, and forms the backbone of the functionalist/intergovernmentalist opposition. From a theoretical point of view, it points at the opposition between scholars emphasising incremental evolution and those focusing on single events and "fortuity". Functionalism, in its fundamentalist version, generally entails a somewhat deterministic nature of social interactions and leaves little space for intentions. Such limiting dichotomies linked to universalistic theories should be transcended, and functionalist approaches, be they sociological or political, should be used for their capacity to enlighten mechanisms that relate to structural constraints without falling into the trap of determinism and denying the existence of fortuity and conflict altogether.

Additionally, functionalism as used in the publications should not be confused with functional integration in a physical/infrastructure perspective, as geographical and planning analyses of cross-border regions have conceptualised it (Decoville et al., 2013; Korcelli-olejniczak, 2008; Matthiessen, 2004; Topaloglou et al.,

2005). Even though most functionalist theories share an approach to society that does not consider administrative borders as boundaries to social activities, this thesis remains within the realm of political science and governance, and refers to functional elements to the extent that they influence political and administrative processes. Because this research addresses the issue of cross-border policy integration, it seems natural to draw from well-known tradition in EU studies developed by neofunctionalist scholars.

Neofunctionalism was the first attempt at theorizing European integration. It started with the influential work of Ernst Haas (E. B. Haas, 1958), who, based on early observations of the European Coal and Steal Community (ECSC), advocated that European integration would happen through elites cooperating on transnational functional sectors; and that supranational institutions would gain increasing authority over the participating governments because of the functional and political spillover effects such a cooperation conveyed (cf. Moravcsik, 1998; Rosamond, 2000; Sandholtz & Sweet, 2010).

Haas was influenced by the functionalist thesis of David Mitrany embodied in A Working Peace System (1966), who advocated that world peace would be achieved through the creation of international agencies dealing with functional/technological issues that would gain credibility and legitimacy because of their capacity to promote economic welfare. In the long run, such agencies would aggregate into an international governance system without space for armed conflict. Albeit appearing slightly utopic, this thesis introduced the idea that functional issues touching the economy of society and its eventual welfare are fundamental incentives in human interactions, or in other words, are what matters to governments and policy-makers. This argument carried a very technocratic quality and did not give much for politics. It was a radical departure from a realist approach of International Relations focused on a fundamental struggle for power among distrustful sovereign states.

A central tenant of neofunctionalism was that European integration would be self-sustained because of the reinforcing spillover effects of integration from one policy to other related ones. Spillover effects are "a situation in which a given action, related to a specific goal, creates a situation in which the original goal can be assured only by taking further actions, which in turn create a further condition and a need for more action and so forth" (Lindberg, 1963). When national

government decided to integrate a functional sector, such as coal and steel, under one supranational institution, such an integration would automatically require cooperation in related policy sectors and thus trigger more integration (Pollack, 2005). Cross-border cooperation could be seen as the result of such spillovers in the integration of the cohesion policy and the Single Market.

Neofunctionalism distinguishes between functional and political spillover. The type of spillover that interests us is the functional spillover. It entails that cooperation in a specific sector creates technocratic pressure for cooperation in related sectors (Moravcsik, 2005). Cooperation on a specific cross-border issue should thus push for further cooperation in related policies. Functional spillover entails that all economic policies are interrelated and that integration in one policy issue will automatically impact other policies (Moravcsik, 1993). For example, the removal of tariffs to support the internal market has shown the need to harmonise tax laws in order to reduce competition biased between countries. Likewise, it also pointed at the need to improve transnational infrastructures to enable the movement of goods across the EU.

Such considerations are also found in Shuman and Monnet's strategies of creating the ECSC for the purpose of supporting peace in Europe by triggering integration among otherwise antagonist states. Since the ECSC is considered by most as the starting point of the European Union, its apparent success 60 years later supports to some extent the validity of neofunctionalism assumptions used in publication 4 and in the final discussions of this thesis.

Functionalism is a rational approach, which considers political actors as taking utilitarian approach to making decision (Rosamond, 2005). As such, it focuses on the decision of cooperating as based on utilitarian objectives rather than political considerations. Therefore, functionalism sees technic/functional aspects of governmental tasks as the most likely to foster integration. Moreover, neofunctionalism saw such integration as a steady process due to functional spillover and political spillover. Even though the present thesis does not directly address which spillover effects could appear in the case, it should not be overlooked that many functional sectors like transport, telecommunications, tourism, spatial planning and market integration do require adjustments in other policy areas, which might eventually trigger further cooperation for the purpose of coordinated those policies.

3.3.1.2. Intergovernmentalism and intergovernmental behaviour

In reaction to the neofunctionalist "optimism" and in the light of the rather "oscillating" integration process during the first 50 years of the European Union, intergovernmentalists like Hoffman (1966, 1995), Milward (1992) and Moravcsik (1991, 1998) developed a counter thesis. They argued that most policy decisions in the EU were actually the result of bargaining among national governments based on preferences that developed within national systems prior to supranational negotiations, and determined by their relative bargaining power. The EU was but another intergovernmental forum. Intergovernmentalists focused on the relative weight of intergovernmental institutions, like the European Council and the Council of Ministers, in negotiating most treaties that they considered as the central points of the integration process. They agreed that transnational policy issues pushed national governments to cooperate, but they saw those issues as domestic policy externalities (Moravcsik, 1991), which means that states only cooperated to the extent that the coordination of transnational policies benefited domestic policy goals. Supranational institutions were thus the recipients of aggregated national interests rather than independent entities capable of initiating and supporting discrete policies.

Besides considerations of regional integration, a central assumption of their argumentation is that each national government saw the EU "through the lens of its own policy preferences" (Moravcsik, 1991) and that policy-making in the EU was but an extension of domestic politics rather than a competing one. For intergovernmentalists, supranational institutions were gaining neither independence nor authority over national governments. The concepts that interests us particularly is that of the partitioning of interest-aggregation alongside national borders and the domestic focus of most actors, which is labelled as the intergovernmental behaviour for the purpose of this research.

The intergovernmental critique has faded out in the last 10 years, in the light of the reforms brought by the Lisbon treaty. However, even in a multi-level governance system, the questions of the partitioning of interest-aggregation alongside national borders remain. While the focus of intergovernmentalism on explaining the integration process itself resulted in its obsolescence, the basic concept of the intergovernmental behaviour of national actors still seems to warrant some consideration when looking at the way subnational public actors cooperate in a transnational/cross-border context.

3.3.1.3. Neofunctional mechanisms and intergovernmental behaviour

50 years later, the European Union has reached a degree of integration that even the latest advocate of intergovernmentalism, Moravcsik, recognises as being beyond intergovernmental and as having reached constitutional maturity (Moravcsik, 2005). However, even though the fundamental debate seems over, it does not mean that fundamental assumptions of intergovernmentalism and neofunctionalism should be archived for good.

While theories of regional integration from the last century could seem outdated for the understanding of the EU today, it is too early to discard fundamental mechanisms of cooperation on which they have been built. First, the neofunctionalist assumption that the European integration would be an elite project based on functional cooperation and that the integration of functional issues like energy and market would spillover to other policy areas has proven right. An interesting argument to draw from this conclusion is that functional issues do appear to support transnational cooperation and the integration of policy-making systems across borders.

As opposed to Blatter (2003), I do not think that the intergovernmentalist approaches are not relevant to the understanding of cross-border cooperation on the sole ground that the aggregation of interests into national interests no longer seem useful for modelling and predicting policy outcomes. Even though the partition of the aggregation of interests in national boxes is not "absolute" any longer, large parts of the participants' decisions are still informed by domestic consideration built in a domestic forum, and subnational authorities are still relatively new to the supranational policy-making process. For that reason, "intergovernmental" as the concept that policy-making and the aggregation of interests happens within national systems is still relevant for cross-border cooperation. Theoretical and practical knowledge of actors involved in cross-border cooperation, as well as their strategy, are still to a large extent issued from their respective domestic systems. In that sense, it is clear that cross-border cooperation is still characterised by a relative intergovernmental behaviour of the participating actors. However, it is balanced by the supranational policy-making, which informs some of the decisions made by subnational actors.

It can seem heretic to discuss the intergovernmental behaviour of subnational actors, but when relieved of its paradigmatic quality, a concept of intergovernmental

behaviour can prove very useful to identify one type of challenge in cross-border cooperation. The challenge that many actors build their strategies within a national forum, based on knowledge, norms and routines from their respective national context, rather that within a transnational forum. This is a strong challenge for the homogenisation of strategies that cross-border cooperation entails. Because cross-border cooperation of sub-national actors present similarities to transnational cooperation of national actors, the present thesis considers that neofunctional and intergovernmental assumptions can still be useful when looking at cross-border cooperation for their capacity to conceptualise integration between independent political entities. Such a consideration informs publication 4 and 5, which focus on identifying challenges to cross-border cooperation, and is central to the discussions on how to strengthen cooperation in the Fehmarn Belt Region in the final discussion.

3.3.2. Policy networks analysis in multi-level governance

In an environment without seemingly governmental structures of coordination, the implementation of a "coherent" policy throughout the system requires the coincidence of independent decisions at the appropriate time in the appropriate place. However, cross-border and transnational governance do not happen in a vacuum. They are situated within a multi-level governance system (cf. Bache & Flinders, 2004). It is characterized by supranational steering through more or less precise regulations and policies, and loose administrative steering in the absence of a federal administration. EU policy-making provides guidelines and regulations for all actors involved in its implementation, but implementation and administration mechanisms remain somewhat decentralized. Additionally, supranational policy-making and implementation involve actors from supranational, national and subnational levels with varying degrees of influence.

In order to understand a governance structure, where there is no central government, this thesis follows a conceptual framework combining multi-level governance approach as defined by Hooghe and Marks (2001) with a network approach based on the work of Rhodes (2006). This combination has been used in EU studies before and is useful in the fact that both concepts look at policy-making beyond governmental structures. It is a central concept for the analysis and conditions the choice of research design. It is particularly central for publications 1, 2 & 4. Multi-level governance and policy networks do not address mechanisms pushing

regional integration, but what kind of polity the EU has become and address EU policy-making as a complex process involving other actors besides national governments. In that sense, they work in prolongation of the neofunctionalist paradigm without adhering to it, since they have a different level of analysis. Seeing cross-border cooperation as one segment of this new multi-level governance system requires tools focusing on governance and policy-making in a context beyond national and hierarchical governance systems. In combination, multi-level governance and policy networks approach are perfect tools for doing so.

3.3.2.1. Multi-level governance in the EU

Multi-level governance was born as a reaction to the state-centric vs. supranational focus at the core of the functionalism vs. intergovernmentalism debate. Chronologically, it is a reaction to the intergovernmentalist critique, which advanced that national governments retained full control over policy-making in the EU, despite the development of supranational authorities such as the Commission and the European Parliament. Instead of trying to discuss grand theories of European integration, MLG looked at specific policy areas, which clearly involved supranational institutions, national governments and subnational authorities, and where control appeared to have slipped away from the hands of national governments (Marks et al., 1996). In that sense, it reinforces the functionalist postulate that supranational institutions would slowly gain authority over the policy-making process. However, instead of theorizing the mechanism that would provoke it, it focused on observing the phenomenon as it happened. It developed as an answer to the question of the international relations characteristic of EU governance and was proposed as a hybrid model, between international relations and federal government, neither of which could satisfactorily characterize the evolution of the EU governance system (Stephenson, 2013)

Marks (1993) introduced multi-level governance, while conducting an analysis of policy networks involving supranational, national and regional actors' negotiations within the Structural Funds. He argued that national governments shared power with supranational and subnational actors regarding policy-making in that context, and that they were not in "full" control of the process any longer. A central discussion brought by multi-level governance is that of the weakening of the national governments to the benefit of supranational and subnational actors. It brought some scholars to see cross-border cooperation as the empowerment of the regions vis-à-vis their national governments (Durand & Nelles, 2014; Nada-

lutti, 2013) while others did not consider that subnational actors were gaining much prerogatives besides those conferred upon them by national governments (Harguindéguy & Bray, 2009).

Multi-level governance recognizes state power but does not consider it the whole story, in a context where heavily institutionalized ways of doing politics are less predominant and alternative social actors have entered the policy-making process (Warleigh, 2006). Therefore, it argues that control over the EU policy-making process is slipping away from the national actors, yet that they remain central elements (Marks & Hooghe, 2004). What matters is then to understand to what extent control has slipped away from them and how it affects policy-making. Multi-level governance also suggests that those new multi-level governance arrangements may allow national governments to influence other actors that they could difficultly control otherwise, and might provide them with more room for bargaining, at the cost of control (Bache, 2008).

In practice, multi-level governance was rapidly adopted as an analytical framework by a number of scholars of EU studies (Bache, 2007; Stephenson, 2013), but also used as a normative approach by political actors such as the European Commission (Bache, 2007), the Committee of the Regions (2009), or for example in our case: Region Skåne in Sweden[12]. This concept has thus many different meanings according to the milieu where it is used, and the present research only considers multi-level governance as a scientific ontology concerned with the institutional structure of policy-making rather than a kind of managerial tool or normative aim.

Originally, multi-level governance was developed as a hierarchical model aiming at conveying the entanglement between domestic and international levels in a vertical supranational perspective (Stephenson, 2013), but later on, Marks and Hooghe (2003) began to distinguish between two models of Multi-level governance. Type 1 refers to a rigid and hierarchical structure resembling a federalist organization, where several levels of governments are hierarchically linked in a non-intersecting, purpose-specified structure with a clear institutional set-up. However, it only focused on public authorities in a narrow perception of governance and

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12 Example of the use of multi-level governance can be observed in Interreg projects like Transbaltic (http://www.transbaltic.eu/about/) and BSR transgovernance (http://www.transgovernance.eu/)

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did not account for the involvement of other societal actors in the policy-making process. On the other hand, the newer type 2 is looser. The number of potential jurisdictions is vast and they have no clear demarcation, so that overlapping occurs between and within policy processes. It accounts for the participation of both private and public actors in a system that resembles policy networks and is therefore particularly compatible with it. For that reason, if multi-level governance can help to understand the cross-border cooperation, it must be done within a type 2 perspective, which combines the vertical/EU perspective on governance with an understanding of the horizontal networks crisscrossing it.

Cross-border cooperation can thus be observed as a segment of this multi-level governance system related to the cohesion policy, which "literally" fuels most of the cross-border cooperation activities. However, while the cohesion policies establish the incentives and the room for cross-border cooperation, most of the cooperation happening is actually stimulated and steered by many other national and EU policies, which determine the relevant areas to cooperate upon and the desired goals. In that sense, even if cross-border cooperation qualify cooperation in a generic way, it can actually be sliced along policy lines and observed as cross-sections of the overall system. In that context, a discussion of cross-border cooperation requires clarifying which policies are present because generic cross-border cooperation as a structure of governance is not enough to understand the position of participating actors in the broader EU perspective. Today, it is clear that, because of the multiplication of EU regulations, decisions and directives, EU policies matter for the decision-making happening at both national, subnational and cross-border levels. For the present thesis, it means that the way in which subnational actors are embedded in the TEN-T strategy, what is their role and their influence is an important part of understanding the cross-borders cooperation activities that focus on the Fehmarn Belt Region and what it means for the involvement of subnational actors.

3.3.2.2. Policy networks analysis

Policy network approaches are tightly related to Governance discussions (cf. Pierre & Peters, 2005; Rhodes, 2007). It can be summarised as the process by which public and private actors develop inter-institutional networks to compensate for a difficulty of the government to provide the resources and coordination necessary for a successful policy-making because of a lack of expertise, a lack of capacity or because of the privatization of the policy sector (Bevir, 2007c; Rhodes, 2006).

Even though it was born from studies focusing on domestic policy-making, such an approach is particularly interesting in international contexts where there are actually no governmental structure to steer policy-making.

Studying policy networks is not a new activity in political science and there is a diverse literature dealing with networks observed within policy-making. This approach builds on concepts like issue networks (Heclo, 1978), policy communities (Richardon & Jordan, 1979), epistemic communities (Haas, 1992), policy networks (Marsh & Rhodes, 1992b), advocacy coalition (Sabatier, 1993) and dyadic and triadic networks (Ansell, Parsons, & Darden, 1997).

The strand of policy networks analysis used in this thesis is inspired by British discussions born in the nineties from the observation of non-statutory networks of actors involved in British policy-making, where governmental institutions increasingly developed interdependent ties with other societal actors (Marsh & Rhodes, 1992b). It belongs to a group of concepts looking at the involvement of experts and private actors into the policy-making process, which consequently no longer happen within a clearly defined governmental hierarchy (Rhodes, 2006). It builds on earlier discussions of policy communities and issue networks (Rhodes, 1985), and sees those concepts as two ideal-types lying at each end of the policy network continuum. On one side, policy communities are stable networks with few members and strong interdependence, while on the other side, issue networks are gathering a larger number of members around a specific issue, with low interdependence (Marsh & Rhodes, 1992a). This type of policy networks analysis is characterised by a qualitative approach as opposed to quantitative approaches using social network analysis. It has been referred to as the Rhodes model for his efforts in disseminating it throughout the 90ies (Peterson, 2003). A schematised summary of this model emphasize three important variables: 1. the stability of the network (i.e. stability of membership), 2. insularity (i.e. closed club or open two different interests) and 3. resource dependencies (i.e. to which extent are participating actors dependent on each other's resources like money, legitimacy and expertise) (Peterson, 2003). The main idea being to observe how changes in variations of those parameters would affect policy outcomes.

The ensuing work of Rhodes on policy networks analysis has influenced the way this thesis saw the utility of policy networks analysis. While Marsh analysed different types of policy networks and focused on theorizing correlations between

their form and their impact on policy outcomes (Marsh & Smith, 2000; Marsh, 1998), Rhodes began to advocate for a focus on policy-makers. His goal was to understand better the actors' interaction in an everyday perspective, by "putting people back into networks" and focusing on narratives and norms as the glue that holds the network together (Rhodes, 2002, 2006, 2011).

While policy networks analysis is a concept based on unravelling the complexity of policy-making and showing the involvement of many interests in more or less stable networks, observation of the same phenomenon has also triggered governance related questions through the governance network approach (cf. Blanco, Lowndes, & Pratchett, 2011; Fawcett & Daugbjerg, 2012; Sørensen & Torfing, 2007). It builds on the same networks discussions from the 90s and accept the assumption that those networks have a strong influence on the policy-making process, but advocates that it is a new form of governance, which is developing across governmental structures. While policy networks analysis studies the existence of such networks and tries to observe how governmental actors involve societal actors in the policy-making process, network governance considers those networks in both an empirical and a normative perspectives, and displays a more interventionist thinking (Blanco et al., 2011; Fawcett & Daugbjerg, 2012). For that reason, it is also characterised by a more operational perspective focusing on how to develop this form of governance, where democratic consideration became a central element (J. Torfing, Sorensen, & Fotel, 2009). The normative element is characterised by an active reflection on open and transparent networks with a normative aim to improve governance outputs without detriment to democratic principles. This approach also uses the term governance networks to refer to such constructs (Sørensen & Torfing, 2005). While normative and interventionist considerations seem relevant in discussions on cross-border cooperation, they have been left aside in this thesis. This thesis builds thus on methodological considerations advanced by policy networks analysis, who nonetheless share common positions with network governance discussions (Blanco et al., 2011). This policy networks analysis approach involves an emphasis on the participating actors, resource dependencies, trust, diplomacy, reciprocity, structural narratives, stability and common aims as well as the effect of borders on them (Lawrence, 2006; Rhodes, 2006).

Methodologically, there are different ways to approach policy networks. One can conduct quantitative social network analysis (Durand & Nelles, 2014; Robins, Lewis, & Wang, 2012; Scott, 2000), analyse the organisational structure

of a specific policy network (Walther & Reitel, 2012), its evolution over time (McGregor, 2004) or conduct ethnographic studies (Rhodes, 2011). Even though it focuses on national policy-making, policy networks analysis was also recently applied to the study of cross-border issue networks. A group of studies focused on the involvement of regional policy-makers in cross-border transport planning following a social network analysis method (Dörry & Decoville, 2013; Walther & Reitel, 2013). Another one focused on a cross-border institutional network along the German-Polish border, following a mixed method approach combining quantitative questionnaires and interviews (Leibenath & Knippschild, 2005).

Keith Dowding (1995) is known for his critique of policy network approaches as being more a metaphor of the policy process than a fully-fledged explanation of it. A critique that does have some substance considering some of the rather descriptive mappings one can find in the literature. This critique echoes Kenis and Schneider's observation that policy networks analysis resemble more a methodo-logical toolbox than a theory (Kenis & Schneider, 1991). In order to go beyond the mere mapping of policy networks, the present research adopts an approach focusing on a qualitative understanding of the processes at play within those networks through additional conceptual lenses focusing on policy-making and political integration. The research also follows one of the normative application of such a tool identified by Kenis and Schneider (1991): comparing the observed network with its normative aim, in our case policy coordination across borders. The result of such a qualitative approach forms the core of publication 4.

3.3.2.3. Cross-border policy networks in a MLG system

Multi-level governance and policy networks analysis have been discussed in conceptual combinations on several occasions (Adshead, 2002; Bache, 2008; Warleigh, 2006). Such discussions point at the complementarity of the vertical governance/steering focus of multi-level governance with the actor and issue focus of policy networks analysis, which emphasises the inter-organisational and bargai-ning aspects of policy-making. Both can be seen as middle-ranged theories that, because of their focus on the functioning of the EU rather than the integration process, provide with a useful framework for discussing cross-border governance.

While policy networks analysis is in theory non-institutional and a-hierarchical, it benefits from being combined with a concept that can help to set the policy-making process in context, while retaining a trans-governmental focus. In turn,

policy networks analysis provides an understanding of the actual participation and influence of various actors in the policy-making, a perspective that often lacks the multi-level governance approach, which associates too often participation with influence (Warleigh, 2005). The question of power and authority remains, but there is an agreement on the fact that both power and authority are more diffuse and do not belong exclusively to national actors. While multi-level governance help situating those actors with regards to their respective governmental system, policy networks help to observe how they interact. As such, their combination gives a better picture of cross-border cooperation in context.

3.4 SYNTHESIS OF THE CONCEPTUAL BACKGROUND

To sum up, the discussions in this thesis are situated within the fields of policy-making, public administration and governance, which can interest scholars of political science, planning studies and geography. The concepts informing the studies are issued from EU studies, but echoes concepts used in cross-border cooperation studies from geographical and planning perspectives like planners, institutions, networks, functional cooperation, etc….

This thesis addresses the coordination of transport planning and regional development at the subnational level through cross-border cooperation of planners in the Fehmarn Belt Region. It considers planners as policy-makers part of the EU policy-making process, who therefore conduct regional policy-making in parallel and in cooperation with other actors both in horizontal and vertical perspectives. Their cooperation across the borders is considered as the activity of developing and operating transnational policy networks that can support the exchange of information, cooperation and aggregation of interests that is necessary to coordinate policy-making related to planning issues on all sides of the borders. The aim of this network being to ensure the coherence of policy-making across borders for those aspects of the policy that concern subnational levels. More specifically, this thesis discusses the capacity of such a network to harmonize knowledge, collective interest and strategies across borders, which can thus serve to inform the policy-making process on both sides and potentially push for political integration. Because of the heterogeneity of the policy network approaches and the apparent lack of a clear theoretical consensus regarding the key variables or the causal relations between the form of the networks and their policy outcomes, this research uses

policy networks analysis as a conceptual tool. It uses policy networks analysis for its capacity to unravel the existence of policy networks or the potential to develop such policy-networks and focuses on variables like stability, insularity and resource dependency (for a short overview of this heterogeneity, see meta discussions from Dowding, 2001; Rhodes, 2006; Thatcher, 1998). It is the opinion of the author that resource dependency (linked to capacity dependency) is a particularly interesting variable for the understanding of cross-border networks, of how and why societal actors decide to involve themselves in policy networks. This variable has been operationalised in publication 4, which focus on which types of resources are exchanged in those policy-networks and who possesses them.

While planners and stakeholders are clearly interested in pushing their agenda in the policy-making process, politicians, because of the equilibrium between market and regulation described by Friedmann (1978) and the increasing place of expertise in policy-making, are increasingly dependent on expert knowledge and stakeholders for the production and implementation of policies. Moreover, they also need to control the administration, where policy inertia may be heavier than in the political system. Finally, business interests are particularly interesting for governmental actors interested in public regulations, since they are often key to the implementation of many public policies, which ultimately aim at regulating their behaviour. Table 1 gives an overview of the aforementioned resources, which appear to be of interest for cross-border networks in the Fehmarn Belt Region, in relation to the types of network where they operate. If involving experts in networks influencing the development of the policy agenda may be feasible through cross-border networks, the sheer number of actors often required to implement policies does not seem suitable for administrating through networks. Cross-border planning should thus target the primary steps of policy-making such as agenda setting and policy formulation. However, final discussions in this thesis will also open on the possibilities to go one step further and integrate policy-making process across borders by focusing on narrow functional issues and on mitigating intergovernmental behaviours.

Finally, this thesis uses EU studies concepts such a neofunctionalist and intergovernmental mechanisms to look at cross-border integration, and discuss which mechanisms might support further integration. The mechanisms referred to are the neofunctionalist assumptions that political integration is easier when involving elites around apolitical functional issues at the core of societal welfare,

Table 2. *Types of actors involved in CBC in the Fehmarn Belt Region*

Network	Functional networks	Institutional networks	Business networks
Members	Civil servants, experts, stakeholders	Politicians	Business interests, businesses
Resources	Openness, flexibility, expertise, problem-solving, output legitimacy	Stability, political legitimacy (input legitimacy), political authority	Stakeholders, implementation, investment
Weak points	Lack of authority, lack of stability	Insular, territorial and administrative limitations, generalist	Short term perspective, sensitive to regulatory change
Needed resources	Political authority, stability , funding	Expertise, flexibility, problem-solving	Need stable regulatory signals

* (cf. publication 4 for an empirical overview of the types of networks)

that functional spillovers affect adjacent political processes and the intergovernmentalist concerning the intergovernmental tendency of public authorities. Spillover is particularly interesting since it means that integration economic and infrastructural administration might lead to political integration. However, the operationalization of such a mechanism still requires finding the right issues and the right arrangements.

3.4.1.Conceptual overview

The present framework invites empirical observations of the actors involved in the cooperation: how they cooperate in practice, their position in the governance system, how they are influenced by external factors such as national and supranational policies and how they build networks to support the development of common visions. It brings thus two levels of analysis to this thesis. First, cross-border cooperation as a segment of the general EU policy-making (cf. publication 1 and 2), and second, the cross-border governance system that develops at the cross-border level and which networks it relies on (cf. publication 4 and 5).

Table 3 gives and overview of the general framework of the thesis, the actors in focus and the mechanisms observed. Those concepts are the building blocks of the research. The focus is set on how cross-border networks condition the cooperation of practitioners (actors) looking to coordinate their policies, and on a segment of policy-making processes dealing with infrastructural issues.

It means that practitioners are considered in relation to other policy-makers and to the broader policy-making system including EU policies.

The central concept of the research design is policy networks analysis, which is used for unravelling and understanding cross-border cooperation in networks. However, this cooperation takes place within a multi-level governance system, where supranational structures influence national and subnational actors, and where cooperation is influenced by different mechanisms related to institution building, functional cooperation and intergovernmental behaviour. As a result, cross-border cooperation through networks cannot be approached in isolation and an understanding of the aforementioned external stimuli is required. This is the reason why the present theory chapter gives a thorough presentation of concepts and phenomena forming the overarching structure in which the networks are observed.

To sum-up, this research looks at the political/administrative aspect of large scale cross-border cooperation at an institutional level of analysis, using a policy networks approach. Concepts from EU integration studies are thus applied to the analysis of the findings in order to discuss the consequence of cooperation on functional issues for political integration and of intergovernmental behaviour in cross-border cooperation. Each of those concepts addresses thus one segment of the phenomenon in focus: cross-border cooperation in the Fehmarn Belt Region. Table 3 also indicates in which publications each of the concept is particularly emphasized.

Table 3. *Conceptual synthesis*

Type	Concepts	Relevant empirical objects	In focus in
Space	Cross-border region	Fehmarn Belt Region, Öresund region	Publications 1, 2, 4 & 5
Governance process	Planning, policy-making	Transport policy, infrastructure, spatial planning, regional development	Publications 1, 2, 4 & 5*
Governace structure (Horizontal)	Policy networks (structured & repeated contact)	Institutional: STRING, Öresund region, Fehmarn Belt Region	Publications 2, 4 & 5
		Issue networks : Green STRING, Achse1, COINCO, SWIFTLY Green, corridor 3&B	
		Potential non-official networks	
Governance structure (vertical)	Multi-level governance, Supranational/ national/ subnational,	Administrative levels: EU, federal/national (ministries…), regions/Länder, kreis, municipalities + cross-border and private organizations	Publications 1-2
Actors	Policy-makers, planners	Politicians, civil servants, experts, consultants, lobbyists, civil society	Publication 1, 2 & 4
Phenomena	Coordination, cooperation	Cross-border plans/strategies, regional development strategies, infrastructure development plans,	Publications 2, 4 & 5
Mechanism	Institutional vs functional cooperation	Cross-border regions vs. cross-border projects	Publication 4
		Cross-border platform/secretariat vs. cooperation on functional issues	

* A specific emphasis is put on cross-border planning in publication 5.

4. Methodology

This chapter presents the methodology used for data collection and its relation to the aim of the study. It may seem redundant with regard to some information contained in the publications, but it provides the reader with a deeper understanding of the methodology that their limited length could not allow.

4.1. ACADEMIC VALUE OF THE RESEARCH

Besides answering the research question, the value of the research can be summarized as follow:

1. Develop the qualitative approach in PNA studies of cross-border cooperation, which up to now have been rather quantitative and limited in number. Such a qualitative approach can help to refine variables used in quantitative analyses.
2. Improve models to understand how cross-border planning works at the regional level by looking at structural elements affecting the cooperation of planners.
3. Introduce a political integration perspective in discussions of cross-border cooperation, and reflects on the possibility to mitigate "intergovernmental" behaviour in cross-border cooperation so that common goals are developed in cross-border spaces, rather than in domestic spaces. It also bridges two types of functional approaches, one based on physical and economic integration and the other one on political integration.
4. Assess the Ten-T strategy in a regional development/cohesion perspective (in a multi-level governance context).

The use of policy networks analysis on a case with access to the field and the practitioners involved allows for a discussion on the qualitative approach to policy networks, which has been rather limited in cross-border cooperation studies so far. Several studies focusing on cross-border networks of actors have applied social network analysis (cf. publication 4). However, they retain characteristics of network mapping and do not clearly address in which political and administrative structures they evolve. Moreover, they require a clear pre-understanding of key variables, since they tend not to leave room for non-measured variables to come up. A qualitative approach allows thus for a more flexible and exploratory approach that can help to assess existing variables and discuss new ones, in order to refine the models with which we understand cross-border cooperation today.

One interest of this research is to improve how cross-border cooperation is understood from a theoretical point of view in order to transcend a traditional approach based on cross-border regions, Euroregions, EGTC, etc. Replacing traditional administrative structures by those entities increases the fragmentation problem, since the necessary policy decisions happen within traditional administration units from the national systems. In that sense, building additional administrative layers may be a first step to cross-border cooperation, but it does not seem to be sufficient to ensure an effective coordination. If it allows for the development of spaces of cooperation where planners can meet, it does not seem to mitigate the intergovernmental behaviour, which characterizes them. Cross-border coordination should therefore be inbuilt in traditional administration rather than ad-hoc. A political integration perspective can help to discuss this kind of integration. Cross-border cooperation was therefore addressed by discussing the integration potential of functional issues and the seemingly intergovernmental characteristic of cross-border cooperation. This angle allowed to build a bridge between functional discussion from a geographical and planning perspectives and from a political integration one, but also to conceptualize the challenges posed by intergovernmental processes for cross-border cooperation and cross-border planning.

Additionally, a focus on transport planning and regional development has allowed the research to address cross-border cooperation dealing with planning questions. As a result, it opened for a discussion on cross-border planning and on which kind of challenges this activity poses. Discussion on cross-border planning have been focusing on the homogenization of different national planning rules and procedures to allow for the development of coherent plans (Jacobs, 2014; Leibe-

nath, 2008; Tölle, 2013). This research also takes up the national differences, but approaches them from the point of view of planners in order to understand their challenges when cooperating across borders.

Finally, this project looks at a trans-European transport planning system with joint strategic planning procedures, joint planning tools and a single transport network. However, it focuses on the role of the subnational level within this system; what role it could play in connecting this strategy to the actual economic fabric of European territories so that it serves the "cohesion" purpose as it is supposed to. This focus is a result of a reflection on the role of cross-border cooperation in the TEN-T strategy that has followed the study all along. The TEN-T strategy is a supranational policy mainly addressed at member states that coordinate the development of transport corridors spanning over several countries. At first glance, the involvement of subnational authorities does not seem necessary since they usually have limited competencies in transport infrastructure planning. However, the empirical analysis in this study shows that transport corridors have territorial and economic side-effects that a supranational organization cannot fully take into consideration and that they may impact European regions in ways that counter-work other European policies (cf. chapter 2 and publication 1). Even though it is not the core question of this study, looking at cross-border cooperation for planning purposes calls for a reflection on the topical purpose such a cooperation should have. What type of planning is in question, what type of tasks the subnational actors focus on, and what they can use cross-border cooperation for? It became clear that this question should be treated in order to clarify how the research question related to the object of study, but also to present a critical reflection regarding the object of study. Additionally, this question is not treated in the present study, but the organizational structure of the TEN-T policy is based on supranational cooperation corridors spanning over a large number of countries and involving numerous public authorities and private stakeholders. Such a structure is likely to pose coordination and political problems that should not be overlooked. An alternative is the segmentation of the corridors in smaller sections, which appears in informal discussions among some experts involved with the TEN-T corridors. This segmentation is also pushed forward by the corridor coordinator of the Scan-Med corridor in his newly published work plan (Cox, 2015).

4.2. CONTEXT OF THE RESEARCH

Because it developed within the cross-border project that funded it, the present thesis follows a dual purpose. Even though the research question and the research design were not constrained by requirements linked to this funding, it was the aim of the project to accommodate theoretical discussions within the academia together with a problem-oriented approach, which could bring knowledge of interest for the practitioners. This duality is reflected in the orientation of the research towards both advancing scholarly discussions and producing "recommendations" in the conclusion. It also influenced the choice of forum for publications 1 and 2.

Scientific journals are not the primary source of information for planning practitioners, which rather get their knowledge from practical projects and publications produced by public authorities and consultancy. Likewise, the theoretical and methodological topics that are prized within the academic traditional are not always a priority for practitioners. The Trafikdage conference at Aalborg University is an example of the junction between those two worlds, which do not necessarily have the same expectations in terms of form, level of abstraction and means of dissemination of knowledge. This conference brings experts, practitioners, politicians and scientists together under the same roof for the purpose of presenting the latest developments in transport research and policies in Denmark. Evolving in both worlds provided me with the opportunity to reflect on the level of abstraction that a theoretical exercise entails and on the practical implications of the knowledge produced.

The intent of this thesis was thus to use theoretical approaches on governance as they can be found in political science together with more practical consideration linked to transportation and planning as policy areas. Not that transportation and planning do not have academic traditions with advanced theoretical paradigms, but the goal was to engage practical aspects of administration and planning. Additionally, even though taxonomic and mapping exercises are valid scientific production, the goal of the present research was to provide with conclusions that could help further reflections on supporting cross-border cooperation in the region studied.

The different publications of the thesis took different forms according to the forum in which they were developed. For example, the Green STRING policy note that presents the policy background of this thesis has not been published through an

academic channel. It is a policy note developed for subnational politicians and civil servants produced within the context of the green corridor STRING project. An important part of the content is actually aggregated knowledge from practitioners of transport planning in the region and the text was reviewed by those practitioners.

Without entering into the debate that Gibbons & al. (Nowotny, Scott, & Gibbons, 2003) started with their discussion of a new mode of scientific production that came to be labelled as Modus 2, it must be acknowledged that this thesis was influenced by the increasing demand for applicable results and cooperation between the academia and practitioners that this debate points at. It could be argued that such a demand can lead to arbitrary choices regarding relevant data and their interpretation, but it also supports a discussion on the operationalization of sometime very abstract concepts in order to discuss potential applications. The result of such a struggle may seem unfocused, but it also provides with a more holistic result taking into account both theoretical and practical considerations.

This thesis is thus an exercise combining classical academic concepts, based on received theories and literature reviews, together with a more practical approach, which intends to produce policy recommendations. It applies concepts from EU studies in a problem-oriented approach that can both help to refine those concepts, produce a policy analysis that might interest planning practitioners and regional politicians in the Fehmarn Belt Region and discuss how cross-border cooperation could be enhanced in practice.

4.3. RESEARCH DESIGN

This research is a policy analysis looking at transnational transport planning and cross-border regional development from a governance, organizational and administrative point of view. Since cross-border cooperation in the EU is not administrated by established cross-border bodies, and the legislative framework is very fragmented, this research starts from the assumption that understanding such a process relies on understanding underlying structures framing a nascent institutionalization of the cooperation. It also makes the assumption that norms, practices and conventions influence the behaviour of the actors, and that they must be understood together with economical and legislative conditions.

There have been several approaches developed to understanding cross-border regions, both in geography and EU studies. They are often focusing on cross-border organizations as artefacts of study (Deppisch, 2012; Harguindéguy & Bray, 2009; Klatt & Herrmann, 2011; Lepik, 2009; Perkmann, 2003). This research considers that understanding what cross-border cooperation entails for the participating actors and more generally for the evolution of governance systems in the EU requires digging deeper into the processes of cooperation rather than stopping at their institutional offspring. There is thus a need to look into the underlying mechanics of cross-border planning in order to understand how to mitigate the effects of national boundaries on functional issues that cross them. For that reason, the present approach focuses on the cooperation of domestic actors through networks rather than through established cross-border organizations.

The policy chosen is transport planning and regional development. Therefore, the claim of relevance is limited to that topic, but it is not excluded that other types of cooperation may follow a similar pattern of development. One of the goals of this research is to refine models for studying cross-border cooperation for this type of planning in a qualitative perspective. Therefore, the actors and the topics chosen remain within the scope of this policy.

The choice of method is based on a reflection about the best way to gather knowledge relevant to the topic given by the Ph.D. grant that permitted this research. The following topic of research was to analyse the *implications of the Fehmarn Belt Tunnel for cross-border cooperation, the potential to develop cooperative relations*, and to *develop methods to analyse and promote cross-border cooperation between the* Öresund *region and Germany*. This study started thus as a theoretically informed in-depth case study and the research was oriented towards cross-border cooperation in a governance perspective. Policy networks analysis (Rhodes, 2006) was selected for its expected capacity to enlighten policy-making and governance processes happening beyond traditional administrative channels across the borders. Because policy network analyses is based on a policy approach, the Green STRING corridor concept, which focuses on developing green transport corridors while accounting for their effects on regional development, was selected to delimit the policy.

However, the policy-network approach is often coupled with the concept of multi-level governance. MLG was used to discuss the legal/administrative context in which cross-border cooperation develops, in order to look for structural patterns

that supported the coordination of cross-border cooperation. This conceptual combination is quite common within EU studies, which is often inspired by paradigms from International Relations (Warleigh, 2006). As such, the starting point of this study is mostly informed by political science and the various debates in EU studies related to European integration, intergovernmentalism, functionalism and multi-level governance. The first step was to see what empirical knowledge I could gather with this approach and how it helped to analyse the situation (see publication 2). Practically speaking, it started with a preliminary mapping of networks dealing with transport questions and their related use/effects on regional development positioned within a MLG perspective. It was expected that subnational actors interested in this topic would look for Interreg funds as a financial source for their cross-border activities. Therefore, Interreg databases played a stronger role at the beginning of the research (An overview of methodological tools and their use follows in the next section 4.5). All participating actors of Interreg projects dealing with this topic in the period 2007-2014 and their relation to each other were therefore listed. This method was also used on the regions around the Channel Tunnel for publication 3 and in the Alps and the Pyrenees to evaluate other potential cases for comparison. This list showed a prevalence of the green corridors concept in the Scandinavian regions and a dissemination along the ScanMed corridor.

From this observation, the focus was set on how it affected cross-border cooperation in the Fehmarn Belt Region and narrowed down to two types of cross-border cooperation specifically focusing on that region: the STRING network (political/institutional) and the Green STRING corridor (functional).

In a network perspective, no network of actors can entirely be isolated from other networks in interrelated policies. Therefore, the focus on the STRING network and the Green STRING corridor means that observations would continue until a satisfying picture of this structure was achieved, and that any other observations of contact with contiguous networks in related policies was incorporated in the analysis. It was expected that such an approach would provide a better understanding of how cooperation, and the homogenization of policy-making, could work in a cross-border perspective. There are numerous models looking at institutional aspects of cross-border cooperation. Concepts like multi-level governance, networks, institutional and functional aspects, territory and scale appear in many of them, but it does not seem that a single conceptual framework has been agreed upon.

This research project considers that contextual externalities and internal mechanisms reciprocally affects each other and that one cannot be understood without the other. Therefore, even if PNA looks at the actors, it should not be conducted without taking contextual parameters in consideration, a parameter that a qualitative approach helps integrating. As discussed in publication 2, empirical observations from the preliminary study pointed at three points to work further on:

1. Look how the TEN-T policy affects the regions and discuss the role of subnational actors with regard to this impact (addressed in publication 1 and 3)
2. Work on a qualitative use of policy networks analysis to approach cross-border cooperation (addressed in publication 4)
3. The need for a theoretical framework focusing on the challenges linked to planning activities. (addressed in publication 5)

The second part of the research was thus developed based on the three aforementioned preliminary conclusions, which oriented the questions used in interviews and the conceptual framework on which the selection of data from fieldworks was done.

To sum-up:

This study applies selected concepts from political science on cross-border cooperation with a focus on planning practitioners. The policy area is delimited by the premises of the green STRING corridor concept (synergy between transport corridors and regional development) and focus on green transnational transport corridors and their impact on regional development. The geographical limitation of this case study is a region referred to as the Fehmarn Belt Region, which extends from Malmö to Hamburg. The actors chosen within that policy are planning practitioners from public authorities and consultancy for their influence on the premises on which policy-making is developed and implemented. A focus on planning practitioners is especially relevant for a policy area like transport, where expertise plays a strong role in policymaking. The aim of this research was thus to achieve an empirical understanding of the premises for coordinated cross-border planning in the chosen region that can serve as base for further research and for comparison with similar cases in the EU. Other cases could vary in terms of the chosen territory, policy delimitation and the choice of actors from the policy-

making processes, but could draw from the conclusion of this research according to the similitudes of those criteria. Finally, figure 1 gives and overview of the overall research design from the choice of theories and concepts to the collection of data and refinement of the conceptual framework. This diagram shows how the preliminary study have influenced the refinement of the conceptual framework and the development of publication 3, 4 and 5. It also illustrates how the different publications and theoretical reflections have led to the final conclusion in chapter 6.
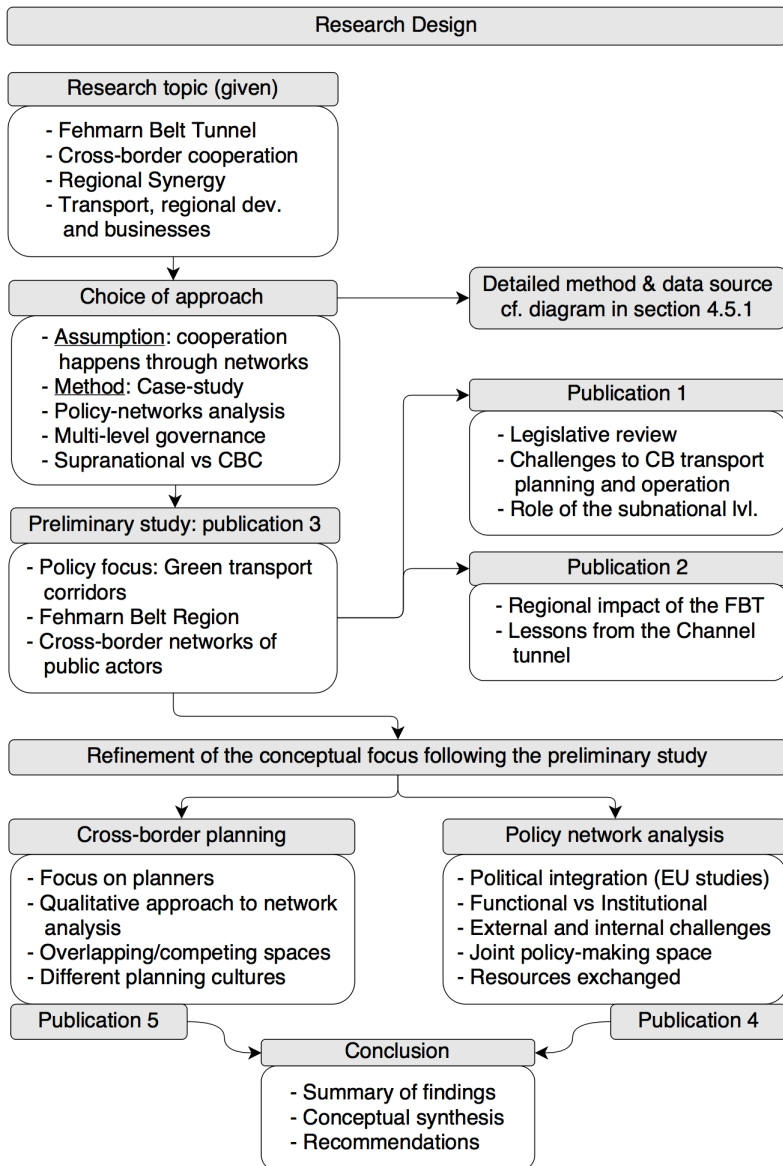

Figure 1. *Research design*

4.4. CONSIDERATIONS ABOUT THE RESEARCH DESIGN

Publication channels

A goal of the present thesis was to publish the knowledge gathered out in relevant fora in the form of articles. Traditional peer-reviewed journals mostly touch researchers from the academia, while practitioners gain knowledge from project reports, pilot projects, policy papers, conferences and consultancy. The mix of channel of publication used for this thesis parallels those considerations. The final conceptual framework was relevant for the academia and thus targeted at peer-reviewed journals (publication 4 and 5). Factual knowledge about policy development and regional questions seemed relevant to practitioners. As a result, part of it has been published through the project financing this thesis in the form of a policy note targeting regional politicians and through the Trafikdage conference (publication 1 and 2). While this thesis is not an exercise of transport planning in itself, it takes transport planning as a policy delimitation and knowledge about organizational challenges for cross-border transport seemed relevant to that forum.

The case

The case was not chosen to test a theory but conditioned to the research funding. In order to exploit this situation, theoretical concepts were chosen for their expected capacity to enlighten some of the mechanisms that could help to shed light on the case and allow for a constructive analysis. The concepts chosen came with a background in understanding national and EU political systems that would provide a depth to the analysis of the case. In return, this case proved useful in discussing contemporary approaches to cross-border institutions and cross-border planning. Additionally, this case consists of specific territorial, institutional and administrative characteristics, and thus has added-value for the literature on cross-border cooperation dealing with those considerations. The literature on cross-border cooperation has been discussing the importance of territorial size, institutional structures, topics of cooperation and institutional vs functional networks for some years now (cf. § 3.1). Following a conceptual grid involving those elements can provide pertinent results for understanding cross-border cooperation mechanisms in the Fehmarn Belt Region. It can also benefit from comparisons with the multitude of studies on cross-border regions that already exists and allows for the reproduction of similar case studies in the future.

This case is interesting because it concerns cooperation on a larger scale than the traditional cross-border cooperation studies usually entails, without however entering the scope of the macroregional strategies. This kind of cooperation has been observed before and resembles the ideal-type of "Scandinavian groupings", characterized by high co-operation intensity and large geographical scope (Perkmann, 2000), where functional issues might be a stronger facilitating factor compared to spatial narratives.

Knowledge produced in this research is valid with regard to processes of cross-border cooperation dealing with the Fehmarn Belt Tunnel and transport policy from a regional perspective. However, theoretical and conceptual reflections dealing with institutional vs functional aspects of cross-border cooperation echo other empirical studies found in the literature and can support further conceptualization of the process in that direction. The Scandinavian regions are also characterized by the absence of EGTCs or formal cross-border regions. Most cooperation in that part of the EU relies on political networks rather than on reproduction of traditional regional organizations. It opens thus for a discussion on the necessity of the latest in promoting cross-border cooperation and can be paralleled with the interesting observation that most EGTCs created since 2006 are situated in the southern part of the EU. This observation might reinforce the conclusion that cross-border cooperation is context dependent, and that contextual case studies are an important part of their study.

4.5. RESEARCH PROCEDURE

How to collect empirical material on networks, governance processes and policy-making in a cross-border perspective?

A central methodological question leading this research is how to observe and analyse cross-border cooperation of civil servants, planning practitioners and experts in practice, when this cooperation is not embedded in a single administrative system, and consists of both formal and informal exchanges? A conceptual framework combining multi-level governance and policy networks analysis was chosen to look at actors involved in cross-border cooperation related to the policy topic chosen and to observe their network connections across borders, their position in policy-making and administrative perspectives, their degree of influence on the policy-making process and how this structure influence their strategy.

The theoretical framework used as a starting point for this research indicated that governance beyond governmental structures would happen best within networks of actors dealing with specific policies. In the case of planning, this means observing networks of actors from public authorities and private organizations that influence infrastructure or regional development. In an ideal situation, one would have unlimited access to the daily work of all relevant administrative units such as ministries and regions, but in practice, access to on-going policy-making in those organization for an outsider is difficult. One must then look for indicators of those activities that can be observed from the outside. If this kind of cooperation happens in formal and informal networks, which transcend existing administrative structures in an international context, they require a certain stability to function as spaces for policy-making. One must thus look for indicators of the existence of relatively institutionalized networks dealing with the aforementioned policy targets. Such networks should produce policy outputs in the form of advocacy publications and reports that can be traced on the internet and on the websites of the participating institutions. In the absence of customary administrative structure, this research started by looking at semi resilient cross-border networks formed by cross-border projects and cross-border political networks.

In order to find indicators of network activities in the case region, this research project used a mix of sources. Among those sources are Interreg databases, Google search engine, expert consultations and fieldwork (see figure 2). Since cross-border cooperation is supported by EU funds, a good place to start was to look at databases over cross-border projects related to the policy topic in the various Interreg programs. A list of those contacts is a first indication of which actors cooperate and which topics are up in the region. In parallel, cross-border political platforms also participate to the cross-border space and provide with a certain continuity, albeit not necessarily policy focused. The various political platforms in the Fehmarn Belt Region were consulted to look for policy relevant projects. Once relevant institutions were found, expert interviews and fieldwork were used to complete the preliminary picture and better understand the underlying processes. This combination is used in order to make sure that empirical observations correspond to a genuine fraction of the phenomenon. The more an observation appears in several of the sources, the highest is the probability for this observation to be relevant. Figure 2 presents a summary of the data sources, which have been used, and classifies them according to the publication in which they were used.
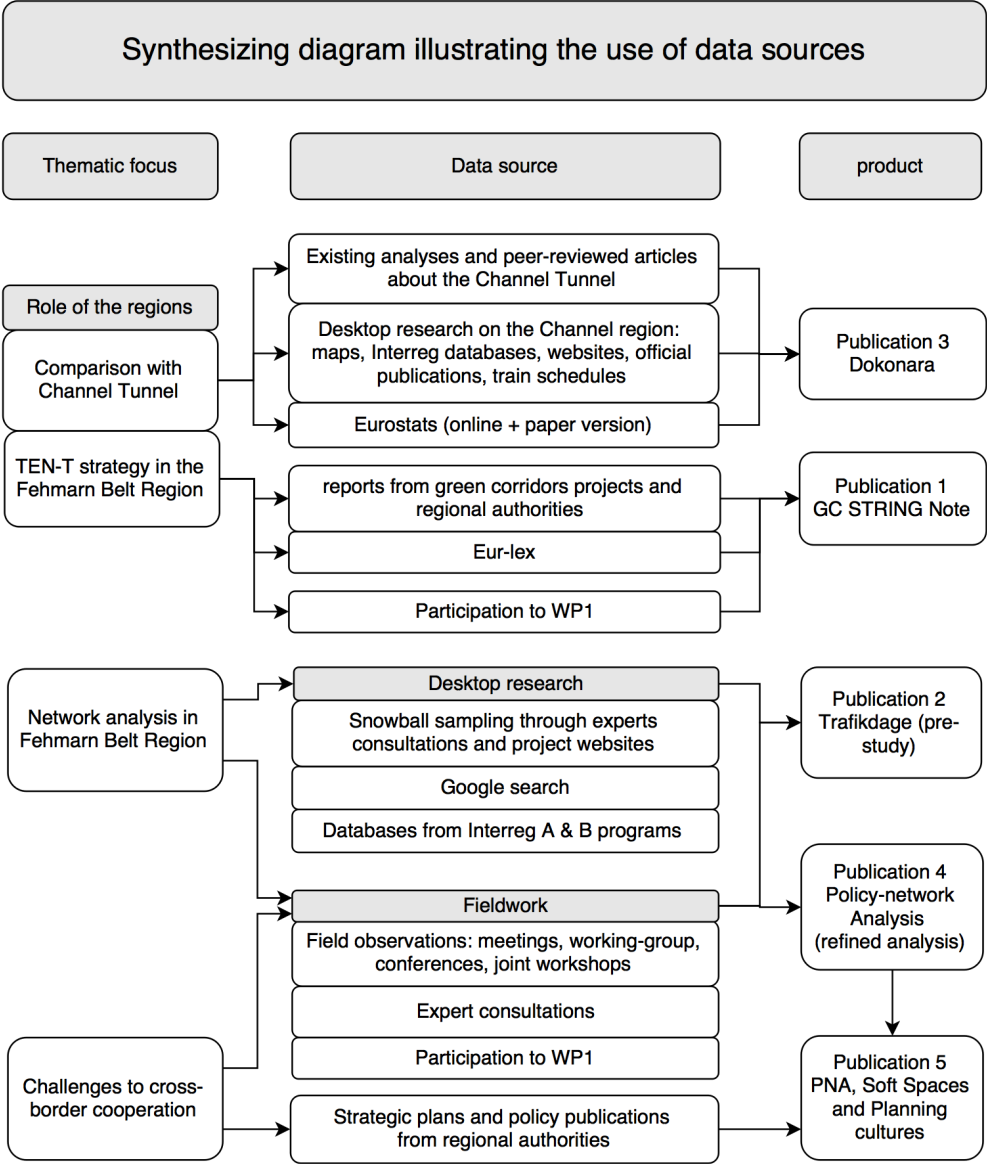
Figure 2. *Sources of data behind each publication*

4.5.1. Data gathering: Indicators of cross-border activity

Which sources of data have been chosen and why?

The following sources have been collected in parallel and cross-analysed during the writing process. They consist of desk research and field observations. Interreg databases are treated separately, since they have been used to trace cross-border networks at the early stage of the research.

4.5.1.1. Interreg databases

The websites of each Interreg program contain a list of all Interreg projects classified by topics, keywords, territory, periods of activity, lead partners and regular partners. The databases also contain contact information and descriptions for each project. Every program area maintains such a database. Because the level of analysis is situated at the macro cross-border cooperation level and Interreg programs only addresses local and transnational cross-border cooperation, both A and B levels were analysed when their geographical scope overlapped a relevant territory. Interreg programs have been supporting cross-border cooperation since they were introduced as a community initiative in 1990. They provide a valuable source of information on prior projects and on which themes have been present on the cross-border scene and at what period. There have been up to now five different rounds of Interreg programs divided in three categories of cooperation. Interreg A programs covers few regions in the immediate vicinity of national borders (along borders), Interreg B programs covers larger regions and target transnational cooperation on large functional issues (dividing the Entire EU territory) and Interreg C programs do not have specific territorial anchoring, but build networks of subnational actors in a pan-European structure (DG Inforegio, 2015). The underlying assumption for using Interreg databases is that subnational actors make use of those funds to conduct cross-border project in the EU topics that they prioritize. The programs looked at were:

Table 4. *Interreg programs*

Program name	Level	Area of interest
Fehmarnbelt region	A	Ostholstein-Sjælland
Öresund - Kattegat - Skagerrak	A	Fehmarn/Öresund
South Baltic	A	Fehmarn/Öresund
España - France - Andorra	A	Pyrenees
Italia - France ALCOTRA	A	French/Italian Alps
2 Seas Mers Zeeën	A	English Channel
France (Manche) - England	A	English Channel
Alpine Space	B	Alps
North Sea programme	B	English Channel
SUDOE Program	B	Pyrenees
North West Europe program	B	English Channel
Baltic Sea program	B	Öresund/Fehmarn

Additionally, the Keep database[7] now maintains a database over all Interreg A, B and C projects for 2000-2006 and 2007-2013 periods (and will also do it for the coming 2014-2020 period). It can be used to track projects by dates, topics and participants.

An analysis of these databases from 2007-2013 (period IV) was used to get a picture of which organizations were involved in cross-border cooperation related to green transport corridors both along the Scandinavian-Mediterranean corridor and around the Channel tunnel, the Alps and the Pyrenees. It was expected that policy activities related to green corridors at the regional level would manifest through Interreg projects, which are a significant source of funding for cross-border activities in the EU. A look into those databases gives an overview over which topics are used for cross-border cooperation. Interreg funds may be small in amount, but they are very useful for subnational authorities who want to maximize their strategic development portfolio. Since those funds are conditioned by thematic topics supporting EU policies, they results in a number of cross-border project focusing on topics directly coming from EU policies that subnational authorities might not have had the capacity or interest to address in the absence of funding. Those funds thus create an extra level of policy development at the subnational

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7   Interact - http://www.keep.eu/keep/

level alongside the existing national activities of subnational authorities. Observations from the projects conducted with Interreg funds gives an extra indication that can be triangulated with field observations and policy publications. From this analysis, it appeared that transport corridor projects exists in most areas, but that the ScanMed corridor is the site of a particular focus on green corridors and on regional economy. As a result, it is also a site, where many regional cross-border projects compete. Such a picture indicate that the involvement of regional authorities in transport corridor questions is not limited to the Fehmarn Belt Region and that it observations in this case can be useful for other cases. The matter of interrelation between transport corridors and regional development does not seem to have triggered cross-border cooperation around the Channel Tunnel, unless cooperation activities do not make use of Interreg funds at all (which would be very peculiar). The limited occurrence of Interreg project related to cross-border transport and regional development outside of the ScanMed corridor could indicate that the concept of green corridors at subnational level is endemic to the regions along this corridor and that such a corridor approach may have played a role in the spreading of this concept.

4.5.1.2. Desk research

The policy-making process produces a large amount of online publications that are used for communication or lobbying purposes (policy papers, official publications, strategies, reports, informative leaflets, minutes of meetings, lists of participants to meetings/seminars, power points presentations…). They can be accessed and sorted through search engines like Google or through a direct review of the websites of selected organizations. All institutions maintain elaborated websites for advocacy purposes and for publishing official documents, results and strategies. The websites of cross-border networks/institutions following strategies that resembled the green corridors concept, and national and supranational authorities involved in the TEN-T strategy form another part of the data. This source of information is the tip of the iceberg, but it already contains a number of valuable information on decisions and strategies, which achieved a certain level of consensus in the policy-making process. Statements that make it to this level have passed the scrutiny of internal politics within the observed institutions. Google's search engine has also been used to track relevant cross-border network, which might not be making use of Interreg funding in their activity like national authorities and private actors. Used keywords were *TEN-T, core network, green corridors, cross-border transport, transport corridor, transport and regional development, and rail freight corridor,*

green logistics, Fehmarn belt, Fehmarnbeltquerung (separately and in combination). Once selected, each of those websites usually provided with links to participating institutions and similar networks and a bigger picture of the organizations involved can be drawn. The picture drawn pointed at the high number of actors involved in policy discussions on rail freight and green corridors. It also showed that those networks involve public actors from national, regional and local levels as well as private actors like infrastructure operators and consultants. However, if some central actors like the Swedish transport administration, *Region Skåne*, the *German Association for Housing, Urban and Spatial Development* or the *Veneto region* participates in different corridors, most networks do not overlap much. This mapping was not an end goal and served for selecting relevant experts, projects and institutions for observations, as well as for MLG discussions. Documents produced by the selected institutions were then consulted to look for statements that might relate to the concepts chosen for analysis and to observe variations in the strategies in each side of the borders or between different types of actors.

4.5.1.3. Fieldwork and consulted experts

The funding of this research project by an Interreg project came with access to cross-border activities related to transportation planning in the region studied that a regular researcher would not have. Interviews with experts would still be possible, but access to non-public meetings and workshops would not have been available had I not been somewhat part of this process. It allowed me to mingle with practitioners and to have informal conversations with a series of them, at workshops and conferences, which I would not have been able to do otherwise. It also allowed me to conduct observations that could complement the information gathered in publications and interviews. For that reason, field observations and discussions are part of the same data pool, despite a lower capacity to control the context in which observations happened. Observations also contain informal discussions with experts and relevant actors. I considered that they would bring a type of knowledge about the topic that no series of interviews or questionnaires could. They also allowed for a "live" confrontation of theories about cross-border cooperation with the field.

This section contains thus three sources: semi-structured interviews of longer duration, where the respondent was aware of being interviewed for a research project and knew the theme in advance; informal discussions with practitioners met in the field; and field observations (cf. list of observations hereafter). Informal

discussions are integrated to field observations and thus not listed by "respondent" since they have not been obtained through a formal process where the respondent would be aware of being interviewed for a study. However, they did have an influence on the refinement of my theoretical framework. Practically, all interviews and observations were conducted with a recording pen in addition to a traditional notebook. While the live collection of data was based on relevance to the conceptual framework, recordings and notes did go through several rounds of analysis during the development of the publications.

Field observations were of two kinds (cf. table 5). The first one is the observations of cross-border public conferences and private workshops and seminars dealing with questions of transport planning and regional development (focusing on participants, the themes, the presentations, the discussions and the reactions). The second one was the collection of experiences through participation in an ongoing cross-border project dealing with the question. The meetings witnessed mostly involved practitioners (civil servants, politicians and experts) concerned with transport planning questions and related regional development issues from Germany, Denmark and Sweden.

Expert consultation
A number of stakeholders and experts have been encountered during the mapping of relevant networks and during participation to cross-border activities. When possible, they have been consulted as sources of information in their quality of witness to cross-border schemes in the Fehmarn Belt Region (table 3). The length and number of the consultations have varied and cannot be qualified as systematic. Some experts were much more factual, while others entered into details by describing their strategy or daily cross-border cooperation. This source of information was used as additional data in triangulation with observations and desk research. The present research is not an ethnological study, but it quickly appeared that, besides factual information in cross-border projects, the interviews carried a deeper knowledge of cross-border cooperation in practice, which influenced the reshaping of a conceptual framework to understand cross-border planning (cf. publication 5). Expert consultations were originally designed to complement the fieldwork observations regarding two questions: the degree of synchronization of the Swedish, Danish and German strategies regarding a green corridor strategy, and which actors were involved in this strategy. However, it quickly appeared that other narratives consequently arose from the interviews, which provided information about ad-

Table 5. *List of field observations*

Event	Date
Scandria Partner Meeting in Berlin	02/05/12
Work package meetings in Green STRING corridor project (16 meetings over 2,5 years)	06/2012 – 12/2014
Green STRING kick-off conference	27/09/12
Fehmarn belt days 2012 in Lübeck	26 – 28 09/12
Green STRING corridor partner meeting 1	26/10/12
WP1 meeting nr.6 with Christian Lützen from MBBL	31/01/13
Green STRING mid-term conference	11/03/13
Green STRING corridor special session at Trafikdage 2013	26/08/13
STRING conference on tourism in Copenhagen	29/08/13
STRING workshop at Deloitte	13/09/13
BSR Transgovernance seminar in Berlin	22/10/13
Scandria II meeting in Trelleborg	12/11/13
Green STRING corridor partner meeting 2	12/12/13
Dialogue forum workshop in Hamburg	18/04/14
Joint Femern A/S – STRING seminar	13/05/14
Handelskammer seminar in Hamburg	14/05/14
Green STRING DL2	14/05/14
Joint Femern A/S – Green STRING corridor seminar	27/05/14
SWIFTLY Green special session – Trafikdage 2014	26/08/14
Fehmarn belt days 2014 in Copenhagen	30/09 – 02/10/14
Green STRING final conference	02/10/14

ministrative, structural and cultural factors related to planning and affecting the cooperation, which I could relate to other observations and findings. They had to be integrated to a broader reflection on the processes of cross-border planning.

Considering that different experts might have different interpretations of the state of cross-border cooperation in the Fehmarn Belt Region, the statements of those experts are triangulated with each other and with the other sources of information described in this methodology section. While they might be singular occurrences when taken separately, their triangulation with each other and with other sources proved useful to notice the pattern discussed in the publications. In brief, one thing is to ask experts what they think they are doing; another one is to have the

opportunity to observe what they are doing. Correlating observations of what they were doing together with their reflections on what they were doing was expected to bring me closer to important variables related to my questions.

Formal consultations were open-ended. The goal of such an approach was to avoid suggestive questions and leave room for the experts to elaborate their own frame of reference (Hollstein, 2011). The wording of the questions varied according to the position and the organization of the interviewees (i.e. administrative level, focus on transport planning or regional development or both…), but they were centred on the Fehmarn Belt Tunnel, cross-border cooperation, infrastructure planning, transport corridor and regional development. Despite the open approach, the subjects discussed aggregated in two topics.

The first topic was the strategy of the interviewee's organization concerning the coming Fehmarn Belt Tunnel and the perceived differences across the border, their knowledge of similar strategies on the other side of the border and the discrepancies they observed. The matter of regional development was often a central topic for this discussion. On a side note, it quickly appeared that knowledge about strategies in other national settings was somewhat low among the interviewees, but that there was a genuine interest at knowing more.

The second topic related to cross-border cooperation, the organizational structure it took and the challenges they saw. Those questions were addressed in order to observe the challenges the cross-border context posed to inter-organizational cooperation in the region. Those discussions where used to complement observations of structural challenged in cross-border cooperation.

Using an open-ended interview method gave some space for the interviewees to choose what topic mattered besides strictly answering the questions. Formal consultations lasted between 1 and 2 hours, which gave space for discussion. This space allowed different stories to come out alongside the factual data collected. Those stories eventually prompted for the re-evaluation of the theoretical framework, which took the form of publication 4 and 5.

The selection of interviewees was based on the aim of acquiring knowledge related to regional cooperation in the STRING network (the major institutional network spanning over the entire region) and the green corridor STRING project. Together,

those two networks present an example of the functional/institutional dichotomy discussed in the theory chapter and of how those two types of rational interplay (cf. theory section and publication 4 and 5). Understanding the entire process of transport planning in the region, would require knowledge from several more experts from road, rail and air infrastructure authorities, transport ministries, infrastructure operators and private stakeholders involved in transport and logistics. However, consulted experts gather substantial knowledge when the object of study is narrowed down to transport planning and regional development in the Fehmarn Belt Region. The following interviews can thus be considered as appropriate with regard to cross-border cooperation around transport issues and the Fehmarn Belt Tunnel in the Fehmarn Belt Region. Recordings of interviews are available at the following link: goo.gl/bBJ9KD (password: *qwerty*).

Table 6. *List of experts consulted*

Name	Organization	Topic
Gundrun Schulze	DG-Move, Green corridors – EU	GC STRING
Katrin Olenik	Fehman Belt Business Council – DE	STRING
Ajs Dam	Femern A/S – DK	GC STRING
Tarik Shah	Femern A/S – DK	GC STRING
Karin Druba	Ministry of Economic Affairs, Employment, Transport and Technology - Schleswig-Holstein	GC STRING
Mr. Schäpke	Kreis OstHolstein - achsea1 – DE	STRING
Sybille Kiemstedt	Kreis OstHolstein – DE	STRING
Jacob Vestergaard	STRING network – DK	STRING
Stefan Rehm	STRING network – DE	STRING
Eileen von Elsner	STRING network (Staatskanzlei Schleswig-Holstein)	STRING
Kenneth Waltz	Trafikverket (Swedish transport administration)	GC STRING
Sörin Simma	Trafikverket syd – SE	GC STRING
Joerg Knieling	Hafencity Universitet - STRING expert advisory group – DE	STRING
Leif Gjesing	Region Sjælland – DK	GC STRING
Sandrina Lohse	Region Sjælland – DK	GC STRING
Sten Hansen	Region Skåne – SE	GC STRING
Uffe Christiansen	Trafikstyrelsen (Danish transport authority)	GC STRING
Niels Selsmark	Trafikstyrelsen – DK	GC STRING

The goal of expert consultations was not to produce an "exhaustive" picture of all contacts across the borders. The main purpose of those consultations was to extract knowledge from first hand witnesses and provide the opportunity to perform a reality check of the conceptual framework in order to bring theoretical discussion down to the ground and insure that they would have some form of connection with the empirical phenomena.

4.5.2. Analytical procedure

How has the data been analyzed?

Such a mix of sources can make it difficult for the reader to follow which piece of information comes from where and insure that it does reflect empirical observation. For this reason, this analytical section is inspired by Gioia, Corley and Hamilton (2012) in "S*eeking qualitative rigor in inductive research*" for developing a description of the process. The research design was not intended as a pure inductive research, but it presents similarities with processes described by Gioia, Corley and Hamilton. As a result, it seems necessary to follow their advices and provide a detailed description of how the data was processed from observations and statements down to aggregated dimensions (i.e. conceptual aggregations). In short, data processing in this thesis follows a similar process than the one described in the aforementioned article. In a first phase, all observations from fieldwork, interviews and desktop research where aggregated in thematic groups and noted down in chronological order (the order in which they were observed). In a second phase, those notes where analysed through the lens of the conceptual framework and led to the publications enclosed in this thesis. Additionally, the second phase follows an iterative process, where observations and the final conceptual framework were adapted

4.5.2.1. Physical form of the data collection

Practically, data collections took three forms: *excel arks*, *notebooks* and *recordings*, which were filled up with observations and evidences from all data sources on the basis that they could help to discuss the assumptions of the original conceptual framework. The purpose was to test the concepts empirically and revise them so they would fit better the observed case. All publications are based on the notes taken and the interviews.

Fieldwork observations were conducting with the use of several *paper notebooks* and a *digital notebook* on my personal smartphone, in which observations of occurrences that related to the concepts of the reading framework were noted down. Most notes were taken down at the time the observation was made to the exception of informal discussions in conferences and seminars, where notes were taken later on the same day. Notes were also taken on documents delivered at meeting and conferences and later on aggregated in the notebooks. This data collection method was likewise applied to policy publications, power points, reports and websites at the time of their reading. In that sense, the database represents only a selected/processed fragment of the observed events and of the documentation read (see next section for an overview of the selection criteria). Finally, while field observations are limited to a selection on site, most other online and written sources of data could be re-accessed during the writing process of the publications.

Formal interviews with explicit consent of the expert where collected with a *recording smartpen/notebook* where notes and recordings are automatically synchronised. This tool allows later on for re-listening the discussions in the interview linked to a specific note by clicking on the word/code/sentence in the notebook, a method that was used to re-evaluate expert consultations in the light of the conceptual refinements. Those recordings are the only data that is an exact replica of the actual event.

Indicators of cross-border contacts through cross-border project were compiled in an *excel ark* containing the name and type of institutions, country of reference, MLG level, the various projects they participated in, the related transport corridors if relevant, and the period in which cooperation happened. This method was used during the analysis of Interreg databases, project publications and websites when they mentioned a form for cross-border cooperation related to transport planning, regional development, TEN-T and transport corridors.

4.5.2.2. Extraction of aggregate dimensions: the analytical framework

Selection criteria for data collection and aggregation
Data collection, observations, interviews, readings and their analysis were processed through an "analytical framework" built on the concepts described in chapter3 (cf. §3.4.). This analytical framework was used to decide which observations could empirically inform the conceptual framework and classified in thematic groupings.

In this context, observations refer both to oral and written statements issued from any of the aforementioned sources of data. The data collected by note taking were selected for their capacity to shed light on the concepts, which means that the data that did not give any positive or negative indication on the validity of a concept was not taken up for analysis. However, data collection during field observation followed a looser application of this framework in order to insure a broader range of data collection since it was not possible to re-iterate field observations later on. This approach was used to select which of the variables and concepts from the original framework should be kept and used for the analysis of the specific case and for the concluding discussions. The same framework was used for data collection and analysis, though data collection was less filtered and gathered observations that did not make it to the publications. This process was not linear but *iterative*, which means that to the exception of field observations, the other sources of information could be submitted to ulterior analysis after the modification of the conceptual framework based on a first analysis. This approach was thus not used for testing the capacity of each concept to predict, but for their capacity to systematise the otherwise extremely complex web of relations across borders.

Primary analytical framework: publication 1 & 2
The primary analytical framework was based on a first conceptualisation of cross-border cooperation through a focus on cross-border networks, multi-level governance, and transport corridors. This first conceptualisation was mostly used in publication 1 and 2, which focus on aggregating observations linked to transport corridors planning. The selection of actors and relevant data was based on their relevance to *transport corridor planning* in the Fehmarn Belt Region. Important variables were *administrative levels*, *EU transport policies*, participation to *cross-border projects* dealing with transport corridors and statements of the *main challenges attached to a coordination of the strategies across borders*. When a piece of information was deemed relevant to the refinement of the framework, it was noted down both in the case of field observations and desk research. The focus on challenges to cross-border cooperation was left more open-ended by noting any statements and observations related to difficulties in understanding and cooperating across borders. In that sense, even though the data collection was subject to the analytical framework, this open approach allowed other concepts to emerge from the investigation. Concepts like cultural misunderstandings, administrative discrepancies, authority and the role of regions are directly issued from that first stage, but were first systematically analysed in a second stage.

Secondary analytical framework: publication 3, 4, 5, conclusions and epilogue

The second analytical framework was thus built on observations made during the application of the first framework. The main focus was put on developing a qualitative understanding of the policy networks observed and their capacity to foster integration. As a result, additional considerations from EU integration studies like neofunctionalism and intergovernmentalism were introduced and the focus on analysing social relations within the network toned down. Multi-level governance and transport planning were kept in the framework, but the emphasis was put on the role and participation of subnational level to questions of transport planning and regional development in the region. This framework was focused on challenges to cooperation in those networks (used in publication 4) and on the coordination of planning (used in publication 5). The second framework focused data selection on variables like actor's resources and challenges to cooperation in networks (trust, diplomacy, reciprocity, insularity, stability, authority). In the case of field observation, the aggregation was often done during data collection itself. To sum up, most data were ultimately classified in four categories: the *existence of cross-border networks*, the *challenges to cooperation*, the *motivation for cross-border cooperation* and the *resources of each actor*, which were then sorted thematically to be used for the writing process.

Analysis

While part of the data collected through note taking had already been processed through the filter of the analytical framework, a more thorough analysis was conducted during the writing process in order to aggregate data in meaningful groups that would give insight in the cooperation processes in the Fehmarn Belt Region. The publications are therefore the illustration of the themes in which observations were aggregated.

As a result of this process, concepts and variables that could not be observed through empirical observations were discarded from the publications, and the original conceptual framework was refined according to observations of the case. The method applied did not provide much data on variables like frequency of contacts, trust, reciprocity and diplomacy, which appear in the literature on policy networks analysis and network governance in a national context. It has thus not been possible to analyse their importance for cross-border cooperation in the Fehmarn Belt Region nor to make any statement on their validity.

On the other hand, variables that were not part of the original framework like functional and institutional logics, administrative structures, authority and cultural variables were repeatedly observed and thus integrated to the refined framework. A variable that seems central in the literature and in the empirical observations is a focus on the resources exchanged by the participating actors.

Analysis though writing
The final aggregation of statements and observations was done during the writing process, based on the refined conceptual framework. All statements and observations collected were grouped in the four categories: *existence of cross-border networks*, *challenges to cooperation*, *motivation for cooperation* and *resources of actors*. The data contained in each category were then analysed in the light of the conceptual framework in order to keep those concepts that empirical observations could say something about and refine them in the light of what those observations were saying. Each thematic grouping of data was then used to produce the publications.

- *Existence of cross-border networks* was mainly limited to indicators of actual participation to cross-border projects and factual statements on project partners made by the actors.
- *Challenges to cooperation* contains indicators related to administrative mismatch, spatial mismatch (spatial representations, funding geographies), functional and institutional mismatch (planners vs political networks), intergovernmental behaviour (observations of plans and strategies), and cultural discrepancies (statements about the way they do it on the other side, procedural differences).
- *Motivation for cross-border cooperation* contains statements and observations on why actors were participating in cross-border projects collected during interviews, conferences, and in reports (stated benefits, stated successes).
- *Resources of the actors involved* contains indicators of which resources national authorities, subnational authorities, civil servants, experts and stakeholders possess and which resources they need.

Data on the *existence of cross-border networks* was used in publications 2, 4 and 5. Data on the *challenges to cooperation* were central to publications 4 and 5 (with a limitation to planning practitioners in publication 5). Data on the *motivation for cross-border cooperation* and the *resources of the actors involved* were central to publication 4. During this process, the analysis of data in relation to the con-

ceptual framework actually triggered a revision of the concepts, which resulted in the final conceptual framework as it is presented in § 3.4.1. This framework emphasises the importance of functional issues, the disconnection between institutional and functional networks, administrative mismatch, cultural differences, intergovernmental behaviour and the specific resources exchanged by different types of policy-makers as central to participation of those actors in cross-border networks. Those findings are not necessarily revolutionary in the light of similar cross-border studies conducted in the same period than the present research (cf. § 3.1.), but rather new for policy networks analysis, which application on cross-border cooperation is recent.

4.5.2.3. Triangulation: crosschecking sources

Taking into consideration that a qualitative approach comes with the difficult task of evaluating the significance of a piece information compared to the whole phenomenon studied, this study relies on crosschecking several sources of information to increase reliability (interview, observation and documents) and to allow for a better interpretation of their content.

Interviews are interpretations of the process at play made by witnesses, who have expert knowledge of the field, but their own interpretation of what matters and what does not. Field observations could only give me a limited access to the large amount of cross-border activities taking place on a regular basis and documents would only be a polaroid of the policy-making process. By crosschecking those sources, I expected to obtain a better overview of the cross-border structures in place in the region and compare the narrative of experts with more factual elements like formal institutions, cross-border projects, policy-documents and websites. In practice, this crosschecking was conducted by using the same analytical framework for each data source. As a result, the concepts forming the core of the conclusion should be seen as those that made it through this cross analysis. Nonetheless, those sources require interpretation and while the method could be repeated, the data collected may vary according to the theoretical framework of reference. For that reason, the conceptual framework does not focus on one single concept, but draws from several established concepts in order to provide a broader ontological picture of the case. This approach has been chosen because of the qualitative nature of the research. Such a combination of concepts may result in too many variables for a proper quantitative approach, which needs to focus on a narrower aspect of cross-border networks. However, it provides a qualitative approach with

the capacity to produce a broader picture of cross-border cooperation, which can enlighten different aspects of cross-border cooperation in relation to each other.

5. Publications summary

The thesis is formed of five publications, which tackle a certain segment of the research question each, and present the observations obtained through the application of the research designed (cf. § 4.4 for research design and § 4.5.1 for data collection). Chapter 5 presents a brief overview of the background for each publication and their relation to the overall thesis. The following working questions have been used to operationalize the research question (cf. § 2.1.), orientate empirical observations and steer the publications:

a. What public authorities are relevant to a green corridor policy in the Fehmarn Belt Region, what is their position within their respective governance system? (Publications 1 and 2)
b. Which cross-border networks deal with transport planning and regional development questions in the Fehmarn Belt Region? (Publications 1, 2 and 4)
c. What effects do the TEN-T strategy and the Cohesion policy have on infrastructure planning and regional development in the Fehmarn Belt Region? (Publications 1, 2 and 4)
d. Why should subnational authorities be involved in the transport infrastructure policy-making when capacity and authority over the matter rest in the national government, and what role can they play? (Publications 1 and 3)
e. What kind of rational motivates the various cross-border networks observed in the Fehmarn Belt Region? (Publications 4 and 5)
f. Which structural elements influence inter-organizational cooperation of planners in the Fehmarn Belt Region? (publication 5)
g. *Question for final discussion*: How can the observed structural challenges be mitigated in order to support cross-border integration in the region?

In brief, publication 1 provides an overview of the policy context in which the networks occur. It can thus be read as the contextual background before digging into the theoretical and methodological chapters. Publication 2 is a preliminary study produced before the refinement of the conceptual framework to evaluate the utility of policy networks analysis in a MLG perspective. Both publication 1 and 2 have a MLG perspective while publications 3, 4 and 5 look closer at the subnational level. Publication 2 has actually initiated some of the conceptual reflections that punctuate the theory and methodology chapters. It has shown the need to look at the potential regional impact of such infrastructure upgrades (publication 3), the need to develop a cross-border policy-making space (addressed in publication 4) and the need to understand better the challenges to cross-border planning (addressed in publication 5)

5.1 PUBLICATION 1

Guasco, C. (2014) *The TEN-T core network and the Fehmarn Belt Region*. Green STRING corridor project - Region Sjælland. Published online in October 2014. http://www.stringcorridor.org/media/98578/notat_green_string_corridor.pdf

This paper is a policy note produced for Region Sjælland, which presents the general policy background for the TEN-T strategy and its relation to transport planning and regional development activities in the Fehmarn Belt Region. It should be read as a presentation of the policy background used for the selection of relevant actors and the networks they navigate. This policy note has been developed in partnership with participants of WP1 in the Green STRING corridor and published through this project. However, its content reflects only the views of the author.

Sections 1 and 2 of the paper introduce the background of the note and the sources of information used. Section 3 produces a review of relevant EU legislations and policy papers. Sections 4 and 5 deal with practical challenges and national initiatives in the region. The form of the note was developed over a series of WP1 meetings, beginning with a draft of the structure in December 2013, followed by a first draft in March 2014 and a second revision in August 2014. Data collection was primarily conducted between December 2013 and February 2014, but also includes knowledge from WP1 meetings and experts prior to this date. It is based on a review of relevant EU legislation from EurLex, as well as publications and

communications from the European Commission, paralleled with publications from relevant public authorities and first-hand knowledge from participants in WP1.

Within the present thesis, it functions as a background section, which gives an overview of the broader policy context in which the object of study is situated. The cross-border activities studied by the present research project are highly motivated by the TEN-T strategy and its conceptual adaptation in the form of the green corridors concept. This paper gives an overview of this policy and of the challenges posed by transnational coordination, and then discusses what could be the role of subnational authorities with regard to the implementation of the policy. It provides a base for the multi-level governance discussions in the conclusion. The final version was published online by the Green STRING corridor project in October 2014.

5.2. PUBLICATION 2

Guasco, C. (2014) 'Trans-European transport network and cross-border governance'. In: *Selected Proceedings from the Annual Transport Conference at Aalborg University*. Trafikforskningsgruppen. Aalborg University.

This article is the result of a preliminary analysis made in late 2012 - early 2013 to evaluate the use of multi-level governance and policy networks analysis for understanding cross-border cooperation related to the transport corridor in Fehmarn Belt Region. While publication 1 gives an overview of the policy background, this publication goes down to the regional level and observes how the concept of the TEN-T strategy and green corridors have fostered, or been claimed by cooperation platforms in the Fehmarn Belt Region. The result is a MLG mapping of the cross-border networks dealing with the TEN-T strategy, cross-border transport, transport corridors and green corridors in the region, and of the institutions involved in those networks.

This approach produced a picture of a fragmented and complex structure of cooperation, in which coordination is challenging, and where national and subnational level are weakly connected, and developed their strategies independently. Additionally, while there was many connections between Swedish and Danish

actors, contacts between German and Scandinavian actors were rather limited in comparison. Nonetheless, fieldwork and expert consultations also showed that those networks did have some recurring contacts during joint workshops and conferences.

This publication also shows the more structured coordination at the national level with a joint corridor platform in charge of railway and technical issues. However, no supranational or national initiative dealt with the question of the positive or negative impacts of the TEN-T corridors on the local territories, or what to do about it. In the Fehmarn Belt Region itself, it was possible to observe several fragmented networks dealing with transport questions at local, regional, macro-regional and supranational levels. It appeared that transport corridors/green corridors were a functional focus for several issue networks focusing on both their local implementation and the potential such infrastructure upgrades could have for the region, several of which exceeded the scope of the region and developed in parallel to each other (concurring corridor networks). Regional development questions appeared to be the main motivator for subnational actors. Subnational actors have only limited investment capacity and authority in terms of transport planning in the Scandinavian regions and, despite some authority, limited investment capacities in the German ones. Moreover, this publication shows a difference in the discourses and interest in the issue between the German and the Scandinavian sides.

This preliminary study pointed at three interesting observations. The question of why subnational actors should be involved in the issue (publication 3), the discrepancy between German and Scandinavian approaches to the Fehmarn Belt Tunnel and its impact on the region, and the need to dig deeper into institutional arrangements in order to address the question of governance in such a fragmented environment (publication 4). The role of subnational actors is particularly interesting since the latest EU regulation specifically states the importance to involve subnational actors and private stakeholders together with a series of funds allocated to this activity (REGULATION (EU) No 1315/2013). It also pointed at the interest in focusing on planners for their position at the early stage of the policy-making process and their influence on the premises on which decisions are made, which may ease the homogenisation of strategies across borders (publication 5).

The publication was presented in a first draft at the Trafikdage conference 2013. Trafikdage is the annual Danish conference for practitioners and researchers in the transport sector. It aims at bringing together researchers, policy-makers and practitioners under one roof, so that they can present new researches, new analyses and practical projects and learn from what is happening in various areas of the Danish transport sector.

After the conference, a first revision of the paper was sent for peer review through the internal reviewing system of the conference on the 14th of October 2013. The paper was then modified to accommodate the comments of three reviewers in June 2014 and accepted for publication in the Selected Proceedings from the Annual Transport Conference at Aalborg University on the 20th of October 2014. This revision emphasised that subnational actors are interested in infrastructure questions for its impact on their regional development strategies, and that such an impact does not seem to be a priority at the national level, where decisional power lies. The prospective conclusions of this paper are summarised in three points. 1. The need to improve the cross-border policy-making space for transport issues by understanding challenges to cooperation (publication 4). 2. The need for regional authorities to look at the positive and negative effects of the coming an infrastructure upgrade on their territory and their economy (publication 1 & 3). 3. The need to look further into questions of cross-border planning and of supporting structures for the cross-border cooperation of planners (publication 5). Those discussions are the base of the conclusion in chapter 6.

5.3. PUBLICATION 3

Guasco, C. (2015). *The TEN-T policy and the Fehmarn Belt Tunnel: Impact on regional development between the* Öresund *and Hamburg*. Manuscript
(Under review for publication in proceedings of the 8th Dokonara. Lichtenstein University)

This publication follows the observation of the involvement of subnational authorities in questions related to the TEN-T strategy and transport planning, even though they do not have much financial capacity or authority on the matter. Because of the multi-level governance system in the EU, subnational authorities are drawn to transnational questions focusing on actual EU policies and regulations by Interreg funds (in our case the TEN-T strategy). What actually interests subnational actors

are the impact and the potential benefits such transport corridors could have on their territories. The main investments related to the TEN-T network in the region are the coming Fehmarn Belt Tunnel and the associated infrastructure upgrades. In order to discuss the regional impact of such investments, this publication uses British and French studies on the impact of the Channel Tunnel. As of today, there are few large infrastructure investments bridging previously unconnected territories. Tunnels in the Alps are either older (difficult to obtain data) or under construction. The Brenner Base tunnel might be of interest for a comparative study at that scale since it also is in the building stage, but it does not allow for ex-post impact assessment. The Öresund Bridge was also considered, but the fact that it connects densely populated urban areas across a short distance made it less interesting for observing the fate of intermediary territories and small cities. Additionally, the publication in 2013 of an article by Peter Thomas and Daniel O'Donoghue (2013) looking at the regions around the Channel Tunnel 20 years after provided with a good opportunity to look at the impact of the tunnel on the nearby regions. Such an impact was also a central point of discussion in various seminars and meetings attended during field observations. The central references for publication 3 are Roger Vickermann (Kent University - Canterbury), Peter Thomas (Canterbury Christ Church University) and Pierre Bruyelle (Lille University), who have produced various articles (some joints articles) on the subject since the opening of the tunnel.

This publication started with the presentation of a short paper about the topic that was presented at Trafikdage 2014 in august 2014. Then a full manuscript was produced in the context of the 8th Dokonara, an annual joint seminar focusing on sustainable regional development organized by the universities of Liechtenstein, Kassel, Hafencity Hamburg and Innsbruck. The seminar took place from the 14th to the 18th of September 2014. The paper was then submitted on the 22nd of January 2015 and is expected to be published in the conference proceedings of the Dokonara 2014 after its review.

The conclusion of publication 3 is that the Channel Tunnel does not appear to have fostered specific economic development or cross-border cooperation in the region and that regional benefits are thus not guaranteed by such an infrastructure project. The presence of global metropolises like Paris and London in the vicinity may have had an impact on this outcome, but cities like Hamburg and Copenhagen might play a similar role in the Fehmarn Belt Region. It also highlight the

question of the role of the subnational level in making sure that those benefits are exploited and call for a critical assessment of the actual structure of the TEN-T strategy and for a focus on supporting cross-border cooperation aiming at tackling this question. A study produced by Center for Vækstanalyse shares similar observations on the difficulties for local territories to capitalize on the coming tunnel (Monsson, Trøster, & Dybvad, 2014). It points though at the fact that the transport and logistic sector in the Nord-Pas-de-Calais seems to have succeeded in growing, but that because of higher costs on the Danish side, such a growth might be limited to the German side. In the context of this thesis, publication 3 provides a discussion on the rational for integrating subnational actors to a transnational infrastructure policy like the TEN-T and a critical assessment of this policy, which does not really address the problematics of territorial impact and anchoring to the regional economies. As such, it provides arguments on the utility of the overall research project rather than knowledge directly used in the conclusion chapter.

5.4 PUBLICATION 4

Guasco, C. (2015), Cross-border policy-making in the Fehmarn Belt Region: A neofunctionalist reading, Manuscript submitted for publication, *(copy on file with author)*

This paper is a synthesis of the investigation of cross-border networks in the Fehmarn Belt Region based on data collected during desktop research, interviews, participant observations and network mapping up to early 2015. It develops a qualitative approach to policy networks analysis in the Fehmarn Belt Region and proposes an analysis of the situation from a political integration perspective focusing on neofunctionalist assumptions.

The Single Market policy, territorial cohesion and trans-European infrastructure networks push subnational authorities into cross-border cooperation activities. Such cooperation happens through numerous overlapping cross-border networks with both institutional and problem-solving purposes, gathering political actors, planners and public experts. Using the Fehmarn Belt Region as a case, the present paper improves the qualitative understanding of those networks, of the main challenges faced by their members and of which resources are exchanged, in order

to discuss how they can form the base for a cross-border policy-making space. Observations in the Fehmarn Belt Region indicates that the main challenges for public actors involved in those processes are a fragmentation between *institutional and functional networks*, a discrepancy between *functional and territorial scales*, *administrative* and *cultural mismatch* due to different administrative systems and the fundamentally *intergovernmental behaviour* of most actors. The analysis evaluates how those networks can actually support cross-border political integration, by conducting an interpretation of the observations based on assumptions from the neofunctionalist vs. intergovernmentalist tension, which formed the core of political integration debates during the first 50 years of the EU. A central conclusion of such an interpretation is that integrating aspect of *spatial and environmental planning that both fit neofunctional criteria and the macro cross-border scale* could serve as neofunctionalist support to political integration between the five regional authorities in the Fehmarn Belt Region. The discussions and findings of this article form the pillar of the conclusion and are directly addressed in chapter 6.

5.5. PUBLICATION 5

Guasco, C., Othengrafen, F and Walsh, C. (2015), *Understanding cross-border planning: Policy networks, soft spaces and planning cultures*. Manuscript

This publication is a joint article produced in cooperation with Cormac Walsh from the Geography department at Hamburg University and Frank Othengrafen from the Institute of Environmental Planning at Hannover University. Both co-authors have provided a written analysis of their respective concept in relation to cross-border cooperation, and provided in-depth reviews of the manuscript. This publication has a theoretical focus. Its aim is to discuss synergies between *policy networks analysis* and the concepts of *soft spaces* and *planning cultures* in order to provide a conceptual framework focused on understanding cross-border cooperation for planning purpose. Such an understanding can help to advance discussions on cross-border planning from an institutional point of view and provide directions for further studies. This combination is a result of the analysis of planning processes observed in the case-region during expert consultations and fieldwork. The aim was to draw from existing research projects dealing with spatial and cultural aspects of planning to avoid creating yet another set of concepts.

Where a policy networks analysis is a good framework to observe the structure of cooperation, it has shortcomings for explaining specific traits of planning linked to territorial considerations and planning routines. This combination should thus provide a better systematization of cross-border planning when triangulated. It provides a good base for discussing the cooperation of planning practitioners in cross-border networks and the challenges posed by the encounter of different planning traditions and different spatial conceptualizations. Cormac Walsh produced the section explaining the relation between the concept of soft spaces and cross-border cooperation, and Frank Othengrafen produced the section discussing planning culture in a cross-border perspective. The rest of the paper is my own interpretation of how the concepts fit together. However, they provided significant reviewing of the first and second drafts. The central argument is that cross-border cooperation is a valuable object of study for the empirical development of each concept, and at the same time, a combination of those concepts provides a fuller picture of what is going on in cross-border governance and can thus complement institutional approaches in their narrow perspective. This publication represents a first step for the conceptualisation of cross-border planning, which can be used to analyse the challenges to strengthen cross-border planning in the Fehmarn Belt Region.

A short paper presenting this conceptual framework was first presented at the AESOP congress in the summer 2014. The first draft of the full paper was finished in March 2015, a second draft in May 2015 and the final manuscript in early July 2015. This publication is planned for submittion over the summer 2015. Each draft has undergone a thorough review from all three authors.

6. Conclusion

The original objective of this research project was to develop a method to analyse and promote cross-border cooperation in a region going from the Öresund Region to northern Germany. In order to do so, cross-border cooperation was approached as the agglomeration of multiple overlapping networks involving policy-makers and experts, which could serve as spaces for the exchange of knowledge, agglomeration of interests, bargaining, and development of common visions.

The research question was:

What structural challenges affect cross-border networks of public actors working on transport infrastructure and regional development in the Fehmarn Belt Region, with respect to their capacity to develop common policies across borders?

An analysis of cross-border networks in the Fehmarn Belt Region aiming at unravelling those structural challenges indicates the importance of external structures like EU policies and the multi-level governance systems, where coordination is loose, and networks develop across different spaces and different levels. It also indicates the fragmentation of cross-border networks in institutional networks involving political actors and functional networks involving civil servants and experts. Besides this fragmentation, actors involved in cross-border networks also face challenges linked to administrative, spatial and cultural mismatch, their intergovernmental behaviour and the need to prioritize relatively limited resources.

6.1 MULTI-LEVEL GOVERNANCE CONTEXT

Neither the Fehmarn Belt Tunnel, nor transport policies, nor cross-border cooperation happen in a political and legal vacuum. All national and subnational actors evolve

within a multi-level governance structure influenced by European policies like the Single Market, the Cohesion Policy and the Trans-European Network strategy (TEN). Each of them influences the topics on the agenda, the rationale for cooperation and the development of national and regional strategies. EU policies comprise legislation, guidelines and funding opportunities that influence the decisions made by national and subnational actors in their cross-border activities. Additionally, while EU legislation targets the national level, it appears that subnational actors adopt EU guidelines from the TEN-T legislation before their adoption by national governments. For this reason, understanding cross-border cooperation in the region requires both to understand the policy context in which it arose and the structural conditions for cross-border cooperation.

Cross-border cooperation in the region is strongly motivated by the decisions of the Danish and German governments to build the Fehmarn Belt Tunnel. Even though this tunnel can be seen as a Scandinavian vision, it is part of a broader EU policy aiming at integrating the transport systems of the 28 member-states. This policy supports the creation of a core trans-European transport networks composed of nine major corridors linking central nodes like cities, harbours and industrial centres. It targets the coordination of national authorities and national transport operators.

Nonetheless, it also triggers the participation of subnational actors interested in how to promote such infrastructure upgrades and how to exploit their benefits both in economic and environmental terms. A fundamental principal in the Treaty on the European Union is the subsidiarity principal, which states that decisions should be taken at the lowest relevant administrative level. One could thus wonder what kind of relevance the subnational has in this context. REGULATION (EU) No 1315/2013 actually hints at the role of the subnational actors, experts and stakeholders in anchoring the new core network to the local economies and in developing the necessary cross-border cooperation mechanisms, which can ensure that it is done coherently along the corridors (see article 51).

Many of those subnational actors adopt the guidelines put forward by the TEN-T regulations, directives and decisions but without any formal authority on the matter, they often discuss questions of contextual adaptations to their economies and territories. Such discussions have led to the development of multiple cross-border projects dealing with the implementation of the aforementioned corridors,

of which several address their regional impact and how to involve stakeholders in their practical implementations. There is a shared belief among subnational actors in the Fehmarn Belt Region that the tunnel and related infrastructure upgrades can benefit the regional economy. However, if one looks at the case of the Channel Tunnel it does not seem that regional economies automatically benefit from a new cross-border tunnel. Additionally, it does not seem that it automatically reinforces cross-border cooperation either. Finally, if the Fehmarn Belt Region is the seat of several cross-border networks, there is no consistent network to coordinate national and subnational efforts vertically. There is actually a low level of coordination between national and subnational efforts, and most networks are relatively horizontal.

6.2. INSTITUTIONAL AND FUNCTIONAL NETWORKS IN THE FEHMARN BELT REGION

Looking at cross-border networks in the Fehmarn Belt Region shows how multiple overlapping networks crisscross the region. They can be classified as political networks with an institutional purpose and a territorial anchoring, or as planners/experts networks focusing on functional issues. As a result, they form different overlapping and sometimes competing spaces whether they are modelled on existing territorial administrations or on functional issues.

Table 7. *Types of networks observed in the Fehmarn Belt Region*

Type	Members	Features and resources
Functional networks	Civil servants, experts, stakeholders	Open, few members, unstable, expertise, problem-solving, output legitimacy, need political authority
Institutional networks	Politicians, political consultants	Multi-purpose, stable, insular, political legitimacy (input legitimacy), integrated to political system, need expertise, need output legitimacy
Business networks	Business interests	Stakeholders, employment, investment, need stable regulatory signals

Table 8. *Soft spaces (ideal types)*

Empirical form	Space	Network	Priority to	Main role
Political institution/ committee	Territorial	Institutional	Territory	Brokering
Cross-border project	Functional	Functional	Issue	Problem solving
Interreg program	Territorial	-	Territory	Funding

Institutional networks are rather stable and can act as brokers for other actors interested in contacting their counterpart across the border, but mostly gather political actors in multi-topic institutions. As such, they can support the stability of cross-border cooperation and integrate cross-border issues to the political agenda, but do not provide a clear neofunctionalist support to integration. They are also limited by their territorial boundaries, which do not always fit functional geographies. *Functional networks* on the other side are focused on specific issues, which give purposes for practical cooperation and narrow things down to a utilitarian dimension. However, they are relatively unstable and gather planners and experts without any political authority. Additionally, while the territorial priority of institutional networks tends to ensure their coherence, functional networks are
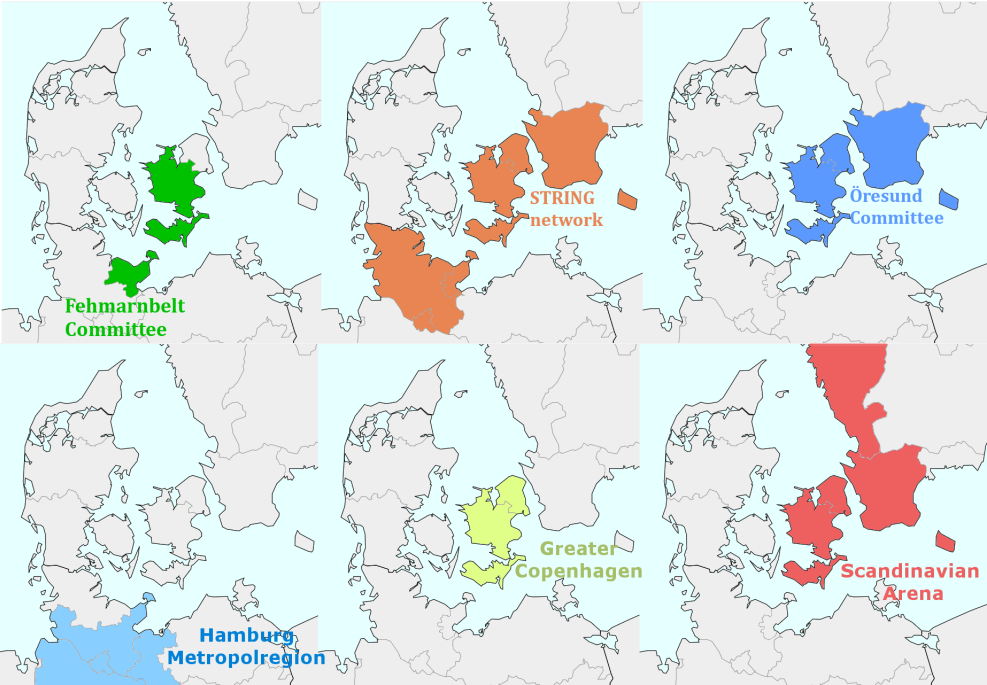

Figure 3. *Institutional networks in the Fehmarn Belt Region*

more fuzzy and overlapping, leading to the development of parallel networks that do not necessarily meet to coordinate their efforts. This fragmentation can be a problem when confronting the need to prioritize limited resources and choosing which geography and which functional issues to address.

Those two types of networks tend thus to segment regional actors by gathering political actors on one side and planners/experts on the other. While there clearly are regular contacts between those two categories, it seems that their integration could be improved to insure more consistent strategies. The literature on policy-making and governance points to the increasing interdependence of those actors for successful policy-making (Bevir, 2007b; Pierre & Peters, 2005; Rhodes, 2007). Those two types of logics should thus not be approached as two distinct modes, but as complementary. This calls for discussions on ways to combine the institutionalization capacity of cross-border institutions with the functionalist capacity of issue networks. Those networks are not totally impervious to each other and form a fragmented policy space in the Fehmarn Belt Region, but their integration could improve cross-border cooperation for planning purposes.

6.3. STRUCTURAL CHALLENGES FOR CROSS-BORDER NETWORKS

Challenges to cooperation in cross-border networks are *administrative discrepancies* linked to different governmental structures, discrepancies of *geography and scale, the prioritization of resources*, *access to funds* and their *geographic anchoring*, *intergovernmental behaviour*, and *cultural mismatch*.
Two challenges are particularly interesting because they represent challenges that subnational actors can address alone are *cultural mismatch*, understood as differences in norms and procedures for planning and regional development, and *intergovernmental behaviour* as the tendency of actors to produce cross-border strategies domestically rather than transnationally.

Strengthening those networks requires thus a focus on gathering *actors from the right administrative level*, on developing *territorial flexibility*, on understanding *which resources each actors can provide to each other* and on developing an awareness of the need to *integrate interests from "the other side" within domestic policy-making processes*. Most of the resources exchanged in cross-border networks in the region

today take the form of information and knowledge, but such resources might not be enough to foster political integration.

6.4. NEOFUNCTIONALIST READING AND RECOMMENDATIONS

A neofunctionalist reading of this situation means that building cross-border political institutions is not sufficient and that this strategy should be complemented by a focus on the cooperation of regional elites or experts on specific functionally relevant issues fitting their level of authority and the macro cross-border scale. It also means that such a neofunctionalist integration could be a way to address the intergovernmental behaviour and to develop a space for policy-making across borders.

The relation between the Fehmarn Belt Tunnel, transport planning and regional development might be a promising base for cooperation if it can be operationalized through concrete functional issues calling for joint policies and joint planning processes. At that scale, spotting functional issues for cooperation seems trickier than at the local/metropolitan level. Matthiesen and Worm (2011) published a functional analysis of the Fehmarn Belt Region providing a list of functional issues that may produce synergies between Germany, Denmark and Sweden. It would be interesting to conduct a more thorough analysis to discuss which of those functional issues might work best from a neofunctionalist perspective.

Neofunctionalism's core assumption is that policies with stronger integration potential are knowledge intensive technical policies transcending state boundaries with a strong relation to the economic welfare of the state. A core issue for regional authorities is the welfare of their local businesses. Core elements of this welfare are access to a market, access to qualified workforce and good infrastructure. Integration of one of those elements can thus be a good starting point to strengthen functional cooperation. However, in the case of infrastructure, regional authorities have limited authority over many of the issues and rely on their respective national government.

Additionally, there is a difference in how subnational actors in Germany, Denmark and Sweden conceive regional development and how much authority they

have over the process. However, they all share the activity of producing regional develop-ment plans relying on lobbying and branding vis-à-vis their national authorities. Successful plans and successful lobbying are fundamental for the economic de-velopment of those regions. A neofunctionalist understanding of this cross-border integration would indicate that cooperation of experts and civil servants on a joint regional development plan for the entire region will lead the identification of functional issues to address and eventually to a stronger political integration. Additionally, integrating planners and experts under the same orga-nisation would help to develop epistemically informed policies, which are more likely to be effective because they fit better the standards of the socioecosystem they target (Haas, 2013).

A stable joint regional planning network made of planning practitioners and politicians, with the purpose to produce joint plans supporting joint lobbying towards national and supranational levels could complement the expert group in the STRING network. The development of common strategic plans for the region can already be observed in the institutional networks. However, they re-main very political. A joint planning network composed of planning practitioners around functional matters could support those existing activities and bring the functional and institutional logics together under one roof, if it was integrated with the ongoing institutional efforts in the STRING network. It could thus be a solution to the ongoing current split between functional and institutional logics. Such a cross-border planning network could focus on macro scale issues like traffic flows crossing the region, corridor development, harbours and transport hubs, commuting, energy, windmills, and joint maritime spatial plans in synergy with tourism, offshore windmills, fisheries and sea transport. For example, maritime spatial planning requires shipping corridors, offshore wind farms, fishing areas and protected areas to be coordinated across borders so that they do not conflict. A shipping corridor crossing a fishing zone could be very problematic in practice. Those topics relate to so many different regulations that it would clearly require the involvement of the regional political system to address the problems raised by a joint plan for the region. Another example of functional issues is the construction of the ESS/MAX VI research facility on both sides of the Øresund, leading to practical questions about the free movement of international scientists working in such facilities and triggering the need to address both local infrastructural issues and national immigration regulations.

Nonetheless, be it about infrastructure, labour market or maritime planning, joint planning requires a better mutual understanding of the ways such issues are approached in each national system and of the capacity and limits of each actors. German actors should thus be aware of the limited authority of their Scandinavians counterparts and vice versa. More generally, the actors involved in such an endeavour would need to be aware of the differences in planning cultures across borders, which would actually warrant further analysis. As discussed in publication 5, it would need to address the challenges linked to different planning procedures and competing spaces, require political backup, the participation of civil servants at decisional levels and some relatively stable funding, which Interreg funds do not properly cover. Only when those structural issues are solved will a resilient joint planning process be possible.

Finally, neofunctionalist integration is not necessarily a smooth and progressive ride upward. There are bumps on the way as illustrated by the quasi-demise of the theory by its funding father in the 1970s as a result of the empty chair crisis (E. B. Haas, 1975). However, 30 years after, the ever-tighter integration of the European Union seems to indicate that neofunctionalist assumptions prove right.

7. Epilogue

As most research projects this Ph.D. thesis provides with more questions than it can answer. Some of those questions open new routes for further research, while others point at the need to reflect on the ongoing evolution of the TEN-T strategy. This epilogue selects four of those questions and outlines their significance based on the knowledge acquired during the research.

Applicability of the method to other policy sectors

This case study was specifically looking at a policy area limited to transport planning & regional development, but as in any case study, one cannot but reflect on the portability of a method based on empirical observations to other cases. While the method developed may be of interest for other regions crossed by TEN-T corridors, there may be other interesting functional issues at the large-scale level of cross-border cooperation. During the analysis of Interreg databases and cross-border institutions, issues like energy infrastructure, maritime spatial planning, tourism, labour market, research & technology appeared to provide support to cross-border cooperation. The question is which of those issues is most likely to rally national and subnational elites and foster a cooperation that could spillover onto the political system. Another one is how advanced their integration level is and if they show integrating instruments similar to the TEN-T transport corridors. While issues like tourism and labour market do not appear technocratic in nature, energy infrastructure and maritime spatial planning could be interesting as empirical grounds for the conceptual framework developed in this study. This research project has not conducted such a systematic analysis of policy sectors where *regulation is significant*, where *technocratic knowledge plays an authoritative role* and which *does not have a high importance in democratic discussions* (i.e. not politically popular in nature). Therefore, energy infrastruc-

ture and maritime spatial planning are but two examples mentioned to illustrate other type of policies that might be interesting to look at from a neofunctionalist perspective, and a systematic analysis should consider any other policy area fulfilling the three aforementioned criteria.

The ScanMed work plan

The work plan for the ScanMed corridor has been published in June 2015 and it contains rather limited considerations regarding the role of the subnational level and impacts on the territories. It focuses mainly on infrastructure analysis and recognizes that there is a need to incorporate other issues like innovation and sustainability to the trans-European transport corridors (Cox, 2015). The Work Plan mentions stakeholders through their participation to the Corridor Forum, which it advocates as a valuable platform for working on different issues that require the involvement of stakeholders. Besides the mention of "sustainability", there is no clear discussion on the issues of regional anchoring and territorial impacts. There is thus a need for subnational authorities involved green corridors to work on pushing their interests onto the political agenda of the Corridor Forum. Actually, the Work Plan allocates a significant paragraph to "idea laboratories", which could take the form of working groups involving stakeholders and experts around specific issues that do not directly concern the implementation of Regulation 1315/2013. The European Coordinator proposes thus to use the Corridor Forum as a platform for the development of such laboratories. While the main externalities named by the Coordinator are congestion and pollution, there might be room for developing working groups based on regional impacts to support the institutionalisation of otherwise temporary cross-border projects like the Green STRING project.

Dissolution of Danish Regions

A couple of weeks before the submission of this manuscript, elections to the Danish parliament were held, resulting in a switch of government. One could ask what a switch of government has to do with the present discussions on cross-border cooperation. This switch of government is noteworthy because of one political project, which came back on the political agenda. The new government is back

into the hands of liberal politicians, which in their search for savings in the public sector have identified regions as one sector to cut down, and the parties supporting the new government seem to share this objective (Politiken, 2015). A seminar organised by the Danish Union for Economists and Jurists gathering politicians and experts around the question two weeks before the election, brought me to consider the impact it would have on the system I have been studying during the last three years. In Denmark, regions are young constructs (from 2007) mostly responsible for the healthcare system and Danish debates comes down to a discussion on the reorganisation of the healthcare sector. Questions of infrastructure and regional planning are thus not really topics that matters most in a Danish context. However, large-scale cross-border cooperation is largely based on cooperation of subnational authorities of the regional level. In the Fehmarn Belt Region, the disappearance of Danish regions would leave a vacant space that may increase the administrative mismatch discussed in publication 4. Political and administrative systems are adaptable, but it is doubtful that the municipal level in Denmark has the capacity to play in the same league that German Länder, to the exception of large municipalities like Copenhagen or Aarhus, which may capitalise political power in the absence of other players. On the other side, it does not seem that national actors would fill the gap since their international cooperation activities happen in Brussels and at the United Nations. Such a change warrants further analysis to evaluate the potential and consequences a reorganisation of the healthcare sector in Denmark might have on cross-border cooperation in the Fehmarn Belt Region

Access to the field and ethnographic approaches

This study was not designed as an ethnographic study, but it appears that such an approach could add valuable insights in the structural challenges found during the analysis (cf. publication 5). A seminar on ethnographical studies of public work places, held at Copenhagen Business School by Karen Boll, Anne Reff Pedersen and Rod Rhodes, gave me the opportunity to reflect on ethnographic approaches used in organisational studies and public administration. Those approaches look at the importance of narratives, practices and traditions for daily activities at all levels of the public administration and focus on understanding how new managerial/organisational reforms impact organisations. A discipline like organisational ethnography could bring valuable knowledge to cross-border cooperation studies

for its experience of the processes at play when people are confronted with institutional change and inter-organisational cooperation (see for example Boll, 2014; Rhodes, 2011; Torfing & Krogh, 2013). They focus on challenges posed by new public management, inter-organizational cooperation and other "organizational innovations", when they meet the "traditional order of things" and the people that need to adapt to those new arrangements. Such questions are actually very relevant to cross-border cooperation, which is characterized by the same confrontations between organizational innovation and the traditional order of things.

However, access to the field is crucial for such an approach. The present research did not intend to produce ethnographic results and as such negotiating accessibility was not part of the research design, but further knowledge on planning cultures and everyday functioning of cross-border cooperation in the region would require negotiating such an accessibility from the onset of a research project. The participation to the Green STRING project did provide with some level of accessibility but not to the extent required by an ethnographic analysis. Such accessibility would probably allow to address variables like trust, reciprocity and diplomacy, on which the present research could not gather enough data to make conclusive statements.

It appeared that numerous formal meetings and seminars are arranged within and between the observed institutions, and that they are valuable spaces for the exchange of knowledge and building of common narratives. Some are publicly held, some are on invitation only. However, they are rather difficult to track since they are usually not announced outside of the participating organizations. Access to some of those organizations would probably help to track down that information. However, without a conceptual framework guiding the collection and interpretation of observations, this approach would not have been as fruitful as I can see it to be today. Additionally, access to that kind of field where political and administrative games are played requires specific social skills that not every researcher possesses. The interesting literature on policy networks and administrative customs in the British government produced by Rod Rhodes hints at the strong social skills and long-time investment required to access the core of the institution in order to understand its functioning. Finally, negotiating access to "successful" networks could be used to observe the evolution of the network over time, which would be made easier by an access to internal protocols, meetings and minutes of meetings. It would be very useful to find new variables through

qualitative analysis but also to find out specific incentives that regional actors interested in nurturing their own networks could use.

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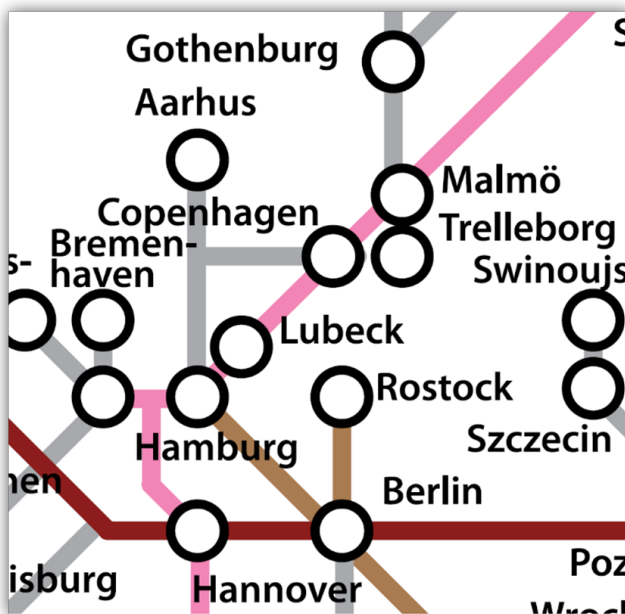
Section 2

Publications

1. Guasco, C. (2014) *The TEN-T core network and the Fehmarn Belt Region*. Green STRING corridor project - Region Sjælland. Published online in October 2014. Available at http://www.stringcorridor.org/media/98578/notat_green_string_corridor.pdf

2. Guasco, C. (2014) 'Trans-European transport network and cross-border governance'. In: *Selected Proceedings from the Annual Transport Conference at Aalborg University*. Trafikforskningsgruppen. Aalborg University.

3. Guasco, C. (2015) *The TEN-T policy and the Fehmarn Belt Tunnel: Impact on regional development between the* Öresund *and Hamburg*. Manuscript

4. Guasco, C. (2015) *Cross-border policy-making in the Fehmarn Belt Region: A neofunctionalist reading*. Manuscript submitted for publication (copy on file with author).

5. Guasco, C., Walsh, C. and Othengrafen, F. (2015) *Understanding cross-border planning: Policy networks, soft spaces and planning cultures*. Manuscript.

Publication 1

Guasco, C. (2014) *The TEN-T core network and the Fehmarn Belt Region*. Green STRING corridor project - Region Sjælland. Published online in October 2014. Available at http://www.stringcorridor.org/media/98578/notat_green_string_corridor.pdf

The TEN-T core network and the Fehmarn belt region

Clément Guasco

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Contents

4

Summery

This policy note is a snapshot picture, taken in early 2014, which sets the Green STRING corridor project within the context of the TEN-T strategy and gives a summarized overview on the impact of this strategy in the region. Chapter 1 contains a summary of the TEN-T strategy today, chapter 2 presents the sources used for this note, chapter 3 presents the relevant EU regulations with direct impact on the development of TEN-T corridors, chapter 4 gives practical examples of the challenges for the development of TEN-T corridors, chapter 5 presents the national initiatives related to the TEN-T corridor in Fehmarn belt region and chapter 6 concludes on the opportunities for the regions related to this new policy.

The TEN-T strategy has reached a new stage (end 2013), with the implementation of transnational transport corridors and the establishment of a EU-wide core transport network, which formally lists all transport hubs, production centres and urban nodes to be connected together. This new strategy is already having an impact on European territories with the development of cross-border infrastructure, cross-border cooperation and national investments in specific corridors. The latest regulations set up models for the development of those corridors regarding the rail sector, but also draw the picture of a comprehensive transport network including alternative fuels, sustainable mobility, low CO2 emissions, inclusion of peripheral regions, and a centralize funding umbrella under the Connecting Europe Facility. There are numerous challenges to this policy because of the national segmentation of transportation planning in the EU. Those challenges are due to differences in standards, to the division of planning between many national authorities, to the segmentation of national markets and to transnational coordination.

National authorities and rail operators have already started to tackle those challenges, but their activity is limited to the rail sector and does not address territorial impacts. Regions have a strong interest in participating to the process if they do not want to be left aside, to the benefit of strong international metropolitan centres, which will surely benefit from such upgrades in the EU transport system. Regions usually do not have the authority nor the capacity to tackle infrastructure, regulatory and fiscal matters. If the aim is to develop transport corridors that do reduce transport emissions while promoting cohesion of the European territories, then regions should play a role regarding the local integration of those corridors to their territories and economic fabric. They can play an active role in promoting local initiatives and involving local stakeholders in this endeavour, so that they can also benefit from the coming infrastructure upgrade.

There are many stakeholders in each corridors and single corridor-wide cooperation platforms is a challenge. Therefore, smaller macro-regional clusters should be considered for matters of territorial impact and regional development. EU legislation opens up for local actors and stakeholders to get funding for participating in reaching the general goals of the TEN-T policy. This

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can help peripheral regions with lower access to economic and cultural capital to develop their own initiatives. In the case of the Fehmarn belt region, the coming tunnel between Germany and Denmark is a great potential for the regions if they manage to realize it and macro-regional initiatives like the STRING network offer a good base for such a strategy.

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1. THE TEN-T STRATEGY

An efficient transnational transport network is vital for the development of the Single Market and the cohesion of the European Union. Without an integrated transport system, it would not make sense to talk about a single market with freedom of movement for people, goods and services. This goal, which appears in paragraphs 170 and 171 of the Consolidated Treaty on the functioning of the European Union (2012), is fundamental and has led to the development of a comprehensive

Fig. 1. 30 Priority project of the TEN-T strategy

transport policy to connect the 28 national transport systems in the EU: the TEN-T strategy.

This policy was first shaped in the Maastricht treaty in 1992. The original aim was to established guidelines on priority actions that would lead to a better integration of each national transport system across borders. This treaty also established a financial framework to support selected infrastructure.

In the following decade, this approach developed into a series of 30 priority projects (cf. figure 1). Those 30 priority projects formed the backbone of the TEN-T strategy. This approach focused greatly on closing the infrastructural gaps along borders of the member-states, based on the assumption that member-states needed specific help regarding key cross-border infrastructure projects with high European added value, but that lied outside of the traditional scope of national transport policies.

From priority projects to integrated network

In the last 4 years, the European Commission decided to intensify this development by introducing compulsory elements in the TEN-T strategy, (EU regulations and decisions[1]), and by increasing the financial support. This new approach marks a new era for the TEN-T policy, where the EU takes on a more important role in the coordination and implementation of a single coherent transport system in the EU. The last revision of the TEN-T strategy, in 2013, saw a switch from priority projects to a core network approach composed of selected transport corridors linking major infrastructural nodes and cities together. Those corridors do

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[1] Cf. §3 of this note for an overview of the legislation

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not only close the missing connections between national transport systems, but also construct a single coherent transportation network beyond national frames of reference (cf. figure 2).

It clearly shows the evolution of the TEN-T strategy from a single priority projects approach to an integrated policy aiming at a coherent trans-European transport network. Figure 2 illustrates this new approach based on a transport network linking selected nodes as a metro system connects selected stations. For that purpose, the European Commission has drafted a comprehensive list of nodes that includes urban centres, airports, maritime ports, inland ports and rail/road terminals. Those nodes are classified in two categories; one forming the core network represented in figure 2 and the other one the comprehensive network. While the main efforts will focus on the core network in a first time, it is the goal that the final TEN-T network becomes a coherent system including peripheral elements.

It is also characterized by a new approach based on *transport corridors* linking important urban centres to harbours. Those corridors supports a coherent development of transport infrastructure and operation along main transport routes in the EU. This should allow for the effectivization of transport on selected axis and reduce financial and environmental costs for transporting people and goods from one end to the other. The TEN-T strategy uses corridors as a central tool to guide the planning, development and operation of transport infrastructure in the EU.

There are ten key corridors supporting the development of the core network. They should insure an adequate connection between major centres of production, major centre of consumption and major transport hubs in the EU. Those corridors combine rail, road and, when available, waterways. They have a strategic importance since they guide the implementation and financing process of the TEN-T for the coming 6 years. As shown in figure 3, a geographical representation of all ten selected corridors following the informal trilogue of the June 27th 2013, several trace are possible along each corridor, as for example in Spain, across the Alps or between Scandinavia and Germany. Which precise portion of rail, road and waterway should be selected to fulfil the corridor is thus left

Fig.2: Metro schematization of the new TEN-T strategy, Brochure on the Connecting Europe Facility, (European Commission 2013)

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to the appreciation of the implementation authorities in each country, as long as the selected nodes of the network are connected[2].

Scandinavian-Mediterranean corridor

The corridor that concerns Fehmarn belt region is the former Helsinki-Valetta corridor, now referred to as the Scandinavian-Mediterranean corridor. It appears in pink on figures 2 and 3. This corridor is one of the longest and crosses seven member-states, which makes it a challenging corridor to coordinate in a coherent manner. The STRING corridor itself focuses on the northern portion from southern Scandinavia to Germany. This situation requires multi-lateral cooperation processes, which are even more challenging that traditional cross-border projects characteristic of the former priority project period. The region is also home to a major infra-structure project of the corridor: the coming Fehmarn belt tunnel.
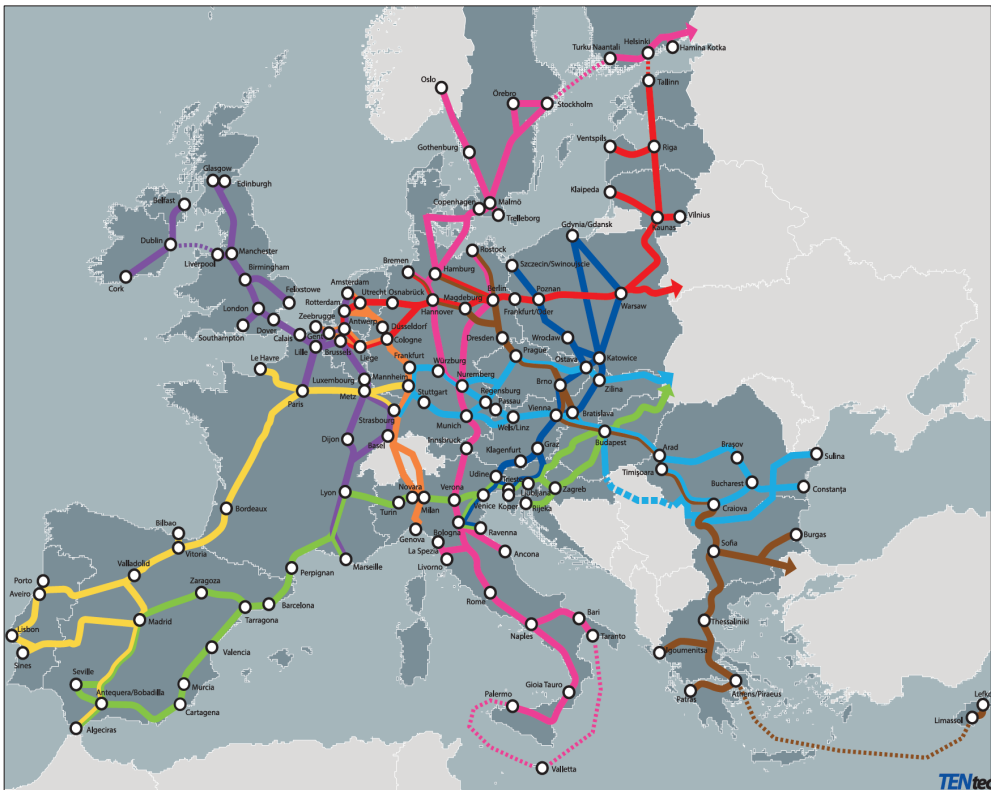

Fig. 3. Schematic map of the Core Network Corridors as required by Article 44(2) of the TEN-T Regulation.

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[2] A full list of all selected nodes and infrastructure is available in Regulation (EU) No 1315/2013

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Aside from the infrastructural coherence of the transport system, long-distance transport in the EU also has a significant impact on the environment and on the EU's consumption of fossil fuels. It is expected that a better integration of the system will allow for more efficient transport forms and ultimately a reduction of CO_2 intensity of the EU transport system. Without being an original goal for the TEN-T strategy, the reduction of the environmental impact of transport is integrated to this strategy. The recent white paper on *the Way to a Single Transport Area* (European Commission, 2011) states a goal of 60% reduction of CO_2 emissions by 2050 and a massive switch from road to rail and water transport. According to this paper, 30% of freight transport in the EU should be done by train in 2030 and 50% in 2050. The roadmap also mentions the need for the EU to grow out of oil in order to insure a security of energy supply. However, it points out the challenges posed by the lack of coordination across the member-states, which might result in diverging strategies from neighbouring member-states, and advocates strongly for developing a strategy that will remedy to this problem.

2. SOURCES

This Note is based on a review of relevant EU legislation from EurLex, as well as publication and communications from the European Commission. An emphasis has been put on binding EU legislations that overrules national ones in order to give a picture of the extent of coordination of the policy at the supranational level. Information in chapter 4 related to challenges for the implementation of the TEN-T strategy has been collected through interviews of experts from regional and national public authorities in Denmark and Sweden and through prior reports of the Green STRING corridor project. Information in chapter 5 on national activities related to TEN-T has been collected through the consultation of civil servants and experts working with the implementation of a transport corridor in the Fehmarn belt region. The selected actors are public/semi-public authorities in charge of infrastructure planning, construction and operation in the corridor, relevant public authorities for the Fehmarn belt region and experts working with transport planning. Finally, the data collection has been supplemented with information from publications and websites from the aforementioned institutions collected in January/February 2014.

3. EU LEGISLATION RELATED TO THE GREEN STRING CORRIDOR

The development of the TEN-T strategies is directed by a series of EU legislations. This chapter gives a summary of the binding legislations, like regulations and decisions, which directly affect the development of the Scandinavian-Mediterranean corridor. They override national legislations in all Member-States and understanding them can shed light on the ongoing plans.

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3.1. REGULATION NO 1315/2013: NEW TEN-T STRATEGY

This regulation, entitled *Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU* (passed on the 11th December 2013 and published in the Official Journal of the European Union on the 20th of December 2013) is the latest version of the TEN-T strategy and the base for the development of an integrated TEN-T network and the use of the corridor tool. It states that the goal of the TEN-T network is to strengthen the social, economic and territorial cohesion of the EU by supporting a single European

> **Regulation (EU) No 1315/2013:**
> - Entry into force: 21 December 2013
> - Work plan delivery by December 2014
> - 1 priority *core network* with 9 *core corridors*
> - 9 EU corridor coordinators + corridor forums and working groups
> - 1 integrated comprehensive network
> - Focus: corridor integration, Interoperability, co-modality and cross-border sections.

transport area that is efficient, sustainable and supports inclusive growth. The emphasis is thus put on the TEN-T strategy as more than an infrastructure policy.

It gives a precise description of the TEN-T core network to be established by 2030, including all the transport nodes and infrastructures that must be connected by rail, road, waterways and air. It also describes the comprehensive network that will complement the core network by adding a long series of secondary transport nodes as well as focus on socially and environmentally sustainable projects.

This regulation summarizes general priorities of the TEN-T: the enhancement of *accessibility* for all regions, *inter-modality* and *interoperability*, the focus on *bottlenecks* and *missing links* in cross-border sections, an *efficient* and *sustainable* use of the infrastructure, the deployment of *IT solutions*, a focus on the promotion of *energy efficiency* and *zero carbon energy*, mitigating the exposure of urban areas to *negative effects of transiting transport* and removal of *administrative barriers* between countries. In addition to the aforementioned priorities, the core network includes extra focus on *electrification of railroad*, minimum requirements for *freight lines*, full *ERTMS* and the availability of *clean fuel* for road, air and waterways transport on the entire network. The regulation sets a long and precise series of priorities for the development of each transport mode. Finally, it stresses the importance of the European Added value[3] in the appraisal of projects, which focuses on *cross-border sections, missing links, multimodal connecting points and major bottlenecks serving the objective, set out in the White Paper, of reducing greenhouse gas emissions from transport by 60 % below 1990 levels by 2050*.

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[3] For more information on European added value, see article 4 of Regulation No 1315/2013.

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Corridors as a tool

This regulation introduces corridors as a central tool for implementing the TEN-T strategy (cf. figure 3). It selects nine corridors, which embrace all transport modes in a holistic approach, and emphasize the need to develop interoperability in the corridors. Each corridor is assigned a European coordinator in charge of supervising the implementation process on behalf of the European commission.

A work plan must be developed by the coordinators for each of the 9 corridors and submitted to the Member States by the 22nd of December 2014. The corridor coordinator is assisted in this task by a secretariat and a consultative corridor forum consisting of appointees from concerned Member States.

Additionally, the implementation of the TEN-T network must be done in synergy with the implementation of rail freight corridors provided for by Regulation (EU) No 913/2010.

Timeline for the implementation of Regulation No 1315/2013:

First quarter 2014	Nomination of the European Coordinators
Apr. - Jun. - Oct. - Nov. 2014	Meetings of the Corridor Forum to Elaborate on the work plan
April 2014	Creation and meetings of the working groups
December 2014	Approval of the work plan by Member States
22 Dec. 2014	Corridor coordinators deliver the work plan to Member States
Jan. 2015	Possible implementing act by the Commission
As of 2015	Regular meetings of the Corridor Forum and working groups

Stakeholders

Regional and local authorities, managers and users of infrastructure, industry and civil society are listed as stakeholder and are invited to use funds such as the CEF, the Cohesion Fund, European Territorial Cooperation, Research & Innovation and Environment & Climate Action, to support any of the TEN-T targets and especially: regional mobility, integration of regions and urban nodes to the network, sustainable transport solutions and sustainable mobility, promotion of cross-border projects and enhancement of cooperation between stakeholders.

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3.2. REGULATION (EU) NO 913/2010: RAIL FREIGHT CORRIDORS

This regulation passed by the European Parliament and of the Council the 22nd of September 2010 lays down rules for the establishment of international rail freight corridors with the aim of developing the European rail network for competitive freight. It clearly define rules regarding the organization and management of those freight corridors. This regulation also uses the corridor approach as a central tool to coordinate actions across multiple national systems of government. It defines 9 corridors, which matches the corridors from the TEN-T core network. The relevant rail freight corridor for Fehmarn belt Region is *corridor 3: North –South corridor* from Stockholm to Palermo. This regulation states that *Coordination should be ensured between Member States and infrastructure managers in order to guarantee the most efficient functioning of freight corridors. To allow this, operational measures should be taken in parallel with investments in infrastructure and in technical equipment such as ERTMS that should aim at increasing rail freight capacity and efficiency.*

The rail corridors can be modified by a joint proposal of all concerned Member States to the constitution after consultation of the infrastructure managers and applicants. In case of disagreement between Member States, a Commission committee will provide a conciliatory opinion to help reach mutual consent.

The governance of the freight corridors is insured by two coordination bodies: an executive board composed of representatives of the national authorities and taking its decision by mutual consent, and a management board composed of representatives from infrastructure managers and allocation bodies, that may take the form of an EEIG[4]. The management board is in charge of coordinating the implementation of IT applications and must set up an advisory group composed of managers and owners of terminals and an advisory group composed of railway undertakings interested in rail freight. It must also draw up an implementation plan and an investment plan, and establish a one-stop shop joint body for application for infrastructure capacity in the entire corridor.

> **Regulation (EU) No 913/2010 – Key aspects:**
>
> - 9 International freight corridors matching with the 9 TEN-T corridors
> - Over 3 Member States or over 500km and two Member States
> - Consistent with ERTMS and TEN-T corridors
> - Co-modal integration with other transport modes in the TEN-T
> - Executive board (National authorities)
> - Management board (Infrastructure managers)

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[4] European economic interest group as defined by Council Regulation (EEC) No 2137/85.

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3.3. COMMISSION DECISION (EU) NO (2012/88/EU): ERTMS DEPLOYMENT

The implementation of the ERTMS signalisation standard throughout the EU railway system is regulated by numerous Commission decisions that describe in details the standards and procedures to apply. It also makes use of the corridor tool in order to coordinate the implementation on long sections of railway. The ERTMS implementation plan establishes 6 main corridors, which follow the same routes than TEN-T and rail freight corridors. Those corridors are named with letters from A to F. According to DG move, the main target of this series of legislations is to reduce the costs and increase the security of international train operation. It gives the example of the high-speed Thalys train between Paris and Brussels where *it has been necessary to install seven signalling systems, thereby generating additional costs and accentuating the risks of breakdowns[5].*

Annex 3 §7.3.4 of the Commission Decision (EU) No (2012/88/EU), review the precise trace of each of the 6 ERTMS corridors introduced by the Commission decision of 22 of July 2009 (this decision also introduced the requirement for Member States to develop national implementation plans[6]). The relevant ERMTS corridor for Fehmann belt region is corridor B. This decision also states that *without prejudice of the legislation applicable to the trans-European high-speed network, links can be provided through stretches of high-speed lines, provided paths are allocated to freight trains. At least one ERTMS-equipped link will be provided by 2020 between Denmark and Germany (Flensburg-Hamburg or Rødby-Puttgarden) but not necessarily two*.

EU legislation on the matter is also strengthened by a memorandum of understanding between the European Commission, the European Railway Agency and the European Rail sector Associations (CER - UIC - UNIFE - EIM - GSM-R Industry Group - ERFA). This memorandum, signed the 16th of April 2012, concerns the strengthening of cooperation for the management of ERTMS and stipulates that the main standard for interoperability should be the baseline SRS 2.3.0 or 2.3.0d and that all partner should strive to speed-up the implementation of the ERTMS.

> **ERTMS deployment**
> - 6 implementation corridors
> - Relevant corridor for Fehmarn belt region is **corridor B** from Stockholm to Napoli.
> - ERTMS standard is Baseline 2 – 2.3.0d
> - A memorandum of understanding strengthen the cooperation of the rail sector with the Commission

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[5] ERTMS in 10 Questions, DG Move, 2013

[6] All national implementation plans are available on the website of DGmove at http://ec.europa.eu/transport/modes/rail/interoperability/ertms/edp_map_en.htm

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3.4. REGULATION (EU) NO 1316/2013 AND 2013/801/EU: COORDINATION OF FINANCIAL INSTRUMENTS

The regulation (EU) No 1316/2013 provides for the establishment of the Connecting Europe Facility, in charge of EU financial support for the implementation of the TEN-T strategy in the period 2014-2020. The CEF determines the conditions, methods and procedures for EU financial support for the development of the trans-European networks in transport, energy and telecommunication sectors and to promote a synergy between them. In the transport sector, the CEF shall support projects of common inter-

Financial instruments

- Transport dedicated funds:
  CEF €26 billion and H2020 € 7 billion
- EU share is up to 50% for studies and 20% for works
- Priority to:
  Missing links and cross-border sections, EU added-value, railways and waterways, and alternative fuels supply in TEN-T core network

est as defined in the regulation No 1315/2013 above. It shall focus on missing links in the transport sector, clearly provide a European added-value and significant societal benefits which do not receive adequate financing from the market, and also support public/private partnership. Specific goals for supported projects in the transport sector are railway and waterways, cross-border connections, bottlenecks and capacity, supply points for alternative fuels on the TEN-T core network, multi-modal platforms connected to rail and reduction of casualties on the road network.

The budget of the CEF for 2014-2020 dedicated to transport projects is of €26 billion of which €11 billion are transferred from the Cohesion funds to be spent in eligible Member States (Baltic countries, East European countries + Greece and Portugal). For non-eligible countries, 'studies' can be supported up to 50% and 'works' can be supported up to 20% with exception of 30% for bottlenecks on railways, 40% for inland waterways bottlenecks and 40% for cross-border rail and waterways sections. Funding related to former motorways of the seas and Marco Polo projects are now under the CEF.

The regulation (EU) No 2013/801/EU: Commission Implementing Decision of 23 December 2013 establishing the Innovation and Networks Executive Agency *(INEA)* and repealing Decision 2007/60/EC provides for the establishment of a new agency to replace the former TEN-T executive agency. The INEA will gather both the CEF and € 7 billion from the Horizon 2020 that fall under the 'societal challenges' section (i.e. smart green and integrated transport and secure, clean and efficient energy), in order to ease the coordination of both programs. It will also insure the legacy of former TEN-T and Marco Polo 2007-2013 programs. The agency is active per 1st January 2014.

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4. Concrete challenges for a transport corridor in the Fehmarn belt region

4.1. FREIGHT TRAIN IN THE CORRIDOR TODAY

When it comes to setting up a freight train from Stockholm to Hamburg, there are a series of difficulties linked to the fact that such activity will have to cross three different systems regulated by three independent administrations in three different markets. The result is that planning and application procedures do not happen in one central organism, but in three separate ones. It requires having rolling stocks compatible with all the railway systems crossed. This complicates planning, increase costs, and extends the time to profitability.

The actors involved in each of the three markets are transportation authority of national governments, national competition authorities, national rail regulators, railway undertakings, infrastructure managers, railway workers unions and terminal/transfer-point managers. This high number of actors is coupled to the fact that each national system has its own set of customary procedures on top of the formal ones.

Capacity allocation must be coordinated across borders so that a train is not suddenly stopped for lack of capacity allocation on the other side. Related infrastructure charges and scheduling is also managed independently, so that the procedure can be very different in each national system. Moreover, the operator of such a train also needs to comply with three different sets of rules for safety certifications.

In terms of rolling stocks, it is necessary to have rolling stocks that can operate with each signalisation and electrification systems (or lack thereof). For example, the Thalys locomotive has 7 different signalisation systems on-board. It must also comply with the smallest maximal size and weight regulations. On the corridor from Oslo to Hamburg, the maximum meter load varies from 6 to 8.3 t/m, max. loading gauge variation up to 50%, and maximum train length is of max. 835 m in Germany, mainly max. 630 m in Sweden and max. 580 m in Norway. A central coordination of those systems would greatly reduce the costs and complexity of such an endeavour.

4.2. REGIONAL ACCESSIBILITY AND CONNECTION TO THE ECONOMIC FABRIC

Another challenge lies in the fact that the TEN-T core network and the Fehmarn belt tunnel will bring a significant upgrade to transport infrastructure in the region, but it is unsure whether it will benefit the regional economy. The creation of intercity corridors of transna-

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tional transport networks in the European Union may increase the economic, social and cultural differences between centre and periphery and hence the dysfunctionality of the single market of the European Union in terms of socio-economic cohesion in the Union . This view is shared by the Ministry of Housing, Urban and Rural Affairs, which focuses on how to make sure that the Fehmarn belt tunnel will benefit the Danish regions . As Bruno Fontalirand explained when referring to the experience of the department Pas-de-Calais regarding the Channel Tunnel , Pas-de-Calais did not benefit of the new connection as much as it could have because it started by being opposed to this international project and did not really look at potential benefice for the region before the tunnel stood there finished. As a result, the region did not develop proactive plans to make use of this new infrastructure and did not benefit of this project as much as it could have.

4.3. GREEN TECHNOLOGIES

Another aspect of green transport that is named in the TEN-T policy, but whose implementation is not tackled is the coordination of alternative fuels. Some of them do require specific infrastructure and services all along the corridor, whose implementation is not coordinated by any corridor approach.

For example, In Sweden, locally produced biogas is already used for road transport by truck. In Denmark, there is a market for both natural gas and biogas, but not in the transport sector. In Germany, natural gas is used in the transport sector, but mainly for passenger cars. This lack of coordinated efforts means that, even though natural and biogas are available, they cannot be used for transnational transport from Stockholm to Hamburg today. Another example is electrical vehicles. They must recharge often and do so on a market that is not developed for transportation use, but for static use. There is already coordination among producers in the EU regarding technological charging standards, but without coordination, it is unknown how the owner of an electrical vehicle with a subscription in Denmark would do to buy electricity once in Germany if he does not meet free electricity outlets on his way. Finally, if one member-state, for domestic reasons, opted to exclusively support electric vehicles and another biogas, it would destroy the concept of transport corridor in the region.

4.4. COORDINATION ACROSS NATIONAL SYSTEMS OF ADMINISTRATION

The examples above clearly shows that many of the problems encountered are historically bound to the development of disconnected national systems of administration. As of today, the EU possesses a well-developed transport infrastructure, but it is still very fragmented both geographically and between transport modes. Many of the disruptions in the network occur at cross-border points because most transport networks were developed in a national perspective. This lack of integration between transport systems is not limited to infrastructure.

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The entire transport regulation system is also fragmented by national systems. It requires co-ordinating numerous national systems of governance in order to remove bottlenecks at the borders, connect national transport systems and switch to green and energy efficient transportation systems. Where transport network within national boundaries are developed by one cohesive governance structure, the cross-border sections of those corridors remains a problematic question.

5. NATIONAL INITIATIVES

The following chapter presents national activities related to the aforementioned policies. It is clear that the most of the national authorities' activities are focusing in railways. However, the coming Fehmarn belt tunnel has also triggered some actions among national authorities.

5.1. RAIL FREIGHT CORRIDOR 3 AND ERMTS CORRIDOR

The major activity, from national authorities, related to the TEN-T corridors focus on rail freight and ERTMS corridors as described in Regulation (EU) No 913/2010 and Commission Decision (EU) No (2012/88/EU). Rail freight corridor 3 goes from Stockholm to Palermo following the Scandinavian-Mediterranean corridor, and crosses Sweden, Denmark, Germany,
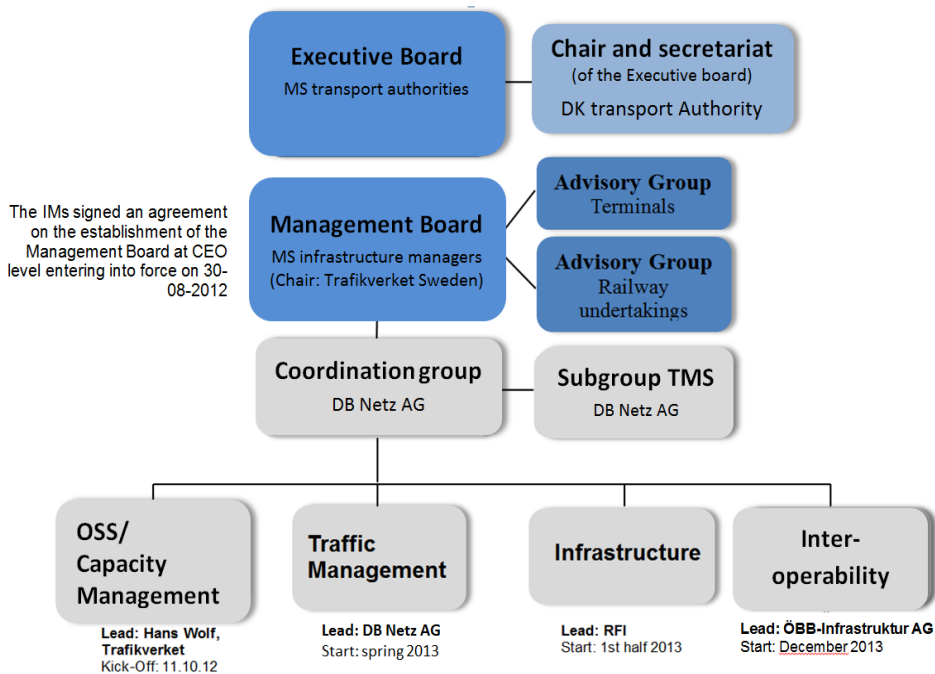
Fig. 4. Organizational diagram of corridor 3. Danish transport authority (2013)

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Austria and Italia (a branch from Oslo has been added to the corridor in autumn 2013). The implementation of rail freight corridor 3 will be supervised by an Executive board led by the Danish transport authority (Trafikstyrelsen). The organizational structure of corridor 3 (cf. figure 4) mirror the instructions from the EU rail freight regulation. The coordination of the related ERTMS corridor B has been merged with the rail freight corridor 3 since mid-2013. Besides Trafikstyrelsen, the executive board is composed of national authorities from each member state along the corridor (Norway, Sweden, Denmark, Germany, Austria and Italy). The role of the executive board is to coordinate the implementation of the corridor between all the member states, and inform national ministries if national legislation hinders the proper implementation of the corridor. It is in charge of defining and supervising the general objectives of Corridor 3, approving the designated lines, approving plans and capacity allocation. Along the executive board is a management boards gathering all the infrastructure managers in the corridor, led by Trafikverket (Swedish transport administration). Those infrastructure managers are Banedanmark (Denmark), DB Netze (Germany), Jernbaneverket (Norge), ÖBB infrastruktur (Austria), RFI (Italy), Trafikverket (Sweden), plus Öresundsbro Konsortiet (Öresund bridge) and Femern AS (Fehmarn belt tunnel). The management board tasks are to establish a One-Stop-Shop, evaluate needed capacity, coordinate priority rules for capacity, coordinate traffic management, adopt targets for punctuality, produce plans and reports, and cooperate with the RNE. It is supported by two advisory groups, one gathering representative of terminals on the corridor and the other one representatives of railway undertakers. A Danish task group has been set up to develop market analysis, imple-

Fig. 5. ERTMS implementation plan in corridor B

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mentation plan, targets, capacity allocation plan and reporting to the European Commission. The purpose of this set-up is to support seamless and efficient services to applicants and operators across borders along the entire corridor.

Corridor 3 also collaborates with the European Rail Agency, where a series of working groups develop technical guidelines regarding safety and interoperability in the form of technical specifications of interoperability (TSI). Trafikstyrelsen/DK participates to those groups in order to ensure consistency between national developments and EU rules.

Corridor 3 will enter into function in November 2015. At that date, the following documents should be finalized and published by the coordination body: outline of corridor, Transport market study, corridor objectives and Investment plan. The Transport Market Study, which will describe the precise route of the corridor and every single connections and nodes (terminals, harbors, etc…), will be conducted by the management board and is planned for publication in august 2014.

Corridor B – ERTMS: it covers a smaller portion of the Scandinavian-Mediterranean corridor from Stockholm to Napoli. The ERTMS corridor is planned to be fully completed in 2020-2021 with the portion between Munich and Verona to be completed as early as 2015. Following the European Commission Decision, each relevant national authority has developed an implementation plan in order to equip the selected railways with ERTMS.

In Sweden, Trafikverket's plan targets ERTMS level 3 on the Stockholm-Malmö corridor in a first phase, then in the entire country later on. Equipment of the Stockholm-Malmö track is expected to start in 2016-17 and to be finished by 2020. The implementation of ERTMS is, however, not without challenges since Trafikverket points out the high costs to equip railways and rolling stocks, which could slow the process down. It also notes that those costs could eventually have a significant impact on the operators market itself. In Denmark, Trafikstyrelsen has planned to complete the installation of ERTMS on all core corridor railways by 2019 and extend it to regional railways by 2021. Finally, the German implementation plan sets ERTMS level 2 as the standard to implement and establishes the baseline 3.0.0 as a standard target for future German plans. The plan states that until 2020, Germany can only implement ERTMS in 2 corridors, corridor B being the first one, with 2015 as the targeted deadline.

5.2 THE GREEN CORRIDORS MODEL IN THE REGION

In Sweden, Trafikverket works actively with the implementation of efficient and environmentally friendly transport through the green corridor concept. This concept has been built upon the corridor tools that can be also found in EU legislation and shares most of the routes and targets with the last TEN-T policy, plus one additional parameter linked to regional coupling. It is the only national authority in the Fehmarn belt geography that uses this concept actively. It is at the moment involved in three green corridor projects, GRECOR (leader), Green STRING corridor and Swiftly Green. It has also a long history of involvement with this concept through

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earlier projects like the Bothnian Green Logistic Corridor, Scandria, EWTC II and Coinco North. Additionally, Trafikverket has also developed freight councils to connect businesses with public authorities and support efficient and environmentally friendly freight transport in several Swedish regions, like the Skåne/Blekinge freight council since 2002. Even though the Danish state does not focus on green corridors to the same extend, it is also participates in some green corridor projects like EWTC II and Swiftly Green. On the German side, it does not appear that federal and relevant lander authorities (Hamburg state and Schleswig-Holstein) participate to such activities, but this concept is in use in neighboring landers, such as Mecklenburg-Vorpommern and Berlin & Brandenburg. Beside rail freight, that approach also includes alternative green transport technologies and is used by several public authorities on the Scandinavian-Mediterranean corridor.

5.3 THE FEHMARN BELT LINK

One major work on the Scandinavian-Mediterranean corridor is the coming Fehmarn belt tunnel that will connect Denmark to Germany and should cost € 5.45 billion in 2008 prices. This infrastructure will significantly upgrade the TEN-T corridor in the region. In 2007 the German and Danish governments have signed a treaty for the construction of this infrastructure with specific plans and timelines for its implementation. The Danish state is in charge of the entire construction of the bridge down to its contact with German soil, and has clearly more advanced plans regarding this coming link than its German counterpart. The Danish state has established the company Femern A/S under the umbrella of Sund & Bælt Holding A/S that gather state owned companies managing other major bridges in the area like the Storebælt and the Øresund bridges. The Fehmarn belt tunnel itself is financed through loans on the international market guaranteed by the Danish state with support from EU funds. The CEF EU regulation sets a limit of EU financing to 40% of total costs for cross-border railway sections and 10% for cross-border road sections, howerver Femern A/S has set-up a conservative budget targeting 10% EU support in total. On October 18, 2013, Femern A/S delivered, together with Landesbetrieb Straßenbau und Verkehr (LBV) in Lübeck, the application for the German building permit. This application will be processed by LBV Kiel and is expected to last 18 month. At the moment, the construction is thus planned to start in mid-2015.

The hinterland connection on the Danish side is expected to cost € 1.2 billion and comprise the electrification and 200km/h upgrade of the Ringsted-Fehmarn line, a twin-tracked upgrade from Vordingborg to Masnedø and from Orehoved to Rødbyhavn and a four lanes upgrade of the motorway down to Rødby (completed in 2007). Banedanmark is currently planning a new combined rail/road bridge over the Storstrøm sound for € 0.5 billion whose financing is expected to be approved by mid-2014. On the German side, the cost for hinterland connection is also estimated at € 1.2 billion financed by the Federal state, and consists of an upgrade of the E 47 between Heiligenhafen and Puttgarden to a fourlane highway, Expansion of A 1 from Oldenburg to Heiligenhafen Ost (completed in 2012), electrification and upgrade to

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160km/h of the Lübeck–Puttgarden rail line, and finally a two-lane road and single-track railway on the Fehmarnsund bridge. However, a twin track upgrade of the Bad Schwartau-Puttgarden line is planned within 7 years after the opening of the bridge. The state of Schleswig-Holstein has also decided to classify the Fehmarnsund Bridge as an urgent need in the next Federal Transport Infrastructure Plan (FTIP) for 2015.

Besides infrastructure planning, one national initiative looks at how to make use of this new infrastructure for regional development. A working group of The Danish ministry for Housing, Urban and Rural Affairs is in charge to look at how to use the Fehmarn belt tunnel for the development of Region Sjælland. Such initiatives can also be found on the German side at a local level with the Entwicklungsachse A1 project in Schleswig Holstein. Nevertheless, it is not necessarily national authorities that would best achieve the connectivity between infrastructure and industry in the regions crossed.

6. CONCLUSION: PERSPECTIVE FOR THE REGIONS

Coordinated transnational activities are mostly related to the rail sector. It is also the only sector that is structured by clear and detailed EU regulations and decision, which directly apply in every single Member States. Rail is also a focus of several green corridor projects throughout Scandinavia and Germany. Moreover, both the Danish and German states are working on improving rail and road infrastructure on the corridor to prepare for the Fehmarn belt tunnel.

How does the current situation plays together with the Green STRING corridor targets? Green STRING also focuses on rail as a way to increase the sustainability of both internal and crossing traffic and on how this new transport corridor can benefit the region. However, another important part of the equation lies in the fact that transport is produced by and used for economic activities. This new infrastructure must thus be connected to the existing socio-economic fabric in order to achieve the expected impact. So while national authorities have made plans to upgrade the infrastructure, they have much fewer tools at their disposal to ensure that it gets used in the intended manner at the local level.

An initiative like Green STRING corridor addresses targets that current national initiatives dealing with TEN-T corridors do not, in that it focuses on the contextual adaptation of a green transport corridor. Among those targets are the availability of clean fuel for road, air and waterways transport, energy efficient and zero carbon transport technology in a corridor perspective, regional mobility, integration of regions and urban nodes to the network, sustainable transport solutions, promotion of cross-border projects and enhancement of cooperation between stakeholders. Additionally, such a project can be useful to promote the coordination of efforts regarding alternative fuels like biogas and electricity at the local level, so that a switch to rail does not remain the sole solution to CO_2 emissions and energy consumption in the

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transport system of the region. At the moment, the TEN-T policy focuses on the efficiency of long distance transport, which does not serve territorial cohesion at the regional level. A regional anchoring allows for the adaptation of such a general EU policy to the local context so that adequate solutions for the region can be developed.

As stated in the last TEN-T regulation, the aim of the trans-European transport network goes beyond infrastructure upgrade and long distance freight transport. The aim of this policy is to strengthen the social, economic and territorial cohesion of the EU through the development of a single European transport area that is efficient, sustainable and inclusive. This target is more challenging than merely coordinated the development and operation of long-distance transport at the supranational level. As of today, national and supranational coordination focus principally on rail infrastructure and operation. The backbone on which to develop a sustainable and inclusive transport system is thus already underway, and there is no doubt that it will increase the efficiency of the European transport system on the long run. However, there is no sign that the coming TEN-T corridors won't simply act as pipelines between major metropolitan centres, which would benefit the European economy as a whole, but not necessarily support the cohesion goal of the TEN-T regulation. Moreover, if supranational coordination can tackle broad technological and operational matters, the contextual adaptation requires at the local level is a different venture, which requires the participation of a myriad of stakeholders that can hardly be efficiently coordinated in such a top-down perspective.

Generally, subnational authorities cannot face the costs of the required infrastructures and have little say regarding regulatory frameworks and tax policies of transport systems, but they can play an active role in how this new transport system will be received and integrated into their economy. This is a key strategy if they want to avoid getting the inconveniences of a crossing transport corridor without the benefits.

Local actors are also in a better situation to look at the adaptation of this policy in the context of their own territory, in order to find which initiatives will be more relevant in practice. Transport flows work in corridors, so such initiatives should be designed in a corridor perspective. But the focus should be on local issues so that regional initiatives complete rather than compete with national ones.

The supranational corridor coordinators have received the task to develop work plans for their respective corridor, which should be endorsed by the member states in December 2014. The importance of regional integration, and the role of regional and local authorities to achieve it, should be included in that work plan.

Additionally, Regulation 1315/2013 invites stakeholders to make use of several European funds for that purpose (cf. page 7). Those funds cover a broad range of topics from research and development, to local initiatives and cross-border cooperation. It is a great opportunity for regional and local actors to involve their respective stakeholders into projects that would

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support green transport technologies, sustainable urban mobility, green logistics and a better accessibility between remote regions to centres of capital. Those funds can help peripheral regions that have more difficulties to attract the pre-required economic and cultural capital necessary for such endeavours. It is thus important for those regions to develop their capacity to tape in those funds.

Eventually, a successful regional green corridor strategy should achieve a good integration of small urban centres, rural territories and transport hubs to the overall supranational corridor, support the local economy to make use of infrastructure upgrades and greener transport solution and develop research and production of the related green technologies within the region. A cross-border platform in the STRING model is the perfect level to support regions along TEN-T corridors in tackling the aforementioned challenges and insuring that they do benefit the cohesion of the EU as a whole.

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Trans-European transport network and cross-border governance

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Abstract

This article looks at the implementation of trans-European transport corridors in the EU and the influence it has on governance within EU member-states. It considers the implementation of such a scheme in the context of cross-border cooperation and discusses the system of governance necessary for coordinating knowledge, efforts and solutions across several national systems. In order to understand this governance setting, one needs to understand the specific quality of transnational governance in the EU, which is neither purely international nor federally integrated. The transport corridor between Malmö and Hamburg is taken as a case for discussion. Cross-border governance is analyzed within a multi-level policy network approach including actors from supranational, national and subnational levels, in order to determine the existence of a policy network across the borders. The main finding is a depiction of the actual state of integration of the cross-border networks related to a green corridor strategy and its implications for the region.

This article is an exploratory study of cross-border cooperation related to the implementation of the Ten-T strategy, taking the regions around the Fehmarn belt strait as a case study. It aims to understand the structures of cross-border cooperation triggered by this policy in the region. It also aims to discern the organizational challenges such a cross-border cooperation entails. The initial question is whether there is a consistent network allowing for the exchange of resources and the coordination of policies necessary for the implementation of a green transport corridor along the target area. A second underlying question is how it plays together with the corridor implementation scheme of the Ten-T strategy? A policy network analysis to orientate the research and discusses the green corridors concept in practice. It then ends with a discussion on preliminary observations and further research.

Transnational transport in the EU

The Ten-T strategy aims at developing a consistent trans-European transport network in the EU, however, transportation planning

authorities operate in a national system of reference (both administratively and culturally), and transnational cooperation in the EU still occurs in a rather chaotic semi-international context where the sheer number of relevant actors makes coordinated actions a challenge.

Transnational transport in the EU is vital for the cohesion of its territory and for the consolidation of the single market. However, long-distance transportation also has a significant impact on the environment and on the EU's consumption of fossil fuels. Because of this economic and environmental impact, the EU has a strong interest in developing a 'continuous' trans-European transport system, which can transport freight and people efficiently, and at the same time does not generate an increase in environmental impacts and fossil fuel consumption.

These considerations are discussed in the most recent white paper: *Roadmap to a Single European Transport Area* (European Commission, 2011), which outlines the aims of a 60% reduction in CO$_2$ emissions by 2050 and a massive switch from road to rail and water transportation. According to this strategy, 30% of freight transport in the EU should be done by train in 2030 and 50% in 2050. The White paper points at the challenges posed by the lack of coordination across the member-states, which might result in diverging strategies in neighboring Member States, and calls for a strategy to remedy to this problem.

Indeed, if a country opted exclusively for electric vehicles and another for biofuels, it would destroy the concept of a single space in the EU (European Commission, 2011). This is why the roadmap proposes the establishment of a core network of coordinated transport corridors in the EU. This consistent core network has been formulated in the Ten-T strategy, which establishes trans-European transport corridors integrating air, land and water transport networks in one co-modal system focusing on efficiency and cohesion. Where transport networks within national boundaries are developed by a single governance structure, the cross-border sections of those corridors remain a problematic question (Decision No 661/2010/EU).

At first sight, the supranational level seems to be the best level for such a policy since it requires the coordination of transport systems between 28 different governance systems, each dealing with their own domestic issues. Implementing such plans across the EU requires bridging the gaps across borders, which have been created by hundreds of years of national governance. When looking at the complexity of this system, which includes supranational, national and local authorities as well as private operators and businesses, it becomes necessary to look more closely at how cross-border planning happens in practice, in a union still composed of 28 national planning systems. Moreover, in such a multi-level governance system, the question of which level is most appropriate for which task remains a fundamental one.

Transport planning in a cross-border perspective

Since the mid-1980s, the EU has developed the Trans-European Transport Network (TEN-T) policy in order to develop transportation, communication and energy infrastructures, which could support the smooth functioning of the single market and the economic, social and territorial cohesion of the EU (COM(2011) 650 final).

Since the Single Market cannot be fully realized without removing the national barriers, which isolate national systems from each other, the Single Market and the Cohesion policies are deeply interrelated and often overlapping. Today, the EU has a well-developed transportation infrastructure, but it is still very fragmented geographically, administratively and modally (COM(2011) 650 final). Many of the disruptions in the network

occur at cross-border points because most transport networks were developed within national perspectives. This lack of integration between transport systems is not limited to infrastructures. The entire transport planning and regulation system of the EU is fragmented into national blocks.

In order to palliate the barriers between national systems of governance, the EU has developed a series of policies tackling intergovernmental and cross-border cooperation. What interests us in this case, is the strategy tackling interregional cross-border cooperation. Indeed, even though EU transport policies can be coordinated at the EU level, its implementation happens often at other levels. The European Commission is aware of the problem and has addressed it in *Roadmap to a Single European Transport Area* (European Commission, 2011).

EU legislations and policies set the goals, but do not always state which particular technical solution should be adopted. Even for specific regulations such as freight corridors, proposed routes for transport corridors in the core-network are flexible (Regulation (EU) 913/2010).

In order to discuss the challenges linked to cross-border planning, this article will look at the "corridor planning" approach of the latest Ten-T policy in a region from Hamburg to Malmö, where this concept is actively used by national and subnational authorities.

Theory and method

Transnational transport corridors cross national systems of governance of both centralized and federal states of very different sizes. Because of administrative discrepancies, the partners involved in transnational transport projects have different competencies in their respective countries. It is therefore important to conduct contextual studies of such occurrences in order to find methods, which can help the coordination strategies. There are no systematic studies of the impact of this type of cross-border cooperation on transport and infrastructure planning in the EU, but it is possible to find systematic studies of administrative systems in the EU (European Commission, 2000), of cross-border cooperation in terms of market integration (Bergs, 2012) and from a Cohesion policy point of view (Heinelt & Lang, 2011). Moreover, there are multitudes of case studies of cross-border cooperation based on the institutionalization of cross-border cooperation (Perkmann, 2003; Leibnath & Knippschild, 2005; Perkmann, 2007; Knippschild, 2011; Deppisch, 2012).

In an environment without a formalized structure of coordination, the implementation of a "coherent" policy throughout the system is uncertain, because it requires the coincidence of many independent variables at the appropriate time in the appropriate place. In order to unravel potential structures where there are none, this article mixes a multi-level governance approach as defined by Hooghe and Marks (2001) with a network governance approach looking beyond formal hierarchical and open market modes of governance (Sørensen & Gudmundsson, 2008; Hall, 2011; Peterson, 2003). In other words, it sees the establishment of transnational transport corridors happening through transnational cooperation based on *networks of relevant actors* in a *multi-level governance context*.

Multi-level Governance (MLG) characterizes a new governance structure, which has developed in the EU in a way that clearly differs from a traditional hierarchical conception of governance (i.e. government). Hooghe and Marks (2001) developed this theoretical approach in the nineties. Despite its relative novelty, it was rapidly adopted as an analytical framework by a number of scholars of EU studies (Bache, 2007; Stephenson, 2013), but also used as a normative tool by political actors such as the European Commission (Bache, 2007), the

Committee of the Regions (2009) or for example Region Skåne in Sweden[1].

MLG was introduced while conducting an analysis of policy networks involving supranational, national and regional actors' negotiations within the Structural Funds (Marks, 1993). It developed as an answer to the question of the International Relations characteristic of EU governance and was proposed as a hybrid model, between international relations and federal governance, neither of which could satisfactorily characterize the evolution of the EU governance system (Stephenson, 2013). MLG is "an approach that recognizes state power but does not consider it the whole story" in a context where heavily institutionalized ways of doing politics are less predominant, and alternative social actors have entered the policy-making process (Warleigh, 2006).

Originally, MLG was developed as a hierarchical model aiming at conveying the entanglement between domestic and international levels in the EU (Stephenson, 2013), but later on, Marks and Hooghe (2003) began to distinguish between MLG 1 and MLG 2. The MLG type 1 refers to a rigid and hierarchical structure resembling a federalist organization, where several levels of governments are hierarchically linked in a non-intersecting, purpose-specified structure with a clear institutional set-up. On the other hand, the MLG Type 2 is looser. The number of potential jurisdictions is vast and they have no clear demarcation, so that overlapping occurs between and within policy processes. This model was better at describing cross-border cooperation, allowing for the understanding of differing cross-border policy networks, where hierarchy is no longer a fundamental element.

Network analysis

MLG 2 is best understood within the concept that gave birth to it: policy networks. Studying policy networks is a recent, but well-developed activity within political sciences (Rhodes, 2006). The main idea behind it is to provide ways of understanding the relations between different actors in a given policy area where no governmental set-up structures them (Ashead, 2002). A policy network is a "set of actors who are linked by relatively stable relationships of a non-hierarchical and interdependent nature" (Kenis & Raab, 2003). Although the concept was not originally created for this purpose, it is very useful for studying policy processes occurring outside of a national system of governance.

According to Marsh and Rhodes (Marsh & Rhodes, 1992), policy-networks vary along a continuum according to the strength of the relationships between its members, from cohesive policy communities to loose issue networks. On one end, policy communities involve tightly bound relationships, while on the other end, issue networks involve much looser interactions. This approach also recognizes the importance of institutionalization, but rejects formal institutions as the key element. It advocate for the use of variables such as the stability of membership to the network, the insularity of the network vis-à-vis outsiders, and the strength of the resource dependency between members, in order to discuss the strength of the network and the probability it can reach coordinated policies (Peterson, 2003).

Policy-network analysis provides a tool for mapping the relations between actors in a given policy area. However, there are two different ways to define those members: they can be institutions or individuals (John, 2004). European inter-organizational policy network analysis focuses on institutions and their structural relations as vital for the

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[1] Example of the use of multi-level governance can be observed in Interreg projects like Transbaltic

(http://www.transbaltic.eu/about/) and BSR transgovernance (http://www.transgovernance.eu/)

homogeneity of policy outcomes (Bevir, 2007). The present study follows that approach. However, institutions and experts are seen as interrelated since institutions serve as vessels for experts while at the same time participating in the establishment of accepted knowledge and practices.

Policy-network analysis in a cross-border context can be used as a tool to assess the emergence of a complementary system of governance connecting the national ones. It can be used to better understand the degree of connectivity, the type of connectivity and the arrangements in place where a national governance system is absent. Moreover, this concept is more efficient in a context where interdependencies are high and policy resources very dispersed, which is the case of transnational transport planning (Peterson, 2003).

From a methodological point of view, this article is an empirical analysis based on the theories and concepts presented above. The case chosen is the "Fehmarn belt corridor", which refers to a portion of the Scandinavian-Mediterranean corridor that the Commission has been working on for several years now. This case can be useful for discussing corridor implementation in practice since it presents an above-average use of the green corridors concept linked to the Ten-T strategy and can serve as a basis for observing this strategy on the ground. The data used in this article has been collected through the analysis of EU legislation and publications, the observation of formal cooperation, interviews with selected actors and participant observations. This data is used to assess if an effort/intent of collaboration exists between given institutions and if it can form the basis for a policy network. All sources are analyzed qualitatively in order to evaluate the condition of this cooperation.

Finally, following a policy network approach allows for a discussion about the state of the transnational epistemic community in this policy field and its potential

anchoring/growth in the functional processes of the network. By epistemic community, I refer to Haas' (1992) definition of a network of knowledge-based experts or groups with an authoritative claim to policy-relevant knowledge. Their position within the administrative system makes them key actors for the coordination of policies across borders, and the more integrated this community is, the stronger chances are that a coordinated activity will take place on both sides

Analysis: Green corridors and cross-border networks in context

A major turn in the recent development of transport corridors in northern Europe is the rise of the concept of green corridors. This concept is particularly active in the Scandinavian area and clearly influenced how

networks of actors develop across the borders.

Green corridors concept[2]

The concept of green corridors in Scandinavia started with the European Commission's Freight Transport Logistics Action Plan in 2007, which introduced green corridors as transport corridors "marked by a concentration of freight traffic between major hubs and by relatively long distances of transport. Along these corridors industry should be encouraged to rely on co-modality and on advanced technology in order to accommodate rising traffic volumes while promoting environmental sustainability and energy efficiency" (COM(2007) 607 final). The main goal was to stimulate a switch to greener freight transportation modes (i.e. rail and waterways) and the development of green transport technologies. This communication triggered the *Swedish Initiative to Green Corridors* in 2008, consisting of representatives from the Swedish administration, academia and industry working with the transport sector. It eventually formulated an initial six-point definition of green corridors that strongly influenced the following initiatives in the region (Engström, 2011; Kyster-Hansen, Thisgaard, Henriques, & Niss, 2011)

The Swedish initiative was paralleled by a number of EU financed Interreg projects dealing with green freight transport corridors such as the Supergreen project, East West Transport Corridor, Scandria, Sonora, and Transbaltic. Many of these projects use the same definition based on a greening of freight transport through co-modality and efficiency (Engström, 2011). One pioneering project was the Supergreen project, which worked on identifying green freight corridors within the European transport network, and later became a basis for the future development of

green corridors at the European Commission (Schulze, 2013). The governance model found in the Green Corridor Handbook of the Supergreen project actually mirrors the governance structures established by the latest version of the Ten-T strategy for corridor management (Panagakos, 2013; REGULATION (EU) No 1316/2013, 2013). This corridor management organization brings various national actors responsible for rail planning in their respective countries together in working groups, so that they can discuss how the Ten-T regulation could be implemented in practice. It is the background for one of the networks in the region focusing on rail freight (cf. corridor 3 in figure 2). This model mainly focuses on the coordination of

Figure 1. Ten-T corridors and case region

national authorities in the rail sector, and it does not appear that the European Commission plans to extend such a governance structure beyond this sector in the near future.

Nonetheless, the Ten-T policy has a strong impact on other actors dealing with infrastructure and regional development in the respective territories. While the green corridors concept originally developed around the transportation of goods over long distances, another branch of projects came to look at the integration of transport corridors in regional economies. Such projects, like COINCO North and Scandria, considered that green transport corridors should not be limited to transport planning but should include territorial and socio-economic impacts. One such project targets our case region: the Green STRING corridor.

The Green STRING corridor keeps the original definition of green corridors, but is concerned with the impact of such a transport corridor on the region and how such corridors

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[2] For an overview on the concept of green transport corridors, see publications from supergreen.com and stringcorridor.org

can be used for regional development. In our case, it addresses questions such as what the impact of increased and concentrated transport flows on regions will be, how peripheral regions will be affected by increased connectivity with metropolitan centers, and how to ensure the participation of local and private actors in such a project.

Cross-border governance networks in the region?

The following section looks at cross-border networks that formed following the development of a transport corridor in the region around the coming Fehmarn belt tunnel. It observes a dichotomy between an intergovernmental and an interregional development of the TEN-T corridors.

The green corridors concept in Scandinavia has strongly developed through Interreg funding and regional actors, while the implementation of related EU regulations on transport corridors is anchored at the national/federal level. This analysis uses the theoretical model described above in order to locate continuous cross-border networks dealing with the implementation of the Ten-T policy and green corridors and to find which administrative level they belong to. Doing this, we obtain a picture of a fragmented implementation with different strategies from country to country and level to level.

An analysis following this approach results in the diagram of figure 2, which shows relevant institutions according to their system of governance and their cross-border cooperation. Colorful links indicate that formal policy collaboration exists between institutions through networks. This diagram does not aim to normatively model cross-border governance for transport planning, but to illustrate the administrative anchoring of cross-border networks dealing with transport corridors in the selected region. It serves as an illustration for the discussion in the analysis and conclusion. It does not show the intensity

of cooperation, but indicates that formal cooperation occurs. It also illustrates the two levels of networks triggered by the Ten-T strategy. On one side, a formal cooperation between national authorities in the rail sector takes place at the supranational level. This network coordinates the implementation of EU regulations dealing with a rail freight corridor (in red on the diagram). On the other side, inter-regional cooperation takes place in relation to a transport corridor approach, which has developed at a regional level within the overarching Scandinavia-Mediterranean corridor that crosses the region from north to south. As we can see on the illustration, a regional network has become well developed on the Scandinavian side.

Both national and regional activities form distinct networks, though they both take their source from the same EU policy and therefore share several of the same traits. Regional cross-border cooperation based on a corridor approach is anchored in the Green STRING corridor and the STRING political network. All public authorities of Green STRING corridor, but one, are also part of the Øresund region, a cross-border network focusing on the Øresund Bridge. The Green STRING corridor (green) focuses on a transport corridor from Malmö to Hamburg crossing the Fehmarn belt strait where the coming fixed link will be built and thus avoiding territories in western Denmark. It connects Region Skåne in Sweden, the Capital Region of Denmark and Region Sjælland together with the Swedish national authority for road, rail and infrastructure (Trafikverket) and with municipalities from both Denmark and Sweden in a multi-level system. Green STRING corridor illustrates the parallel but disconnected development of Ten-T related projects and policies at national and regional levels. It is issued from a cross-border political body, STRING network, constituted of the 5 regions/länder between Malmö and Hamburg. The Green STRING approach builds on the existing green corridors concept but

anchors it locally and thus focuses much more on the territorial and economic impact of the Ten-T strategy.

The STRING political network includes Region Skåne, the Capital Region of Denmark, Region Sjælland and the two German federal states of Schleswig-Holstein and Hamburg. Both networks are strongly motivated by the coming Fehmarn belt fixed link, and anchored to Region Sjælland. An analysis of those networks on the Scandinavian side shows a

significant level of connectivity, which could support a space for coordinating efforts. The German states are not part of the transport corridor process, but are connected to the Danish and Swedish regional authorities in the STRING network. The cross-border coordination is done both at the operational level (secretariat) and at political levels. It is noteworthy that German states have specialized EU offices for this form of Cooperation. However, interviews show that the corridor strategy is not present on the
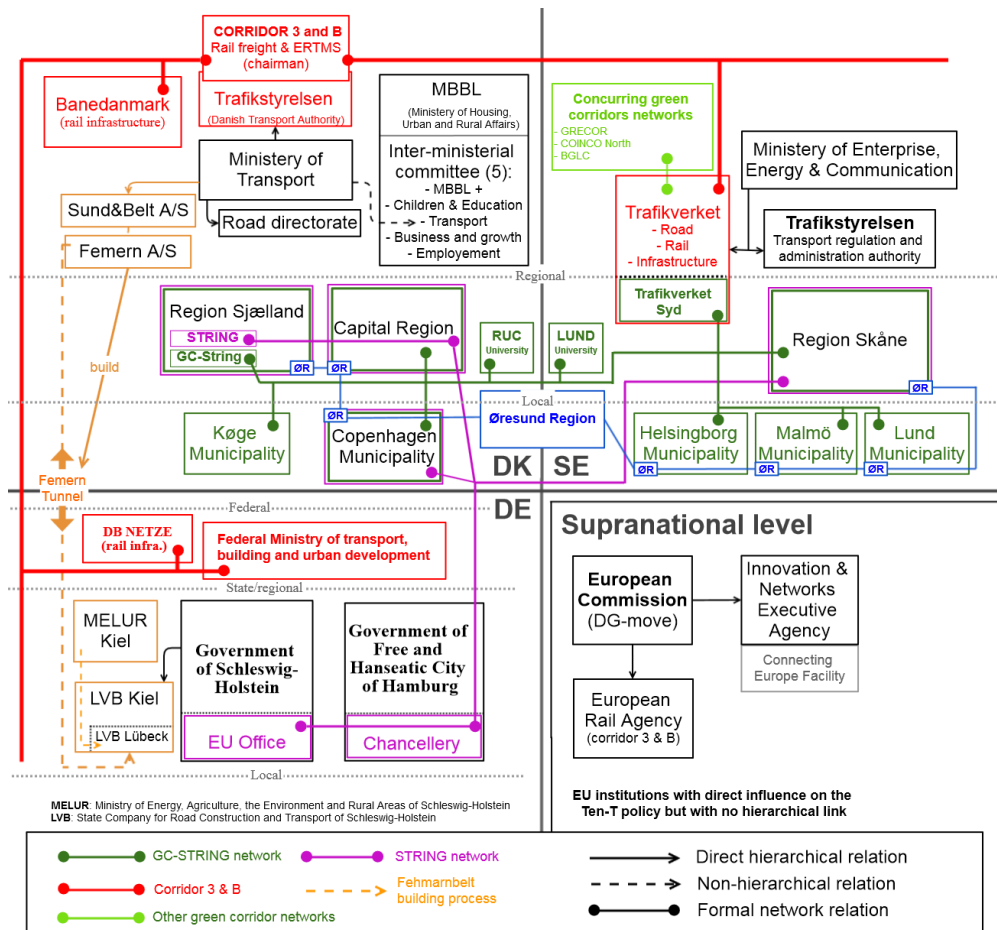

Figure 2. Networks of public actors dealing with cross-border transport planning in the region (cf. appendix 1)

German side and remains a Scandinavian enterprise.

Both networks are anchored regionally, but include only one national transport authority in Sweden. The national transport planning apparatus of the Danish state is out of the network and, because of the structure of the Interreg IVA program in the region, German institutions are excluded as well. This network is thus very much focused on the Scandinavian perspective and Region Sjælland appears to be a central actor for both the STRING network and the Green STRING corridor. The common political space and knowledge exchange is therefore limited to the Scandinavian part of the corridor. On the German side, there is no such corridor development network. On a side note, Swedish transport authorities seem much more interested and advanced on this question since they are both present at the national and regional levels and participate in several other green corridor projects with other neighboring regions.

On the national/supranational level, the focus is on the implementation of EU regulations linked to inter-operability, rail freight and ERTMS[3]. This cooperation follows a corridor form of cooperation and includes delegates from transport authorities and national rail operators from each of the five countries on the corridor 3 (Sweden, Denmark, Germany, Austria and Italy). It is organized around the Danish Transport Authority, which chairs the executive board of the corridor and manages its secretariat. This network is solely in charge of coordinating the implementation of rail freight corridor 3, of the ERTMS corridor B, of the coordination of related infrastructure investments, of the administration of capacity and of the establishment of the "One-Stop-Shop" of the corridor.

Beside the implementation of the rail corridor regulations, it does not appear that national transport authorities in the region have specific policies regarding the corridor. There seems to be a disconnection between national/federal and subnational levels, especially in Denmark and Germany, where national authorities are disconnected from the process at play in regional networks. However, on the Danish side, it is interesting to note that the government has established a ministerial commission led by the Ministry of
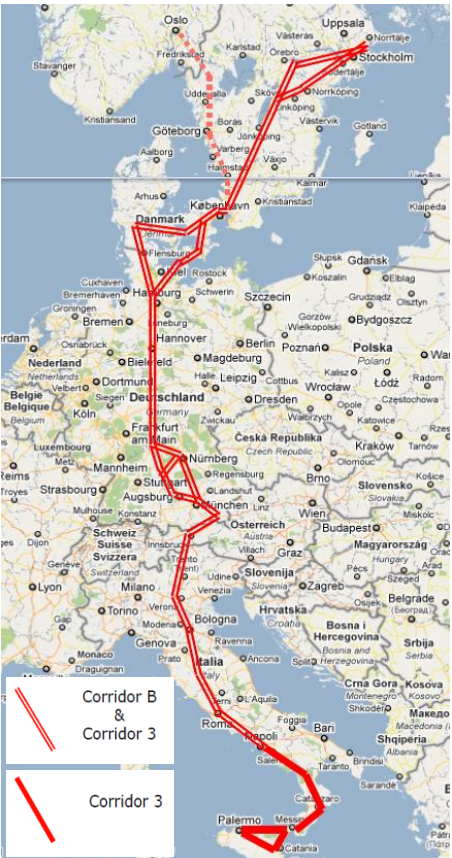

Figure 3. Corridor 3 and B

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[3] ERTMS: European Rail Traffic Management System

Housing, Urban and Rural Affairs representing the Ministries of Transport, Employment, Business & Growth and Children & Education, which focuses on the regional impact of the Fehmarn belt tunnel in general and the opportunities for adjacent territories. However, the focus is on the potential and threats for the territories between the tunnel and Copenhagen (Palludan, 2013), and does not follow a corridor approach nor appear to have network ties with other national/regional Danish authorities concerned by trans-European transport networks.

Finally, interviews indicate that the German side focuses on its connections to the south with the rest of Germany, so that the question of the Scandinavian-German cooperation, without being inexistent, is in concurrence with internal cohesion policies at the federal level. This process is thus very much subject to priorities of both German states. Moreover, on the German side, it appears that activities related to cross-border cooperation are led by business associations, which are strong actors on this side, but focus on industrial collaboration rather than on a corridor approach. This parameter should be considered when discussing networks for cross-border cooperation with Scandinavia, where public authorities are stronger.

Conclusion

The implementation of a coherent Ten-T network in the EU has triggered various forms of transnational cooperation. This phenomenon is interesting to look at in the light of the emergence of new governance networks that bridge the boundaries of existing national systems of governance. In order to understand them, one needs to understand the specific quality of transnational governance in the EU, which is neither purely international nor federally integrated. To do so, this article used an approach based on multi-level governance and policy networks, to discuss processes of

governance beyond traditional hierarchical governance. It looked at the corridors, which have developed following the Ten-T strategy and evaluated their impact on cross-border transport planning at the interregional level.

To the question whether there is a stable and interdependent network allowing for the exchange of resources, the consolidation of knowledge and the coordination of policies towards the implementation of a green transport corridor policy in the Fehmarn belt corridor, the answer is no. There appears to be no coherent policy network that might work as a platform for exchanges, bargains and coordination. Empirical observations show the high fragmentation of the existing networks. They are usually focused on narrow issues and no holistic network is able to provide a space for devising shared policies regarding the impact such corridors will have on the economy, the environment and the development of the region. It is not possible to exclude the existence of informal networks at the political level that were not unraveled by the applied method, but there was little indication of such networks and they could clearly not involve private stakeholders, planners and experts simultaneously in a stable way. An in-depth analysis of the potential coherence of such hidden networks would require an "access to the field" that has not been negotiated prior to this study. For a policy network to qualify as such, all actors of the policy chain must be connected in a stable interdependent network. At best, the present networks are premature issue networks with very limited institutionalization. However, this case could be an early stage of cross-border network development, which might be strengthen with the functional attraction of the coming Fehmarn belt tunnel. It is thus an interesting case to follow in the coming years.

Empirical observations around the Fehmarn belt strait show a dichotomy between national and regional levels. While national levels implement concrete EU regulations for rail freight, cross-border

cooperation at the inter-regional level focuses on potential and impact of the corridor on their territory. They both participate in developing transnational spaces for public authorities to meet, exchange knowledge and coordinate their policies, but national and regional authorities appear to act in separated political spaces.

Coordination at the national level is limited to rail freight and is already challenged by the number of actors involved and their current independence from each other. If traditional management might be considered in such a narrow topic as rail freight operation, it cannot tackle a green transport corridor strategy in the current situation. Considering the quality of international relations between national systems of governance, it is unlikely that a coordinated policy can emerge from the actual governance structure, but informal contacts between German and Scandinavian sides do take place regularly and could participate in the emergence of a kind of local epistemic community, especially on the Scandinavian side. This premature epistemic community might be the first step to focus on. There is therefore a need to pursue the formation of a single political space across the corridor to connect experts and political actors and to consolidate resources across the national borders, in order to structure the randomness with which cross-border contacts occur.

Besides the national/regional dichotomy, there appears to be a Scandinavian/German dichotomy. Interviews have revealed that the green corridor concept and related considerations are very much absent from the German agenda and that this transport corridor may have less importance south of the Fehmarn belt strait. German initiatives related to the development of transport infrastructures on that corridor exist, but due to the low connection between German and Scandinavian actors, stronger coordination is not to be expected as of now. The implementation of freight corridors, ERTMS,

ITS, capacity allocation, interoperability and single rail market are being coordinated at the supranational level through decisions and regulations and implemented by the national authorities. However, those EU regulations cannot ensure that the corridors will be used, do not tackle local implementation and the impacts on the regions' environment and economy. This national dichotomy appears as one of the main challenge for cross-border planning in the region since they strongly compartment the actors involved preventing much coordination to happen, except in a random way.

Developing cross-border policy networks

A connection south of the border should focus on supporting the creation of a common political space for the coordination of policies and the dissemination of knowledge between Scandinavian and German sides. An integration of national and regional level in a single network might require to many inter-organizational ties to be stable, but national authorities because of their direct control over transport planning, should definitely keep a steady connection to the developments at the regional level (which could happen in the STRING network for example). It should also help to put the question of the impact of Trans-European transport corridors on the agenda. However, such cooperation is still at an early stage. Multiple competing networks may not be a singularity in policy-making, but in the absence of formal hierarchical structures to ensure collaboration, they are the only transnational arena available, and that complexity becomes the core of the matter. In the face of such complexity, other questions that arise are related to which kind of policy networks would be most beneficial, to their degree of formalization, to the way they might form and evolve and which factors influence participating actors. The introduction of multiple factors like green technologies, socio-economic impact and involvement of stakeholders in the Ten-T strategy poses a

new challenge for cross-border planning by involving a lot more actors into this policy, leading to a Type 2 MLG construct that is very challenging to manage from a governance point of view.

Despite the fact that no stable policy network linking Scandinavia and Germany could be observed, collaboration does occur, and issue networks could be the first step toward the integration of both sides. Literature on policy network considers that issue networks are less influential on policy outcomes, but in the absence of continuous policy networks, they seem more feasible, if such a goal was to be pursued. Due to the broad policy aspects involved in the integration of a green corridor to the region it crosses, it does seem relevant to identify functional issues that could serve as a basis for developing specific policies. In that case, the selection of functional issues recognized by both sides of the Fehmarn belt strait becomes fundamental. The focus on a 2.5 hours travel time between Hamburg and Copenhagen of the Copenhagen declaration of the STRING cooperation could be one such functional issue that may trigger the need for further policy integration in the region. Moreover, the challenge in such a project is that of triggering and managing those networks. This discussion is too broad to be addressed within this paper, but the literature on policy network management is abundant and evaluating the feasibility of this strategy in the region could be the object of further study. However, if the Ten-T strategy should be extended beyond freight corridors to include transport technologies, local territories and private entrepreneurs, then the number of actors involved would point at developing a common epistemic community as the most feasible solution.

Regional impact

An approach like the one used in green corridors brings up a discussion on the necessity of developing the Ten-T network without damaging the work of the Cohesion policy itself. If the goal is to ease the movement of people and goods between strong urban centers, there is nothing to ensure that it will not happen to the detriment of weaker regions. There is no guarantee either that the newly created corridors will be used or that the new transport flows will not have negative impacts on the local environment. Transport is ultimately territorial. It aims at fueling urban centers with physical goods and natural resources. This is why the territorial, environmental and socio-economic impacts of trans-European transport corridors need to be considered within the overall trans-European transport network policy.

The sheer number of national and regional actors for that purpose would make a corridor-wide approach nearly impossible. A narrower approach, as for example the *Green STRING corridor* or *Brenner Green Corridor*, would reduce the number of actors needing to cooperate across national systems of governance. Moreover, they should not be totally disconnected from the general harmonization process at the full corridor level, so that a feedback system between both levels can take place. This 2-layered system including corridor-wide and local levels is the next challenge for the development of a sustainable Ten-T network.

Cross-border planning

Finally, formal international cooperation of public planners is not ordinary. Observing such processes is therefore important for understanding the impact of the EU on traditional systems of governance linked to transport planning and calls for more in-depth studies of transnational cooperation at the operational level. It is important to understand how planers in charge of both infrastructure planning and regional development manage this new situation, how they make sense of those corridors and which factors they use to design strategies. Such a knowledge could help to select which issues and network management tools might be

more efficient for cross-border cooperation in that particular case.

A challenge already appeared during the research conducted for this article. Administrative systems and planning procedures differ greatly between Germany, Denmark and Sweden. Because they frame how transport is planned, and the range of solutions available to planners, they should be looked at in more detail.

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Publication 3

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The TEN-T policy and the Fehmarn Belt Tunnel: Impact on regional development between the Öresund and Hamburg

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Abstract

This article addresses the question of the regional impact of the TEN-T strategy in the Fehmarn Belt Region; a topic, which seems overlooked in the actual discussions on green corridors at the EU level. It presents the current plans for developing a transport corridor across the region and sets it in perspective with relevant academic discussions. The discussion is informed by experiences around the Channel Tunnel. This article examines the role of public actors concerning the exploitation of TEN-T infrastructure for the benefit of their region. The regional level can also be relevant for integration of a sustainable transport solution to the local economic system at a level, which national authorities do not have the resources to address. Finally, this article discusses how a regional anchoring allows for the adaptation of such a general EU policy to the local context so that such large transport corridors do not counterwork the Cohesion Policy of the EU by promoting metropolises to the detriment of rural territories.

Keywords: Regional development, transport, cross-border, TEN-T, Fehmarn belt

This article discusses the regional impact of the TEN-T strategy and the role subnational authorities can play in this policy. It aims at merging the 28 existing transport systems composing the EU into one single transport network. The European Commission has recently intensified it by adopting binding legislations targeting the implementation of a single EU core transport network and by increasing financial support for that purpose. This core network is to be implemented through the development of intersecting long-distance transport corridors linking main infrastructural hubs and cities together. This tool is supposed to ease the coordination of transport policies along the corridor in order to improve the efficiency and reduce the environmental impact of transportation flows. The EU has developed a detailed policy apparatus for transnational coordination in the form of TEN-T corridors (Guasco 2014a). Those corridors should guide the planning, development and operation of transport infrastructure, and have already penetrated the planning processes in many member states. They support a coherent development of transport infrastructure in order for people and goods to travel unhindered on long distances. The aim is to develop selected transport axes in order

to reduce both financial and environmental costs for transportation. They are described in detail in Regulation No 1315/2013, which includes a comprehensive list of all cities, harbors, stations, roads, railways and waterways that form each corridor, as well as general priorities of the TEN-T strategy. Those priorities are: the enhancement of *accessibility* for all regions, *inter-modality* and *interoperability*, the removal of *bottlenecks* and *missing links* in cross-border sections, an *efficient* and *sustainable* use of the infrastructure, the deployment of *IT solutions*, the promotion of *energy efficiency* and *zero carbon energy*, the mitigation of the exposure of urban areas to *negative effects of transiting transport*, and the removal of *administrative barriers* between countries. Many of those goals require the involvement of subnational and private stakeholders but only the coordination of national initiatives has been taken into consideration up to now. Some of those goals are operationalized in additional legislations, such as regulation No 913/2010 and decision 2012/88/EU, which establish implementation and management procedures for the rail freight component of the corridors. For the rest of the TEN-T targets, there is no clear procedure yet, but member states are required to work towards reaching them.

EU legislations clearly establishes the geography of those corridors as well as the functioning of their rail freight component, but they are much less precise regarding the *sustainable use of infrastructures*, *zero carbon energy*, *accessibility of the regions* and *mitigating negative effects of transiting transport*. Regulation 1315/2013 directly states the

Figure 1. TEN-T corridors after the 2013 update
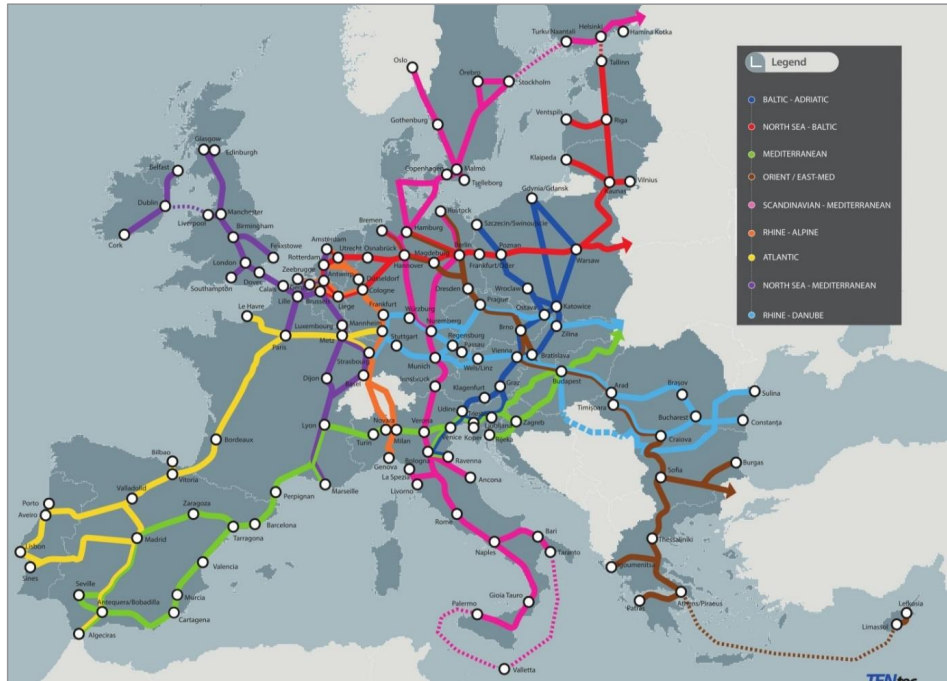
<div align="right">Source: European Commission</div>

necessity to involve stakeholders in order to tackle targets like regional mobility, integration of regions and urban nodes to the network, sustainable transport solutions, cross-border projects and cooperation between stakeholders. Nevertheless, there are no governance guidelines regarding how to proceed and a quick look at the number of stakeholders concerned shows the next challenge ahead for this policy.

There are nine main corridors, combining rail, road and waterways, which support the development of the core network (cf. fig 1). Those corridors cross several peripheral regions, around sea and mountainous borders, which used to be bottlenecks or dead-ends in their respective transport systems. A core objective of those corridors is to insure an adequate connection between major centers of production, consumption and transport hubs. However, it does not directly address the spaces in-between them, i.e. the local and regional economies. The TEN-T strategy focuses on coordination at the supranational level, but matters of regional development evolve on their own at the regional level, making transnational coordination a complicated task (Guasco 2014b). Regional development is not necessarily a matter which national authorities tackle best, it is thus important to discuss the role of subnational authorities regarding some key targets of the TEN-T policy. The experience around the Channel tunnel points at the role subnational authorities could play in taking care of local interests (Vickerman 2014).

As highlighted in ESPON's report on the *Territorial Impact of EU Transport and TEN Policies*, transport policies, as any other policies, should be considered in connection to other policy areas that they affect, since transport is usually serving other sectors of society (Bröcker et al. 2005). For that reason, simply planning supranational management systems is likely to overlook a series of subnational factors with importance for the general purpose of such a policy. The question that arises is thus how to insure that the TEN-T core network does not only serve as a pipeline between production centers and urban areas, leaving the regions crossed unconnected, hence counterworking the Cohesion Policy itself.

Regional impact of TEN-T strategy: the Fehmarn belt "region"

The TEN-T strategy has triggered a long series of infrastructure projects throughout the EU, many of which aim at removing bottlenecks along borders of the member-states. One of those projects is the construction of a fixed link across the Fehmarn belt between Denmark and Germany. This link is supposed to be the last element of the connection between Scandinavia and the rest of the EU and a central element of the Scandinavian-Mediterranean corridor (cf. pink corridor on figure 1). However, the mere magnitude of this investment and the gain of travel-time from Copenhagen to Hamburg will change the geography of the region by connecting two territories that where relatively unconnected before. The fixed link will connect more than the two peripheral regions on each side of the sound. It will connect two major metropolitan centers: Copenhagen and Hamburg, as well as the Scandinavian countries to

mainland Europe. As such, it is rather an international project than a cross-border one. In order to discuss the TEN-T strategy in a regional context, this article looks at the regions around the Fehmarn belt fixed link in a corridor from southern Sweden to Hamburg, and compares them with those around the Channel Tunnel. This portion of the corridor is now starting to be conceptualized by public actors and stakeholders as the Fehmarn Belt Region.

Regional impact

The TEN-T policy and the Fehmarn Belt Tunnel targets long distance transport efficiency, not local development. The new TEN-T policy recognizes the importance of regional mobility, the connection of regions to the network, the promotion of cross-border projects and stakeholders cooperation but does not clearly address how do to so (Regulation No 1315/2013). In that case, regional growth is not a given. As Roger Vickerman (1994) puts it in his study of the Channel Tunnel, transport is only an enabler for development, it is not sufficient to produce it. The TEN-T core network and the Fehmarn Belt Tunnel will bring a significant upgrade to transport infrastructure in the region, but it is unsure whether it will benefit the regional economy. The creation of intercity corridors on transnational transport corridors in the European Union may in fact increase the economic, social and cultural differences between centre and periphery and hence the dysfunctionality of the Single Market in terms of socio-economic cohesion in the Union (Grindheim and Manga 2011).

If one looks at the regional level, the establishment of a transport corridor from Copenhagen to Hamburg will greatly ease the flow of goods and people between those two cities, as well as increase their cooperation; and should ideally benefit the regional economies. However, a focus on those two cities might leave behind the smaller cities and the territories crossed by the corridor. For example, a faster train connection would require fewer intermediary stops, eventually resulting in two classes of cities in the region, those connected and those not. Secondly, establishing a

Figure 2. Scandinavia-Mediterranean corridor in the Fehmarn Belt Region.

Source: Femern A/S

corridor could accentuate the drainage of workplaces and capital from peripheral regions towards urban centres following infrastructure upgrades in the hinterland.

The concerns about the potential impact of this corridor on rural territories is shared by the Danish Ministry of Housing, Urban and Rural Affairs, which works on how to make sure that the Fehmarn Belt Tunnel will benefit the Danish regions (Palludan 2013). It is not the first time that this question arises and it was already present in 1994 at the opening of the Channel Tunnel (Bruyelle and Thomas 1994; Vickerman 1994). As Mr Bruno Fontalirand[1] explained on his presentation of the experience of the département Pas-de-Calais regarding the Channel Tunnel, Pas-de-Calais did not benefit much of the new connection because it also started by being opposed to this international project (fearing to lose local jobs), and did not look at potential benefice for the region before the tunnel stood finished. Recent studies on the impact of the Channel tunnel on the region conclude that it eventually benefited metropolitan centers most, and that peripheral territories, without being clearly disadvantaged, did not benefit much from the tunnel (Thomas and O'Donoghue 2013).

Environmental impact

The TEN-T corridors aim at reducing the environmental of the European transportation system as a whole. However, the establishment of such corridors creates transport flows through regions that did not have them and increase existing ones. Such an increase of transport flows is likely to have an impact on both the environment of the territories they cross and on the overall CO_2 balance of the EU. This is a major concern on the German side of the Fehmarn belt where the new corridor will cross rural territories used for touristic purpose and where environmental concerns are highest. Moreover, in the Fehmarn Belt Region, the corridor crosses a series of straights concentrating transport flows in narrow spaces. Until now, those straights reduce the overall capacity for land transport, but a removal of those bottlenecks will likely result in an increase of transport flows on land with associated pollution, noise and congestion.

The fact that the TEN-T strategy might result in negative environmental and socio-economic impacts at the local level despite its aim at improving the sustainability of the EU transport system should not be overlooked. Trucks are a substantial means of transportation for goods in the EU, where 72.5 % of inland freight is done by road (Kyster-Hansen et al., 2011). This situation is not changing in a near future and the removal of a major bottleneck on this corridor will facilitate road freight as well as rail freight. Additionally, the new corridor across the Fehmarn belt is likely to redirect transport flows and increase environmental impacts in territories that did not know intensive transport flows before. This is a concern on the German side, which has been voiced by the German green party, local politicians and some of the population. The TEN-T policy entails that once the transport corridor is integrated from one

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[1] Advisor at the Presidential Cabinet of Pas-de-Calais

end to the other, sustainable means of transportation, such as rail freight, should be prioritized. However, in the case of the Fehmarn belt corridor, the amount of freight, the geographical conditions and the available infrastructure may result in an increased number of trucks crossing Holstein and Sjaelland territories as well (Stoumann et al., 2012). Such a policy will have impacts on the local economy and the local governance systems, therefore, regional authorities should be integrated to the implementation of the TEN-T strategy, both to work on minimizing environmental impacts and involve local and regional stakeholders in reaching its goals.

Lessons from the Channel tunnel

An infrastructure upgrade does theoretically increase the accessibility of remote regions to centers of capital in terms of time and capacity. However, access does not necessarily mean that those remote territories are automatically harvesting the fruits of this upgrade. Let us take the example of the Channel Tunnel, which has strongly changed the transport systems connecting southeast England to northern France.

The Channel Tunnel presents several similarities with the Fehmarn Belt Tunnel and can give indications on the challenges and the potential impact such a tunnel could have on the region. The Channel Tunnel does not directly connect adjacent territories, but important urban nodes situated at a certain distance from each other. With major capitals like London, Brussels and Paris, it is clear that such a project is primarily aimed at long distance international connections rather than territorial development. This geographical context is very similar with the Fehmarn belt case where the

Figure 3. Eurostar service around the Channel

Source: ©Londonupclose

regions adjacent to the strait are very peripheral in their respective national context, compared to the cities of Hamburg and Copenhagen.

The Channel Tunnel has been opened for 20 years and has been observed by researchers from both sides of the Channel (Bruyelle and Thomas 1994; Joan and Vickerman 2006; Thomas and O'Donoghue 2013; Thomas 2006; Vickerman 1994, 1996, 2014). It seems that the concerns of the regional authorities around the Fehmarn belt are well funded, since the Channel Tunnel does not appear to have been very beneficial for the rural part of the corridor between London and Paris (Hay, Meredith, and Vickerman 2004; Joan and Vickerman 2006;

Thomas and O'Donoghue 2013). There has been no coordinated attempt at uplifting the hinterland together with the construction of the tunnel, which was a rather high politics endeavor.

However, as expected by ex-ante analysis (Bruyelle and Thomas 1994; Vickerman 1994), the metropolitan area of Lille did benefited from the tunnel. Yet, Lille is the only town to have clearly profited from the Channel Tunnel, and it seems that while large urban nodes may benefit of such alterations of the transportation system, smaller cities and rural territories are those requiring particular attention (Chen and Hall 2012; Thomas and O'Donoghue 2013). Lille did make an active effort to capitalize on this new connection by actively lobbying for the construction of a new railway station in the center instead of the outskirt of the city, and funding it (Bruyelle and Thomas 1994). While the regional growth product of both Kent and Nord-Pas-de-Calais decreased on a period, Lille experienced an increase. On the British side, some indicators like tourism and demography have increased in Ashford, but generally, there is no trend that indicates that the region benefitted more than the average of the UK (Hay et al. 2004). The presence of London and Paris means that regional cities compete on their connection to their capital rather than to mainland Europe (Thomas and O'Donoghue, 2013). It appears that secondary cities in both region developed stronger ties with their respective metropolis and that cross-border activities are still very low 20 years after the opening of the tunnel (Hay et al. 2004). There is for example still no regular regional train service between Ashford and Calais or Lille, with an average of only 2-3 trains a day. A Thorough look at the various Interreg programs in the neighborhood shows no sign of topical cooperation focusing on green corridors or on the use of transport planning for developing the region in the way found around the south Baltic[2]. Moreover, websites from various public authorities close to the Channel Tunnel show no signs of cooperation projects specific to those topics.

While the low benefits for peripheral regions appear in the statistics, it is not established that it is a fatality. As Bruno Fontalirand puts it, Pas-de-Calais department was much less proactive and followed a wait-and-see approach. Roger Vickerman also concludes with the necessity for regional actors to take matters of regional accessibility into their own ends, since they are not taken into consideration by national and international actors (Vickerman 2014).

Regional activities in the Fehmarn belt

The Fehmarn Belt Region shows similarities in that it links the two metropolises of Copenhagen and Hamburg across a wide peripheral territory with smaller regional cities. Seven years before the opening of the tunnel, it is already possible to observe concerns regarding the impact of this new transport corridor on the region on both side of the sound. The approaches are different and the discussions as well, but local and regional authorities have launched projects in order to evaluate what benefits they could gain at the local level. An interesting

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[2] Note that accessing archives

project is the Green STRING project that clearly mirrors the TEN-T corridors concepts at the local level. This project led by Region Sjælland is an appendix of the interregional cooperation in the Fehmarn Belt Region called the STRING network. It gathers regional authorities, municipalities and research institutions from the Scandinavian side of the border. It includes all the priorities stated in Regulation No 1315/2013, but tackles them at the regional level by adding a focus on "sensitivity to local economic and environmental needs of regions, communities and municipalities along the corridor" (Stoumann et al. 2012). Several questions addressed by the project are related to the practical integration of the corridor into the local economy, the development of local logistic hubs and the greening of regional transportation systems. Additionally, this project also looks at how to coordinate the activities from the Scandinavian side with the German side, in order to develop a synergy between them. It is but one example of many similar interregional networks working with green corridors at the regional level (Guasco 2014b).

Questions concerning the harmonization of standards and technologies or rail freight operation at the corridor level are too broad for such projects, but topics such as contextual adjustments, local impacts and cross-border cooperation can perfectly be tackled at the regional level. Moreover, it brings them down to a level where the number of stakeholders becomes more manageable. On the German side, another project also addresses the question of how to benefit from the coming transport corridor. However, the focus is rather on business development and tourism with regard to a better connection to Hamburg, and does not tackles cross-border or environmental questions. This project, called Achse1, gathers the local "kreis" together with authorities from Hamburg and Schleswig Holstein, which coordinate their strategies vis-à-vis the federal level regarding infrastructure questions in the corridor from Hamburg to the German border on Fehmarn island (Guasco 2014b). Such projects seem the right fora for the necessary territorial anchoring and they should thus be systematized.

Integrating the regional level

The Scandinavian-Mediterranean corridor itself crosses seven countries, three straights of sea and a large mountain range. Seven countries means that the targets and stakeholders referred to in article 50 of the TEN-T regulation are too numerous to be effectively involved within one single corridor approach. It also means that solutions on one portion will not necessarily be applicable to other portions, because of differing regulations and customs, different geographies and different histories, the necessary alterations of infrastructure and operation procedures would also differ. Regions such as the Danish islands between Scandinavia and continental Europe or the Alps require different approaches than the crossing of the German plains. Similarly, the coordination of efforts across borders is trickier than between German länders. If topics such as green logistics, territorial impact, and local

accessibility are to be addressed, there is a need for involving subnational authorities in order to coordinate the multitude of stakeholders necessary.

We have seen in the case of the Channel Tunnel that such a large infrastructure investment does not automatically benefit the hinterland and that adaptive measures should be taken to insure that benefits outweigh consequences. Regional actors are more capable to focus on those aspects than a supranational coordination body spanning over so main countries. In the Scandinavian-Mediterranean corridor, a corridor-wide approach seems too broad to make place for the contextual adjustments that are required in different regions of the EU. Moreover, the stakeholders involved are too numerous to be organized at the supranational level, in the same way rail operation can be.

In the case of the Fehmarn belt, both sides of the border are already developing strategic plans regarding this new transport corridor. They seem to be the appropriate level for questions related to territorial cohesion, accessibility of the regions and mitigation of negative effects of transiting transport, which are stated among the major goals of the TEN-T policy (Regulation No 1315/2013). Those activities would benefit from a greater cooperation across the border.

Article 50 of regulation No 1315/2013 does mention the involvement of public and private stakeholders for the purpose of accessibility of the regions, cross-border cooperation and stakeholder cooperation, a role that regional authorities would have the incentives and the capacity to fulfill. Such a mention shows that the EU would see public authorities from regional and local levels, as well as private stakeholders, fulfill this part of the TEN-T strategy. However, it has left the method open for discussion by not including procedural instructions for the infrastructural part of the strategy. Looking at governance processes, to integrate subnational and private actors, becomes thus a sensible strategy for the future development of the TEN-T strategy and should eventually be integrated to the policy apparatus.

Conclusion

The recent adoption of the TEN-T core network by the EU aims at reducing the impact of transport on CO_2 emissions by promoting rail and waterways transportation instead of road transportation; and at closing the gaps between national transportation systems. However, such a modification of the transport infrastructure in the EU is bound to have an impact on the territories they cross. Linking all major urban centers of the EU together with transport hubs and production centers requires the creation and redirection of large transport flows, which inevitably cross peripheral territories. The question that arises is whether the TEN-T core network will only serve as a pipeline between production centers and urban areas, leaving the regions crossed with all the costs but no benefits, hence counterworking the Cohesion Policy itself.

Prior experience with the connection of London, Paris and Brussels by an extensive rail system shows that such initiatives benefited larger cities and much less the hinterland. Leaving

it to the market increases therefore the risk of reinforcing the discrepancy between urban centers and the periphery. The actual TEN-T strategy is still at an early stage, where a consistent network has not even been achieved, and the involvement of public and private stakeholder is still an open subject. If the aim is to reduce the CO_2 footprint of transport while supporting territorial cohesion in the EU, then it needs to be implemented all the way down to the operational level at regional scales. Such a coordinated action at a corridor level would then require the participation of too many stakeholders to be efficiently coordinated and the regional level would thus be an efficient alternative for reducing this cooperation down to a workable size.

On a side note, the implementation of a transport corridor through the region indicates that those territories will come closer to their respective metropolis (Thomas and O'Donoghue 2013; Vickerman 2014) and their inhabitants might thus gain access to capital in the form of new job opportunities and better salaries, thus being less tempted to move closer to urban centers. However, it would someway take the concept of dormitory suburbs to an all other level.

Subnational actors cannot take care of the infrastructure planning itself, but they can focus on how their territories can make use of the TEN-T network, on the mitigation of local environmental impacts, accessibility, business retention, logistic services and synergy through cross-border cooperation. Those topics are often very contextual, and do not require the same amount of funding or the regulatory power that larger infrastructure projects entails. It is still unsure which specific sector is the Holy Grail of regional development, or if one set of measures would work in every regions, but it is necessary to develop projects that look at it. Moreover, some of the goals mentioned in article 50 of Regulation 1315/2013, such as the promotion of cross-border cooperation, sustainable urban mobility, regional mobility and green transport technologies are actually directly addressed at subnational actors and stakeholders. The regulation also mentions that such actors should have access to a large array of European Union funds for this endeavor.

Finally, projects to anchor those targets at the regional level like the Green STRING project show potential and should be developed further, especially in cross border sections, where major bottlenecks are being targeted. They could also serve as a basis for developing models to integrate subnational authorities within the multi-level governance system entailed by the TEN-T strategy, including the diffusion of best practices, targeted funding and the clarification of strategic goals.

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Cross-border policy-making in the Fehmarn Belt Region:
A neofunctionalist reading

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Abstract: *The present paper takes up recent discussions on cross-border networks dealing with regional development, and considers the capacity of those networks to form the base for cross-border policy-making. In order to go beyond the discussion of network structures and challenges to cooperation, this paper adopts a neofunctionalist interpretation of cross-border cooperation in the Fehmarn Belt Region, a cross-border region developing at a level between local cooperation and Macroregional strategies. Additionally, the paper takes in existing scholarly discussions about the challenges to cooperation and especially recent discussions on the institutional/functional dichotomy. The result is a review of the role functional issues of regional importance can play in mitigating barriers to cross-border cooperation and promoting political integration. Additionally, it introduces the question of both occurring and necessary changes regional political/administrative systems experience in their quest to develop cross-border cooperation.*

Key words: *Cross-border, networks, neofunctionalism, transport, regional development, Fehmarn belt*

1 INTRODUCTION

The process of political integration in the European Union has led to the development of several EU policies, such as the Cohesion and the TEN policy, which generate cross-border activities and foster political integration at other levels besides the ongoing integration at the supranational level. This situation has led to the appearance of dozens of cross-border cooperation institutions such as euroregions, committees and other political platforms (Deas & Lord, 2006; Perkmann, 2000).

Researchers have been occupied with understanding the effect of borders on social, cultural, political and economic structures for decades. Nonetheless, identifying the potential and the key challenges posed by borders seems to aggregate in three approaches: market/economic, political/institutional and symbolic/cultural approaches (cf. Gualini, 2003; van Houtum, 2000). This article focuses on the cooperation of public authorities across borders and their capacity to develop coordinated cross-border policies. It focuses on cross-border organisations, networks and governance, while elaborating on works about cross-border institutions and the barriers they face when developing across national systems of governance.

The approach used in this paper is inspired by the policy networks analysis approaches, because of their capacity to enlighten political integration beyond traditional politico-administrative organisations. There are numerous works following this tradition in a national perspective, but fewer in a cross-border perspective. This paper proposes to take up the recent network approaches on cross-border institutionalisation with revisited reflections on the mechanisms of political integration from the discipline of EU studies. As a result, this paper participates to the discussions on cross-border institutionalisation in Europe with a focus on political/administrative integration.

Discussions on cross-border cooperation are linked to questions of size and intensity. Cooperation has been found to be more intensive at a small scale and less intensive at a large-scale multi-lateral level (Knippschild, 2011; Perkmann, 2000). The illustrative case used in this paper aligns with Perkmann's scalar conceptualisation of cross-border regions (CBRs), and represent a large-scale cross-border cooperation of the "Scandinavian groupings" ideal type, which has the characteristics of large scale macro CBRs but with rather intensive cooperation for this scale (Perkmann, 2000). This paper discusses thus cross-border cooperation at the large-scale end of the spectrum. At this

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level, functional issues like regional development, long distance transport, river basins, coastal management, and energy seem more active than issues like labour market, public transportation, housing and commuting. It does not mean that scholars looking at local cross-border cooperation or at larger macroregional strategies will not find the following conceptual discussion interesting, but the functional issues and empirical illustration will be different.

1.1   Institutional approach to cross-border cooperation

A traditional institutional approach of cross-border studies focuses on the study of CBRs like euroregions, for which Perkmann (2000, 2003) is often used as reference. Those euroregions are modelled on the original "Euroregio," which seems itself inspired by the territorial idea of region found in most national systems of governance. This territorial approach to cross-border cooperation has resulted in discussions about the observation of both successful and unsuccessful cross-border organizations (Deppisch, 2012; Knippschild, 2011; Perkmann, 2003), and brings up questions about the sufficiency of territorial approaches to support institutionalisation. Knippschild (2011) and Löfgren (2008) also discussed a phenomenon of fatigue of the cooperation in CBRs past the initial euphoria. Therefore, it seems necessary to keep digging into the mechanisms of cooperation to mitigate the risk that some EGTCs and other cross-border institutions turn into institutional shells with limited capacities.

Besides focusing on multi-purposed political institutions forming euroregions, CBC can also be approached with a focus on the institutionalisation of project-based cooperation (Chilla, Evrard, & Schulz, 2012; Knippschild, 2011; Leibenath & Knippschild, 2005). This approach also considers CBRs, but pays more attention to the barriers and facilitators of single-issue cooperation. Those barriers can for example be the discrepancy of administrative and legal systems and cultural differences linked to language (Klatt & Herrmann, 2011). Following this perspective, Knippschild (2011) also emphasises the importance of small scale and the need for a cross-border politico-administrative body ensuring continuity, brokering, good communication, joint strategies, joint political decisions and funding, in line with the multi-purpose political organisation found in many euroregions. Chilla et al. (2012) using a model for institutional mapping based on multi-level mapping of CB institutions and policies, and on political topography, discuss variables like multi-level governance mismatches, joint strategies, number of actors,

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culture and size. Additionally, they note the importance of a match between institutional and functional questions for the success of cross-border institution. The importance of scale means that institutionalisation of large-scale cooperation may be trickier.

Besides focus on institutionalisation through organisations, CB institutionalisation has also been approached in a more functionalist perspective through cross-border networks analysis involving subnational actors around functional issues, instead of formal organisations (Dörry & Decoville, 2013; Dörry & Walther, 2015; González-Gómez & Gualda, 2013; Walther & Reitel, 2013). This approach focuses primarily on social network analyses (SNA) of planners and experts involved in cross-border cooperation.

Finally, some scholars went so far as to advocate for conceiving CBRs based on functional mapping, and produced a new taxonomy based on economic, cultural and demographic characteristics instead of territorial and institutional ones (Topaloglou, Kallioras, Manetos, & Petrakos, 2005). This approach may help daily cooperation by realigning institutional arrangements with functional issues, but seems problematic in a planning and governance system where territorial boundaries still define administrative structures. Therefore, a focus on functional integration needs to be paired with an understanding of political integration.

Those divergent approaches indicate that there is a need to look at the correlation between institutional and functional logics when studying CBC. This dichotomy has already been identified by Blatter (2004), who discussed the difference between a territorial governance characterised by hierarchy, place and stability, and a functional governance based on networks, flows and fluidity. More recently, Fricke (2014) also conceptualises functional and territorial governance in cross-border cooperation, functional governance being characterised by single issue, flexibility, fuzziness, networks and type 2 MLG (Hooghe & Marks, 2003), and territorial governance being more stable, bounded, organisational, hierarchical and all-purposed. However, she recognizes that they are but two ideal types, which often coexist in practise. The importance of functional aspects for cross-border cooperation also appears in cross-border networks analyses of urban metropolises (Durand & Nelles, 2014; Sohn, Reitel, & Walther, 2009). Finally, Jacobs (2014) recently advocated that cross-border planning works in fact best when focusing on narrow functional issues.

However, the term functional can be restrictive if only understood in an economic perspective. While functional integration in cross-border studies often refers to the

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integration of functional systems like infrastructure and various markets (cf. Decoville, Durand, Sohn, & Walther, 2013; Topaloglou et al., 2005), functional cooperation can also refer to an institutional cooperation dealing with functional issues (Knippschild, 2011; Wiering, Verwijmeren, Lulofs, & Feld, 2010). From a political integration point of view, it echoes discussion from functionalist integration of political systems that consider transnational functional issues as a core catalyser for international political integration (cf. Haas, 1968; Mitrany, 1966; Rosamond, 2005).

To sum up, one can make a difference between a focus on cooperation in an organisation-building perspective (institutional) and in a problem solving perspective (functional), the difference being between institutionalisation through multi-purpose territorial organisation and institutionalisation through policy-based functional issues, both of which are "not" mutually exclusive (cf. table 1). As Blatter (2004: 546) argues: "there exists very different stimuli of political institution-building across national boundaries and it is time to get beyond simple dichotomies." This paper looks thus at institutional and functional cooperation as two overlapping logics, and discusses if they are mutually exclusive or complementary.

2   POLICY NETWORK ANALYSIS IN A CROSS-BORDER PERSPECTIVE

This paper integrates both policy networks analysis, as a tool to approach policy cooperation in practice, and the institutional/territorial/functional variables described above. However, instead of approaching networks in a SNA perspective, it explores the qualitative side of this approach, more active in the political sciences milieu (Rhodes, 2006, 2007), which pushes this paper in a political direction.

Policy networks approaches can be *roughly* summarised as a series of approaches focusing on the process by which various public and private actors develop inter-institutional ties to compensate for limitations in their capacity to provide the resources or coordination necessary for a successful policy-making individually. For the present paper, a focus on "policy" networks entails that one goal of CBC is the coordination of disconnected policies *across the borders* through the cooperation of relevant policy-makers, rather than the mere construction of CB regions. It means that civil servants,

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experts, and stakeholders are also considered a part of the policy-making process besides politicians.

In political sciences policy networks analysis builds on earlier concepts like issue networks (Heclo, 1978), policy communities (Richardson & Jordan, 1979), epistemic communities (P. M. Haas, 1992), policy networks (Marsh & Rhodes, 1992), and advocacy coalition (Sabatier, 1993). Methodologically, one can focus on a longitudinal (McGregor, 2004) or comparative analysis (Adshead, 2002). One can then conduct quantitative SNA focusing on centrality, authority, brokering and gatekeeper roles (Durand & Nelles, 2014; Robins, Lewis, & Wang, 2012), qualitative network analyses, using interviews and participant observations (Bevir & Rhodes, 2003; Rhodes, 2002, 2011), or a mix of both (Sohn & Giffinger, 2015). While SNA has been recently applied to a series of CBC studies around Luxembourg, Basel and Vienna (Dörry & Walther, 2015; Durand & Nelles, 2014; Walther & Reitel, 2013), there are still few attempts at analysing CB networks in a qualitative approach digging deeper into the rational for cooperation (cf. for example Leibenath & Knippschild, 2005).

Keith Dowding (1995, 2001) is known for his critique of policy network approaches as being more a metaphor of the policy process than a fully-fledged explanation of it. A critique that may have some substance if one only considers descriptive mappings produced by SNA in isolation. In order to go beyond the mapping of policy networks, the present paper follows a qualitative approach of those networks, as a complement to quantitative approaches, in order to advance the conceptual discussion of those networks.

A central advocate for the use of qualitative approaches to policy networks analysis is Rhodes (Bevir & Rhodes, 2003; Peterson, 2003; Rhodes, 2002), who has been looking at non-statutory networks of actors involved in British policy-making for the last 30 years (see also Marsh & Rhodes, 1992). This approach builds on earlier discussions of policy communities and issue networks (Rhodes, 1985), and sees those concepts as two ideal-types constituting the ends of the policy network continuum. A schematised summary of this model emphasize three variables that can also be found in SNA: 1. the *stability* of the network (stability of membership), 2. *Insularity* (closed or open club) and 3. *Resource dependencies* (money, authority, legitimacy and expertise) (Peterson, 2003), but Rhodes puts less emphasis on mapping the context and more on understanding the actors' interaction in an everyday perspective, by "putting people back into networks" (Rhodes,

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2002, 2006, 2011). Following this approach requires thus to look for a qualitative understanding of how mismatches between *institutional, territorial and functional* processes affect the policy coordination in the targeted CBR.

Table 1. Spatial context of cross-border networks

Network	Space	Priority to	Empirical form	Role
Institutional	Territorial	Territory	Political institution/committee	Brokering
Functional	Functional	Issue	Cross-border project	Problem solving
-	Territorial	Territory	Interreg program	Funding

3   A POLITICAL INTEGRATION READING

To go beyond a simple discussion on the differences between institutional and functional networks, the present paper proposes to introduce some (revisited) perspectives from European integration studies, in order to discuss how those networks may support political integration. While there are specificities linked to the administrative level, authority and the importance of territory at the subnational level, discussions on mechanisms of transnational political integration could enlighten cross-border cooperation.

The main tenants of EU integration theories are summarised by the neofunctionalist, intergovernmentalist and MLG discussions (Cini, 2003; Pollack, 2005). Klatt and Hermann (2011) briefly discuss how European integration theories can serve to conceptualise cross-border cooperation in a comparative studies of four CBRs, though without clearly operationalising this conceptualisation. They discuss a functionalist approach that sees cross-border cooperation as a "natural reaction to objective necessities", an intergovernmentalist approach where cross-border institutions are mere diplomatic platforms serving political actors without constituting any separate political entity, and a MLG approach that sees euroregions has a concurring political actor alongside national and subnational ones. While those frameworks can be interesting for situating the various approaches quoted in §1.1., the aforementioned theories advocate specific mechanisms for political integration, which could serve in understanding cross-border cooperation. The longstanding battle between neofunctionalists and

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intergovernmentalists has been over for a decade and what matters today is not to evaluate which of the fundamental mechanisms that triggered each theory can be useful in understanding cross-border cooperation. This paper proposes to take up the discussion from there and links current discussions on institutional and functional logics of cooperation with prior discussions on political integration in the EU, and particularly on the importance of functional issues for political integration and the challenge posed by intergovernmental behaviour.

3.1 Neofunctionalism and the functionalist paradigm

Neofunctionalism was an early attempt at theorizing European integration, which started with the influential work of Ernst Haas (E. B. Haas, 1958). Haas theorised that European integration would happen through the cooperating of elites on transnational functional sectors of the economy; and that supranational institutions would gain increasing authority over the participating governments because of the functional and political spillover effects such a cooperation conveyed (cf. Lindberg, 1963; Rosamond, 2000; Sandholtz & Sweet, 2010).

He was influenced by the functionalist thesis of David Mitrany (1966), who advocated that world peace would be achieved through the creation of international agencies dealing with functional/technological issues that would gain credibility and legitimacy because of their stronger capacity to promote economic welfare, and aggregate into an international governance system without space for armed conflict. Albeit somewhat idealistic, this thesis introduced the idea that functional issues as the core of the economy and its eventual welfare were what mattered to governments and policy-makers.

An interesting argument to draw from neofunctionalism is that functional issues are motivators for transnational cooperation and for the integration of policy-making systems across borders, an argument that is confirmed by the case used in this paper, but also by other case studies of cross-border cooperation (de Vries, 2008; Schmidt, 2005; Wiering et al., 2010; Zimmerbauer, 2014). Functionalism is a rational approach, which considers political actors as taking utilitarian approach to making decision (Rosamond, 2005). Therefore, functionalism sees technic/functional aspects of governmental tasks has the most likely to foster integration. According to this logic, if cross-border political integration is desired, starting by building all-purpose political institutions to compete with established ones is not sufficient.

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3.2   Intergovernmental behaviour

Such a utilitarian conceptualisation of political integration led to the reaction of realists like Hoffman (1966), Milward (1992) and Moravcsik (1991, 1998) under the label of intergovernmentalism. They promoted a counter thesis, arguing that most policy decisions in the EU were actually the result of domestic bargaining based on domestic preferences developed prior to supranational negotiations, and determined by their relative bargaining power. There was thus no supranational integration process happening.

They saw transnational policy issues as internal policies externalities (Moravcsik, 1991), which means that states only cooperated to the extent that the coordination of transnational policies benefited domestics policy goals. Supranational institutions were thus the recipient of aggregated domestic interests rather than independent entities capable of discrete policy-making. In a cross-border wording, cross-border institutions would thus be mere diplomatic venues for subnational authorities to bargain and not capable of CB policy-making.

This paper pushes forward the neofunctionalist argument, but considers that the intergovernmental critique still warrants some consideration. The most interesting
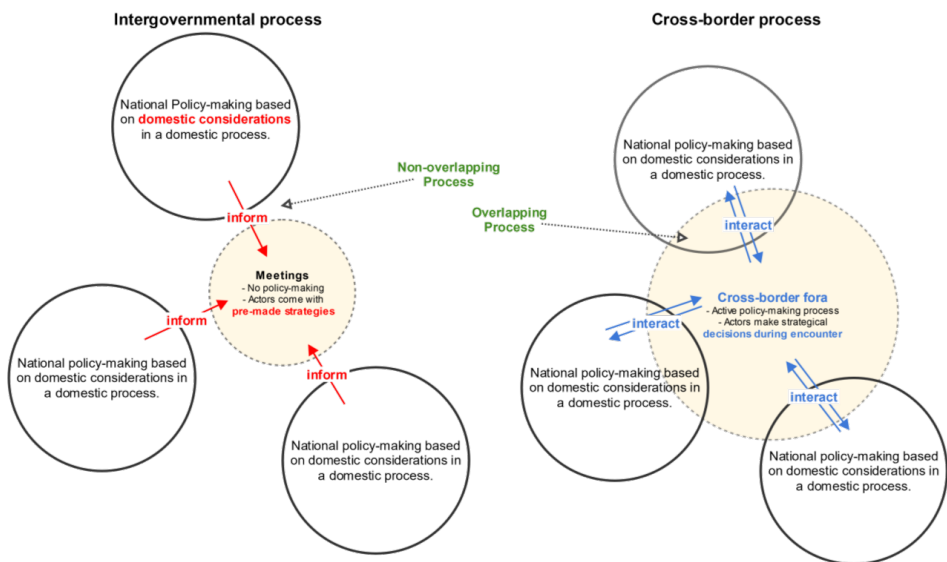

Figure 1. Intergovernmental vs. cross-border processes

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legacy of intergovernmentalism today is the conception that, despite an increasing internationalisation of European politicians and civil servants, interest-aggregation processes happen within domestic spaces to satisfy domestic interests, which we will refer to as the intergovernmental behaviour. While the focus of intergovernmentalism on explaining the integration process resulted in its obsolescence, the basic concept of the intergovernmental behaviour of national actors remains relevant when analysing empirical data because of a strong partitioning of interest-aggregation along national borders remains.

Even if intergovernmentalism as a theoretical framework is not adequate to understand cross-border policy processes because the aggregation of interests is not exclusively domestic (Blatter, 2003), it should not be ignored that large segments of this process still are intergovernmental in nature. Many of the actors' decisions are informed by domestic considerations, built in a domestic perspective, with domestic aims. When relieved of its paradigmatic quality, a concept of intergovernmental behaviour can prove very useful to label one type of challenge in cross-border cooperation.

4 CROSS-BORDER NETWORKS IN THE FEHMARN BELT REGION

The conceptual framework of this paper will be empirically illustrated by a case of cross-border cooperation focused on transport planning and regional development in the Fehmarn Belt Region (figure 2), an emerging macro CBR strengthened by the decision of the Danish and German governments to build a tunnel across the Fehmarn Belt. This tunnel is one of the core infrastructure upgrades in the ScanMed corridor of the TEN-T strategy (REGULATION (EU) No 1315/2013, 2013). It should open in 2021, but is already triggering significant CB networks in the region. The following analysis is based on data extracted from policy publications and websites of institutions involved in CB networks, interviews with actors involved in cross-border infrastructure and regional development in the FBR, participant observations to the Green STRING corridor project and fieldwork conducted in the region in 2012–2014. The data has been then aggregated following the Gioia method (Gioia, Corley, & Hamilton, 2012). The emphasis was put on observing an institutional/functional pair, the STRING network and the Green STRING corridor, which focuses on transport planning and regional development.

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This case is interesting because the Fehmarn Belt Tunnel (FBT) works as a functional catalyst for cooperation among regional politicians and planning practitioners in this region. It can thus serve both for the analysis of cross-border networks at the macro scale and for a discussion on the impact of a functional issue like transport on cross-border cooperation. It does not mean that this paper considers transport as the ultimate functional issue for CBC, but such a functional issue provides interesting observations.

Unsurprisingly, a large part of the cross-border activities in the FBR focus on the coming tunnel, which acts as a geographical centre like the Öresund Bridge in the Öresund region. It triggers meetings, conferences, networks and cross-border projects involving politicians, civil servants, experts and business interests on how to make use of the infrastructure upgrades brought by the TEN-T policy. The central question for those actors is if this new infrastructure will bring more wealth, more jobs, more cooperation or just more trucks.

In the period 2012–2015, there were fourteen active CB networks focusing on questions of transport planning & regional development in a cross-border perspective.
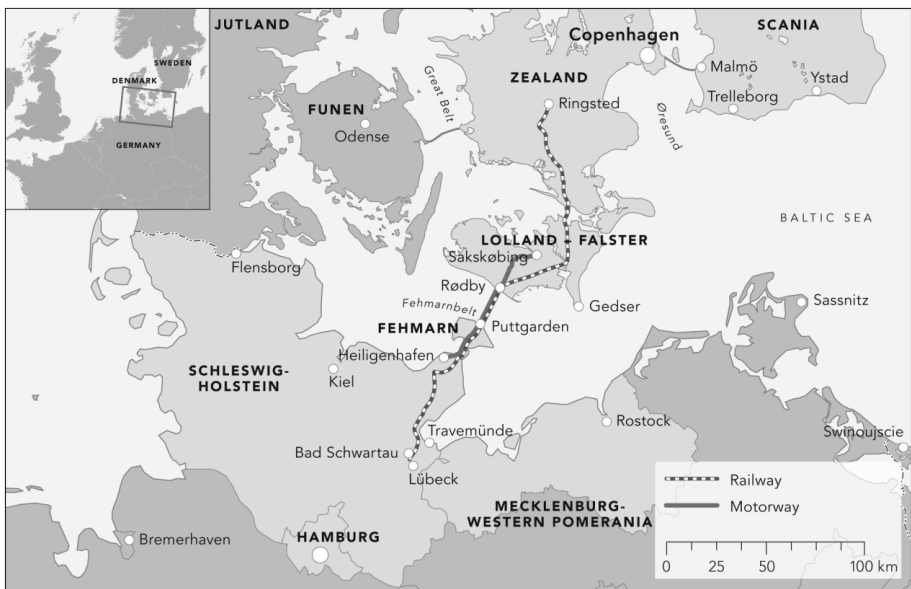

Figure 2. The Fehmarn belt region, Femern A/S, 2014

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Most of them were either working on institutionalizing political cooperation or in a problem-solving/planning approach.

Table 2. Overlapping networks in the FBR geography

Network name	Geography	Scale	Main logic	Characteristic
STRING network	D/DK/S	Macro regional	Institutional	Cross-border cooperation
The Scandinavian Arena	N/S/DK	Macro regional	Institutional	Cross-border cooperation
Öresund Committee	DK/S	Regional	Institutional	Cross-border cooperation
Hamburg Metropolregion	D	Regional	Institutional	Metropolitan cooperation
Greater Copenhagen	DK	Regional	Institutional	Metropolitan cooperation
Fehmarnbelt Committee	DK/D	Local	Institutional	Cross-border cooperation
Femern Bælt Forum	DK	local	Institutional	Business-municipalities network in Region Sjælland
GreCOR	N/S/DK/D/NL/UK	Transnational	Functional	Freight corridor
SWIFTLY Green	S/DK/D/A/I	Transnational	Functional	Freight corridor
EWTC II	S/LT/DK/D	Transnational	Functional	Freight corridor
SCANDRIA	S/DK/D/I	Transnational	Functional	Reg. dev./transport corridor
Green STRING corridor	DK/S	Macro regional	Functional	Reg. dev./transport corridor
Coinco/8million city	S/DK/D	Macro regional	Functional	Reg. dev./transport corridor
Entwicklungsachse A1	D	Local	Functional/Institutional	Reg. dev./transport corridor
FBBC	D/DK	Macro regional	-	Business network
Dialogforum feste Fehmarnbeltquerung	D	Local	-	Fehmarn belt tunnel—public participation

Institutional networks

In the FBR, there are three classic cross-border political platforms of the Euroregion type: the Fehmarnbelt Committee, the Öresund Committee and the STRING Network (figure 3).

The Fehmarnbelt Committee is a local political network covering the area around the coming tunnel involving regional politicians from Region Sjælland and local politicians from the Ostholstein and Plön kreis. The Öresund Committee is a cross-border political platform gathering municipal and regional representatives from Scania and Sjælland. The STRING network is a political network spanning over the entire FBR and gathering regional politicians from the five regions/Länder situated between the Öresund Region and Hamburg plus the city of Copenhagen. There are also two metropolitan regions with transnational agendas in the FBR: Greater Copenhagen and Hamburg Metropolregion, and a business network working on the geography between

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Hamburg/Lübeck and Copenhagen/Malmö: the Fehmarn Belt Business Council. All those networks currently have the tunnel high on their agenda.

They work mostly at providing institutional spaces to connect relevant political actors. They provide thus a space for politicians to cooperate but do not directly structure the cooperation of civil servants and experts. Because they act as multi-purpose institutions, their main challenge is to put relevant civil servants and experts in contact to operationalize the policy they have formulated.

Each of those networks works on selected functional issues tailored to their territorial focus, but some issues like transport and labour market appear to be predominant (cf. table 3). Infrastructure and transport clearly go through all the networks found in the region, which indicates the relative integration power for this topic in the region and the functional role played by the tunnel. However, as mentioned before, those networks are challenged by their multi-purpose focus, which changes according to the domestic agenda and makes it difficult to involve specialised civil servants and experts, who are not always aware of their endeavour.
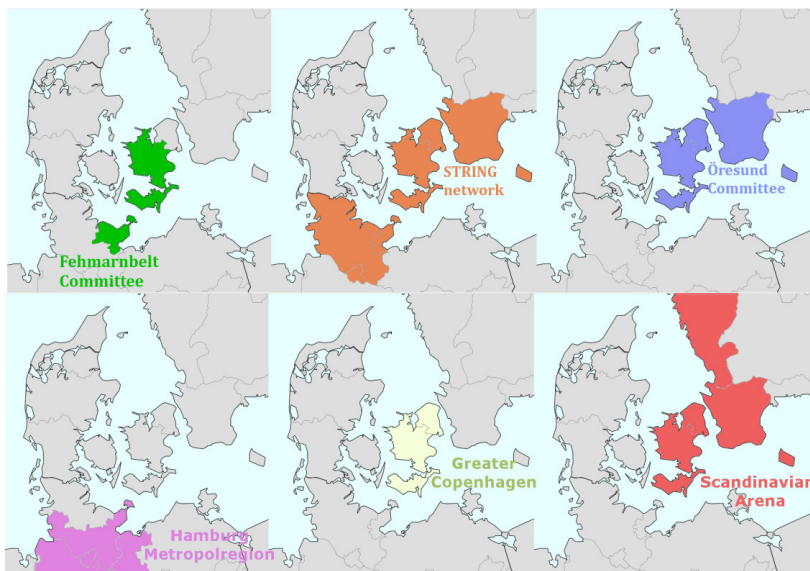

Figure 3. Institutional networks over the Fehmarn Belt Region

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Table 3. Policy focus of multi-purpose institutional networks

Network name	Geography	Functional issues
STRING network	D/DK/S	green growth, infrastructure, tourism, science & development, ESS-MAX IV
Öresund Committee	DK/S	Labour market, mobility, R&D, tourism, climate-environment, ESS-MAX IV
Hamburg Metropolregion	D	Science, regional infrastructure and transport plan, business, tourism
The Scandinavian Arena	N/S/DK	Transport corridor Olso-Öresund, infrastructure and growth
Greater Copenhagen	DK	Food industry, transport, tourism, ESS-MAX IV
Femern Bælt Forum	DK	Reg. dev., infrastructure, labour market
Fehmarnbelt Committee	DK/D	transport, tourism, labour market, language & education, culture,
FBBC	DK/D	Business interests, infrastructure
Entwicklungsachse A1	D	Transport, tourism, reg. dev., commercial spaces (zoning)

Functional networks

Alongside the political cooperation, there are several cross-border projects directly targeting the ScanMed corridor and transport planning, which gather civil servants and experts specialised in those issues (cf. table 4). In the period, 2012–2015 there were seven of those types of networks active in the region of which four largely exceeded the boundaries of the FBR. Their composition is more diverse, and they gather civil servants from national, regional and municipal authorities together with research institutions and private organizations. The main resource exchanged in those networks is expertise, there is no politician involved in them and most actors are active in the planning/policy formulation part of the policy process.

The networks listed in table 4 officially gather 79 organizations. Many of them do not participate in more than one network and there is thus limited chance for all of them to have regular contacts. However, a few institutions participate to more than one network increasing their chances to develop ties across borders. All those networks work on functional issues related to transport corridors and build their strategies on interpretations of the TEN-T policy. Several of them came in contact during thematic meetings, seminars and conferences but there were no indications of systematic contact. Organizations involved in more than one network can also be considered as forming

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weak issue networks since some of the actors involved did know each other beforehand and participate in common meetings, albeit irregularly.

The challenge for those networks is to access political authority and they rely thus on lobbying politicians and on their connections within the administration. Moreover, they rely on external funding, and make mostly use of Interreg funds, which do not necessarily match their spatial focus and is limited in time.

Table 4. Functional networks dealing with transport and regional development

Network name	Geography	Scale	Focus
EWTC	S/LT/DK/D	Transnational	Freight (+institutionalization of EWTC II)
GreCOR	N/S/DK/D/ NL/UK	Transnational	National & regional authorities
SCANDRIA	S/DK/D/I	Transnational	reg. dev./transport corridor
SWIFTLY Green	S/DK/D/A/I	Transnational	freight/transport corridor
Coinco/8million city	S/DK/D	Macro regional	reg. dev./transport corridor
Green STRING corridor	DK/S	Macro regional	Regional and national authorities in Öresund Region
Entwicklungsachse A1	D	local	reg. dev./transport corridor

4.1 Institutional and functional cooperation

Cross-border networks in the FBR seem to be partitioned in political/institutional and planner/functional networks (table 5). However, both types of networks are complementary for the achievement of cross-border policies since they each target a segment of the policy-making process. While this paper, because of a more political angle, draws different conclusions on the scholarly implications of this institutional/functional divide, it clearly echoes the recent conceptualization of cross-border governance in metropolitan regions from Fricke (2014: 854).

While political networks are more stable, their multi-purpose structure and their membership limited to politicians in a bounded territory reduce their capacity to involve the administration and stakeholders. Moreover, they seem to face challenges when brokering contacts between relevant policy actors. Nonetheless, because of their capacity and their specialization in cross-border matchmaking, they seem to be the main providers of cross-border institutionalization in the region.

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On the other hand, functional networks are rather unstable and have difficulties to insure continuity. A couple of respondents actually praised those networks for their capacity to foster valuable contacts, but stated that their short lifespan was sometimes deterring potential cooperation. Membership in those networks is more open, not territorially restrained, and they gather all types of civil servants, experts and stakeholders. Their main strength lie in their narrow functional topic that appears more suitable for actual cooperation and for the development of common targets. They also gather specific expertise on functional issues and potential solutions that political networks do not possess.

Finally, some business networks are also active in the region. It seems that both institutional and functional networks try to involve them in "triple helix" approaches to exploit their applied knowledge and implementation capacity. However, participant observation and interviews have not been able to assert their actual participation to the aforementioned networks.

Table 5. Types of networks observed in the FBR

Type	Members	Features and resources
Functional networks	Civil servants, experts, stakeholders	Open, unstable, expertise, problem-solving, output legitimacy, need political authority
Institutional networks	Politicians, political consultants	Stable, insular, multi-topic, input legitimacy, political authority, need expertise, need output legitimacy
Business networks	Business interests	Stakeholders, employment, investment, need stable regulatory signals

Colour codes emphasize the matching resources between functional and institutional networks

4.2 Challenges to CB policy-making in the Fehmarn Belt Region

The observations conducted in the FBR show that the challenges to CBC in the region can be aggregated in six categories.

Functional/institutional mismatch

The two types of networks described above illustrate two tendencies in the FBR. On one side, institutional network gather politicians and focus on the coordination of political processes aiming at developing joint policies without being sure that their respective administration and stakeholders will follow. On the other side, functional

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networks gather actors like civil servants, planners, experts and stakeholders, which focus on functional issues without insurance that political authorities will follow. However, theories on governance increasingly consider both governmental and societal actors as an integrated part of policy-making (Bevir, 2007a; Fawcett, 2010; Hooghe & Marks, 2003; Kenis & Raab, 2003; Rhodes, 2007). It means that a fragmentation of this process in different networks limit the exchange of information, bargaining and aggregation of interests necessary to produce successful policies. The development of coherent cross-border policies would require the integration of both functions like policy networks supposedly do at the national level.

Additionally, functional networks show little capacity to ensure stability and institutionalization since they follow the cycle of Interreg programs. There is sometime continuity through second and third rounds of projects, but it would be an overstatement to talk about institutionalization. However, participant observation, interviews and Interreg projects all indicate the recurrence of several actors in those networks.

Interreg mismatch

Interreg programs are a major source of funding for CB projects in the region and thus central to functional networks. However, no Interreg geography fits the scale at which the observed actors operate (table 6). Indeed, Interreg programs only recognise the local cross-border level, large transnational cooperation and pan-European urban networks. Additionally, macroregional strategies focus on a transnational level where national authorities play a central role. There is thus no funding scale, which matches the macro cross-border level. It is thus challenging for regional actors to find funding to cooperate on functional issues matching the entire FBR.

Table 6. Interreg Programs in the FBR

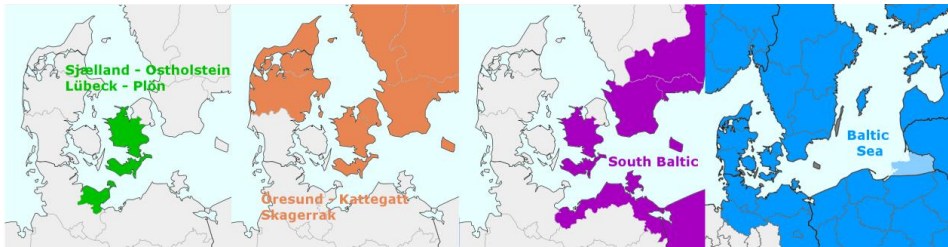| Interreg type	Scale	Geography
Cross-border	Local CB Macro CB Macro CB	Sjælland—Ostholstein—Lübeck—Plön Öresund—Kattegat—Skagerrak South Baltic
Transnational	International	Baltic Sea (fits the macroregional Baltic Sea Region strategy)

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Figure 4. Interreg programs overlapping the FBR

Prioritization and allocation of human resources

Cross-border policies at the FBR scale entail the cooperation of relevant politicians, civil servants and experts from fragmented political systems. However, the CBC observed in the FBR relies on very limited resources compared to domestic issues. It also faces the need to prioritize which networks to nurture. In the absence of clear issues necessitating cooperation, collaboration can fade to the benefit of more "pressing" needs. Additionally, the employees allocated to daily CBC are rarely leaders, which means that they do not have authority over the issues they address while cooperating.

Another challenge of the reliance on Interreg funds voiced by several actors is the time consuming process required to apply for and administrate them. CBC is usually attributed limited human resources relatively to the size of the institutions involved. Moreover, the Interreg system also comes with low activity periods between each round. An interviewee stated that they could go from eight full-time positions down to half a position, in those intermediate periods.

Administrative and political mismatch: Size, authority and hierarchy

The FBR spans over German, Danish and Swedish territories. Governmental systems in those three countries are very different, which means that both institutional and functional networks gather actors with different *authority.* This situation limits the capacity of all actors to develop consensus on specific functional issues.

On one hand, the German Länder are states with ministerial partitions, and more authority regarding administrative, policy and territorial matters compared to Danish and Swedish regions. On the other hand, German kreis are very weak compared to Danish municipalities, especially concerning planning issues. In fact, Danish regions are so much deprived of authority on territorial matters that their territorial policies take the form of

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strategic political visions. A practice that is very different in German Länder, who have procedural responsibilities regarding regional development and planning.

In Denmark, regional authorities have very little say in planning matters and mostly develop strategic plans that work as guidelines for the municipal level. Most planning responsibilities are anchored at the municipal level but this level does not have the capacity to engage in macro CBC. In Sweden, regional authorities have some planning responsibilities regarding regional development plans and infrastructure but their regional development plans also follow a more strategic than procedural approach. Because institutional networks still follow a traditional territorial scaling, cooperation between Länder and municipal authorities seems impracticable. The sheer difference in operational scales may probably be an even greater challenge than cooperation with weak regional actors. Functional networks are more flexible since they are not bound to territorial of administrative scales. However, they face a problem of authority since they only have authority over the production of knowledge. Integrating them to institutional networks may help to increase the adaptability of institutional networks and compensate for those administrative discrepancies.

Another structural difference is that while Länder are heavy administrations organized along ministry lines, Scandinavian regions are smaller and more flexible. This fragmentation can be a problem when a functional issue requires the cooperation of different ministries, who do not necessarily coordinate their CB activities. For example, the STRING network is anchored in the German ministries of EU affairs, while most issues addressed by the network actually concern other ministries. Therefore, while multi-purpose institutions already suffer from the difficulties to *put relevant actors in contact,* this fragmentation in the German systems increases those difficulties. A German actor actually voiced the difficulty to pinpoint the relevant experts in their own administration as a challenge.

Intergovernmental behaviour: mismatch of visions

CBC is structured by a set of EU policies and guidelines. In the present case, the TEN-T strategy actually acts as a coordinating factor between the various actors involved. However, it regulates mostly transport and infrastructure activities at the national level and it appears that CB strategies suffer from the actors' intergovernmental approaches to CBC.

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For Scandinavia actors, the tunnel is a strategic investment in their connection to the large markets of Western Europe and a great opportunity to develop stronger ties with Germany. German actors have had a more wait-and-see approach to it and a stronger focus toward industrial and capital centres westward and southward. While Schleswig-Holstein has some tradition of local cross-border cooperation, Hamburg seems mostly interested in more global issues. However, the entrance of Copenhagen and its metropolitan region in CBC with Germany seems to have interesting profiling potential for the Länder vis-à-vis the Federal government.

Nonetheless, most of the interviews, the speeches and visions presented at meetings and conferences, and the published CB strategies all point at the fact that most actors develop CB strategies in a domestic perspective to address domestic issues and then promote them in CB fora. Scandinavian actors talk about reduced travel time to the continent, increased catchment area for Copenhagen airport, new market opportunities, increased freight capacity to Hamburg Harbour, and greener transportation to and from Scandinavian. German actors talk about noise and environmental impacts on their natural areas, difficulties and high costs of infrastructure upgrade, competition with other interests southward, increased transit problems on the north-south freight routes, and potential infrastructure upgrades in their hinterland.

This exchange of information on domestic issues is necessary to start aligning policies on all sides, but as of now, it does not seem that the cooperation allows for the actors to adopt a supranational stance and discuss issues domestic to the entire FBR. Not that there are no attempts at finding synergies, like in the STRING network, but those synergies remain at an "intergovernmental" level, where what matters to cooperation is to find which domestic interests can be promoted. Such an intergovernmental approach does not necessarily mean that CBC cannot develop and it might be but the first step towards greater integration, but measures must be taken to push towards the next stage.

Cultural mismatch

Interviews and participant observations have led to several anecdotal observations on cultural and procedural discrepancies between each national culture, which do not all warrant a mention in this paragraph. However, some observations that were both voiced by interviewees and observed in the field can bring interesting illustrations to the challenged discussed above. Those cultural differences are both related to the

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administrative differences but also to different procedural traditions, which have developed over time.

Planning and policy-making seems more conservative and pragmatic among German actors, possibly because of the greater responsibilities of Länder. Words like procedural, hierarchy, rigid and binding are often used to describe the German practices, which puzzle Scandinavian actors used to more flexible, problem-solving and consensus-based practices. German presentations more willingly target concrete infrastructure upgrades, zoning and technical issues than strategic visions as they are found in their Scandinavian counterparts. Many of the German interviewees spent time explaining how more complex, procedural and slow is their system (a story corroborated by Scandinavian actors). On the other hand, many of them also voiced an interest in the more visionary and strategic way of doing things in Scandinavia. Such cultural differences are problematic for the internal functioning of both types of networks and warrant further research on their own.

4.3 Transport and regional development as a "functionalist" issue?

As mentioned before, this paper aims at putting in perspective the challenges observed in the FBR with earlier discussions on European integration at the international level. Most supranational policies leave ample room for interpretation concerning which issues are most pressing. The coordination of policy-making across borders requires thus to build policy-making spaces with the capacity to coordinate agenda setting, problem identification, policy formulation and policy implementation. However, creating such a space also requires finding functional issues to build upon.

The numerous networks, meetings, joint workshops and conferences around the coming Fehmarn Belt tunnel indicates that a coordination of agenda setting has started and that such a policy-making space might be in the making, but that it is not operational yet. The evolution of the positions of German actors regarding the tunnel between 2012 and 2015 corroborates the fact that some form of exchange is taking place, and that the tunnel possesses a "neofunctionalist" capacity. It is also clear that infrastructure issues and regional development play a central role for regional actors. However, the "potential" of the tunnel is as fuzzy a buzzword as the term regional development. Moving to more concrete issues seems necessary to intensify cooperation, which requires finding

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functional issues that matter at the macro scale, like public transportation and labour market matter at the local scale.

The question of the importance of infrastructure upgrade and the tunnel for regional development has been posed to the actors consulted, and it does not seem that there is a common understanding of the important issues to address that could aggregate interests from all sides. Likewise, most strategic papers issued by regional authorities and cross-border projects name rather general areas for cooperation, which does not really help to narrow down on specific functional issues. This situation could be ascribed to the fact that there is no pre-existing joint policy-making space.

Nonetheless, the tunnel fosters cooperation in the region and there is a strong common belief that infrastructure improvement lead to economic benefits for the regions. As such, this topic could serve as platform for the strengthening of cooperation across the institutional networks present in the region, if those networks can achieve to gather political support for integrating planning practitioners in their activity. A functionalist reading considers top-down elite cooperation on functional issues directly affecting welfare as more favourable to cooperation. The strengthening of cooperation on topics of infrastructure and regional development does thus seem to have some potential and institutional actors should work on operationalizing that common belief.

FBR is in need of common functional issues. At that scale, spotting functional issues for cooperation seems trickier than at the local/metropolitan. Using a perceived correlation between the FBT, infrastructure upgrade and regional development is probably not enough to build a functioning cross-border institution but can be an appropriate functional issue to build upon. Neofunctionalism's core assumption is that policies with stronger integration potential are knowledge intensive technical policies transcending state boundaries with a strong relation to the economic welfare of the state. Such a core issue for regional authority is the welfare of their local businesses. Core elements of this welfare are access to a market, access to qualified workforce and infrastructure. Integration of one of those elements can thus be a good starting point to strengthen functional cooperation. However, regional authorities have limited authority over many of those issues and rely on their respective national government.

There might be a national discrepancy in how actors conceive regional development and how much authority they have in the overall process, but they all share the common activity of producing regional development plans relying on lobbying and branding vis-

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à-vis their national authorities. Successful plans and successful lobbying are fundamental for the economic development of those regions. A neofunctionalist understanding of this cross-border integration would indicate that cooperation of experts and civil servants on such a common strategy might lead to stronger political integration overall. Joint planning focusing on infrastructure planning and regional development in the whole region might thus be a good place to start strengthening integration, but as of today, such policies remain very much domestic to each region. Joint planning also requires a common understanding of the limits of each actors, and German actors should thus be aware of the limited authority of their Scandinavians counterparts, so that planning does not come to involve binding decisions which Scandinavians cannot take. A fast joint regional planning network with the purpose of joint lobbying and branding towards national and supranational levels could complement the expert group in the STRING network. This network would need to focus on macro scale issues like the management of traffic flows crossing the region, corridor development, harbours, commuting, energy, and joint maritime spatial plans in synergy with tourism, offshore windmills, fisheries and sea transport. However, such an endeavour would be challenged by different planning procedures and competing spaces with neighbouring regions and would require political backup, the participation of civil servants with some authority and some relatively stable funding.

5 CONCLUSION

Looking at cross-border networks in the FBR shows how multiple overlapping networks crisscross the region. Political networks with an institutional purpose and a territorial anchoring work along planners/expert networks focusing on functional issues transcending regional borders. This situation echoes other studies of cross-border cooperation (Blatter, 2004; Fricke, 2014; Jacobs, 2014; Sohn et al., 2009), which indicates that the institutional, functional and territorial parameters of CBC warrant further attention.

Institutional networks are more stable but only gather political actors in multi-purpose institutions. As such, they can support the stability of CBC, but do not provide clear functional issues to support integration. *Functional networks* are more focused on specific issues, which give reasons for cooperation in practice and narrow discussions down to a practical dimension, but they are relatively unstable and gather actors

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without political authority. Those networks tend thus to partition regional policy actors in two. However, literature on policy networks and governance points to the increasing interdependence of those actors for successful policy-making (Bevir, 2007b; Pierre & Peters, 2005; Rhodes, 2007). Those two types of cooperation should thus not be approached as two distinct modes, but as complementary, which calls for discussions on ways to combine the institutionalisation capacity of cross-border institutions with the functionalist capacity of issue networks. Far from being impervious to each other, those networks form a fragmented policy space in the FBR but their integration could be improved. If one looks at the resources each of those actors possess and need, it seems possible for a fruitful cooperation (table 5).

Challenges to cooperation in those networks are linked to *administrative, scalar and spatial mismatches* due different governmental structures, *access to funds* and their geographic anchoring, *prioritization* of resources, of geography and of scale, *cultural mismatch* and *intergovernmental behaviour.* While some issues are inherent to the EU system, prioritization, intergovernmental behaviour and cultural mismatch may be addressed by subnational actors themselves. However, because policy-making and planning are inherently territorial, it requires a better understanding of the challenges posed by the necessity to integrate different spatial and procedural references into new cross-border "soft spaces". Indeed, most of the barriers listed by studies on cross-border institutions and networks revolve around an inherently intergovernmental behaviour of the actors that matter to regional policy development. As a result, supporting cross-border cooperation in the region requires both to integrate functional and institutional logics and the mutation of the spatial and procedural systems of reference of the actors involved. A conclusion brings forward the question of whether we are witnessing the infancy of such a mutation in the EU and how it will affect European regions in the future.

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Publication 5

Guasco, C., Walsh, C. and Othengrafen, F. (2015) *Understanding cross-border planning: Policy networks, soft spaces and planning cultures*. Manuscript.

Understanding cross-border planning:
Policy networks, soft spaces and planning cultures

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Abstract:

This paper aims at advancing the qualitative understanding of cross-border cooperation planning. For this purpose, it combines the concepts of policy network analysis, soft spaces, and planning cultures. Combining these concepts can help to gain a fuller picture of the transnational cooperation of planning practitioners and the 'interrelations' between spatial, administrative and cultural characteristics of planning. Empirical observations, based on transport planning and regional development in the Fehmarn Belt Region, indicate that spatial and cultural considerations are important for actors involved in cross-border policy networks and for the production of regional policies. Because each concept emphasizes one of those aspects, considering them in combination can give a more complete understanding of the phenomenon than when they are used individually. This combination also strengthens the spatial and cultural considerations found in recent network analyses of cross-border cooperation. This paper is a theoretical introduction of this combination, but the discussion is illustrated by empirical observations from the Fehmarn Belt Region. Its aim is to fuel cross-conceptual discussions in the study of cross-border cooperation.

Keywords: cross-border cooperation, regional development, planning, policy network analysis, soft spaces, planning cultures.

1. Introduction

Cross-border cooperation in Europe is increasingly driven by pragmatic functional concerns related to energy production, spatial and transport planning, coastal and water management and labour market policies. Financial support through European Union territorial cooperation programmes provides further incentives for local authorities to engage in cooperation initiatives (Perkmann 2003, Dühr et al 2010). The coordination of policies and practices across borders nevertheless remains a challenging and resource-intensive task as legal, institutional, cultural and political differences continue to be significant despite the rhetoric of European integration and territorial cohesion (e.g. Paasi & Prokkola 2008, Princen et al 2014). This article addresses this question by discussing how the cooperation of planning practitioners happens in a cross-border context and relates thus to scholarly discussions on cross-border regions (CBR), cross-

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border cooperation (CBC) and cross-border planning (CBP). We understand planning as a part of the strategic policy-making process focusing on spatial, transport and energy planning, and thus as a space where political, administrative and territorial considerations play an important role.

European cross-border regions have been referred to as 'micro-laboratories for European integration' (Van der Velde & Van Houtum, 2003, Garcia-Alvarez & Trillo-Santamaría 2011). Through cross-border governance arrangements, regional actors seek to work around the constraints of the formal bounded space geographies of nation-states. However, borders continue to have a significant influence on actors' perceptions and actions, even when the formal-jurisdictional importance of those borders is lessened through European integration and proactive cooperation initiatives (Paasi & Prokkola 2008, Haselsberger, 2012). Political realities and historical legacies in many cases require governance actors to develop soft approaches to cooperation, crafting bridges across governance cultures, developing a common language and working around the formal structures of territorial jurisdictions (see O' Dowd & McCall 2008, Yndigegn 2013, Walsh 2015, Walsh et al. 2015).

Up to now, the study of regional cross-border governance has focused on studying cross-border institutions such as Euroregions, EGTCs, cross-border secretariats and working communities (Klatt & Herrmann, 2011; Perkmann, 1999, 2003). During the last 25 years, the EU has been actively promoting cooperation between regional actors through the Interreg program, triggering a large array of cross-border projects and CBRs (Deas & Lord 2006). The most recent phase of this approach was reached with the introduction of the EGTC in 2006[i], as the newest tool to help formalize CBRs, by giving them a legal personality and a formal institutional structure (Nadalutti, 2013). As a result, a central tenant of studies on CBC has focused on analyzing how those new institutional set-up fared; often labelling them as Euroregions (cf. Lepik, 2009; Perkmann, 2000; Svensson, 2013; van Houtum, 2000). This approach triggered discussions of discrepancy between the form and its actual efficiency with the observations of both thriving cooperation and dormant institutional organizations (Deppisch, 2012; Sanguin, 2013). There is thus more to cooperation than the construction of institutional structures. Such an approach conceptualized cross-border and transnational governance processes by applying a model based on a traditional governmental system (i.e. bounded policy sectors and hierarchical governance within formal administrative zones). As such, it followed a fundamental assumption that existing administrative units were the natural form for territorial governance, a perspective, which ultimately limits the understanding of cross-border processes that do not fit this assumption. There are now numerous cross-border entities of all sorts and shapes in the EU, but

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a correlation between the organizational centralization through Euroregions and the actual coordination of policies in those regions is still not definitely established.

This article seeks to move beyond this focus by emphasizing that it has resulted in the observation of both successful and weak cross-border organs (Deppisch, 2012; Knippschild, 2011; Perkmann, 2003). The literature on CBC has primarily focussed on the institutional organisation of cooperation, but recent studies have started to focus on the ways in which individual actors engage with cross-border issues through issue networks and policy communities, which stretch across territorial boundaries (Dörry & Walther, 2015; Durand & Nelles, 2014; Walther & Reitel, 2013). Indeed, closer attention to the soft workings of CBC indicates the key roles played by individual actors in fostering and maintaining networks of collaboration at the cross-border level. Those networks are thought as a key to the coordination of subnational actors necessary for building common visions and coordinating policy-making processes. This focus on policy networks allows appreciating cooperation freed from predetermined institutional and territorial limitations.

Moreover, empirical observations, based on transport planning and regional development in the Fehmarn Belt Region, indicate that spatial and cultural considerations are important for actors involved in cross-border networks and for the production of regional policies (Walsh, Jacuniak-suda, & Knieling, 2015)[ii]. In order to progress the understanding of the spatial and cultural aspects of cross-border networks, we develop a conceptual link with recent spatial planning scholarship focussed on soft spaces of governance and planning cultures. This approach can strengthen the qualitative understanding of spatial and cultural challenges pointed out by several recent institutional analyses (e.g. Chilla, Evrard, & Schulz, 2012; Dörry & Walther, 2015; Fricke, 2014; Jacobs, 2014; Knippschild, 2011), which discuss discrepancies between institutional and functional spaces, and challenges related to cultural differences.

The concepts on which this approach is built are policy network analysis (cf. Rhodes 2006), soft spaces (Allmendinger & Haughton 2010, Allmendinger et al. 2015) and planning cultures (Knieling & Othengrafen, 2009; Othengrafen, 2012). This combination is proposed for its capacity to integrate institutional, spatial and cultural approaches to cross-border planning and give a fuller picture than each concepts can provide separately. In the following sections, each of the three concepts will be introduced and discussed in relation to the specific context of CBC. Subsequent to this empirical case study of the Danish-German Fehmarn Belt Region will demonstrate the value of an integrated approach.

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2. Cross-border Policy Networks

The EU produces legislation and policy strategies, and provides financial incentives for their implementation. Those two factors influence the way regional actors engage in CBC. However, since EU policies leave space for interpretation and national states retain a certain level of independence, planning in a cross-border context relies thus on the commitment of the actors involved and on their common understanding of those guidelines.

A policy network approach offers a fruitful perspective to understand CBC in that context. The basic aim of policy networks analysis is to observe the formation of inter-organizational networks, involving public and private actors concerned with a specific policy field. The assumption is that they develop ties to compensate for the difficulties of the governmental institutions to provide a successful policy-making - due to a lack of expertise, a lack of authority or because of the privatization of the policy sector (Bevir, 2007; Rhodes, 2006). In a cross-border context, the incapacity of the governments to provide adequate coordination of policies is reinforced by the historical partition of authority and administrative systems. This is especially the case for planning activities in the field of spatial development, transportation or energy, which are characterized by the interaction of politicians, public servants, experts and private organizations.

Studying policy networks is not a new activity in political sciences and there is a large body of literature dealing with it. This approach includes concepts like issue networks (Heclo, 1978), policy communities (Richardson & Jordan, 1979), epistemic communities (Haas, 1992), advocacy coalition (Sabatier, 1993) and dyadic and triadic networks (Ansell, Parsons, & Darden, 1997). The approach inspiring the present article is a policy networks analysis born in the UK from the observation of non-statutory networks of actors in policy-making[iii], including actors from the private and public sectors (Rhodes & Marsh, 1992). It belongs to a group of concepts looking at the involvement of experts and private actors into the policy-making process, which consequently no longer happens within a clearly defined governmental organization such as a ministry. It took off in the nineties for the study of networks within policy-making systems where hierarchical processing was being challenged by new forms of policy-making, and where the Government developed interdependent ties with other societal actors (Rhodes R. , 2006). Marsh and Rhodes (1992) have attempted to synthesize the British perspective by producing an integration continuum with cohesive policy communities at one end and loosely connected issue networks at the other. In the context of CBC, it translates with the classification of cross-border networks on a scale ranging from long-standing institutions to loose issue-based networks. A particularly interesting addition to this concept is done by Rhodes during the following years,

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who besides understanding political processes in networks, also focuses on actors, narratives and norms that hold the network together, and advocates for the use of ethnographic approaches, which are lacking in the realm of political science according to him (cf. Rhodes, 2002, 2007, 2011).

Methodologically, there are several ways to approach policy networks. A classic approach in CBC studies is to conduct social network analyses to observe key actors, inner groups, brokers and gatekeepers (Durand & Nelles, 2014; Robins, Lewis, & Wang, 2012; Scott, 2000). PNA has also been used to study the organisational structuration of CB institutions (Walther & Reitel, 2013), observe the evolution of a network over time from multiple non-intersecting dyadic ties to integrated multi-dyadic networks (McGregor, 2004) or conduct ethnographic studies to understand how actors build bonds and common narratives (Rhodes, 2011). The study of cross-border networks using PNA seems rather recent. Those studies applied SNA methods to measure nationality and correlate it to territorial conceptualization, centrality, brokering and gatekeeper role. Dörry and Decoville (2013) emphasize the importance of nationality in network mechanisms and brokering roles. Walther and Reitel (2013) stress the importance of national authorities as economic and political gatekeepers, and note the particular challenges linked to competing political ideas and cultural misunderstandings. More recently, Dörry and Walther (2015) also observed a correlation between centrality and territorial conceptualization. There are still few applications of policy network analyses on cross-border planning, but they already show a capacity to shed light on institutional aspects of cross-border institutions.

In order to go beyond the mere mapping of policy networks (see the critical position of Dowding, 1995), one should also focus on a qualitative understanding of the processes at play within those networks. Such a focus can also help to refine the variable used by quantitative approaches based on social network analysis. This qualitative angle requires a better understanding of motivations for practical cooperation, shared-goals, customs, and aggregation of interests. A policy network analysis provides useful insight in CBC mechanisms since it focuses on the inter-institutional ties that form between various subnational actors involved in policy-making without disregarding the ties they might have with national and supranational actors.

Using PNA to study cross-border planning means to focus on policy cooperation between political actors, civil servants and experts concerned with regional development, transport and infrastructure planning. PNA focuses on which cross-border networks are at play in a given space, which actors are involved, their centrality, competencies and authority on planning matters. However, if a network approach can serve to uncover policy bargaining and relational

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ties across borders, it calls for fine-tuning regarding contextual characteristics of *planning* and *transnational cooperation*.

Even though planners certainly share common behavioral characteristics with other actors involved in public policy-making, their work is bound to specific considerations related to the activity of planning. It is against this background that our understanding of policy network analysis should be completed with an understanding of how individual actors navigate (through) this complex system. A combination with the concepts of soft spaces and of planning cultures can help to identify challenges specifically related to planning-related policy-making and orientate the variables used to conduct policy network analysis of planning policies. Ultimately, it can help to understand better the correlation between administrative, territorial and cultural considerations, and to understand how it affects the collaboration of planners.

3. Soft Spaces of Cross-Border Cooperation

Cross-border and transnational soft spaces may be viewed as a part of a pragmatic effort to break away from the constraints or 'rigidities' associated with working within formal administrative boundaries and as a means of tackling the spatial governance challenges inherent to multi-jurisdictional contexts (Allmendinger & Haughton, 2009, 2010; Faludi 2010; Walsh et al 2015). From this perspective, soft spaces can assist policy-makers and spatial planners in thinking 'outside the box', beyond the container space geographies of formal administrative territorial divisions to recognise the significance of functional relations across space, whether social, economic, cultural or environmental. More broadly, soft spaces may be viewed as part of a response to the perceived spatial deficits of formal, statutory governance arrangements. It may also be noted, that the shortcomings of traditional practices of state-centric hierarchical governance are often particularly accentuated in the complex multi-jurisdictional contexts of CBRs. Those regions require innovative governance responses which of necessity, reach beyond the existing institutional spaces of the national/territorial jurisdictions. In some sense, soft spaces represent the spatial manifestation of contemporary governance arrangements. They may be the new 'normal', a common tool of spatial governance, a perhaps inevitable feature of contemporary governance landscapes. In some cases, such soft spaces may represent a rational response to new incentive structures where new spatial structures may be advantageous in bids for financial support, whether through funding programmes at regional, national or European levels. In summary soft spaces may be considered as:

- a response to a need for an integrated spatial approach to policy or strategy-making which cuts across sectorial boundaries (see Faludi, 2010);

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- a response to actual or perceived problems of spatial fit and a desire to realign governance and institutional boundaries in accordance with functional geographies (see Allmendinger & Haughton, 2010;);
- part of a response to problems of inter-scalar coordination or perhaps a temporary governance vacuum following a reform of formal governance structures;
- a response to problems of 'multi-level mismatch', a situation where the governance structures in different jurisdictions do not match up effectively and creative solutions are required to facilitate policy coordination or cooperation (see Chilla et al 2012).

As institutional structures become more formalized, the question of the geographical limits and 'territorial shape' of the CBR itself may become increasingly critical. Paasi (2013, 1216) argues that 'while regional planning occurs today in the relational context of 'soft spaces' and 'fuzzy boundaries'... borders may still effectively disturb and limit both visionary thinking and planning practice.'

Soft spaces arise from practitioners' need to develop new spaces for cooperation across borders. The way they develop is interconnected with the networks practitioners build in order to tackle functional issues identified in those spaces. They are used as both practical and conceptual meeting places for planners from disconnected administrative spaces. Soft spaces focus on spatial narratives by which planners construct the space in which they plan. This approach relates to Rhodes' call for understanding narratives in policy networks (Rhodes R. , 2006).

However, planning with soft spaces does not necessarily imply 'soft' forms of planning (Davoudi, 2012). Planners belong to traditional planning jurisdictions with specific prerogatives and act within that logic. When acting across borders they repeat that structure by creating new spaces often based on their respective administrative boundaries. The way those new spaces are designed is very important for the construction of the networks that they will use to exchange ideas and coordinate their efforts. For that reason, soft spaces have a stronger importance for networks of planner than it might have in other types of policy. They condition the choices of territories, population and functional issues to include in the plans. A very large number of cross-border projects and network are thought in a territorial way since they usually encompass the geography of the participating actors and focus on functional issues found within this negotiated space. The way those spaces are conceived influence the way planners devise strategies to tackle the identified challenges. Empirical observation of soft spaces in CBRs of the EU can thus complement the knowledge brought by a policy network analysis and help to understand how planners construct planning spaces and thus how they decide to develop/prioritize some networks over others.

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4. Planning Cultures in a Cross-Border Context

From the history of CBC, culture received increased attention over the course of time, as cross-border development had and still has to consider deep and diverse roots on both sides of the border. This includes not only different administrative structures, interpretations of planning tasks and responsibilities or different structures of governance, but also social attitudes, beliefs and values, political and legal traditions, and different socio-economic patterns and concepts of justice. Planning cultures are particularly relevant when looking at policy networks involving planning practitioners across borders. Indeed, this is an epicentre for the meeting of two or more planning cultures, which is bound to affect the network, the actors and their planning cultures.

Following an anthropological understanding, culture consists both of 'shared meanings' and values as they are conceptualized in the basic philosophy of life among a group of people; and of the way in which these shared meanings are visualized or manifested in social interactions and in their results (Kroeber and Kluckhohn, 1963; Sarbaugh, 1988; Avruch, 2002; Gullestrup, 2006). According to Hall (1992, 52), culture then represents a community, offering social identity to members of this community by providing a normative 'performance script' – a number of incorporated and routinized 'recurrent regularities' (Berger and Luckmann, 1966, 51; Schön and Rein, 1994; Hofstede, 2001) – for the individual about how to behave and act in specific situations. But culture also includes the 'patterned representation and enactment of a people's lived experience' (Hall 1992, 52; Hofstede 2001, 2). Culture also consists of intersubjective discourses allowing 'a group of people to create shared meaning, participate in the emotive world of a community, and coordinate potentially diverse lines of action by integrating named entities into a recognisable whole' (Hall 1992, 55). Here, culture can be considered as a code, a frame or a mental programming, which is shared by some but not by others, and that arises through the integration and transformation of individual and structural meaning.

When analysing cross-border development in Europe the concept of 'planning culture' provides additional knowledge as it focuses particularly on the 'taken-for-granted assumptions' and 'unwritten patterns of power' underlying development policies, processes and outcomes (Booth, 1993; Othengrafen, 2012, 2014). Following this argumentation, planners always perceive the world through a 'cultural lens' which is affected by both individual and collectively shared cognitive biases and constraints. This means that cross-border development – as the result of both individual planners' and commonly shared accumulated attitudes, values, rules, standards and beliefs of planning institutions – can be conceived as the overlapping of localised planning practices representing a cultural system that develops in the interplay of cultural codes,

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institutional settings and cognitive frames in a given context (Ernste, 2012; Getemis, 2012; Neuman, 2007).

Every planner or planning institution has an appropriate frame from which to take decisions (Howe, 1980). Frames can thus be described as culturally and locally determined cognitive structures, systems of meaning or 'world views' that structure the behaviour and the actions of the involved actors (Ernste, 2012; Goffman, 1974; Schön & Rein, 1994). It can furthermore be distinguished between frames or codes of ethics and frames or codes of conduct. The former represent an idealistic set of moral ideas providing general, philosophical principles from which planners derive the policy frames or pragmatic guidelines they use to structure policy situations (Hendler, 1990; Schön & Rein 1994; Thomas, 2012). These frames or codes of conduct include the planning institutions' characteristic points of view, belief systems, routines and styles of argumentation which can, particularly in a cross-border context, differ from the frames or codes of conduct of the planning institutions on the other side of the border that have developed independently.

As interactions between individuals and groups are at the heart of any culture (Hall, 1990), it can be concluded that cross-border development is also dependent from the interactions between individual and corporatist actors in policy networks. These interactions between actors 'do not emerge in a vacuum' (Getemis, 2012, 32), they are rather reliant on the (cultural) context. According to Fürst (2009), interaction patterns can be competitive or cooperative, person-oriented or task-oriented and consensus-oriented or outcome-oriented (I.e. political or functional). Different interaction patterns and expectations from one partner towards another might lead to misunderstandings and misinterpretations particularly in cross-border processes if the cultural background of the involved actors is neglected (CULTPLAN, 2007; van Dam et al., 2008). This also refers to the dominant styles of communication and participation, i.e. if these processes are formal or informal, 'open' or 'exclusive', and the relation between political actors and experts (Getemis, 2012; Othengrafen, 2012). Additionally, the distribution of power among actors and 'the room for manoeuvre of persons acting within organisations' (Fürst, 2009, 26) is also a decisive factor for cross-border development as 'power determines what counts as knowledge, what kind of interpretation attains authority as the dominant interpretation' (Flyvbjerg, 1998, 226-227).

Finally, planning cultures also encompass 'structuring conditions' like the constitutional provisions and the legal framework, the political-administrative system and the planning system (institutions, legal and administrative rules, routines and procedures), which can be understood as a result of the accumulated attitudes, values and customs shared by the group of actors

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involved (Othengrafen, 2012). It also includes the scope of the planning system, the degree of decentralisation and the locus of power (e.g., centralised or decentralised structures, planning institutions and their competences at local and regional levels, the degree of transparency) (see also CEC, 1997; Fürst, 2009; Larsson, 2006; Newman & Thornley, 1996). However, planning culture does not stop with systemic structures, but also encompass taken-for-granted societal norms, beliefs and perceptions affecting the cognitive frames of planners by forming the specific societal background (Othengrafen, 2012, 2014). These variables are clearly challenged in cross-border contexts. Consequently there is an evident need for careful empirical study of the influence of contrasting and diverging planning cultures on practices of CBC. Indeed, it may be surmised that the worldviews and reference frameworks of practitioners in border regions are influenced by their professional institutionalisation within specifically national contexts. Empirical studies indicate that the process of learning how planning and policy-making works in practice 'on the other side' may take considerable time and capacity-building work in the early stages of cooperation (e.g. Walsh et al. 2015).

5. A conceptual framework to understand cross-border networks of planners

Combining these three concepts has the potential to provide new insights into the interrelationships between the administrative, spatial and cultural characteristics of planning in a cross-border context, which are deeply interrelated in practice. Policy network analysis provides a fruitful point of departure for the study of cross-border cooperation since the traditional state-centric model of governance only plays a limited role in CBRs. A policy networks approach looks at the attempts made by regional actors at breaking the political/administrative boundaries that hinder their cooperation. Network governance relying on coordination, bargaining and other soft policy measures, which steps in to fill the gap. Network governance nevertheless is recognized to take place in the shadow of hierarchy, in cross-border regions as elsewhere (e.g. Heritier & Rhodes 2011). In a cross-border context, it may further be argued that network governance develops in the *shadow of territory*. This is where the concept of soft spaces becomes fruitful for a better understanding of cross-border activities. Because of the way decision-making is structured in modern democracies, most administrative and political activities are territorial in nature. As a result, regional actors involved in cross-border activities need to bridge spatial boundaries, a process embodied by the concept of soft spaces. Whereas soft spaces and transnational policy networks appear to transcend territorial boundaries, soft spaces and hard spaces are mutually constitutive as governance actors commonly rely on the established structures of territorial governance for institutional and political support and indeed democratic legitimacy (also Othengrafen et al 2015). Policy networks have been mostly
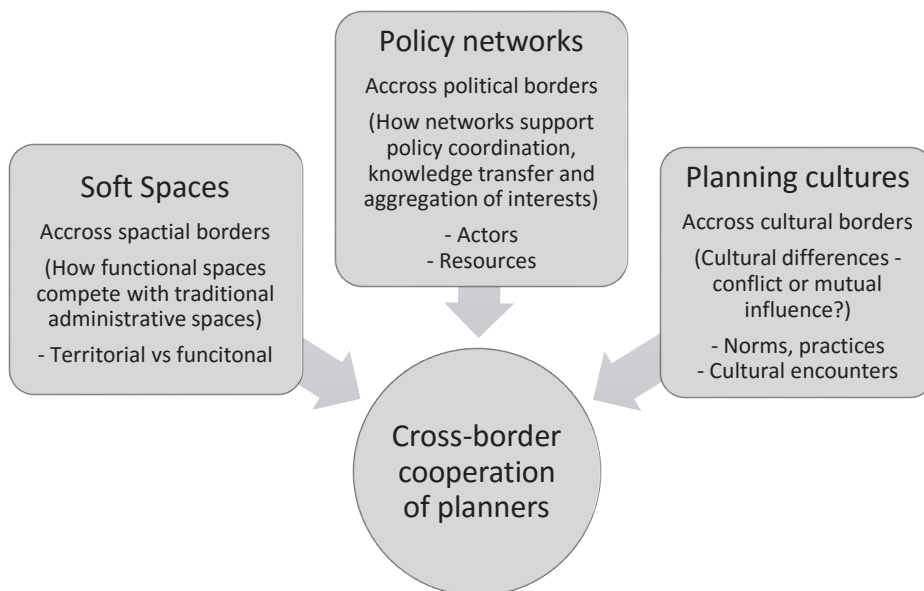
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Figure 1*. Conceptual framework*

approached in a non-spatial perspective, but in the case of regional development or transport planning, spatial considerations are fundamental. It is clear that traditional administrative units (hard spaces) are not the only recipient of planning processes any longer and that new spaces (soft spaces) develop to accommodate functional issues that hard spaces cannot contain. We argue that the distinction between hard and soft spaces, both politically and spatially, is fundamental to understanding the environment in which planners evolve, particularly in cross-border contexts. Those soft spaces provide flexibility, according to the issues at stake, the actors involved, and the multiplicity of functional matters.

Both policy-networks and soft spaces can be understood as manifestations of phenomena transcending traditional governmental structures. A key research objective is thus to understand how networks develop within soft spaces and how some become embedded within governance processes while others are active for limited time-spans only. In-depth analysis may uncover the processes through which policy networks and soft spaces evolve and the rationalities that lie behind them. A key question in this context relates to the specific role of soft spaces and spatial frames in network-building processes.

Policy-networks and soft spaces are thus analytically complementary in that soft spaces allow us to pay attention to the spaces through which policy networks operate and the ways in which policy networks are active in the construction of new spatialities, and provide added value to the understanding of planning practices in cross-border areas.

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Soft spaces and policy networks nevertheless present challenges for planners as they bridge formerly isolates space and bring together different planning cultures. Even when territorial and functional spaces match, differences in administrative and legal systems coupled with differences in the understanding of the purpose of planning, how it should be conducted and by whom, pose serious challenges to the coordination of policy activities across borders. Moreover, planning practitioners and other professionals bring with them cognitive frames, routines, attitudes and values that are linked to broader societal customs that may differ significantly on either sides of the border. It is thus necessary to empirically examine the extent to which soft spaces and policy networks create the necessary 'mental bridges' to transcend underlying differences in planning and governance cultures.

To summarise, soft spaces embody the attempts at breaking spatial boundaries made by all types of actors involved in cross-border cooperation. Policy networks embody the attempts those same actors make at breaking political boundaries. Finally, planning cultures embody the meeting of different cultures and conventions contained by those former borders, which is the main challenge they face breaking the aforementioned boundaries. As a result, all three research programs look at a process of debordering and can bring a much deeper understanding of what happens when crossing borders together than individually.
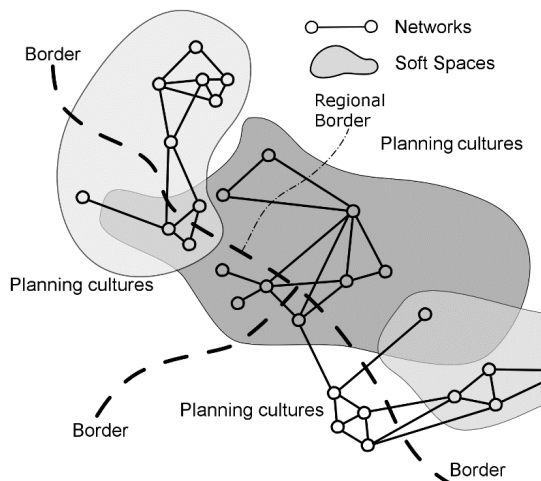

Figure 2. *Simplified schematization of the framework*

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6. Crossing the Fehmarn belt: An illustrative case study

This case illustrates the how this combination can be operationalised. It draws primarily on empirical research conducted by the first author of this paper in 2012-2014 and prior research by one of the authors (Walsh et al 2015).

The Fehmarn Belt Region (FBR) is a CBR in the making covering southern Sweden (Scania), east Denmark (Region Zealand and the Capital Region of Denmark) and Northern Germany (Schleswig-Holstein and Hamburg). This region is of particular interest because of the construction of Fehmarn belt tunnel, a major cross-border infrastructure triggering cross-border activities in a region where it had previously been relatively low. At the same time, it comprises multiple cooperation initiatives found at various scales and with varying groupings of actors (cf. Walsh et al. 2015). Formal political insitutions are notably absent in this case and decision-making competences continue to rest with the local and regional authorities which comprise the CBR.

A preliminary policy network analysis shows the complexity and fragmentation of CBC in the region (table 1). Indeed the Fehmarn Belt Region is just one of the multiple soft spaces produced by the need to respond to the regional development implications of the coming tunnel (Walsh et al, 2015). In this space, one can observe an important activity of networks dealing with transport planning and related regional development (Guasco, 2014). Transport planning in this context is

Figure 3. The Fehmarn Belt Region, Femern A/S, 2014

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a broad issue ranging from the planning of new infrastructure to the greening of transport technologies and of the entire system of logistics.

It also includes a regional focus on the impact of transport planning on regional development. Because of the multiplicity of this field, many different actors from the public and the private sectors are involved. There are thus several concurrent cross-border networks involving public authorities, experts and stakeholders in the region on questions of transport planning and regional development. They evolve in different spaces depending on their territorial or functional focus. In this context, there is no single network supporting bargaining and coordination for policymaking in the region. There are however, meeting points for actors involved in different networks, such as political meetings, joint conferences and seminars. A high degree of inter-network coordination is evident, particularly in the hosting of the annual Fehmarn belt Days conference.

Although meetings are not regular enough to support everyday cooperation, they provide policy spaces where the transfer of knowledge may occur. Most of the networks dealing with the Fehmarn Belt Region have a regional perspective and involve subnational actors. However, organizations active at the national and transnational level such as Femern A/S and the corridor

Table 1. Overlapping networks in the FBR geography

Network name	Geography	Scale	Characteristic
STRING network	D/DK/S	Macro regional	Cross-border cooperation
The Scandinavian Arena	N/S/DK	Macro regional	Cross-border cooperation
Öresund Committee	DK/S	Regional	Cross-border cooperation
Hamburg Metropolregion	D	Regional	Metropolitan cooperation
Greater Copenhagen	DK	Regional	Metropolitan cooperation
Fehmarnbelt Committee	DK/D	Local	Cross-border cooperation
Femern Bælt Forum	DK	local	Business/municipalities network in Region Sjælland
GreCOR	N/S/DK/D/ NL/UK	Transnational	Freight corridor
SWIFTLY Green	S/DK/D/A/I	Transnational	Freight corridor
EWTC II	S/LT/DK/D	Transnational	Freight corridor
SCANDRIA	S/DK/D/I	Transnational	Reg. dev./transport corridor
Green STRING corridor	DK/S	Macro regional	Reg. dev./transport corridor
Coinco/8million city	S/DK/D	Macro regional	Reg. dev./transport corridor
Entwicklungsachse A1	D	Local	Reg. dev./transport corridor
FBBC	D/DK	Macro regional	Business network
Dialogforum feste Fehmarnbeltquerung	D	Local	Public participation

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3 & B platform led by the Danish Transport Authority are also active in infrastructure policy issues, and occasionally come in contact with regional networks. Political cooperation takes place on regular basis and nascent networks and political contacts can be observed at several levels both within and across borders. However, the link between the national authorities with decision-making power and the subnational planners/stakeholders with practical knowledge appears to be rather limited.

There are three cross-border institutional networks in the region, but they evolve on different levels. The Fehmarnbelt and Öresund committees are local CBC platforms, while the STRING networks acts on a larger scale based on the two major metropolitan spaces of Copenhagen and Hamburg, and their respective hinterland. The matters on their agenda are thus not always of similar geographical scope. The Fehmarn belt committee covers the area from OstHolstein to region Zealand and has a local perspective. On the Scandinavian end of the Fehmarn Belt Region the Öresund committee, a political platform involving the Scandinavian regions around the Öresund Bridge, focuses on cooperation northward as well. Moreover, those institutional networks evolve in parallel to functional networks, which do not always recognize their spatial scale (cf. Walsh et al., 2015). For example, the Green STRING corridor is an issue network with a specific focus on transport planning and regional development in the Fehmarn Belt Region. However, other issue networks looking at transport planning, such as the SCANDRIA, SWIFTLY Green, GreCOR, EWTC or 8 million cities, have different geographies, extending beyond the region, both towards Scandinavia and Germany. Those issue networks gather mostly national and subnational civil servants who deal with such topics in their respective countries, while politicians prefer cooperation in institutional networks. Political platforms like STRING, the Öresund committee or the Fehmarn belt committee, rely largely on third parties within national authorities for the implementation of most of their strategy and work mainly on providing a space for the coordination of regional strategies. However, they also provide policy-makers with an easier access to their counterparts, which is valuable in a context without consistent organizational structure.

Subnational soft spaces like the metropolitan regions of Hamburg and of Copenhagen, communal networks close to the Fehmarn belt, as well as Entwicklungsachse A1 also show interest in the Fehmarn belt tunnel and have some form of cross-border strategy on the topic. Entwicklungsachse A1 is interesting since it is the only German soft space based on transport infrastructure issues in the region but it does not cross the border in the way similar Scandinavian soft spaces do, and focuses only on the German segment of the transport corridor. Business interests also gather in a cross-border network based on the region, the Fehmarn Belt Business Council, and participate to the same activities than subnational actors.

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The observed networks seem to divide between a functional focus where functional issues transcend territorial boundaries and an institutional focus where territorial boundaries have precedence over functional issues. In a policy network perspective, one could argue that institutional networks, being more stable political platforms, lean toward the policy communities' end of the spectrum, while functional ones actually take the form of temporary issue networks. They both lead to the creation of soft spaces, but criteria for the new spatial boundaries vary greatly. Additionally most institutional networks with a clear territorial anchoring are based on the cooperation of political actors (generalists) and mainly function as brokers of CBC in their territory, while most functional networks gather civil servants and experts dealing with a given issue, which does not necessarily match territorial structures. Political networks follow therefore more traditional spaces than functional ones. This has a clear impact on the way actors choose their partners and design their plans. It also indicates that besides looking for centrality, brokering and gatekeeper role, PNA should take into consideration whether an actor is performing a coordination or a problem-solving role and in which spaces he operates.

The level of institutionalization of those networks does not appear to allow for coordinated actions, but there are policy spaces allowing for the circulation of knowledge and planning narratives. Those networks form different soft spaces, depending on their political or functional focus and the Interreg area they belong to. Additionally, there are several Interreg spaces in the region, which means that various overlapping networks have formed over time because of different funding opportunities. Interreg programs are problematic for the Fehmarn Belt Region since they do not match its geography. Interreg IV-A programs cover areas at each end of the corridor, while Interreg IV-B and V-B programs are much larger and cover the Baltic Sea and the North Sea. It makes it more difficult for subnational actors to access relevant funds in the entire region, and does not help practitioners cooperating on functional issues.

The picture resulting from such an analysis is a very fragmented cooperation space, where overlapping institutional networks, attempting to coordinate the cooperation of policy-makers, are crisscrossed by issue networks, which do not necessarily recognize their spatial boundaries. A system that planners needs to make sense of before they can proceed in discussing joint visions (table 2).

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Table 2. *Typology of cross-border spaces in the Fehmarn Belt Region.*

Form	Priority to	Objective	Network variety	Role
Political platforms	Territory	Institutional	Policy community	Brokering, aggregation of interests
Cross-border projects	Issue	Functional	Issue network	Problem solving
Interreg programs	Territory	-	-	Funding

Planners are thus confronted with potential discrepancies between territorial and functional focus when deciding of the extent of the relevant territory, which partners to involve and which functional issues to focus on. There is thus a need to find solutions to combine the administrative facilitation brought by institutional settings together with the fact that functional issues are necessary for cooperation to make sense. Interviews[iv] conducted in the region indicate that cross-border cooperation makes most sense for participating actors when it is anchored to functional issues to solve. The three cross-border political platforms in the region do make use of functional issues to foster cooperation, but those issues do not always fit their boundaries and they rarely have capacity or authority over them, which means that the constellation of actors required in the cooperation varies with the evolution of the issues on the agenda. While institutional networks gather elected politicians with generalist qualities, most of the planning issues require experts from different parts of the administrative apparatus to cooperate, which means that a number of actors involved in this cooperation move in and out accordingly to the issues at stake and the geography in focus. Because of the fluidity of such a system, it seems vital for those networks to build soft spaces based on common understandings of the most pressing issues, if a consistent strategy is to develop.

Besides discrepancies between territorial and functional focus, the planners involved in the networks mentioned above face specific challenges rooted in different administrative levels and different planning traditions. Trying to develop strategic plans dealing with infrastructure, transport, the use of space and regional development, becomes a tricky matter when facing with very different perceptions of what planning is (top-down, regulatory, binding, strategic, participatory, consensus-based, evidence-based, etc…). While Swedish and Danish planning traditions do differ, there is a noteworthy difference between German and Scandinavian traditions. The German planning tradition as a regulated task of public authorities seems more formal, with a clear allocation of tasks and binding documents. On the Scandinavian side, public planning is not as formalized and takes a more strategic form, especially at the subnational level.

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It influences how planning is perceived and how planners evaluate their options and their role in the overall policy-making process. Additionally, the Swedish and Danish authorities involved in the region already have a longer tradition for cooperation around the Öresund straight, with a series of project dealing with the bridge and regional development. Finally, while the federal system on the German side regulates the function of each administrative level and delegates more authority to the Länder, the centralized systems on the Scandinavian side do not give much authority to regional actors and most prerogatives remain in the hands of the national governments. This structure seems to have reinforced a strategic/lobbying rational on the Scandinavian side compared to a pragmatic/cautious rational of subnational authorities on the German side, and affects the perception of "what is possible" in practice. This German cautiousness also seemed to be caused by a more critical response to environmental issues from the German civil society, which clearly transpires in the way German planners talk about the planning process.

One might expect that the longer the contact across a border, the more each actors can learn about the unwritten rules and concepts from other organizations and think them within their own strategies. Several of the actors consulted did point at learning about customs and administrative systems on the other side of the border as an interesting and vital element of their cooperation. On a more subjective side, the binding, rigid and hierarchical quality of German planning was also mentioned several times in comparison with the more strategic and fuzzy planning on the Scandinavian side. This situation can be ascribed to the relative youth of cooperation in the region. When planners from such different systems meet, it is not only organization around common functional issues that pose problem, but also the implied methods of "planning"; what it entails and how it should be conducted. Without being aware of those differences, it is difficult for the right actors to meet both practically and conceptually.

7. Conclusion

In order to understand the dynamics of CBC and the reasons why certain cross-border institutions thrive while others do not, there is a need to gain deeper knowledge on the mechanisms related to the institutional and functional networks that crisscross those regions, as well as the practical barriers they meet.

If the aim is not to *create an extra level of administration* in an already complicated EU system, the emphasis must be put on stabilising issue networks, which in essence are unstable. This is complicated by overlapping cross-border spaces and networks built on varying functional issues, varying territorial conceptions and multiple administrative levels. It means that looking only for

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single organizations governing a single cross-border space may not be the best way to understand those new processes.

This paper has discussed three concepts for their capacity to bring complementary insights about cross-border regional planning. This framework combines *policy network analysis* to observe institutional cooperation, *soft spaces* to observe spatial aspects, and *planning cultures* to observe how different planning traditions and cognitive frames affect CBC. Such a framework looks at the meeting of different public actors, experts and stakeholders in networks, by considers their *individual, institutional, spatial* and *cognitive* frames. While those three concepts build on the observation of different mechanisms, each of those mechanisms appears to play a role in CBC. Looking at how those three concepts overlap can help to advance institutional approaches, which have pointed at spatial and cultural aspects as important variables for CBC, and provide with a qualitative analysis of that importance.

- An approach based on policy networks contributes to understand what happens when regional actors try to break through institutional boundaries and unravels many networks in the region. It also helps to observe the interaction of public servants, politicians, lobbyists and consultants within the policy-making process. However, it lacks the capacity to explain their conception of space in relation to functional issues that are central for actors dealing with transport planning and regional development; and that can have as strong a structural power as regulatory conditions.
- Paying attention to soft spaces provides knowledge about the kind of spatial logic followed by planning and the types of overlapping spaces that are present in CBC. It allows for a better understanding of the new spaces created by the efforts of regional actors to break through traditional spatial boundaries linked to the Westphalia systems of governing space and society. While the administrative institutions operates in one static space with fixed boundaries, soft spaces allow different spatial logics to emerge and bring forth a discussion of spatial discrepancies, which both help to overcome the shortcomings of traditional administrative units and support innovation, but also emphasize the challenge it poses for coordination. In this sense, they help understand what is in and out of the planning area, how functional spaces compete with administrative territories, and which actors are included and excluded.
- When talking about cross-border planning, there is a fundamental element to keep in mind: the planners involved in such activities have different individual or institutional cognitive frame, attitudes and values. They come from very different planning traditions and evolve in different planning systems, with different mandates and different procedures. Understanding

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those differences is as crucial as understanding the context in which they meet. An interpretive approach can help to bring forth an understanding of planners' daily challenges.

Applying this framework on transport planning and regional development in the Fehmarn Belt Region shows a significant number of coexisting networks as well as a dichotomy between functional and territorial foci. There are three cross-border institutional networks in the region, but they evolve on different levels and in different geographies. Moreover, those platforms are crisscrossed by functional networks, which do not always recognize their spatial scale. Those functional networks are triggered by a need to find actual issues on which to cooperate, and those issues do not always fit within the institutional spaces. This dichotomy is particularly evident in transport policy, where spatial considerations are core elements of the policy-making process, and where functional issues transcend institutional boundaries.

Functional issues may be a key factor in ensuring a vivid cross-border cooperation. Blatter (2004) and Chilla et al. (2012) also discuss the emergence of functional spaces alongside territorial ones in cross-border contexts, without however diminishing the role of cross-border institutions based on territorial spaces. Those functional and territorial networks appear thus to be complementary rather than contradictory. There is not necessarily a conflict between a territorial focus (static) and a functional focus (dynamic), but difficulties in cross-border coopetition might arise from mismatches between those logics. Nevertheless, the question remains if an integration of functional issues such as transport and regional development is enough to foster institutional integration, or if they are a necessary but not sufficient condition for cooperation. It is too early to tell in the case of the Fehmarn Belt Region, but it is clear that functional issues are a core element of the cooperation in the region.

Additionally, in the Fehmarn Belt Region, the differences in the conceptualization of planning between German and Scandinavian actors linked to the great difference in prerogatives bestowed upon the regional and local levels also pose great challenges to transport planning and regional development in a cross-border context. They affect the form, the content and the purpose of regional plans as well as the way each actors conceive their implementation in practice. These differences may reduce the compatibility of the spatial plans of bordering jurisdictions and limit the potential for the development of joint cross-border spatial strategies.

Taking into consideration the subconscious nature of planning cultures, what we report here are only the tip of the iceberg, and the different societal values but also cognitive frames of individual planners and institutions are important pieces of the puzzle. The work of planners in cross-border networks includes institutional capacity-building, strategic communication, negotiation and persuasion within a decision environment characterized by high levels of complexity and

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uncertainty. This range of tasks can present significant challenges for practitioners coming from planning traditions where a rational technical paradigm is dominant.

To conclude, cross-border cooperation is a more complex enterprise than the creation of a cross-border institution coordinating policies between two or more regions. Such cooperation involves a number of overlapping and sometime competing networks, which attempts at breaking through the administrative and spatial boundaries posed by the national states. The rationale behind their development varies between territorial and functional focus. Moreover, in the context of planning, they end up covering different spaces and involving different planning cultures, which eventually influences their agenda and greatly challenge the harmonisation, which is a core objective of CBC. While each of those concepts follows a separate research agenda, treating them in combination can provide a more complete understanding of cross-border cooperation, by emphasizing the interrelation of three important phenomena for CBC, which are treated independently today. We suggest thus that while existing research agendas should be continued, they should also consider their development with regard to the conceptual framework presented here. This combination can advance our understanding of the context in which cross-border planning happens, and the way actors cooperate in this context. It emphasizes which barriers planners encounter in doing so. Understanding the interrelation of those three aspects can help refining the variables to observe in policy networks analysis, but also help to discuss new ways to support the collaboration necessary to cross-border planning.

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[i] cf. Regulation (EU) No 1302/2013

[ii] The data behind this article also consists in policy documents, websites, Interreg databases, qualitative interviews and fieldwork conducted in the Fehmarn Belt Region from 2012 to 2014, which will appear in other yet unpublished papers.

[iii] Interestingly, the concept of soft spaces used later on is also born in the UK to look at non-statutory conceptions of space transcending traditional administrative boundaries.

[iv] The empirical section of this article is complemented by interviews with 18 subnational and national actors involved in CBC in the region, and participatory observation in two CBC projects. The interviews were conducted in 2013-2014 with civil servants working on transport planning and regional development in the Fehmarn Belt Region. The observations are made up of internal project meetings, workshops, seminars and conferences in the Region from 2012-1014.