INTERNATIONAL ROUNDTABLE
2nd phase of the In-between Programme

The influence of innovation on the metropolitan scale:
“How to interconnect or compose key innovation projects or policies to strengthen a metropolitan region?”

21 March 2013, Paris

A draft report
Introduction

After decades of globalization and four years of economic and financial crisis, in a context of growing austerity of national policies, the metropolitan scale emerges as a response to issues of social cohesion and effectiveness of urban policies. However, the construction of metropolises as political, economic, social and cultural territories raises the question of drawing up new ways of governance. It also requires design and implementation of a range of projects and policies: housing, mobility, urban planning, economic development, education, services, …etc.

The product of these new balances is still unstable, for two main reasons. The first is related to metropolitan policies being too sector-based so far. The second follows from the first and relates to the meaning given to the governance’s terms. Because governance cannot be reduced to institutional and technical fields only, but it should be re-examined in the relationships between power and territorial development.

Confronted with these changes, and in search of economic prosperity, in different parts of the world a quest for new metropolitan strategies has been the outcome. The programme In-between Metropolitan Strategies aims at sharing experiences about successful planning and development processes at the metropolitan scale in a worldwide spectrum. During the first phase, a series of interviews were conducted with several representatives of metropolitan areas covering various themes: the scale of the metropolitan area, the governance and cooperation, new forms of urbanity and metropolitan environments, the innovative economical sectors within the metropolitan area and how to develop the metropolis sustainably.

The Paris’ roundtable represented the second phase of the programme and focused on the dynamics of innovation and metropolitan development. How can metropolitan development be optimised to support the most dynamic and innovative sectors of the economy? How can, on one side, social and cultural policies such as housing and the provision of services, and on the other side, development of infrastructures, be used as instruments to shape a receptive environment? And how can a knowledge-based platform - a learning machine – be constructed to create a productive territory? Which projects and programs should be the outcome of such a process and how can they be put in practice? What makes some regions more resilient/adaptable to economic changes, more competitive? Where investments are located within the region and what is their position compared to the global FDI network?

Cities are major economic drivers. This is particularly true today when half of the world’s population lives in cities. That proportion is growing fast, creating bigger groupings of cities and settlements that form metropolises. The shift from strategy for the City to strategy for the Metropolis brings with it other issues such as consistency, connectivity and identity. “Government and business leaders have to recognize the value created by smart city thinking. The technology-enabled city is an untapped source of sustainable growth.

and represents a powerful approach for tackling unprecedented environmental and economic challenges. By unlocking technology, infrastructure and public data, cities can open up new value chains that spawn innovative applications and information products that make possible sustainable modes of city living and working. While smart initiatives are underway in urban centres around the world, most cities have yet to realize the enormous potential value from fully integrated, strategically designed smart city development programmes. We believe that through clear vision and, most of all, leadership, civic leaders and executives can help cities make the transition to initiatives that maximize the smart city value opportunity. What happen at the regional scale? u2

At the macro level of the metropolis, it is probable that the use of «competitiveness metrics» will increase. Typical indicators will include: human capital; innovation capacity; entrepreneurship; information Technology; infrastructure; economic policy factors; economic performance; sustainability; quality of life...

The terms of the second phase

The roundtable was organized around several practical cases: the resilient region (South Holland Region), Grenoble, Greater Lyon and Taipei in order to trigger the debate and elaborate comparisons3. Three main themes structured the second phase of In-Between:

. How could local innovation clusters or policies boost the implementation or development of a metropolitan strategy?
. What are the advantages and disadvantages of regional governance, towards local issues and global economy, when developing innovation clusters or policies?
. Who are the partners when developing a local innovation clusters or policies, and how to maintain the development when co-operations and partners change over time?

What about the resilient region?

The province of Zuid-Holland (South Holland, The Netherlands) is a versatile province with 3.5 million inhabitants in an area of almost 3,000 km². It is the most densely populated province in the Netherlands. Zuid-Holland has universities in Leiden, Delft and Rotterdam, which are linked to knowledge centres such as Leiden's Bio Science Park and Science Port Holland in Delft. Including the metropolises of Rotterdam and The Hague, the port of Rotterdam and the greenhouse farming industry, Zuid-Holland is a province with much economic activity. This makes Zuid-Holland incredibly important for the Dutch economy. It is powerful in the agricultural sector, greenhouse farming, industry and service provision, as well as in many other activities. Zuid-Holland also has peaceful areas and space: it contains extensive areas of countryside, rivers, polders with windmills, lakes, dunes and sandy beaches.

Creating conditions for economic growth, substantially improving mobility, maintaining and developing nature and recreation, evenly distributing scarce space and linking towns to the countryside are some of the challenges facing the political government of the province in the coming years. The province is constantly working to further the development of its spatial and economic policies. One of the instruments to do so is through the knowledge and research agenda connected to the provinces' spatial plan for 2030 and which is summarised in the question: how to interconnect space and knowledge into knowledge clusters?

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2 From the interview with Mr. Duco Stadig on the Randstad, The Netherlands
3 Deltametropolis Association which moderated the meeting, is working on the metropolisation processes in the Netherlands and is concerned with larger regional scale, an issue in the Netherlands where small cities are getting connected together in a larger network, while regional governance is lacking
One of the current projects involves rail, space and the economy, which is covered in the research project ‘de weerbare regio’ (‘the resilient region’), in which the connections between spatial tools and provincial policies directed at the knowledge economy are central.

The ‘The Resilient Region’ project intends to answer several questions:

- How can the province of South Holland increase the resilience and dynamism of the regional economy and attract foreign investment?
- Which economic and spatial tools can be used?
- How can we be more resilient than other regions?
- What makes other regions more adaptable? What can be done to make the province’s economy more adaptable and resilient to economic changes, more competitive?

Some regions managed to react to the economic crisis adapting their economic not to loose their competitiveness (as it was the case of Stockholm). The crisis has resulted in a shock in the economic growth of the region. Currently South Holland has large economic sectors and clusters such as the harbour, horticulture and floriculture that are reaching full growth and are no longer innovative, and in a due time will shrink. Some other major clusters in the Province are still growing quickly in terms of their productivity levels, but their innovation levels and employment opportunities are much lower.

How can we make these industries able to renew themselves? The research looked at what are the new activities and innovative sectors able to increase the employment rate in the region. Two factors were identified:

- The skill relatedness of people. Skills you need to work in one sector (can a skill that is useful in one sector also be used in another sector?)
- Mobility from sector to sector (which sectors are related to each other and which sectors are in need of more people).

The economy of Zuid-Holland has new, innovative sectors (as well as innovative components within the existing clusters), but its growth and innovation power does not weigh up against the status quo of the larger sectors that are at the end of their cluster cycle. In the long-term, this will have a negative impact on the vitality and resilience of the region. In order to bring an innovative dynamic to the regional clusters that creates greatest added value, i.e. horticulture, the industrial port complex and the water and delta technology cluster, diversification into growth segments seems an effective strategy. Attracting foreign investment comes hand in hand with growth segments, and this completes the presented regional development vision.

This vision is based on the potential of the knowledge economy. For the Western economies, knowledge has become the key for growth now that production can usually be carried out more cheaply and efficiently in other places. The aim of ‘The Resilient Region’ is to improve the international competitiveness of the clusters in Zuid-Holland, based on the (re)valuation of the provincial economic and spatial policy instruments. In general terms, larger cities tend to be better places for knowledge creation and knowledge transfer than smaller cities. More and more research and policy studies are indicating, however, that it’s not the largest metropolitan regions, but the regions with medium-sized urban areas (of about 2 million inhabitants) that are the best places for economic growth. Examples include the Oresund region (Copenhagen / Malmö), the region between Düsseldorf-Köln-Bonn, the Antwerp-Ghent region and South-Holland.

As shown by a study conducted by OMA in Rotterdam, in comparison with London, Paris or Berlin, the Netherlands have a dispersed polycentric area part of a conurbation of about 30 million inhabitants. This kind of reflexions jumping to a smaller scale, can be also applied to the Province of South Holland with The Hague and Rotterdam as two big major cities. For the last 60 years the territory has been dominated by a polycentric urban field, a spatial
dispersion, whose aim is to become a metropolitan region, even if they realise how reluctant they are to adopt a metropolitan policy and tools are not really adequate to govern this territory and take profit of the agglomeration scale avoiding agglomeration disadvantages.

The area is characterised by 2 main kinds of economic forms, basically 2 systems:
1/service knowledge economy, mainly located in the urbanised areas
2/intensive industrial/agricultural production economy (following the delta and main hinterland transport infrastructure.

In these terms also it is interesting to find the way to interconnect spaces and knowledge clusters patterns (private and public R&D patterns) as catalyst and regional innovation systems. A possible approach would imply a strategy of maximizing agglomeration benefits and interaction meaning optimal interconnection and interaction of spatial-economic patterns and capacity to adapt to economic changes “Resilience” through related diversification.

Promising segments and sectors

Strong and promising sectors and investment segments for the regional economies have been newly distinguished by skill-relatedness and network positions in foreign direct investment. Overlap in skills, knowledge and applied technologies have linked the specialised sectors more strongly to one another. In this context, combination, complementarities and cooperation would contribute to cluster formation and renewal. Opportunities in skill-related sectors connect to the existing clusters, but also form crossovers to other, expected and unexpected, sectors.

The competitiveness of the region could be increased by:
- local buzz - skill relatedness of the population Identification through shared knowledge relations of clusters, crossovers between sectors, opportunities and threats (“golden edges”).
- global pipelines: FDI networks. What is the position of South Holland in international networks of investment with a focus on high-end features?

Some sectors are very related to each other, transport for example to shipping building and agriculture to health and life sciences.

Where are those sectors located?
To Rotterdam, for example, belong a lot of core cluster sectors and in the area around a huge number of high skills related activities/sectors are located. While in Dordrecht region, there is a lack of high education and research facilities and a lack of related diversity. The research has brought to the idea to develop a knowledge park in the area as a consequence of the support the province got from the local firms.

Looking at what happens in other parts of The Netherlands, Utrecht, Leiden, Delft and Rotterdam have big firms related to university centres. Chemical activities, for example, might become the potential sector in the Province of Zuid-Holland (now their workforce is shrinking) if well connected to other service-based facilities like university. Another sector that is under development is bio-based economy (industrial biotechnical economy) in the city of Delft to bridge the chemical activities along the river and the research university activities using the same workforce.

The foreign direct investments (FDI)
Foreign investments contribute to the potential of regional development because, by definition, they are embedded in an international network. They have a larger and broader knowledge scope than local companies through their link with the parent company and other possible investment elsewhere, and because of their focus on the top end of the market (and the risk attitude that comes with it). Foreign investments know their centre of gravity when it comes to the existing clusters, and they therefore also often reinforce them. Innovation usually comes with investments in research, development and in headquarters (the latter which usually carry greater management roles with them). An analysis of shifts in global and European investment flows has shown that these features are the most promising segments in terms of attracting investment to the existing clusters.

For the cities and clusters in Zuid-Holland, skill-related industries and foreign investments have come up with opportunities that can be jointly analysed for existing and new sectors. Interaction and the innovation capacity of urban regions seems to be one of the most important location factors for (foreign) knowledge-intensive firms and employees in the knowledge sector. These capabilities contribute to the agglomeration benefits of cities, in which firms perform better than elsewhere. Greater economic mass, density, connectivity and interaction environments are crucial factors. This economic mass and innovation power can come about in a region like Zuid-Holland by seeing all the many complementary sectors and functions as one source of knowledge (through the formation of "new combinations of existing knowledge fields"). A spatial counterpart is also created through density, connectivity and interaction environments, because different components of spatial innovation systems are spread over multiple locations in the province.

It is important to note that the complexity of regional competitors for Zuid-Holland is large (South-West Europe for transport and chemistry, specific European knowledge regions for biotechnology, global cities for business services) because the region is characterised by both a service economy model and an industrial production model. This therefore also requires the input of various different types of policy instruments. Although an important part of this study is reserved for focusing on the shift in policy thinking from quantity (hectares, kilometres, places) to higher quality (knowledge, innovation, interaction), both should be facilitated.

Initial Conclusions

1. There is currently a larger growth in service and knowledge economy and less in the production economy.

2. Opportunities in emerging ‘smaller’ related sectors, services. “The strength of the region lies in the combination of sectors”, therefore spatial strategy on programme and locations:
   - campuses & valorisation
   - specific acquisition strategy
   - provide more breeding places and interaction
   - high quality of public space
   - high quality of housing and amenities
   - labour market and education

3. International accessibility is an important point for the foreign direct investments.
Q&A:

**MS**: When you detailed, “Opportunities in emerging ‘smaller’ related sectors”, you listed some of them. Can you give a ranking of priority there? What is the first thing to do?

Answer: For the local government the labour market is the most important focus point while for the Province, however, the focus lays in creating spatial opportunities (accessibility of the region, provide spaces for campus and housing amenities) because is much related to the province tools.

**MS**: Why the province is multiplying small investments when probably concentration will be more attractive (the question being related to the Dordrecht area where the province wants to develop a knowledge park and new university centres while Rotterdam and Delft are respectively only 30km and 40km away).

Answer: Matching education and firms is quite difficult so far in the area of Dordrecht. However the strategy is not to multiply especially in a crisis context but to make more use of the complementarities. Dordrecht area is also affected by social-economic problems. Interconnect, also virtually, services, universities and firms they hope they could change their profile.

**HNJ**: Why do think more concentration of FDI will attract more FDI since the region seems to be multi-polar. Is this polycentric model the strength of the region?

Answer: Yes, indeed this is a polycentric region in a small scale. But the question here is how the poles interconnect to each other? What will be the strategy: the polycentric model or the concentration? Will indeed a concentration attract more FDI? Currently, we have not taken a decision on the future strategy. We notice however that currently we lack a certain mass. But do we really need it? If we take the example of Leiden, they decided to focus on biotechnology. For the cluster to be able to be developed, however, it was necessary that the municipality reserve the land for this purpose for at least 10 years. There was certain focus and currently it is a successful cluster. There are other areas in the region that have a spatial condition as Leiden has. However, FDI goes where there’s already FDI concentration. The strategy could be now to approach really small companies and building up a story.

**PG**: Can you say something about the new growing of clusters that you analyse? Bigger complexes are very old large-scale industrial complexes and they are at the end of their life cycles. Looking at this skill relatedness could we look precisely at these new crossovers that are starting to appear?

Answer: Sustainable energy and biomass (strengthened by the current chemical and energy sector and universities) are the new growing sectors. The interaction between sectors should be stimulated, because innovation comes in many cases out of the combination of the existing. The service economy should be better connected to the port. Transport and service related activities, chemical and horticulture are not new sectors but the inter-connection among them is the innovation. If the skill relatedness is researched at a the scale of the Randstad, it becomes clear that the labour market of Delft, Leiden and The Hague shares the same labour market as Amsterdam, while Rotterdam labours market is more connected to the Drechtsteden and with the cities of Brabant. But on the other side, Rotterdam and The Hague are forming a new metropolitan area even if they don’t share the same labour market.

What is the connection between South Holland and Amsterdam? Again it becomes clearer how the scale becomes important.

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4 Michel Sudarskis, INTA Secretary General
5 Hubert Nove-Josserand
6 Paul Gerretsen, roundtable animator and Deltametropolis Association Director
The counter examples: Grenoble, Grand Lyon and Taipei

The region of Zuid-Holland is competing with the South East of England (with 18 million inhabitants), but also with the North of France. In the North-Central part of France 8 regions signed an agreement to form an Urban Region of 24 million people. This cooperation of regions is based on clusters (poles of competitiveness) that are complementary in the different regions and these are now increasingly cooperating. How is this process complementary with Belgium and the Netherlands or how competitive too? The size of the region may be an incentive for cooperation between the clusters but in the same time you don’t have any guarantee that the size of the region will induce that cooperation and the interaction between clusters. Maybe the scale of the new region will not improve the cooperation, but the different clusters will do. Interaction is more important than the location of the clusters of the starting poles.

The example of Givors, a municipality part of the metropolitan region of Lyon, shows how interactions can change the local innovation dynamic. A first and second hand all brands auto-show was established on prime location, but the project attracts criticisms and that it was wasting valuable land. Showing how this small focal point might be connected to other services and urban facilities through smart connections (University, research centres, museums) demonstrates how many possibilities there were for creating partnerships and develop cluster’s potentials. The example of Givors shows that the point is to create the conditions for interaction to operate.
Grenoble | interconnecting research, innovation and metropolitan strategy.

Rhône Alps Region where Lyon and Grenoble are located

Grenoble region
Metropolitan strategy means that there is a metropolitan governance that can take decisions. What is interesting is that they pragmatically decided to position themselves in the global map becoming a world recognised cluster, with the ambition to become a key player in nanotechnology and connected research, education, companies and funds. Partners involved are public and private actors, competitive poles-clusters funded by the State, local governments, research and education sectors.

Due to continuous investments in facilities and new needed equipments, the cluster was able to feed the innovation process. The investments were not only in the research facilities, but also in the connection to the city centre and the quality of life. In this example the cooperation between different scales is the key to success: this was only possible due to the cooperation between regional government, the metropolitan governance system and the city system (that was missing in the resilient region in the Netherlands).
Grenoble is not only inventing the new research centre and campus but they wanted it also fully integrated with the city. What Grenoble is doing is articulate and inter-connect research, production economy and quality of life in the city – and that’s what they the call the (Eco-City) Grenoble Presqu’île.
What's going on in Greater Lyon

Greater Lyon is also looking at being a Smart territory. The metropolitan area is about 3 millions inhabitants. The activities and attraction go well beyond the boundaries of the urban area of Grand Lyon. In the metropolitan area around 300 to 500,000 more inhabitants are expected by 2030. Lyon is a multi polar metropolis, spread over 3 counties, there is an intense concentration of different facilities meant to reinforce the different elements of the innovation system and smart development (research, productive and scientific excellence).
The SCOT is a master planning document that gives strategic orientations to the territory and to coordinate the different public policies (housing, transport, economic development, environment...). It provides consistency for the planning documents used by the municipalities. But the key successful element of the metropolitan development is the transportation system, organised by a single organisation. This system connects the centre to the suburbs, but also to other metropolitan areas. Hyper dense in the centre, the metropolitan area is efficiently connected to the airport, to Geneva (Switzerland), to Grenoble and to Saint-Etienne (south) and Roanne (all industrial clusters). More than that, A Science ring, connecting the chemical valley at the south of the city to the universities of the city is not just a transport link, but also symbolises the partnership between the different economic actors. This ring also adds to the quality of life of the surrounding area.

Taipei - Xinzhuang District, New Taipei City
The Taipei example shows the development of dense concentrated cluster with different new facilities. Key words here are connections, interactions and intensification of activities in small territories of high concentration. Main universities are located outside the centre together with R&D sector. In response to the investment change of New Taipei industrial policies, Xinzhuang New Urban Centre now faces the need to adjust its positioning. A spatial response to technological and economic challenges: the strategic location, private public partnerships and major transport infrastructure investments will reinforce and impacting the whole region’ attractiveness.
How to interconnect or compose key innovation projects or policies to strengthen a metropolitan region?

About 6.5 km between Xinzhuang New Urban Center and East Taipei

- 2 Airport Line MRT Stations link to Taipei Main Station and Taoyuan International Airport
- MRT A3 Station provides airport check-in services
- MRT A3 and A4 Stations are located at large brownfield sites which create possibilities for talent exchange and the diversified provision of logistics services
- MRT A4 Station Central Government Office provides industries direct services.
- 5 mins to THSR (Taiwan High Speed Rail Taipei Station) which links to 5 major metropolitans in Taiwan.
- Links to Taipei Metro Ban-nan Line which goes to Xinyi Financial District and Nangang Ecotrade Park with Taipei's major commercial offices, entertainment and cultural creative clusters.

Regional repositioning potentials of Xinzhuang: strategic location, private public partnerships and Major Transport Infrastructure Investments

**Conclusions**

Grenoble has a strategy of concentration and a quite large public investment into cluster stimulation while Lyon’s strategy is basically based on the public investment in infrastructures and giving major place to the transport infrastructures and letting the existing clusters evolve on their own momentum. Taipei is quite traditional in a sense of building large scale facilities combined with public infrastructures.
Questions and conclusions

PG: Which of these strategies will probably fit for South-Holland? Taking into account the question of the scale we are confronted with speaking about these regions. Is this the correct scale at which to look?

HNJ: Grenoble works on the potential they have built over the years on the existing clusters and relates on scale, but in Grenoble there is a good coordination within the different government levels. In terms of time scale, their strategy has been set up through decades. I would like to add the example of Mumbai (India). 30 millions of inhabitants. This metropolis is growing rapidly, but is constrained in its development. It is a peninsula and can’t grow further. Future more, Mumbai has many constricitions concerning densification (FAR). Currently there is the idea to develop new land in the sea, near the old downtown, this would relieve the old downtown and give new opportunities for development.

PG: In South Holland we are not confronted with high growth, but we are still happy with some growth but nevertheless we are much more reclaiming the land in order to extend the old and big harbour clusters. Strategies that lead to actions.

SD: Currently there is a shift form Research and Development to R&D and Innovation. Is there a soft approach, are inhabitants included into innovation process?

MS: Actually the hidden dimension behind the concept of innovation: who is carrying innovation? Obviously experts carry technology and innovation first (due to the content). But social innovation and the acceptance of ecosystem innovation is certainly the results of a participation process, involving also the inhabitants and means sharing common and equal information on which pursue the discussion. Living Lab, as a way to help people to contribute to the future of the city and to share the information, is certainly a useful mechanism. Grenoble is a special case: public debate; population is calling for debating in Grenoble more than in other places.

NG: A successful example is Eindhoven, in 1990 when Philips and other companies get bankrupted. How to attract new industries to the city or the region? They searched support with the local people and raised a new tax and the money would only be invested in creating new jobs. So science parks were developed to help them out of the crisis. Now Eindhoven is a very successful story.

Currently there is not a clear focus or story to attract or develop new industries in South Holland. By bringing in “a new story” or focusing on a new sector might be “the game changer”. Energy infrastructures, connecting the existing cities, greenhouses, harbour and research and university centres, and being important for all current sectors, could represent that game changer South Holland is looking for.