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Bothnian Arc - Functional urban network

von

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Introduction

Main idea is to introduce what is meant by urban networking and how well Bothnian Arc is reflecting these ideas. The purpose is to review critically the existing structures and functions of Bothnian Arc from 'outside', and, thus, give 'external information' about state of development to local and regional actors. This includes an analysis of: problem identification; policy formulation (setting aims, objectives and targets, generating new initiatives, prioritisation, etc.); the choice of priority areas and targeting, resource allocation and policy monitoring and review.

Aims of this project are to analyse:

- the structure of urban network in Bothnian Arc
- the Bothnian Arc's competitiveness among urban networks in national and international levels currently and in future

In order to reach these aims following research questions were set:

- What is the relevant theoretical framework for urban networking in the Bothnian Arc?
- What kind of urban networks can be found in Nordic countries and Germany?
- What is current urban network structure and state of development in Bothnian Arc?
- How does Bothnian Arc co-operation look like from a European perspective?
- What is the future of Bothnian Arc?

Structure of the report is as follows: In the first chapter the theoretical aspects of urban networking are introduced. Second chapter includes a description of co-operation between cities of different sizes and in different geographical contexts in Europe, especially in Nordic countries and Germany. In other words, the general ideas of urban networking presented in first chapter are brought to more operational level in second chapter. Third chapter is an analysis of co-operation and urban network in Bothnian Arc. In fourth chapter Bothnian Arc is viewed from Europe and compared to German ideas about urban networking. Finally in fifth chapter some key aspects and challenges in terms of future development of Bothnian Arc are presented.

(i) Urban networking – from idea to practise

Cities are not longer territorially closed entities but nodes in dynamic networks. Some fundamental state capacities are transferred, not only to supranational bodies like the EU, but also to local or regional levels of governance and to emerging transnational networks. Thus, local and regional bodies of public administration are in the forefront in managing the new spatial development. Success in spatial development is comprehended as successful co-operation, both locally and in wider networks, between the public administration bodies, firms, higher education institutions, science parks, civic organisations, etc. Consequently, there has been a change from national hierarchical urban systems to vertical urban networks, which also extend beyond national boundaries. Simultaneously, competition both between cities and urban networks is tightening. Only specialised regions with good network structure and connections will be competitive in following decades.

Multicentricity and horizontal interaction could be considered the focal point of the regional planning principle of the urban network in the future, which is why urban networking has risen also to the forefront of transborder co-operation in the European context (cf. Haarni & Vartiainen 1996). The concept of networking creates a kind of counterforce for the idea that the urban network is almost automatically regarded as a hierarchic system existing between different-sized centres (Vartiainen 2000). However, the basic condition for the new global-local nexus is in the global economy and the mediating role of national state institutions is still strong. It is no longer sufficient that the political elites acknowledge the importance of transnational cooperation. We can find no strong institutional basis for Baltic Sea cooperation, for example. In real politics, the national identities and national economies still form the main basis for this cooperation. However, regional self-reliance promises the regions reduced external dependence on the sectoral and hierarchical structure of national political decision-making. The Finnish and Swedish regions could be directed towards the Baltic Sea and the Barents Regions, for example.

In a transnational context, urban networking may refer both to the co-operative cross-border arrangements in adjacent areas and between nodes of a polycentric region or, to non-adjacent alliances of cities with similar functions and problems. According to the definition of Kunzmann (1995), functional networks refer to a system of interrelated cities of different sizes in one functional area, and strategic networks refer to cities that, for some reason – e.g. exchange of information, city marketing, policy influence – form a strategic long distant alliance. Physical networks, like transportation routes, are used as an infrastructure for urban networking of this specific kind.

Urban linkage and urban network are highly abstract concepts. Linkages are fibres between urban regions. System of nodes and fibres is called urban network. On the one hand, networking is a social process, and on the other, it includes concrete infrastructure links between urban regions.

Westlund (1999) is presenting the following table illustrating examples of nodes and links at various levels of complexity (Table 1).

Table 1. Nodes and links at various levels of complexity according to Westlund (1999)

Complexity	Network	Nodes	Links

level			
Low	Road network	Road intersections	Roads
Medium	Transport network	Terminals, ports, etc.	Transport links
Medium	Administrative network	Offices, etc.	Decision making and information links
High	Production system	Terminals, factories, offices, etc.	Transport-, capital-decision making and information links, etc.
High	City system	Towns and cities	All above, plus political, juridical and social links, etc.

Urban networking across borders

One of the most distinctive features of Bothnian Arc is co-operation across the nation state border. A border is an exotic factor, inspiring and enriching co-operation, but on the other hand it still may form an invisible barrier between countries.

At least three dimensions should be taken into account in analysing transborder urban links (Antikainen & Vartiainen 2000): (1) the socio-economic and physical (infrastructural) dimension, (2) functional and strategic co-operation, and (3) inter-city connections and intra-city linkage base. The first two dimensions are elaborated in Table 2.

Table 2. Dimension of urban linkages, especially in the context of transborder interaction.

	Socio-economic dimension	Infrastructural dimension
Strategic co-operation	Socio-cultural co-operation paving the way for economic co-operation; local and regional actor based; twin city connections; Public-private partnerships; borders transparent, but actually enriches co-operation by bringing in exotic flavour	State level planning and spatial development; hierarchical levels between network layers; transport- and technology-push; increasing accessibility; e.g. VASAB, INTERREG; borders visible in practise
Functional co-operation	Network cities; horizontal near-peer networking, cities with similar socio-economic structure and functional specialisation formulate networks; often result of existing infrastructure between cities; maximising synergy and innovativeness; on the one hand borders fade, but cultural, political and legal restriction to be taken into account, on the other new 'borders' are forming between cities of different size (city class); leagues of networks	Cities connected with communication and transport infrastructure; transport- and technology-pull; benefits of agglomeration; corridor cities and polycentric urban configurations; borders fade and finally disappear

In order for a polycentric urban configuration to be a functional entity on daily basis, the time-distance between city cores should not be greater than convenient travel-to-work-time. In the recent Swedish governmental regional policy analysis and proposal (SOU 2000:87) is discussed various ways to extend the local labour markets. Besides investments in higher quality of transport infrastructure and transport systems is suggested tax reductions, which may encourage higher frequency of commuting among job takers. However, there are in the Bothnian Arc context reasons to highlight the conclusion in the transport analysis that there in most cases is a critical maximum travel time of between 90 and 180 minutes (in one direction) for day programs that are regarded as convenient and acceptable. Actual and projected time distance between different location in Bothnian Arc is presented in figure 1.

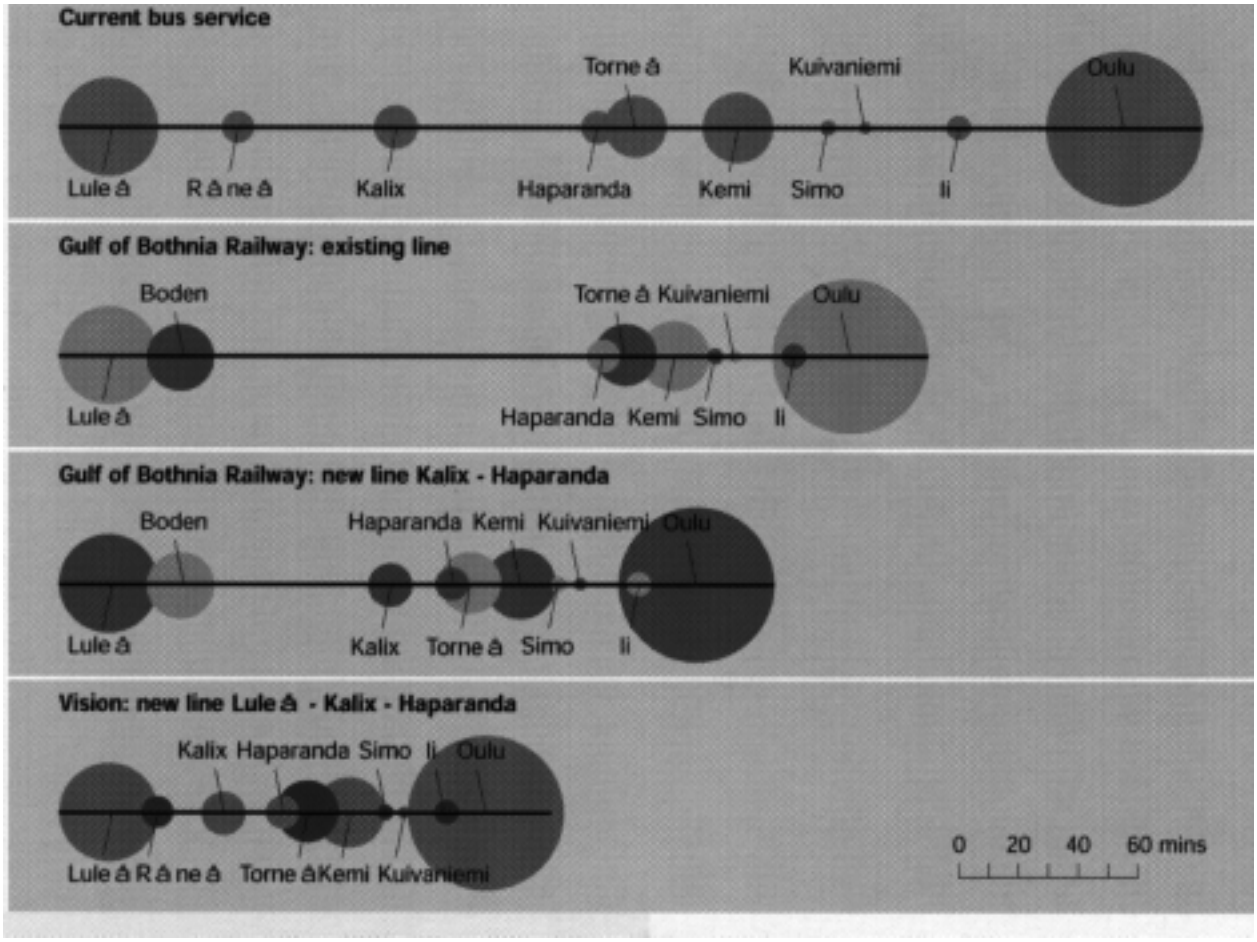

Figure 1. Actual and projected time distance between localities in Bothnian Arc. Source: Bothnian Arc (2000b, 86)

If such a daily basis co-operation cannot be achieved, co-operation is characterised by more abstract strategic co-operation. In this case, there is a possibility that new 'borders' are forming between cities of different size. Exclusive 'clubs' of cities appear. In other words, the hierarchy between cities do not disappear because of networking, but there will be development of competition between levels (cf. Okko et al 1998, 22). Nijkamp & Poot (1998) has introduced the concept of club convergence, according to which the disparities within 'club' of cities – i '.e. among cities on the same level – are reducing although there is a divergence in regional terms or in relation to other levels.

As a result of functional co-operation, borders will fade, but cultural, political and legal restrictions have to be taken into account. Connection between socio-economic and infrastructural dimensions is not a one-way street. In theory there could be active functional socio-economic co-operation even a priori to infrastructure, but in practise this does not occur.

The third dimension of urban networking is the intra- and intercity dimension. Even though we are basically interested in inter-regional (inter-urban) co-operation, successful inter-regional networking calls for the co-operation of various actors also in the local context. A functional urban region (FUR) can be considered to be the primary territorial reference point for the local level from which the actors in urban networking can be identified. It forms the local base for transborder linkages. In other words, it is networking between all these actors in the functional urban region that constitutes the starting point for transborder urban linkages. The governance competence in an urban centre is a key element of the mobilisation of resources, as Allen (1999, 216) notes: 'As such city-ness of power is best understood as the

outcome of the connections mobilised by groups within cities, whether they be based on cultural, political or economic networks of relations. Moreover, if connections and disconnections are the stuff of the networks, then an ability to settle the resources which flow through them is a prerequisite of power and influence'. In the same way, the regional governance competence is the key factor in managing the Bothnian Arc development.

A redefinition of the functional space of the organisation of economic, political, cultural, and environmental protection activities in the European North is a complicated long term issue. Patterns of thinking as well as flows of people, goods, information and capital have a dominant North-South, hierarchical periphery-centre character. Emanuelsson et al (1994) have suggested a cumulative stepwise model for a successful building process of a transnational region:

- The first precondition is a similarity in economic and political systems and an acceptance of the integrative efforts from the nation-state governments.
- The second set of preconditions is common language, harmonic interpretations of historical processes, religious tolerance, common cultural values and consensus about geographical delineation and central place structure of the transregion.
- Finally, a political constructivistic strategy is needed for the creation of a functional region with common labour market, educational capacity, investment interests, fora for public debate and good internal accessibility.

Emanuelsson et al (ibid) use these criteria in a discussion of functionality in the Øresund Region. Their conclusion is that the preconditions on the first two levels are approximately fulfilled, but there is a lack of political ambition to step further. According to this argumentation a 'Bothnian Arc Region' is facing great challenges.

If one should take into consideration a geographical understanding of the concept 'transnational region', then it would seem proper to define this as a constructivistic defined formation crossing one or several nation-state borders, held together by institutions for decision-making, economic complementarity, and common economic interests, and with a significant social exchange and feeling of affinity among the population. Of critical importance is if an enlarged arena of the Bothnian Arc type will strenghten the options for economic growth by increasing local rivalry, enabling the sharing of ideas and experiences, and stimulating mutual learning and adaptation (Compare for example Asheim, 1997).

In conclusion, the three categories of principle elements — *institutional changes, infrastructural investments, and joint action* — are interrelated. Activities within one category have positive or negative impact on the other and release cumulative processes (figure 2).

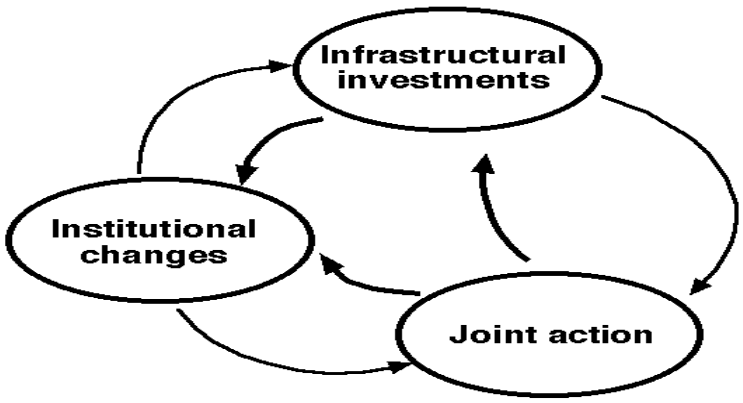

Figure 2. A dynamic region-building process.
Source: Aalbu & Wiberg (1997).

The suggested viewpoint has critical implications for understanding transregion-building. Forward and backward linkages between elements which simultaneously are causes as well as impacts of interaction must appear to create integration in a border region.

In the above suggested definition of a transnational region emphasis was laid on its constructivistic character and the institutional framework. If such a region-building may lead to a higher level of functionality it must be a strong mobilisation of the civil society. Most of the practical cross-border activities in form of co-operation, joint ventures, trade, exchange programmes and so on in the region are a consequence of more or less independent decisions made by various key actors. There are also reasons to believe that many of those have interests or priorities that differ from viewpoints of the Bothnian Arc representatives.

Furthermore may be noticed the limited internal options in export oriented and remote controlled national peripheries to raise risk-willing financial resources and engage powerful private economic actors in co-operation efforts.
Kotler et al (2000) are highlighting the needs to market cities and regions as there is a growing process of competition all over Europe. They state that in order to create more opportunities, communities and regions must increase their skills in attracting investors, business, residents and visitors. In this marketing strategy image-making, promotion and information distribution form critical elements. For efficient world-wide connections integration of high capacity technology in network building projects is a basic prerequisite.

(ii) Urban networks in practise

In this chapter attention is paid to different formulations of networking on local, regional, national and transnational levels. Urban networking is a result of intertwined interaction between processes on these different levels, i.e. local and regional networking is still dependent on the support of idea of urban networking by national and international actors. Therefore, a description of how the idea of national and international urban networking is promoted in Europe and in a set of cases presented in the following.

The case of the Øresund Region case of Oresund Region of Oresund Region Oresund Region

The best example of functional transborder co-operation in the Nordic countries might be the Øresund region (see Lyck & Berg 1997; Wieslander 1999). This evolving region consists of Skåne in Sweden and Själland in Denmark. The region with its approximately 3 million inhabitants is a transnational region within the EU and its 'locomotives' are Copenhagen and Malmö urban regions. Contacts across the Øresund grew in step with the construction of the fixed link, a bridge that opened for public transport in summer 2000, and substantial investment in communications. The EU has designated the region as a model region for greater employment; the political basis for initiating the project was the signing of The Territorial Employment Pact. Collaboration is being supported financially by an EU INTERREG programme. The governments of Sweden and Denmark have given first priority to the project, and within recent years a large variety of activities have been initiated — and financially supported — to speed up the integration at all levels. (Øresund Committee 2000; Øresund Region 2000) Most of the initiatives are undertaken by The Øresund Committee, which is a platform for the joint development of the Øresund Region.

Nowadays, various networks are linking together education and research, trade and industry, labour and housing markets as well as the cultural life on both sides of Øresund. The fixed link unites the entire region in one transport and communications network. The integrated regional system of public transport will enable commuters to travel between Sweden and Denmark, which will create the prerequisites for joint housing and labour markets.

One would assume that there would not be major obstacles to functional co-operation on a daily basis in the Øresund region. In formal terms, there have been no hindrances for the free movement of the workforce within the EU or between the Nordic countries since the early 1950s. However, a number of legislative, social, language and cultural barriers still exist between Sweden and Denmark, despite the fact that these two countries are socio-economically, culturally and linguistically close to each other and that the regions are geographically proximate. After Maskell and Törnqvist (1999) it still might take generations to amalgamate the two countries' distinctive innovation systems and build a common cross-border identity even in the Øresund region. According to Ahmt *et al* (1996), border barriers are largest for the service sector (legislative, cultural and other barriers) and for the food-product sector (market links) and smallest for manufactured goods, where the market barriers, including technical trade barriers, must be considered to be negligible. For individuals, the differences in legislation with regard to education, social insurance, labour law, taxes, etc. make many people uncertain about moving across the border. However, a number of economic and legislative factors have a prevalent effect in that there are clear economic advantages for living in Sweden and working in Denmark (Bacher *et al* 1995).

Although the Øresund region is used as an example of region-level, actor-based functional co-operation across a border, the national structures are still strongly present. Ahmt *et al* (1996) show that international trade between Danish and Swedish regions in the Øresund region to a great extent depends on the national barriers and national institutional structures. Through the years Denmark and Sweden's *national* trade alliances have had a great impact on trade between the two countries, and thus also for trade in the Øresund region.

The case of the Botnia network

In the early 1990s the cities of Oulu, Vaasa, Umeå and Luleå studied the possibility to form a strategic network between middle-sized cities in the Gulf of Bothnia (see Wiberg 1993). These four cities had discussed general development questions since 1980s, but these talks have not lead to extensive practical or strategic co-operation.

In terms of strategic regional development these cities belong to different alliances. The cities of Umeå and Vaasa are key nodes in the Kvarken region co-operation (in the narrowest part of the Gulf of Bothnia). The cities of Luleå and Oulu have also during a long time had similar leading positions in the North Calotte alliance. That co-operation has mainly been managed on provincial/county council level under the auspices of the Nordic Council of Ministries.

Three points were raised as key challenges in forming a Botnia network. First is the feeling of togetherness. This involves regional identity forming and support of participation. Cultural co-operation is one of the main tools in this process. Second is the political will. This includes shared and long-term vision and plan of action. Third is the development of physical infrastructure, in order to increase accessibility both internally and externally. In addition, university co-operation and division of labour should be more efficient (in the early 1990s weak links between the Oulu and Luleå universities were identified). During the first half of the 1990s an effort was made to find a strategy for co-operation. However this process ended without result in the mid 1990s.

The case of the Botnia project

During the first half of the 1990´s the three cities Vaasa, Umeå and Örnsköldsvik formed a collaborative effort labelled project Botnia. The specific aims of this project were the following:

- To strenghten development options for existing enterprises in the three cities,
- To attract new enterprises,
- To raise more resources for R&D, especially on environmental issues,
- To attract more tourists,
- To increase the knowledge about the cities, and to
- Create a broad cooperative spirit across the nation state in order to stimulate the regional development in general.

Project Botnia was divided into the following sub themes:
- Local economic policy – meeting place for business
- Subcontractor activity
- Export activities
- Innovation systems

- Transport and communication infrastructure
- Environmental friendly energy
- Tourism

Besides these sub projects efforts were made to market the project both regionally and in a wider EU context.

From an evaluation report (Wiberg and Sondell 1997), the following conclusions seem important to consider also in the case of the Botnian Arc:

- Collaborative efforts on regional and local level across Kvarken are very much hindered by strong north-south communication, decision-making and influence patterns with a national perspective.

- In order to succeed with co-operation actors have to learn and adapt to the cultural and linguistic differences, which exist between Finland and Sweden.

- The transborder ambitions were high and included several new and creative efforts. Historical experiences from the Kvarken co-operation in general acted as an important platform.

Today, four years later, and after both countries have been EU members for some years, there is still a great need for special public funding of integrative transborder initiatives. Elaboration of sustainable concepts in a market perspective seems to be very few and of no significant importance for any of the three cities. A complication for the future is that the continuance of ferry traffic is threatened due to problems to find a replacement solution after the take way of tax-free sales on board the ferries. Among present strategies to continue the integrative efforts, may be mentioned the Unizon project, which aims at strengthening ties between the universities in Umeå and Vaasa within teaching and research. This will add a more distinct knowledge led profile in the co-operation strategy.

Urban networking in Germany

Although Germany is practising a decentralised spatial development due to its structure with federal states, it only partly has intense experiences concerning co-operative and communicative spatial planning on a regional and local level. There have been some examples since the 1960s: twin city arrangements, co-operations between cities and their surrounding area, regional marketing associations and Euroregions of which only a few are characterised as urban.

Since 1992, the Federal Ministry has tested more informal ways and 'soft' instruments for Regional Planning in addition to the classical planning bodies at state, regional and local levels. Models like 'City-networks', i.e. co-operations of middle-sized cities, and 'Regions of the future', i.e. lasting development of settlements and their surrounding area on a regional level [www.zukunftsregionen.de], are of special importance in this context. At the moment, the federal spatial planning is characterised by competition with the emphasis shifting from state funding to financial support of co-operations and communications as well as managing projects. This shift should relieve the state budget.

The development of the infrastructure and the raise of efficiency in local economy by synergy effects are the main goals of the co-operation within city-networks. Traffic, tourism, economic support, culture, technology, marketing, education, supply and waste disposal, urban development, environmental protection, spatial management, health care and local government are the fundamental contents of inter-local co-operation in order of importance. As a rule, the co-operation within city-networks is carried out by a decision-making steering committee (mayor, state planners), a co-ordinating working group (local staff, regional planners) and specialised working groups (i.e. traffic, culture). The following criteria can be seen as an intermediate outcome of a successful inter-local co-operation:

- Voluntary participation and equality of all actors involved.
- Common goals and comprehensible benefit for all partners of the co-operation.
- Long-time instead of short-time co-operation and an outside image focusing on common tasks.
- Critical evaluation whether authority competence (legal power to decide matters) should be in hands of municipalities or network.
- Intensive use of spatial potentials and focus on the common responsibility for the region.

In contrast, there also appear problems within the system of inter-local co-operation in the Federal Republic of Germany. The most important of these problems are stated in the following passage. Due to the voluntary participation in the inter-local co-operation and its supposed minimum costs, mayors often declare the co-operation to be a task of the local administration. Therefore, this topic is only as an exception discussed publicly in local parliaments. In some cases, conflicts appear with established planning or other, e.g. economy-oriented institutions as well as with towns of the surrounding area, which often consider co-operations between cities as something pointed against them. Additionally, inter-local co-operations have to be financed by the state, at least during a running-up time of five years. In practice, only smaller projects are implemented therefore. Last but not least, permanently creative and committed people have to be involved which means that all partners have to have a minimum of the ability and willingness to co-operate. Despite all stated problems, the trend of establishing inter-local (www.staedtenetzforum.de; www.eurocities.org) and inter-regional co-operations (www.ageg.de) of various contents and structures seem to go further on in Germany. The co-operations tend to develop into a constant part of local politics and planning.

(iii) Current characteristics of Bothnian Arc

Bothnian Arc is an umbrella project for promoting cross-border co-operation between Sweden and Finland in the region surrounding the Gulf of Bothnia. The projects spans from June 1998 until June 2001. Important goals of Bothnian Arc are to identify possibilities for future development in the region, to create networks for vital, long-term regional co-operation, and to make the Bothnian Arc a well-known name in the European Union.

In the following Table 3 and Map 3 the profiles and locations of urban regions in the Bothnian Arc are presented.

Table 3. Profile of urban regions is Bothnian Arc

District in Finland /municipality in Sweden	Pop. 1998	Main branch(es)	Future interests	Current characteristics of development, function in national urban system
Raahe, FIN	37 584	Steel industry	IT, Steel	Declining, small industrial centre
Oulu, FIN	165 580	IT, welfare services, higher education, steel and forest industry	IT, medical technology, biotechnology	Booming, centre for Northern Finland, Nokia-city
Kemi, FIN-Tornio, FIN-Haparanda, SWE	75 515	Steel and forest industry	Tourism, IT, Regional co-operation	Declining, strong industrial centre
Boden, SWE	29 195	Military	Agriculture, tourism, welfare services	Declining
Luleå, SWE	71491	IT, steel industry, welfare services, higher education	IT, communications, commerce, congress activities	Stagnating, regional centre
Piteå, SWE	40 458	Forest industry	Tourism, music industry, multimedia	Declining
Other districts in Finland: Lakeus, Ii	32 519	Agriculture	IT	Regional development is reflecting development of Oulu urban region
Other municipality in Sweden: Kalix	18 408	Forest	IT	Declining

Figure 3. The Bothnian Arc

Travel volumes and modes in the Bothnian Arc are presented in Figure 4.

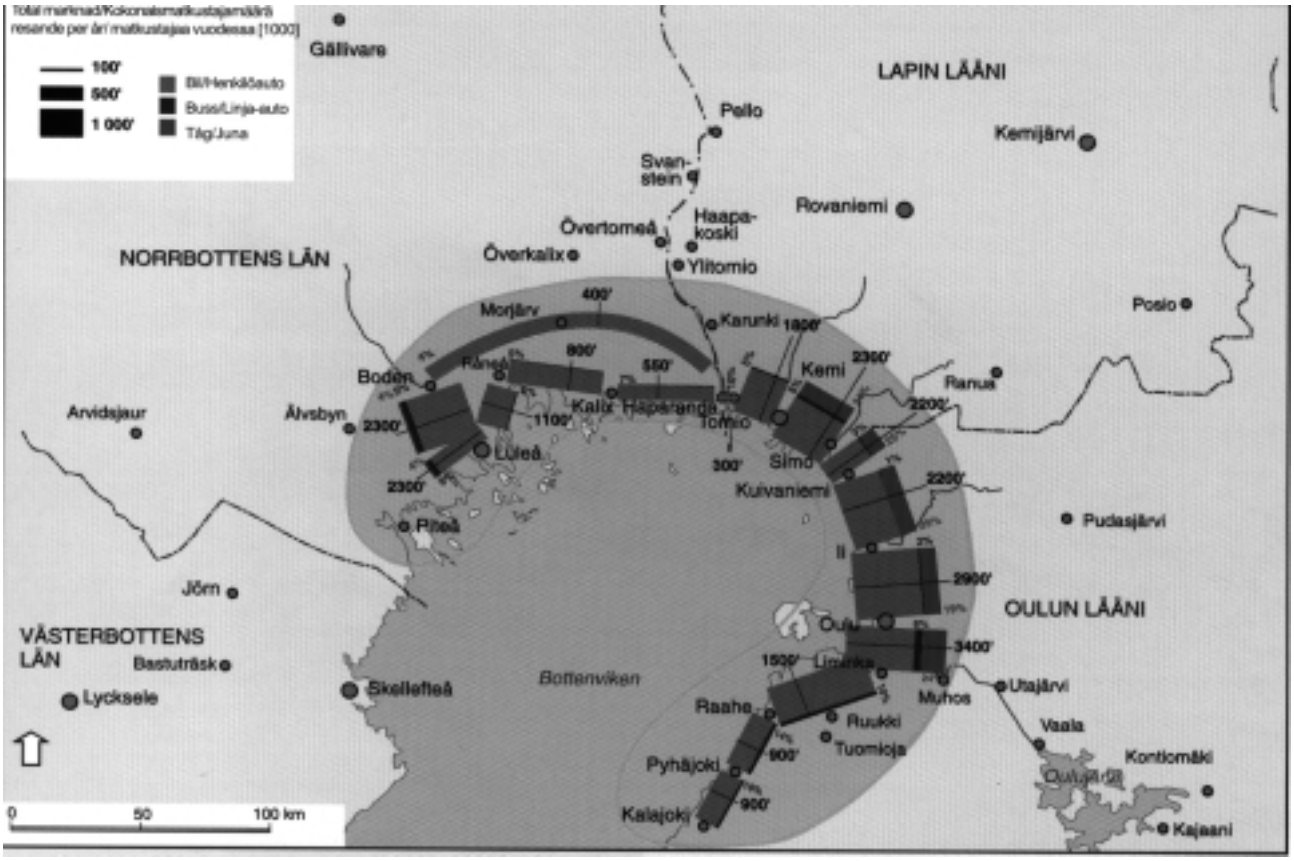

Figure 4. Travel volumes and modes in the Bothnian Arc.
Source: Bothnian Arc (2000b, 26).

There is one strong regional centre in each country, Luleå in Sweden and Oulu in Finland. An important issue for the development of whole Bothnian Arc is the development of these urban regions. The spill-over and spread effects also help other regions in the Bothnian Arc.

Currently there is no evidence that cities would consider Bothnian Arc as a relevant territorial reference level. Quite opposite, Bothnian Arc seems to be one of the co-operation forums among dozens of other regional and thematic networks (THERE WILL BE A LIST OF NETWORKS IN HERE AFTER QUERIES ARRIVE). Consequently, the Bothnian Arc is not functioning as an 'umbrella' network, but as a network among others. Key problems currently are that there is no general plan for division of labour between urban regions, nor cities seem to have specialisation strategy in Bothnian framework. In conclusion the commitment level of urban regions to Bothnian Arc co-operation seem to suffer from vagueness. Positions deriving from the urban regions' traditional positions in national networks and division of labour are still present. However, new innovative measures are already taking place in the Bothnian Arc. The co-operation between the cities of Haparanda-Tornio and Tornio-Kemi in e.g. service production is a good example of division of labour. In addition the cross-border multipolis network represent new type of division of labour, which should be supported also more explicitly in Bothnian framework (Figure 5). The Polis-approach is already introduced in Bothnian Arc Projects (Summary of interim reports, 7). The original polis-ideology derives from A Strategy for Northern Finland (Northern Finland working group 1998), which also stated, that '*The joint work on the Interreg programme between Finland and Sweden should be strengthened and expanded. A natural alternative would be to extend it to cover Bothnian Arc cooperation as well*'.

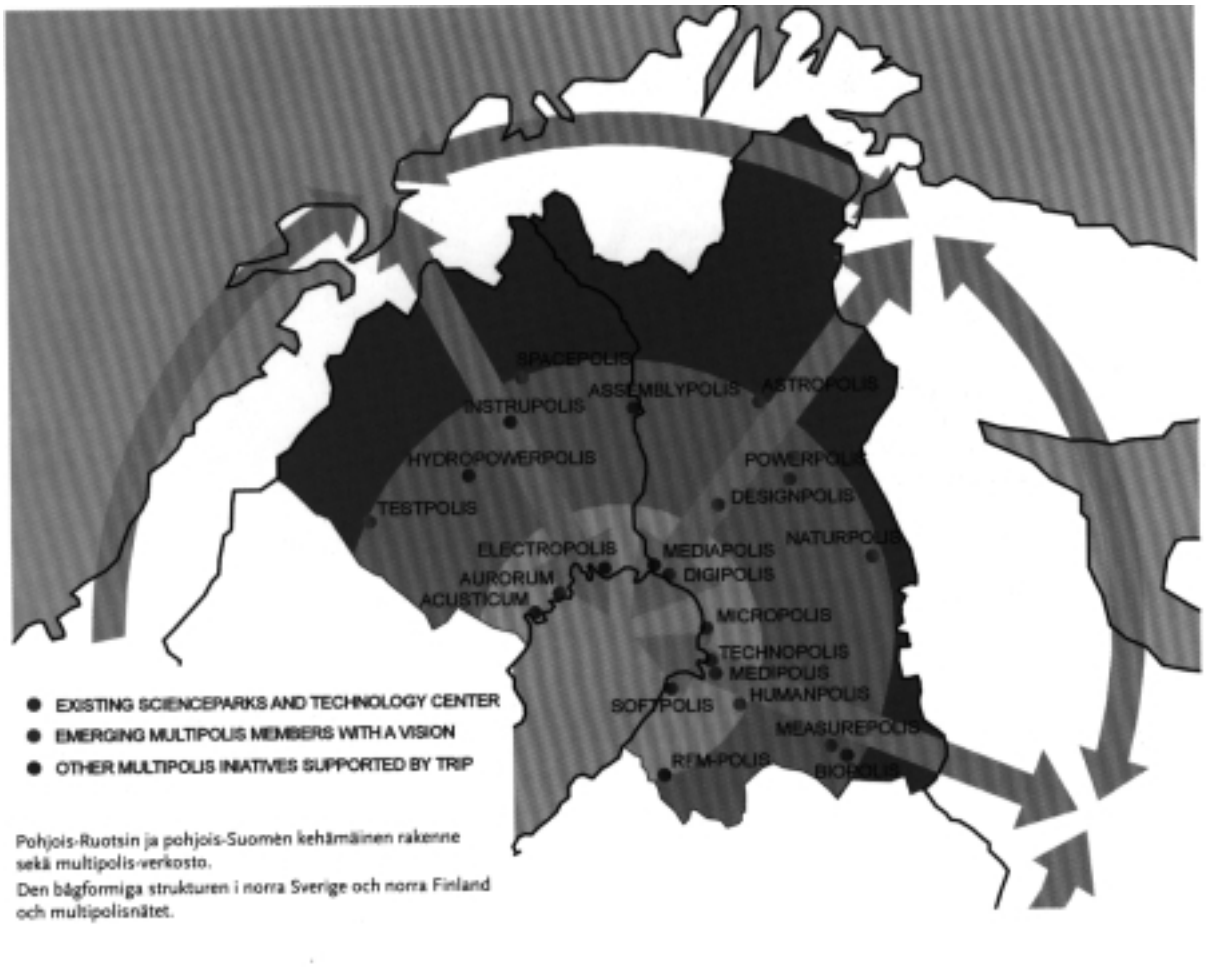

Figure 5. Multipolis Approach in Northern Finland and Sweden.
Source: Bothnian Arc (2000a, 51).

Another critical point we would like to elaborate on is the geographical links in the Bothnian Arc. From historical perspective it is evident that maritime activities and regional trade have been strong traditional binds. But nowadays, these binds do not play any significant role. Artificial and contrived regions will not survive in tightening competition. Therefore, particular attention has to be paid to the basic question: why should these urban regions form a network? Today links are more placeless: relevant geographical location decision factors for both business and people are functional local labour markets, decent international accessibility, reliable and advanced information infrastructure and good living conditions.

Even though the structures of co-operation seem to have been in order during the first years of Bothnian Arc project, there seem to be difficulties in managing different working groups. People in the working groups have altered too much along process. It is difficult to understand where actually certain themes organisationally are, and more importantly, what kind of activities are going on in different working groups.

In Finland Oulu urban region is the only growing urban region in peripheral Northern Finland. It is considered to be one of the five strong growth regions in Finland. Its' relative position in national urban network has strengtened considerably in the latter half of the 1990s. Raahe and Kemi-Tornio urban regions

are considered industrial urban regions, which play important role locally and regionally, but their national importance has declined in the 1990s.

Within the Swedish regional policy programme in the 1970´s, the city of Luleå was suggested to be the key node in a polycentric metropolitan area development including the urban regions of Luleå, Piteå, Boden and Älvsbyn. However that policy strategy was abandoned in the early 1980´s. Since then the most dynamic city in the north of Sweden has been Umeå, which today is the biggest city north of Uppsala, while the Swedish part of the Bothnian Arc in general has stagnated.

(iv) Bothnian Arc viewed from Europe

The expansion of the European Union into arctic areas and up to the border of the Russian Federation gives the European integration process and related policy-making two unique additional dimensions. A most critical development aspect for Nordic regions is to strengthen their links to the dynamic core regions of EU. This calls for a North-South orientation in creation of new contacts, projects of co-operation and establishments of strategic alliances with long term perspectives. At the same time the removal of the Iron Curtain, and the planned eastward enlargement of the EU, has opened new options for co-operation and integration across the East-West divide between directly adjacent regions. For the northern peripheries this represents opportunities to achieve a role as a gateway and find new ways to release their economic potentials. Since 1997 the idea of a Northern Dimension in EU´s policy making has been especially considered and elaborated by the Finnish government. In a speech in Rovaniemi on September 15, 1997, the Finnish Prime Minister Lipponen argued for development of a comprehensive strategy, an institutional framework and adequate financing arrangements. A key question here is if there exist driving forces which may reorient dominating perspectives and institutional frameworks, and create a new 'imagined community' built on mutual trust and understanding combined with social communication (cf Andersson, 1993, Törnqvist, 1998).

From a middle-European point of view, the initiative 'Bothnian Arc' is an Euroregion in the Finnish-Swedish borderlands rather than a network of co-operating cities. In contrast to Germany, comprehensive regional planning seems to be more important causing both advantages and disadvantages. Some advantages are that conflicts with established institutions occur less often, the chances of implementing a project seem to be greater and that a long-term co-operation appears more likely. As disadvantages are seen the decision-legitimacy and authority competence issues of informal forums and the low involvement of the affected population are seen as disadvantages.

The Bothnian Arc seems to be more familiar concept in the Baltic Sea Region than in countries of middle, western and southeastern Europe. The region nevertheless is considered to be Europe's northernmost co-operating region, at least in the experts' point of view. Connected to this are its strengths like: communication centres, including transport, IT, R&D; developing region features, including economic power, number of population, national importance, and; high standards of available labour force and living conditions, including high educational level of the population, to a large extent intact environment and lasting recreational potential. On the other hand, the peripheral location, poor accessibility, the unfavourable climate, the lack of spare time opportunities and the strange cultural area are considered to be weaknesses of the area.

Although development perspectives towards the south still have priority in Middle-Europe, the northern European regions have gain more attention after the joining of Finland and Sweden. Therefore it seems sensible and necessary to actively foster existing co-operations and to establish new ones especially with partners from different parts of Europe. In future, the European Commission will increasingly support inter-regional co-operations. Although the co-operation with Russian partners might be an investment into the future, the co-operation will be limited to a few leading projects due to the long distance, poor infrastructure and several other barriers to interaction. Nevertheless, every opportunity should be taken to establish inter-regional networks in EU countries and with their eastern European neighbours, not least to acquire respective INTERREG – funds.

As mentioned before, the organisational structure of the Bothnian Arc Project seem to be appropriate. Like in other European countries, occasional difficulties and problems should not diminish long-term goals and the permanent dedication of all actors involved. Co-operation – in particular across state borders – requires a lot of time and the highest intellectual commitment. But they will be worth while on a medium and long-term basis and will strengthen the further development of the Finnish-Swedish Euroregion on various levels. Concerning the themes of parts of the project, the first positive fact to mention is that a working group *vision, strategy, network* dealing with basic strategy questions has been set up. Such a group is often considered to be pointless. German participants tend to be oriented towards a more action-based working method forgetting basic thoughts about detailed goals, alternative methods or gradual steps of the working process. The thematic programmes of both other working groups are seen as equally positive. 'Communication Systems' is dealing with the part of the economy which has the best perspectives for future growth. The working strategy is characterised by diversity (communication, IT, transportation) and represents a core competence of the region. The agricultural aspect should be more included, maybe in form of biotechnology. If the themes become too diverse, an additional subdivision of topics (e.g. traffic, IT, communication) seems adequate.

'Tourism and environment' also represent the present regional strengths and in future may give the development further impetus. The establishment of two separate working groups is a good solution. The 'environment' working group could include even more fields, such as protecting and shaping the coastline, landscape conservation, re-cultivation of former agricultural areas, redevelopment of woods. Similarly there are plenty of fields in 'Tourism', such as business, industry, urban, rural and bath-tourism; traffic centre for Lapland-travellers, tourist marketing, traffic of nearby recreation that should be taken into account. In addition to these groups, further specialised working groups (e.g. culture, education [universities, schools, institutions of further education]) should be installed on a medium-term basis because of positive experiences in the Middle-European co-operation areas.

(v) Future of Bothnian Arc

It should be kept in mind that there still exist a number of legislative, language and cultural differences between Finland and Sweden. Consequently, the expectations for future development should be adjusted to long-term perspective, rather than to immediate benefits.

A great challenge for the Bothnian Arc urban network is the great distance between urban centres. By land the total distance from Piteå in Sweden to Kalajoki in Finland is approximately 500 kilometres. A key challenge for the future is to justify the purpose of co-operation activities.

The Bothnian Arc concept seems to lack a distinct feature, which may attract risk-willing financial resources and entrepreneurs. The outlined arena for action must be more defined in terms of nodal structure for key actions and link structures for collaborative frameworks internally and towards external interests nationally and internationally.

A challenge in a EU Northern Dimension perspective is to launch the Bothnian Arc as a suitable regional arena for locations of activities and projects related to themes, which are given priority in the Northern Dimension Action Plan. However, linguistic, cultural, social and legislative differences grow exponentially if Russia is included in co-operation. In addition, the Bothnian Arc's role in larger European planning frameworks (ESDP, SPESP) has not yet been recognised.

The local efforts in Haparanda and Tornio to elaborate a highly integrated cross-border Eurocity may form a unique gateway function characterised by much lower barriers to interaction compared with the general functionality level between Finland and Sweden. Linzie (2000) is discussing the gateway city role. He stresses that 'players in global networks are in great need of sophisticated service nodes – gateways – which provide them with clusters of services such as finance, marketing, accounting, business travel and media. In narrower logistical sense of the gateway strategy, it should be kept in mind that there can only be a few 'winners', i.e. the regions along the principal transportation routes. Consequently, a gateway strategy might work efficiently as a part of marketing strategy, but it can be even harmful for cohesion of urban regions in Bothnian Arc.

Future scenarios
In the preliminary vision and strategies for Bothnian Arc three scenarios are presented: society of rules, market-led development and worst-case scenario. Society of rules represents the positive path of development, which is unquestionably accepted both in Finland and Sweden. Worst-case scenario is unquestionably unaccepted. In both worst-case scenario and market-led scenarios urban development is economically, socially and environmentally unsustainable. Market-led development is often used as a synonym for agglomerating development, in which only the strongest urban regions are developing. However, it is possible to interpret that agglomerating development is replaced by qualitative specialisation in market-led development. Accordingly, two different paths of development might take place: (1) sparsing central hierarchy: only globally and regionally strong centres are competitive, which is ensured by competitive position in transnational urban networks, and (2) lowering central hierarchy: specialised urban regions are competitive, specialisation is supported by good network connections. According to the latter point of view, mosaic development is taking place instead of traditional central/peripheral tension or differentiation of hierarchical levels. A mosaic structure emphasises the

specialisation and division of labour between regions. Accordingly, neighbouring or equally strong regions, which previously might have followed same trends in development, might in future develop differently. Development based on specialisation creates opportunities not only threats to smaller and (in traditional sense) more peripheral regions. On the other hand, success of all regions is not guaranteed, or even probable.

Strategic options
Bothnian Arc development strategy includes two different themes. The first is a 'better everyday life' for inhabitants of Bothnian Arc. Second is the Bothnian Arc regional strategy. In the following former is referred to as internal strategy as its interests lie within the Bothnian Arc. Latter is referred to as external strategy, because as a result of this strategy the position of Bothnian Arc in international competition between regions is defined. Labour market questions, transport and technological infrastructure and environmental questions are linked to both of these strategies. Furthermore, there are various spatial levels for co-operation in which these strategies are taking different form (for instance functional co-operation between Haparanda and Tornio is different from co-operation in whole Bothnian Arc)

Internal strategy's main emphasis is on ensuring and developing further private and public services for inhabitants in the Bothnian Arc. Especially important question is how new information technology can help in providing services to inhabitants of Bothnian Arc. This can have two dimensions. On the one hand there is the end-user technology, i.e. what means are most effective in service provider-user relations, and on the other there is technological solutions helping to pool more efficiently resources from service providers, i.e. strengthening the service provider-provider relations. Interestingly Bothnian Arc is a field of two different technical solutions. Sweden is putting emphasis on broad band technic, helping to develop fixed e-services, whereas Finland is developing more mobile e-services, based on hand-held communication device. Bothnian Arc is an excellent testing region where these two different technical solutions meet. From end-user perspective the geographical relation is irrelevant, but the most important thing is that services and products are there when she or he needs them. However, 'behind the scenes', i.e. in service provider-provider relations it is essential that all the local actors of Bothnian Arc are committed to co-operation. In this sense, geographical delineation and bind is stronger. This creates a loop-effect. In order to development being a genuinely bottom-up process, it is important that also service users recognise geographical reference level behind service production. Therefore, it should be worth of effort to market the idea of Bothian Arc popularly.

In broad sense external strategy can be defined as regional development policy, in which especially important themes are regional economic, innovation and education policies and tourism. Main actors behind regional economy, i.e. privat enterprises of 'old' and 'new' economy, do not recognise Bothnian Arc 'as its own' region. Bothnian Arc should be marketed to these actors more efficiently. Key resource question to enterprises is the availability of highly educated labour force. Especially IT-companies are already spreading along the Bothnian Arc, Nokia and its' sub contractors are strongly Oulu-based, but there are smaller satellites in smaller urban regions, like in Raahe and Kemi. Now these branches are spreading also to Sweden (Lilius 2000, 28). Key future action for Bothnian Arc would be to give a more solid geographical shape for this already existing development and to strengthen it further.

In our opinion these two strategies, i.e. internal and external strategies should be more explicitly specified from each other. In terms of internal strategy Bothnian Arc is a pool of actors. This co-operation does not necessarily require external visibility, but inventorying of actors involved in co-operation and functions, i.e. services and products that are available via network should be emphasised.

The external strategy should be more focused to a few leading themes. In marketing to 'outside' only the strongest attractions should be emphasised. Three themes rise above others. First is IT-know-how (esp. Nokia), second is strong basic industry and third is functional cross-border co-operation. Fourth one would be an addition to the third, if internal strategy is successful, a new regional e-service base, ensuring a better quality of life.

Finally, one main recommendation is to include the population more. Their involvement could take various forms such as the participation in competitions concerning new ideas for the project, the organisation of (cultural) 'Bothnian Arc'-Events, the border-crossing exchange of several social groups (e.g. children, teenagers, students, senior citizens, women etc.) and the realisation of other competitions (e.g. to identify places of interest, sport competitions) within and/or outside of the examined area.

The following basic criteria should be strictly taken account of:

- Making the co-operation alliance widely known on a regional, national and international level
- Consequently keeping to the established goals and their implementation, constant evaluations
- Preserving the necessary participation of all actors involved on a long-term basis

On this basis, the Bothnian Arc might develop constantly and become a well-known international co-operation area of northern Europe due to its creatively documented vitality.

One promising thing is that during the project phase the focus in Bothnian Arc has been changing from formal administration to several institutions and scales of governance, i.e. networking of individual actors and new coalitions. The main impetus for transnational efforts should come from locality based actors, but they entail simultaneous actions at supralocal levels. From this point of view, Bothnian Arc is basically a long-term political and contested project of many individual actors and coalitions demanding a certain type of institution building.

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