



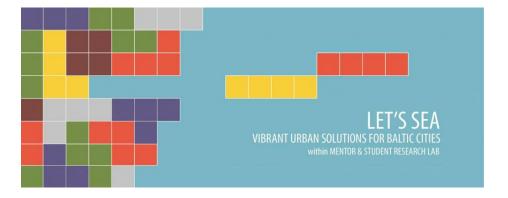


# MENTOR & STUDENT RESEARCH LAB Towards wiser cities and better living

2014 - Urban Transformations

Common initiative of International Society of City and Regional Planners (ISOCARP) and the members of Gdańsk University of Technology student research club, Urban Revolution Laboratory LEM-ur. Side Event Held for the 50th ISOCARP Congress.



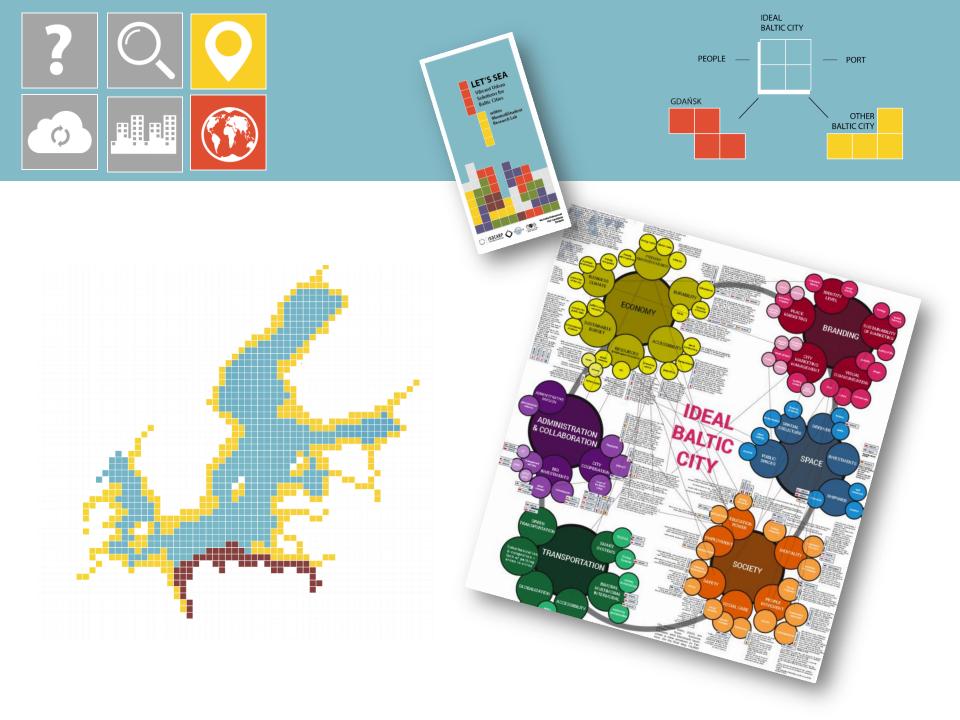








The MSRL research is focused on the Baltic Sea Region (BSR) multidimensional urban phenomenon with Gdansk acting as a hub for the research teams. The idea of the MSRL is to promote the collaboration of professionals and graduate and PhD students by bringing together the mentor(s) with a local research sharing experiences team proposing strategic recommendations strengthen sustainable urban development initiatives for BSR at the international, regional and local levels.





















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Irina Shmeleva (Russia)

























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Mentors (ISOCARP members)& PhD researchers professional and research experience

PhD researchers & Group coordinators research project coordination

PhD researchers & Students research team

# **Actors**

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Mentors ISOCARP members

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P PI

PhD researchers

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Students

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optional

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required

















## **Benefits**



- 1. Chance to lead and shape an urban or architectural focused research under your guidance and of your own design.
- 2. Opportunity to guide a dedicated team of PhD candidates and students who value your academic and professional input.
- 3. Participate in preparation of the report that addresses the relevant issues for the host city (Gdansk) and the Baltic Region.

The first MSRL report was published and distributed online. Printed copies were published and distributed during the ISOCARP Congress in Rotterdam in 2015.



**Tasks** 

- 1. Specify your research from the proposed core themes.
- It should be relevant to the Baltic Sea Region context but you are encouraged to bring the experience of your own city.
  - It is possible to join the research with your own team of (PhD) students or colleagues to team up with the local MSRL team.
- 2. Supervise a team of your own young researchers.
- 3. Support the (PhD) student team with your skills and knowledge.



- 1. Leading the group of students.
- 2. Managing the communication between the mentor and the research group.
- 3. Supporting with your knowledge and ideas.
  - 4. Effective cooperative learning. Assist with mentors and coordintaros.



- 1. Actively involved in international research work.
  - 2. Actively involved in training activities and meetings.
- 3. Cooperation both with mentors and participants.
- 4. Responsibility for all work of each member of the group.



- 1. Conducting scientific research internationally.
- 2. Publication of the results.
- 3. Mastering methodology application.
- 4. Mastering teaching methods.



- 1. International work with support of practicing urbanists and architects.
- 2. Extensive knowledge of designing process with high prospect for publishing internationally.
- 3. Obtaining and gathering research and professional skills.

















PhD researchers & Group coordinators research project coordination

PhD researchers & Students research team

## Actors



Mentors ISOCARP members



PhD researchers



Students



optional









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# 1. Finding multifunctional spatial solutions to render Baltic cities and communities more sustainable through the concept of ecosystem services – theory and methodology

#### 3.2 ECOSYSTEM SERVICES DESCRIBED

#### 3.2.1 PROVISIONING SERVICES

Provisioning services are all the material and energetic outputs from ecosystems (MA, 2003; European Environment Agency (EEA), 2011). These include biotic and abiotic outputs such as wood, fresh water, and crops. In general, mineral resources such as oil, gas, or gold are not taken into account. The resulting products and goods are tangible, and can often be directly consumed, used, exchanged or traded (EEA, 2011).

This includes food products obtained from plants, animals and microbes (MA, 2003). Food production takes place in any environment, and many environments have been and are still currently altered to provide food resources. Within the ecosystem services concept, the focus, however, lies less on intensive food production systems, and more on food production within the natural abilities of an environment. This can include activities like fishing, hunting, berry-picking or mushroom-picking. One of the major challenges is to bring food production in balance with other ecosystem services

Raw materials can be derived plants, animals, and microbes, and be used for the manufacturing of her products (MA, 2003; EEA, 2011). Materials can be used for construction such as wood, reed and straw, or for textiles such as jute, hemp, leather, and silk, or even for ornamental use like flowers. shells and feathers. Materials can be gathered from every ecosystem. Important though is to balance this ecosystem services with other services.

Fresh water is a natural resource which is one of the best known goods ecosystems provide to people. Fresh water is essential for human well-being and a connecting element for different ecosystems. Ecosystems provide storage and purification of fresh water. Water is stored in streams, rivers, lakes, glaciers, and groundwater aquifers, while ecosystems as wetlands act as purifiers. Provision of fresh water is nowadays severely under pressure due to pollution, climate change, and nsumption of water resources. Ensuring replenishment of aquifers, flow and storage, and purification (notability) will be major tasks for future provision of fresh water.

#### MEDICINAL RESOURCES

Ecosystem Assessment (2005). This includes the provision of many medicines in traditional as well as modern medicine, food additives, pharmaceuticals, biocides (MA, 2003). People have since long used natural materials for curing different diseases, and still discoveries are made that moves medicine forward. The largest threat however is the destruction of ecosystems, over-consumption and destructive harvesting (Ahmad, Ahmad Malik and Shakya, 2013) as well as the extinction of species before their abilities to cure diseases can be discovered (Barata et al., 2016).

#### 3.2.2 REGULATING SERVICES

Regulating services are the "benefits from the regulation of ecosystem processes" (MA, 2003). Ecosystems, and in particular ecological processes, control and alter biotic and abiotic factors which are important for the people's environment (EEA, 2011). These benefits have indirect use value (TEEB, 2010) which means they are not consumed, but influence "the performance of individuals, communities and populations and their activities" (EEA, 2011).



#### 4.1.1 URBAN AGRICULTURE

Urban agriculture concerns the production of food and materials with concept supports sustainable development of cities as it contributes to tl (Deelstra and Girardet, 2000). Urban agriculture spaces can vary in size They may serve only the local community, or it might concern an urban fai residents (Mougeot, 1991). There are numerous examples of community of by organised groups of people. Sometimes these places serve certain neighbours, but they can also be open to everyone who is willing to parti

In Poland and many other countries, the idea of urban agriculture cannot idea. In many cities, allotment gardens are very common; there are ab gardens in Poland (Centrum Badania Opinii Społecznej, 2012). The Poli: exist already for more than 120 years (PZD, n.d.), and they are still very research study held in 2012, around 17% of adult Polish people are en (Centrum Badania Opinii Społecznej, 2012). Most of these allotment gare and not accessible to a greater public. Furthermore, cities are no long allotments despite the trend of urban agriculture. New places, therefore,

Urban agriculture gardens appear nowadays in disused areas, within rooftops. Crops may be sown in planters or directly in the soil dependin quality of soil. As contaminated soil can be unhealthy in cultivating edi to check soil qualities, especially in cities. Next to food and material pro help to improve microclimate, water management, nutrient recycling, th minimise waste in cities. In addition, urban gardening offers recreation, m and can raise the environmental awareness of city inhabitants (Deelstra a







































ig. 4.1.1. Urban Agriculture "Miasto Ogród", Warszawa.

4.2.9 CONSTRUCTED WETLANDS

Constructed wetlands are man-made shallow ponds or canals which are planted with water and swamp plants. The aim of a constructed wetland is to improve the water quality through the wetland vegetation, soil and their associated microbial assemblages (National Risk Management Research Laboratory, 1999). Constructed wetlands are eco-friendly solution, which help to remove nitrogen (up to 90%), have metals (up to 80%) and phosphorus (up to 100%). This solution can also minimize the number of bacteria in the water (Jurries, 2003). It also provides habitat for wildlife (National Risk Management Research Laboratory, 1999). This solution is usually less expensive than traditional wastewater treatment options. Moreover, it has low maintenance costs (U.S. Environmental Protection Agency, 2004). However, the efficiency is delay 1 to 2 seasons until vegetation will be well established. Constructed wetlands can be used to treat various kinds of wastewater such as urban run-off, municipal, industrial, agricultural and acid mine drainage (National Risk Management Research Laboratory, 1999). Yet, they need to be design on uplands, and outside floodplains and floodways, in order to avoid damage to natural aquatic resources (U.S. Environmental Protection Agency, 2004). The constructed wetland should be created as a long and relatively narrow

depression. Jurries (2003) recommends to use a length to width ratio of 5:1, but minimum ratio is 2:1 as the long length extends the filtration time. Wetland plants should be chosen according to be

treated wastewater and preferably three to eight different plants should be used (Jurries, 2003), yet the wetland can also be allowed to grow naturally (U.S. Environmental Protection Agency, 2004).

ig. 4.2.9 Constructed wetlands at Providence Estate,

nvale, Victoria, Australia.

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42 Finding Design and Planning Solutions to Render Baltic Oties and Communities More Sustainable Through the Concept of Ecosystem Services — Theory and Methodology







# 2. Baltic Sea **climate fever**. Creative solutions for waterfront cities in the context of **climate change**



RANT URBAN SOLUTIONS FOR BALTIC CITE

#### 1.2. GOTHENBURG

The city of Gothenburg is located on the Swedish west coast. The city is today the second largest city in Sweden, with about \$10,000 inhabitants, but its origins date back to 1623. The city centre has a classical European character, specified by a dense mid-rise structure with modicum vegetation.



#### 6. Map with Gothenburg

The history of Cothenburg begins with the foundation of the heavily fortified town in 1624, June 1644, the bridy Yeart's law, when Sweden was one-again in amed conflict with Dromania-Norway, In this period the configuration of Sweden's borders made Cothenburg strategically critical as har on this peed of the configuration of Sweden's borders made Cothenburg strategically critical as har one of the configuration of Sweden's borders made Cothenburg strategically critical as har one of Sweden's borders border in the second on the west coat in Carlo as har one of Sweden's borders and Allancia, strategical in the second and Norwagain Robustian in the north of Sweden's benefit in the south and Norwagain Robustian in the north of Sweden's benefit in the south and Norwagain Robustian in the north of Sweden's benefit in the south and Norwagain Robustian in the north of Sweden's Barrier Sweden's Sweden's Barr

ABBUNIT ORBANI SOLUTIONS FOR BALTIC CITI

#### 1.4. TRICITY

Agglomeration called the Tricity consist of cities Gdarisk, Gdynia and Sopot. They are located on the Bay of Gdansk, partly on lowland coastal strip and partly on higher moraine hills, Location of Gdarisk is special because of its eastern part is situated on the depressed areas of the Vistula delta. Tricity has a fairly good road, rail, air and sea links with many European cities. This is the area of high landscape and natural value.

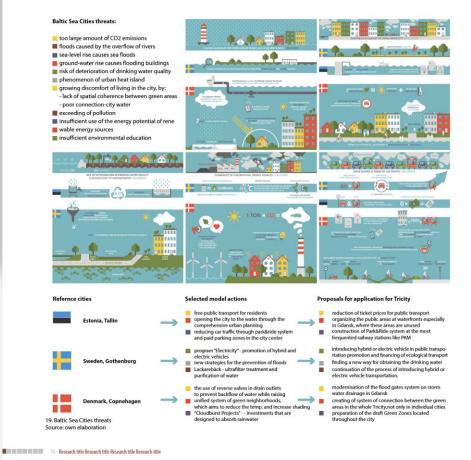


Tricity is a metropolitan area in Poland consisting of these cities in Pomerania Gdarká, Gdynia and Sopot, as well as minor town enaby them. Uthan structure of the area is a compact unif for uthan development, which boundaries set only administrative divisions and urban fabric of the city is continuous. Tricity is located in northern Poland, in the Gdir Gdarka and Pulk Bay in Pomerania Violvodeship. The dominant role due to the size (nearly 61.5 % of the Tricity) and the number of installatatis (spore, CW) of the city is in the structure of the Tricity diadrik, which is also the seat installatatis (spore, CW) of the city is in the structure of the Tricity diadrik, which is also the seat of installatatis (spore, TW) next one of the delete of the Tricity is obtained that it is considered to the control of t

In the twenty-first century, the shape and directions of development of the Tricity, will be determined mainly by the flatingor Policy Miller determined mainly by the flatingor Policy Miller determined the directions of the development of the European Union - the community to which belongs Poland. At the local level increasing influence on local politics in each dry of the Tricity should have, established in the form of Association 2011. Metropolitan Area Gafants. -Glynia: Sopot, which main goal is to strengthen cooperation and to achieve harmonious development of the whole metropolitan area around Gafants. The composition of the Association 2015 consists of all three cities or that co-creating Tricity: Gdarisk, Gdynia and Sopot.

One of the most important climate change impacts for region of Gdansk, Sopot and Gdynia are

Mentor & Student Research Lab 2.0.





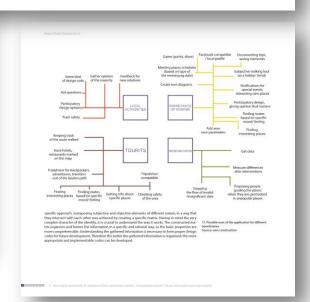
4. **Re-articulation** of Baltic coastal districts' **identities** from perception to practice. The case of the northern urban edge of Gdansk



VISUALISING IMMEASURABLE

architecture

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3. Cities rising from the ashes. The identity of baltic region cities destroyed during II world war in context of process of rebuild, architecture and urban design, guidelines for middle

## 1189 Port and market rights 12th Cen Hamburg is member in the medieval Hanseatic tradin 1939 RAF firebombing rold destroyed a big part of 1953 rebuilding parts of Cowicherstadt 1981 Kontorhaus -example of new development 1963 Ost-West Str 2015 The Warehou eidlinger-Haus 1950 3. Map of Hamburg Fleet Island Fleet market square Cremon Island Hafencity district Domplatz former block R 8. Ost-West Street 9. Speicherstadt 10. Kontorhaus

#### APPROACH TOWARDS REBUILDING PROCESS

Although right after war damage building housing estates was the most urgent need, preserving an urban image was not less important. Fritz Schumacher, a city's building director from 1909 to 1933, in his speech in 1945, noticed: "Already the next generation will only know from books, how Hamburg's towers and cityscapes looked like. This is fortunate, because it is useless to mourn about something irretrievable, but it is a disaster if the "spirit of the place", which was in irretrievable, is no longer kept in the heart of creators" (Schwarzkopf, Schipporeit, 2012). In the first years there was a variety of concepts on "recovery of the image of the city", but the main goal of the Monument Preservation Office was to keep "the character of the city". Main churches and all buildings, which had any historical value were then chosen to preserve. In 1948, planning law was also updated. It regulated some features of the new developments, like the height of eaves, the finishing of the facade made of plaster or natural stone and the shape of the roof, which should form a "visible pitched roof". Those rules were introduced for example in reconstruction of Neidlinger-Haus, which is situated near the main square. Another relevant aspect for preserving the cityscape was preserving the crown of the city, which meant important points of view on the skyline, especially church towers and a tower of the city hall (Schwarzkopf, Schipporeit, 2012). Almost all building projects after 1945 had to respect this requirement, and it is an important concern also nowadays. In years 1945-65, the approach towards rebuilding was influenced by the modernistic idea of "segmented and scattered city" On the ruins left by bombing, a big arteria called Ost-West Street was created. New buildings in area around this development were formed as solitary structures, surrounded by immense free space. Some of them began to interfere with the skyline because of their height. Since 60s of 20th century, precast elements for building flats were used. It resulted in a rapid construction and aging buildings, which often lack well organized public spaces. Some new office districts, like City-Nord, were created outside the city centre and took over the pressure from the historical part. It protected the downtown silhouette and at the same time allowed the city to develop. An important place was also Speicherstadt - a Warehouse district, located in the port of Hamburg. It was destroyed in about 50% during allied bombing. Most of the objects were rebuilt in a modern way, with introducing new functions like offices and only referring to gothicizing,

#### CONCLUSIONS

#### OBSERVATIONS

arch on the rebuilding processes conducted in four cities, shows how different app might be chosen even in similar conditions: history, location or level of destruction. Moreove the research shown that the approach to the rebuilding process in the same city might change

The rebuilding process helps inhabitants to identify with the city, even if they are

City can lose its historical value if the rebuilding process is done without strict guidelines. It is important to put a lot of effort to create guidelines for rebuild process and try to avoid focusing on short-time decisions.

even decades later. The character of the city can be maintained even if the interiors of quarters and building layouts are changed in order to future users' needs.

HAMBURG

THE HISTORY OF HAMBURG

Hamburg is a city with a long maritime

tradition, which history began already

in 9th century as a mission settlement In 1241, the city formed with Lübeck

the first formal alliance, which was a prototype of Hanse. In the agreement,

both of them committed themselves

to protect together trade routes on

sea and land, especially in the lawless territory between the Elbe and Trave rivers. The league, joined later by other trade cities, dominated commercial activity in northern Europe from the

The city of Hamburg was damaged several times during its history, including the "Great Fire" in 1842, which lasted 4 days and destroyed

about quarter of the inner city However, the biggest wound was destruction, caused by allied bombing

in 1943, which turned into ashes about

half of the city and changed the image of some places for years. During the

rebuilding process the main goal was

to protect the history and 'the spirit of

the place, but without reconstructing

Legal urban planning for Hamburg

began already before World War II. In

plan was created by German Academy of Urban and Spatial

Planning, Settlements were supposed

to be located around system of

communication axis starting from the

centre of the city and creating nearby

empty areas of natural landscape. The concept came back later after 1955. N. Arount the Broart the Report His Broart

1928, the first spatial development

13th to the 15th century.

THE CITY WHICH PROTECTS ITS SPIRIT





process, even if it is not directly connected with it. It can decide about city's growth or





ents carried out on urban tissue, like Political situation can affect rebuilding big arteria through the city centre or high modern office towers are considered now as problematic for the image of the city.

SZCZECIN

The last, it's impossible to forget about the

SZCZECIN



5. **Multicultural** coastal cities: what are the differences in **culture of urban planning** management? Comparison analysis of Gdansk and Gdynia

MULTICULTURAL COASTAL CITIES: WHAT ARE THE DIFFERENCES IN CULTURE OF URBAN PLANNING MANAGEMENT

COMPARISON ANALYSIS OF GDANSK AND GDYNIA

The goal of this book chapter is the analysis of the multiculturalism of the

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# More information at

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Ready for MSRL 3.0?