# MSRL 2.0.
The MSRL research is focused on the Baltic Sea Region (BSR) as a 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 team** sharing experiences and proposing strategic recommendations to strengthen sustainable urban development initiatives for BSR at the international, regional and local levels.
Mentors (ISOCARP members) & PhD researchers professional and research experience

PhD researchers & Group coordinators research project coordination

PhD researchers & Students research team

Actors

M Mentors (ISOCARP members)

P PhD researchers

S Students

M optional

M required
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.

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.

Actors

- Mentors (ISOCARP members)
- PhD researchers
- Group coordinators
- Research project coordination
- PhD researchers & Students
- Research team

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

PhD researchers & Group coordinators research project coordination

PhD researchers & Students research team

- optional
- required

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 coordinators.

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.
Opening conference & 1st workshop meeting

PhD students workshop meeting

2nd workshop meeting

3rd workshop meeting

PhD students workshop meeting

Conference

Publication

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

4.3.9 CONSTRUCTED WETLANDS

Constructed wetlands are man-made shallow ponds or canals which are planted with water and reed or other 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, 1995). Constructed wetlands are eco-friendly solutions, which help to remove nitrogen (up to 90%), have metals up to 80% and phosphorus up to 90%. This solution can also minimize the number of bacteria in the water (Jürgens, 2003). It also provides habitat for wildlife (National Risk Management Research Laboratory, 1995). 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 delayed 1 to 2 years 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, 1995). Yet, they need to be designed on uplands, and outside floodplains and roadways, 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. Jürgens (2003) recommends to use a length to width ratio of 3:1, 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 those to eight different plants should be used (Jürgens, 2003), yet the wetland can also be allowed to grow naturally (U.S. Environmental Protection Agency, 2004).

Ecosystem services:

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4.1 GREENING OF URBAN STRUCTURE

4.1.1 URBAN AGRICULTURE

Urban agriculture concerns the production of food and materials and concept supports sustainable development of cities as it contributes to it (Deleuze and Ginzburg, 2000). Urban agriculture spaces can vary in size. They may serve only the local community, or it might concern urban residents (Moogou, 1991). There are numerous examples of community-led groups of people. Sometimes these places serve certain neighbours, but they can also be open to everyone who is willing to partake.

In Poland and many other countries, the idea of urban agriculture came into existence. In many cases, allotment gardens are very common; there are about 300 gardens in a town (Centrum Badania Opieki Społecznej). Despite the fact, the allotment gardens are not accessible to a greater public. Furthermore, cities are not offering allotments despite the trend of urban agriculture. New places, therefore, need to be created.

Urban agriculture gardens appear nowadays in disused areas, within buildings. Grubs may be sown in planters or directly in the soil depending on quality of soil. As contaminated soil can be unhealthy in cultivating edibles to check soil quality, especially in cities. Need to food and material production help to improve microclimate, water management, nutrient recycling, its minimize waste in cities. In addition, urban gardening offers recreation and can raise the environmental awareness of city inhabitants (Dvila et al., 2010).
2. Baltic Sea climate fever. Creative solutions for waterfront cities in the context of climate change

1.2. Göteborg

The city of Göteborg is located on the Swedish west coast. The city is today the second largest city in Sweden, with about 500,000 inhabitants, but its origins date back to 1627. The city center has a historic European character, specified by a dense road structure with modest regulation.

![Göteborg map](image)

The history of Göteborg begins with the foundation of the heavily fortified town in 1627, during the Thirty Years War, when Sweden was once again in armed conflict with Denmark-Norway. In this period the configuration of Sweden’s trade routes made Göteborg strategically critical to the only Swedish gateway to the North Sea and Atlantic, situated on the west coast in a very narrow strip between the Öresund Strait and the Skagerrak. The city’s location on the Swedish west coast made it a key node in the international trade network connecting the Baltic and North Seas with the North Atlantic. Once Sweden had annexed Åland in 1696, Göteborg expanded as a trading center. Even though the city’s inhabitants had mastered a large amount of ports of trade from the 15th century, the city became a major part of the city economy, until the industry totally collapsed in the 1980s. Göteborg is the leading city in Sweden when it comes to sustainable urban development.

![Göteborg map](image)

1.3. Tricity

Agglomeration called the Tricity consists of cities Gdańsk, Gdynia and Sopot. They are located on the Bay of Gdańsk, partly on lowland coastal strip and partly on higher moraine hills. Location of Gdańsk is special because of the eastern part is situated in the depressed areas of the Visła delta. To the rail has a good road, rail, and sea links with many European cities. This is the area of high landscape and natural wealth.

![Tricity map](image)

Tricity is a metropolitan area in Poland consisting of three cities in Pomeranian: Gdańsk, Gdynia and Sopot, as well as nineteen towns and 113 villages. The city of Gdańsk is the capital of the Gdańsk metropolitan area. Gdańsk is located in northern Poland, on the Baltic Sea and the Gdask Bay. Gdańsk is the second largest city in Poland, with a population of 556,623. Gdańsk is the seat of the Gdańsk Metropolitan Area. Gdańsk is an important industrial and cultural city and a major seaport. Gdańsk is one of the oldest cities in Poland and one of the oldest ports in Europe. Gdańsk is one of the most important centers of Polish culture and history.

![Tricity map](image)

1.4. Selected model actions

- Free public transport for residents
- Opening the city to the water through the comprehensive urban planning
- Reducing car traffic through park-and-ride systems
- New strategies for the prevention of floods
- Desalination of water
- Use of seaweed for water treatment
- Sea-level rise causes sea floods
- Groundwater rise causes flooding buildings
- Risk of deterioration of drinking water quality
- Phenomenon of urban heat island
- Growing discomfort of living in the city by: lack of spatial coherence between green areas, poor connection-city water, exceeding of pollution

Proposals for application for Tricity

- Reduction of ticket prices for public transport
- Organizing the public areas at waterfronts, especially in Gdańsk, where there are areas caused by the construction of a highway
- Creating hybrid or electric vehicle in public transportation
- Finding a new way for reducing the drinking water contamination during the processes of introducing hybrid or electric vehicle transportation
- Modernization of the flood gates systems on storm water drainage in Gdańsk
- Creating systems of connection between the green areas in the whole Tricity area in a radial form along the preparation of the sparking Zaspa located throughout the city

Reference cities

- Estonia, Tallinn
- Sweden, Gothenburg
- Denmark, Copenhagen

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19 Baltic Sea Cities threats

- Source: own elaboration

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19 Baltic Sea Cities threats

- Source: own elaboration
4. Re-articulation of Baltic coastal districts’ identities from perception to practice. The case of the northern urban edge of Gdansk
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 east cities wounded during the war.
5. Multicultural coastal cities: what are the differences in culture of urban planning management? Comparison analysis of Gdansk and Gdynia
More information at
http://isocarp.org/mentor-student-research-lab/
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Ready for MSRL 3.0?