11, 12 & 13 of September 2018, City of Hamburg

3th study visit in Hamburg

Source : Ville de Lille

MOLOC project, INTERREG Europe

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➢ Context and summary

MOLOC is a European cooperation project co-financed by the Interreg Europe programme. It gathers the cities of Lille (coordinator), Hamburg, Torino, Suceava, the Central Mining Institute together with the City of Katowice and the European Network Energy Cities.

MOLOC aims to develop a new city building approach, associating quality of life and energy efficiency. MOLOC stands for MOrphologies Low Carbon: the project will explore the brakes that limit the impact of local policies and actions in their ambitions to change current urban morphologies in the light of sustainable urban development. All partners' cities have until 2019 to co-develop an action plan with their local stakeholders, before implementing it in 2020-2021.

In 2017, the MOLOC project has been launched. The partners gathered for the 1st time in Lille for the kick-off. After that, two interregional meetings have been organised in Suceava and Hamburg, to exchange best practices. During the interregional meetings, Energy Cities organised two workshops to write a joint territorial analysis framework for the identification of breaks to a low-carbon city.

In 2018, five study visits will be organised in the five partner cities to exchange with local partners on the implementation of initiatives for a low-carbon city. Two study visits already took place on May in Torino and June in Katowice.

The third study visit takes place in the City of Hambourg, the 11th, 12th and 13th of September 2018. This study visit was a bit longer because an additional day was organised between the City of Hambourg and the City of Lille. On Tuesday 11th, a deleguation led by Mr Dendievel, Deputy Mayor in charge of urban planning at the City of Lille had the opportunity to visit the IBA site and the HafenCity project with urban planners from Hambourg.

On Wednesday 12th September, partners MOLOC met at the Hamburg City Hall for morning presentations and discussions. This time of exchange gave the framework of the study visit and the progress of local analysis. In the afternoon, partners went to Aurubis for the presentation of heat recovery project and the connection to Eastern HafenCity.

On Thrusday 13th September, a presentation and vist of the HafencCity project were on the agenda. A round table on feebacks and a MOLOC steering group meeting closed the study visit.

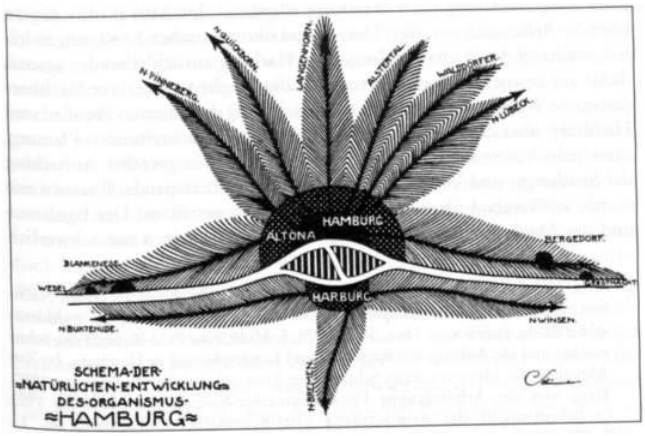
- Tuesday 11th September : IBA & HafenCity

✓ Hamburg urban development

Venue: Ministry of Urban Development and Environment

Hamburg is today the second biggest city in Germany with nearly 2 million of inhabitants. The city is well-known for its harbour which is the third largest one in Europe.

It is from the 20th century that Hamburg set up plans aiming at organizing the development of the city. In 1909, Fritz Schumarer, architect is appointed Baudirektor (chief architect of the city) and will participate to its development until 1933. From 1920's, Schumarer plans the territorial development of the city with the "**Achsenkonzept**" concept (see figure below). The general principle corresponds to the development of port and industrial activities in the Southern part of the City. The urbanization should be developed along transport corridors and green spaces between urbanised areas.



Fritz Schumacher, Achsenkonzept, 1921 (Source : https://www.zukunft-mobilitaet.net/thema/rostock/feed/)

It wasn't until the late 1960's that a new plan is released based on Schumarer's ideas. This plan was aiming at the extension of port and industrial activities along the Elbe and the development of urban areas on both sides of the Elbe.

In the 1990's, this strategy has been gave up in favour of a reorganisation of the port and its integration in the city. The port has been moved to the Southern part of the city. The former site has been/will be transform(ed) into urban areas with the **HafenCity project**.

Next to this project, Hamburg has the biggest island in Europe. The Western part is occupied by the port whereas the Eastern part was populated by workers of the port. In 1962, a huge flood causes the departure of residents leaving the site unoccupied. The negligence of the site by the municipality brings a new population with low-income and migration background. In 2003, this neighbourhood had 50 000 inhabitants, which is low regarding its size. It is, therefore, from the 21st century that the city realized the potential of the site and launched an **International Architecture Exhibition (IBA - Internationale Bauausstellung**) to revitalize the area. The reinvestment of the island goes, for the 1st time, against planning principles from the 1920's promoted a development along transport axis.

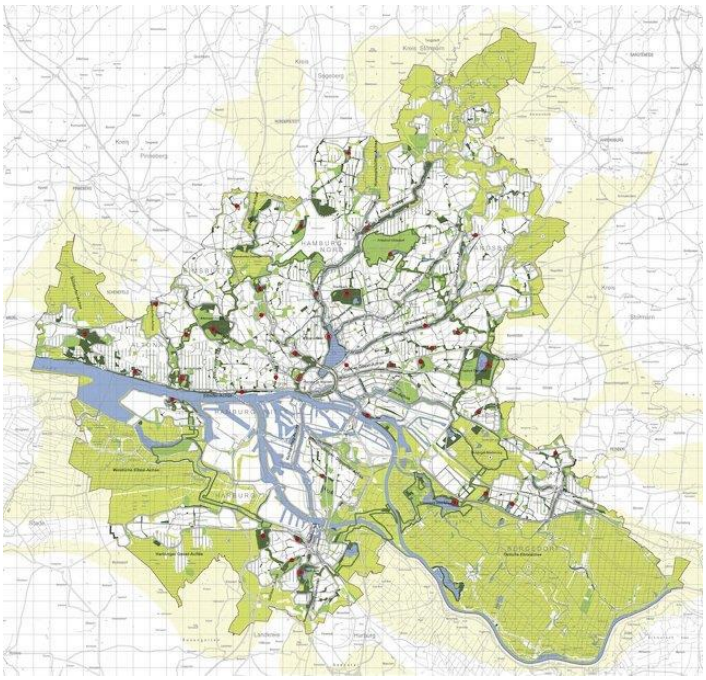
From the 1990's, Hamburg's urban development is based on urban renewal, by reinvesting brownfields. After the HafenCity project aiming at extends inner city to the Elbe banks, the "**leap over the Elbe**" represents a new attempt to create a new part of the city.

Today, the objective is to build 10 000 housing units/year to face high demand. This can lead to problems such as: tight housing market, speculation, working force difficult to find. Since 1986, Hamburg knows a strong economic growth. In 30 years, the city gained almost 250 000 inhabitants to reach today 1.8 million inhabitants.

The urban development focuses, first, on the existing city to limit urban sprawl. Greater density within the existing city offers a potential of 70 000 new housings. The city tries to build greater housing to attract families. A reflexion is carried out to keep inhabitants within the same neighbourhood (neighbourhood manager).

Environmental protection and sustainable development is at the core of urban development issues: “green and blue metropolis”. For example, a share of the tax for urban operations is taken to finance green spaces. Green roof strategy presented at the first interregional meeting in Hamburg (November 2017) shows the will to develop a low-carbon city. The vision of a sustainable city in Hamburg is based on the Leipzig charter (Sustainable European Cities).

The ecological network of the city is based on Fritz Shumarer’s plan from 1919 aiming at create ecological axis between urban areas. Later on, green areas have been connected to create a green network. Through “GreenNet Hamburg” project, the City is working on missing links. For example, a street in the district of Altona has been transformed into a green space to connect two urban parks. Parks and green spaces bring a high quality of life, absorb water rain and prevent from floods.



GreenNet Hamburg – Green spaces and parks (Source : https://enviropaul.wordpress.com/tag/hamburg-green-net-

- ✓ **Citizen participation in urban projects**

Various tools have been elaborated by the City to include citizens in the process of urban planning. One of them is a thematic workshop at the beginning of a new project. The issue of this workshop is the digitalization of the public participation.
To face that, a Digital Participation System (DIPAS) has been developed. It is an online participation tool connected to the Geographic Information System (GIS). The tool allows the collection of inhabitants’ datas/requests.

Digital tool presentation (Source : City of Lille)

More and more, representatives of citizen are within jurys taking decision for urban projects next to elected representatives, promotors, urban planners and architects.

One of the biggest issues for the participation of citizens is the inclusion and the activation of people with migrant background. In Wilhelmsburg, half of the population are migrants. To face this challenge, the City is trying to develop new methods, more accessible. Almost 6500 inhabitants contributed to the online tool since 2016. It has been 100% financed by the City of Hamburg.

- ✓ **IBA – laboratory for urban sustainable development: how to balance urban development and environmental protection?**

The International Architecture Exhibition is first a method for discovering projects. Within a limited period, on a specific territory, it involves inventing the future of a metropolis.

As we already said, the IBA Hamburg focuses on the Wilhlelmsburg Island separated from the centre of city by the Elbe. In the 1990's, citizens decided to organise themselves to improve the condition of life of this area. This mobilisation with the support of the municipality allowed identifying potential development area in the 2005 Master Plan. This document elaborated the concept of "leap over the Elbe" aiming at planning the island, preventing urban sprawl and protecting green areas. The "leap over the Elbe" represents a new attempt to create a new part of the city and Hamburg decided to create an IBA for translating this strategy into the ground. The IBA area represents 52km² which is half of Paris.

To implement this strategy, the IBA tool has been chosen by the municipality. The IBA covered three main areas:

- **Cosmopolitism** : the will is to promote social diversity as a strength for the city
- **Urban Development** : this idea is to develop attractive neighbourhood while being close to main urban constraint (pollution, noise)
- **Adaptation to climate change :**the objective is to find new solutions to decrease the emissions of GHG, develop renewable energy and increase energy efficiency

The management and the coordination of the process were pursed by IBA GmbH, created in 2006. It is a limited company governed by private law, 100% owned by the City. After 2013, IBA Hamburg has been transformed into an urban development company. It employs around 25-30 people.

A scientific committee support and advice the IBA in various fields: urban planning, landscaping, mobility. Moreover, a citizen's committee associating 80 inhabitants of the neighbourhood helps the realisation of IBA's projects.

The company set up various tools to accomplish its missions:

- International contests and consultations
- **IBA lab**: expert workshops on key topics: mobility, climate change
- **IBA forum**: public workshops – debate between experts and citizens
- An active and adapted communication towards both citizens and experts, investors

A total of 70 projects have been developed with IBA Habmburg. Here are few key figures:

One of the model of the IBA neighbourhood (Source : City of Lille)

>1733 housing units built
>100 000 m² retail spaces
>8 schools
>3 kindergarden
>1 shopping mall
>More than 70 hectares of green spaces
>700 millions euros of private investment
>300 millions euros of public money

Few examples, such as the Energy Bunker, social housing renovation or showcase buildings have already been presented in the interregional meeting report from November 2017 in Hamburg.

The IBA appears to be a "laboratory" for low-carbon city. The City of Hamburg rested on IBA tool to implement innovative projects aiming at fighting climate change. The IBA gathers various stakeholders to develop cross-projects. The will to transform the city towards a sustainable and resilient territory has been awared with the "**European Green Capital**" price in 2011.

Adaptation and mitigation to climage change are also at the core of the HafenCity project, which will be presented in the following part.

✓ Hamburg HafenCity: strategies, challenges and ambitions

HafenCity project aims to extend the inner-city on former industrial sites of the port: 155 hectares will be converted into a new neighbourhood with 45 000 jobs and 70 000 housing units. It will create a new city-port interface.

The project is managed by a public company HafenCity GmbH. The company is 100% owned by the city and is in charge of the urban planning. The funding of infrastructures (roads, bridges, and parks) is mainly ensured by land sale. The whole area was property of the City. The budget is balanced expect for big public equipments (Elbephilarmony for example). The public investment is about 1.5 billion euros from land sale. Private investements are about 8.5 billon euros.

The starting point of the project was the Master Plan, established in 2000. It gaves the framework of all projects. It highlights great principles such as the integration of environmental issues and social diversity. Initially, the Eastern part of HafenCity was considered as peripheral zones. By the time and with the introduction of the metro, which was not planned initially, the Eastern part became at the core of the project. For this main reason, a revision of the master plan has been carried out in 2010.

The Eastern part appears to be isolated and less connected to the inner-city. The proximity of road infrastructures requires a great attention for noise protection. With the revision of the master plan, the objective is to reach 2.4 millions m² floor areas.

HafenCity project answers in itself to climate change issues. Rather than extending the city to the periphery, the choice was to reinvest industrial brownfields and redevelop the city on itself. Moreover, HafenCity integrated different topics for a urban sustainable development: mobility, energy, construction, uses, urban planning.

During our tour, different subjects have been explained:

- In spite of dense urbanization, public open space counts for 25%. 13% more are dedicated to private spaces but publicly accessible (38% public spaces in HafenCity VS 6% in the inner-city of Hamburg)

Source : City of Lille

- Anti-flood system is in place: all buildings are built on structures 8-9 meters above sea level. Promenades along the Elbe are subject to flooding. Shops and restaurants, at the ground floor, have protections against flood (watertight door). The entire neighbourhood is planned to adapt to climate change.

Source : City of Lille

- One of the achievements of the project is the implementation of public transport before building construction. The City of Hamburg decided to build a metro line within HafenCity before first inhabitants. Buses run on hydrogen. The neighbourhood is easily accessible by foot or bike. Bike stations are available. In the Eastern part, 40 parking spaces are planned for 100 housing units. A car-sharing system is planned for 2025.

- Buildings from Western part are connected to district heating, powered by a cogeneration plant. Solar panels were also installed, supplying 40% of hot water needed:

    - Energy production for the Western part emits 240g CO2/kWh (energy mix = district heating, solar panels, cogeneration plant, fuel tank)
    - Energy production from the Eastern part (will) emit(s) 89g CO2/kWh (energy mix = local district heating -92% of renewable energy - cogeneration plant powered by biogas, in the future the district heating will be connected to Aurubis company and will supply the entire heat)

- Sustainable construction in a process of cradle-to-craddle: a certification label for sustainable construction has been implemented. To get the label, constructors have to respect regulatory requirements. 2 years after construction, an assessment allows seeing if the building meets the requirements. If requirements are not met, corrective measures can be asked or penalties enforce and the labal taken away.

Source : City of Lille

One of the challenges in the integration of environmental issues in buildings depends on the quality of constructors. MasterPlan does not oblige promotors to increase energy efficiency requirements.

According to the urban planners of the project, the main issue was to attract inhabitants and investors in this new neighbourhood. Initially, this area lacked of visibility and nobody wanted to come, lands were only brownfields. In order to attract people, the City organised several cultural events before the lauch of the project.

Low-carbon city is a “question of time” according to urban planners of HafenCity. It has to evolve in the future. Energy and environmental performance evolved along the project. HafenCity is perveived as a laboratory for ideas. Multi-level governance is also a topic to deal with and a key topic for low-carbon city.

- Wednesday 12th September: local analysis and visit of Aurubis company

✓ *Local study by ZEBAU (Centre for Energy, Construction, Architecture and Energy)*

Partners agreed to work during 5 years with a common objective: develop a low-carbon city model. Partners have to co-design an action plan with local partners. The first phase of the action plan corresponds to the production of a local analysis on obstacles defined by each partner. Following a workshop led by Energy Cities, each city selected 10 obstacles.

The local analysis for Hamburg is conducted by ZEBAU (Centre for Energy, Architecture, Planning and Environment) and focus on energy efficiency and energy savings in companies.

The study is divided into 2 parts. The first is about climate and energy policies in Hamburg, issues and challenges the city is facing. The second part will constitute the action plan.

1st study :

Hamburg is a growing city. Climate and energy issues have been integrated since 1990. From 2007, with the concept of climate protection, these topics have been extended and integrated at a larger scale. This concept helps the development of a Master Plan for climate protection in 2013. This Master Plan gives guidelines and actions to be implemented in order to meet 2020, 2030 and 2050's objectives. Climate mitigation was in front of policies to the detriment of adaption. Adapation to climate change has been clearly integrated in 2015 with the first Climate Plan.

Climate policy - City of Hamburg

Hamburg has set the following target for GHG emissions from 1990:

- 2020 : 40% CO2 reduction
- 2030 : 50% CO2 reduction
- 2050 : 80% CO2 reduction

One of the key points of the Climate plan is the integration of climate and energy issues in urban planning. A sustainable urban development should be implemented to every neighbourhood. Moreover, the City of Hamburg is not a very dense city (2367 inhabitants/km² - Eurostat 2012) and has several green spaces that have to be protected.

The report presents good practices that the City is already implementing. It shows as well, several European projects where Hamburg is engaged. The City is committed to be part of several Interreg Europe. Half of them are tackling climate change topics.

2nd study:

The second study will represent the action plan of Hamburg. Within MOLOC, Hamburg decided to work on a economic and commercial zone to increase energy efficiency in and between companies. The study area is Altona, the Western neighbourhood of Hamburg. A guide aiming at decrease energy consumption and GHG emissions in companies will be presented and implemented.

The study is conducted by an external partner, ZEBAU, because the city does not have necessary capacities and allow engaging local stakeholders in the project.

- ✓ ***Oberbillwerder – presentation of an urban project***

In the context of a growing city, Hamburg has to provide good conditions of life for existing inhabitants while creating new areas for housing. To cope with these issues, the City is leading two complementary strategies:

- More city within the city
- Expansion of Hamburg to the periphery with a high quality of spaces

Master Plan Oberbillwerder (Source : https://www.oberbillwerder-hamburg.de/masterplan/)

To cope with these strategies, the City of Hamburg appointed the IBA Company to work on the planning of Oberbillewerder neighbourhood (120 hectares). The idea is to create a mix neighbourhood including housing, commerce, services, etc. The design of the Master Plan has been elaborated in close collaboration with citizens. In parallel, a preliminary study on the sustainability of the project and the renewable energy potential. Heat will be supply by the district heating. Pedestrian and bikes are at the core of the project. Multi-storey parking will be established at the edges of the neighbourhood. Parkings will be transformed into cultural spaces, energy production centre. The aim of the project is to become climate neutral.

According to the project manager, there are several issues:

- Architecture and building construction quality
- Public space management
- Integration of economic and commercial activities in housing project

Projet Oberbillwerder (Source : https://www.oberbillwerder-hamburg.de/masterplan/)

✓ ***Aurubis – heat recovery in HafenCity and district heating***

HafenCity is a great example of heat recovery from industrial plant: since 2018, the remaining heat from Aurubis copper plant will be used in the Eastern part of HafenCity. Aurubis company and energy suppliers signed an agreement on the use of heat from industrial production via the district heating network. The network has been extended by 2.7km. The total cost of the project is about 2,7 millions euros. Aurubis received 30% of the total investment and reveived also FEDER funds

In total, it will be 4500 tons of CO^2 saved every year in the Eastern part of HafenCity.

Group picture from Aurubis company (Source : Aurubis)

- Thursday 13th September : HafenCity and MOLOC steering group meeting

✓ **HafenCity visit :** refer to the following point - HafenCity Hamburg, strategies, challenges and ambitions (Tuesday 11th September)

✓ **MOLOC steering group meeting**

- *Feedbacks on Hamburg's study visit*

Katowice:

- Concentrate investments on a specified area for concrete outputs (+)
- Different levels of planning and the territorial vision for the 20-30 coming years (+)
- The multi-purpose and the place for green areas in urban operations (+)
- Energy efficiency in private buildings (+)

Turin:

- The large share of green space in urban projects (+)
- District district network and the connection with Aurubis(+)
- Energy efficiency in new private buildings (+)

Suceava:

- Territorial vision for the next 30 years (+)
- Multi-level governance (+)
- A revised Master Plan on the basis of new issues (+)
- Competition for energy supply (+)

Lille:

- Citizen participation with digital tools (+)
- Heating system pooling in rehabilitated neighbourhood (+)
- Integration of economic activities – a low-carbon city is also about working and producing (+)
- Clean energy supply in new neighbourhood (HafenCity) (+)
- Negociation methodology witth investors to garantuee urban and architectural quality (+)
- Reflection on urban spaces as a condition for higher density (+)
- Energetic and environmental performance increasing progressively along the project (+)
- Energectic performance measures 2 years after building contruction (+)

- *Local activities*

Hambourg: local analysis will be ready by the end of October. The first part is already finalized. In October, a meeting with local stakeholders will be hold. Next year, a meeting with several European projects will be organised in Hamburg, giving visibility for MOLOC.

Katowice: 3 obstacles out of 10 are ready. At the end of September, the energy days were organized in cooperation with the City. GIG is worried of the involvement of local stakehoders

to the project due to the local and regional elections coming in October. At the end of the year, COP 24 will be in Katowice. One of the ideas is to present MOLOC at this event.

Turin: Politecnico di Torino works on the local analysis. A questionnaire and interviews will be conducted to complete the analysis. In October, a meeting with local stakeholders is planned. Remarks and feebacks from “Miercoli del Piano” workshops have been integrated into the Master Plan.

Suceava: in partnership with Sigma and regional group, 5 out of 10 obstacles have been finalized. An event on energy transition is planned in October.

Lille: a first draft of the analysis will be released at the end of September. The ful analysis will be ready at the end of October and be presented at the beginning of November. Since November 2017, no meeting with local stakeholders were realised. The choice was to focus on study visits and bring the maximum of people.

- Best practices workshop

The selection of good practices is important because Interreg Europe ask to every project to submit good practices on their database. At the end of the phase 1, the final number of good practices reported in the progress report should correspond to the number of good practices submitted in the database. => **20 good practices** have been identified in the application form. This workshop identified 8 good pratices so far:

- Miercoli del Piano (Torino)
- Metropolitan Urban Centre (Torino)
- HafenCity Master Plan (Hamburg)
- IBA Hamburg 2013 (Hamburg)
- Reconversion of former industrial sites (Katowice)
- Local energy committee (Katowice)
- Policies against pollution (Katowice)
- Sustainable Housing Centre (Lille)

In November, MOLOC partners will go to Suceava for the 4th study visit. Different points will be discussed: electrical mobility, public lighting systel (LED, solar panels) – between 2016 and 2018 the electrical consumption of public lighting decreased by 55%, the Local Urban Plan.

La revedere !

Source : City of Lille

Source :

- Atelier européens, *grands projets urbains – Session 3 Paris-hambourg : Métropole en projets*, laboratoires d'urbanité, 26-29 Mai 2010.
- Cahier de la gouvernance – *Métropole de Hambourg,* Agence d'urbanisme de Lyon, Juin 2016
- ADEUS, *Hambourg, une ville réinvestit son port*, Mai 2011.

Source : Ville de Lille