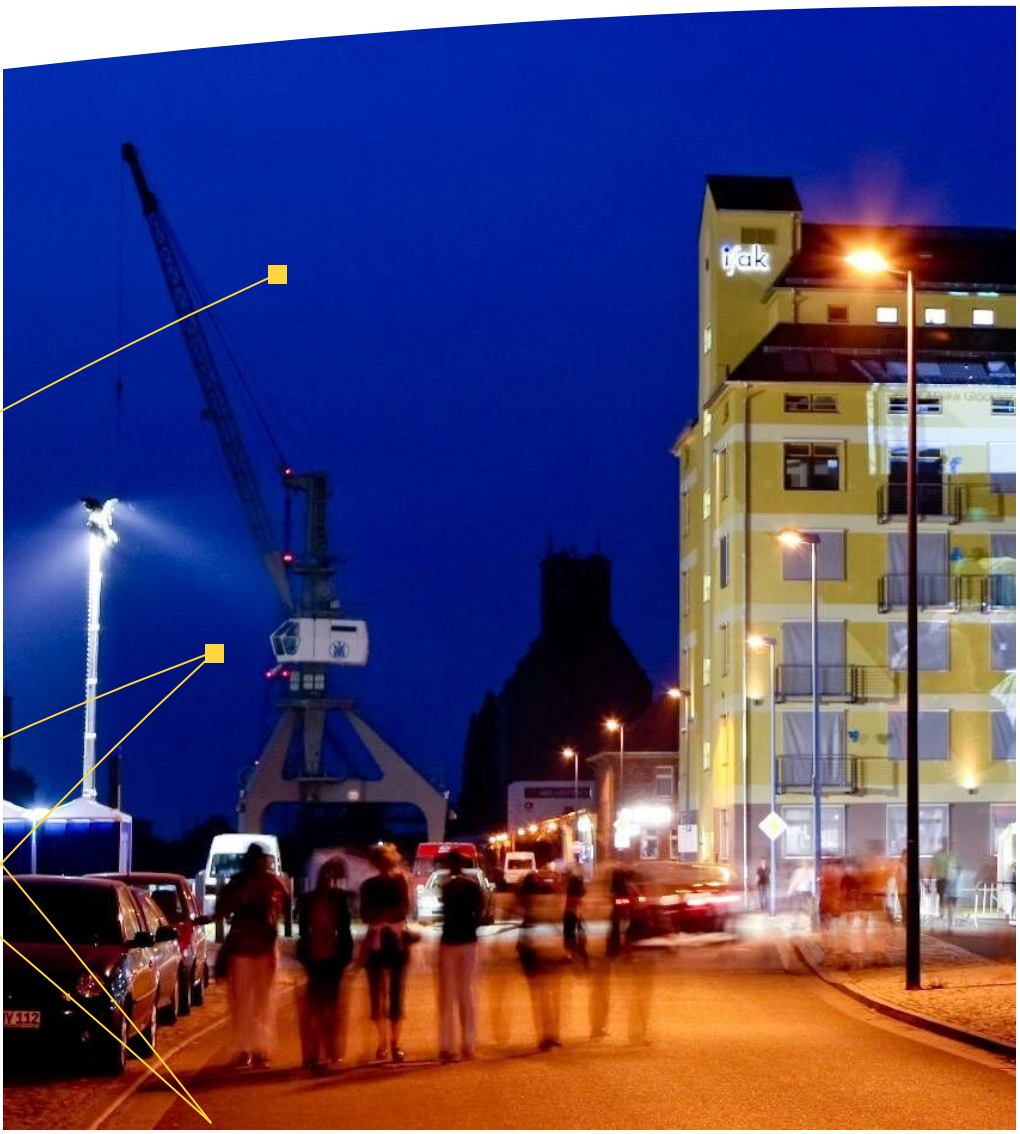
REDIS

Restructuring Districts into Science Quarters – Local Action Plan, Magdeburg

URBACT II



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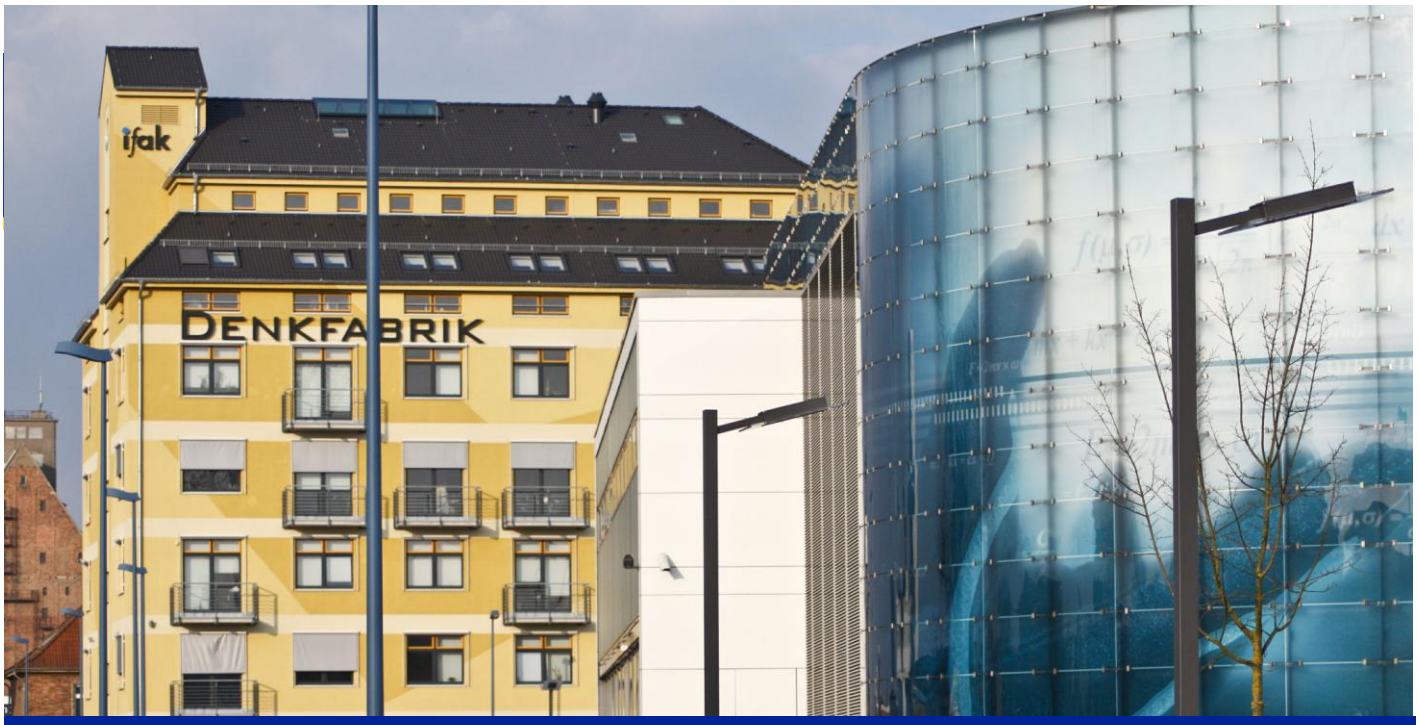


DEVELOPMENT OF THE PORT OF SCIENCE IN MAGDEBURG

LOCAL ACTION PLAN

1. Science and City Development

Science and research are becoming increasingly important drivers for the development of the cities. For the society in industrial countries and particularly for the cities, education of their citizens constitutes an essential condition for promoting the economic development and thus for safeguarding prosperity. Universities play a crucial role in this process. It is imperative to qualify people and to enable them to use scientific findings for developing new technologies and to transfer these into economic practice.

At the same time we must take into account that in Germany - as a result of falling birth rates - fewer young people are available and that the demographic development shows a continuous aging trend of our society. That means that there will be increasing competition of the companies to attract well-trained young people. As a result, enterprises will establish themselves only at sites that provide - apart from good infrastructural conditions - cooperation partners in the field of science and research as well as qualified junior staff.

The Regional Capital Magdeburg is rising to these challenges in a knowledge-based society. The widespread support for all scientific institutions is to guarantee that Magdeburg will remain an attractive location for study and research. At the same time Magdeburg promotes the influx of young academics with their families. In a further step the establishment of new research institutions and technology-oriented enterprises must make sure

that young graduates are offered attractive future-oriented jobs and stay in our city for a long time.

But also the existing enterprises need to face the future requirements and find new technological solutions for their products. This involves a permanent qualification and re-training process for their employees. In order to achieve this, the companies need high-performance scientific institutions as cooperation partners. The city's strategy of promoting science and technology thus also aims at strengthening the economic power of the local economy.

The development of the Port of Science is the city's flagship project in order to implement these targets. The Science Quarter has been designed as a location for research institutions and technology-oriented enterprises maintaining close contacts with the University Otto von Guericke. This will create synergy effects both between the local institutions as well as with the faculties and institutes. They can be particularly beneficial for the students who - apart from the requirements of the university syllabus - will have the opportunity to establish direct contacts with knowledge-based companies and external research institutions.

2. Urban and policy context

Magdeburg - geography and history

Magdeburg is the capital of the Federal State of Saxony-Anhalt and one of the political, cultural and economic centres in Central Germany. The city has 230,000 inhabitants.

Magdeburg looks back at 1200 years of history. In the 10th century, when the Holy Roman Empire of the German Nation under Emperor Otto I was founded, the city played a central role. In the following centuries it developed into one of the leading European metropolises of the Middle Ages. One of the outstanding historical personalities was the Mayor Otto von Guericke, who is still held in high esteem in view of his long-standing political activities, but also for his scientific work, e.g. researching the vacuum. Today the local university bears his name.

In the 19th and 20th centuries Magdeburg developed as one of the most important industrial cities in Central Germany. The economic development focused on mechanical and plant engineering. One of the most important conditions for that was its excellent geographic location, which has been an important basis for the economic development up to the present.

Magdeburg is located at the intersection of important road and railway lines. The motorway A2 constitutes one of the most important east-west-routes. The motorway A 14 provides the connection to the south, its northern extension towards the German coastal cities is under construction. The position of the city on the river Elbe has always constituted an important logistic advantage. This north-south-route from Prague to Hamburg has been supplemented by an east-west connection through a canal network. The two waterways meet in Magdeburg, which boasts one of the longest canal bridges in the world, and form the basis for the supra-regional significance of the Magdeburg inland port.

The city was heavily destroyed in World War 2. As a result of the division of Germany following the end of the war, Magdeburg became part of the Soviet sphere of power. Within the East European economic system Magdeburg occupied a dominant role in the area of heavy mechanical engineering. The collapse of this economic system brought about a radical structural change for the city which has not yet finished. Magdeburg is now a service and administrative centre, but also the traditional sectors such as mechanical and plant engineering and logistics have recovered reasonably well without, however, regaining their former role.

Science in Magdeburg

Over the last decades science has gained tremendous importance. In 1993 the three Magdeburg colleges were united and the Otto von Guericke University was founded. Today there are 13,500 students.

The main areas of research are dynamic systems and automotive engineering in the field of technical sciences and neurosciences in medicine. The University of Applied Sciences Magdeburg-Stendal was founded as early as 1991. This new institution is based on an entirely new campus in the eastern part of the city. The Magdeburg section has 4,500 students.

Germany's largest science organisations are represented in Magdeburg with new research institutes. They are:

- Fraunhofer Institute for Factory Operation and Automation (IFF)
- Helmholtz Centre for Environmental Research (UFZ)
- Leibniz Institute for Neurobiology
- Max Planck Institute for Dynamics of Complex Technical Systems

The ever-increasing role of science for the urban community is highlighted by the fact that the University Otto von Guericke, the University of Applied Sciences and all scientific institutes - in close cooperation with the city administration - organized a "Year of Science" in 2006. Many other groups of the community such as churches and sports associations, but in particular also the local companies, were involved in the organization and implementation of the event. Since then, a close cooperation regarding the subject of science between all the partners in the city has been developing.

Every year since 2006, the "Long Night of the Sciences" is celebrated. All scientific institutions are connected via a bus shuttle and open their laboratories for the citizens.

Since this time Magdeburg has also hosted the RoboCup competitions, where children and adolescents take part in various robot contests. Within the framework of the German Open celebrated in 2010, more than 1200 participants from eight countries took part in the event. A permanent cooperation has been established between the city, the University Otto von Guericke, the University of Applied Sciences and the scientific institutes on various levels. The city administration has formulated as one of their most important goals:

> "We accept and fully support the ongoing development of our city as a city of science. The research and education infrastructure is a basic prerequisite for attracting an increasing number of creative people to our city and to keep our talented junior staff here."

Port of Science in Magdeburg

In order to establish the city of Magdeburg nationwide as a scientific location, areas reserved for science and research need to be defined and developed. For this, the available resources are to be used. In close vicinity to the campus of the technical and scientific faculties there is a port area, the former commercial port. It was put into operation in 1893 as a part of the Magdeburg inland port. The whole area comprises 30 hectares. In the centre there is a port basin with a length of 995 m. Around this basin there are typical port installations such as historic cranes, silos and warehouses. The complete area is under preservation order.

Due to the lack of water level regulation the commercial port could no longer be used for the handling of goods and it was subsequently abandoned. In order to find a new use for this neglected area, it was incorporated into the urban development project Rothensee. Using this specific town-planning instrument from the Building Code, the city of Magdeburg can control the development in a targeted manner. A solution of the urban planning problem was found taking into consideration the close distance to the University. It was decided to redevelop the fallow commercial port as a science quarter in the hope that this proximity will result in synergy effects. With reference to its history the area was named "Port of Science".

The next step was the development of the infrastructure for future use. Apart from the transport infrastructure for developing the area, modern supply and disposal facilities were required. This process is being implemented step by step and has not yet been finished. The project was funded also by a grant from the European Union. Two important project parts are described below.

Title	Grant recipient	Contents	Year Project start	Year Project end	Total investment in EUR	EU
Former granary becomes Think Factory.	City of Magdeburg	Conversion of two granary buildings to create Think Factory	2006	2008	13,470,380	4,422,544
Extension of Werner-Heisenberg-Strasse.	City of Magdeburg	Providing infrastructure as well as media supply	2010	2011	1,710,000	991,800

The city of Magdeburg has commissioned an external company - the development agency KGE Kommunalgrund - to undertake project control.

An essential condition for developing the area is the fact that the city of Magdeburg is the owner of almost all the landed properties in the Port of Science. Only some of the silos are privately owned, but the owner company is in principle willing to sell the property.

Important research institutions are located close to the Port of Science.

The Max Planck Institute for Dynamics of Complex Technical Systems is located at the southern boundary of the area. A total of 250 scientists work in basic research projects in engineering sciences. The zone between the university campus and the science area houses

the Fraunhofer Institute for Factory Operation and Automation (IFF). Its 200 employees focus on questions of virtual planning of factories and the development of a modern and environmentally sound energy supply. Immediately adjacent is the Experimental Factory, an innovation and start-up centre where young companies can test new technologies under laboratory conditions before transferring them to the production. The start-up centre is run jointly by the city and the University. The set up of this incubator was funded by the European Union with 8.25m euros.

Parallel to the step-by-step development of the Port of Science, the first institutions have established themselves in the area. The Fraunhofer Institute has created the Virtual Development Center (VDTC), a research institute that allows the implementation of virtual project planning processes together with industrial partners. Nearby the regional capital Magdeburg has redeveloped a former silo and a granary to a "Think Factory" creating space for young innovative enterprises and university spin-offs. The largest tenant is the Institute for Automation and Communication (IFAK), an important affiliated institute of the University with a staff of 60. In the year 2009 the University - in cooperation with several scientific institutes - set up a testing area for the development of projects for the Galileo navigation system in a warehouse and the surrounding open space. By now the area has become interesting also for private investors. The newly-erected administration building houses a private power supply company particularly active in the field of renewables, as well as a telecommunication enterprise with about 320 employees.

URBACT-Project REDIS

The city administration and all the other project partners did not possess any previous experience with the development of a science quarter. At the same time there was the clear objective of using the potential of the Port of Science with a view to creating new and innovative jobs. It was agreed to use the chances of the URBACT Programme for project-specific networking with other European cities in order to exchange experience. The REDIS project has brought together eight cities which are planning to redevelop an urban area into a science quarter. The focus of attention for Magdeburg in this project was mainly on issues of creating an urban planning structure in the area, the connections of the Port of Science with the university campus and public transport. At the same time the exchange of experience with the international partners was supposed to provide new insights concerning the priorities for the establishment of companies and institutions, the framework conditions required for a science quarter as well as optimum management work.

The Project REDIS involved, apart from Magdeburg, the cities Aarhus (Denmark), Bialystok (Poland), Halle (Germany), Manresa (Spain), Newcastle (UK), Piraeus (Greece) and Vienna (Austria). Within the framework of the project each city hosted a meeting where all network partners discussed the proposed projects for this city and - as a result - submitted detailed recommendations for the development of the science quarter to the partner. The "Implementation Lab" method employed for each of the meetings ensured comparability of the meetings and thus showed useful effects.

Apart from that, the partners attended a Summer School in Aarhus where international experts provided information on important new findings and trends in the development towards a knowledge society. An important support for the development of the individual projects were the visits to the cities of Tampere (Finland) and Aachen (Germany), which have had outstanding experience in the development of science quarters. These "best-practice examples" have provided the partners with an important impetus for their projects.

Of particular importance has been the project support by the Lead Expert Willem von Winden, who has accompanied the network from the base line study in an outstandingly effective way.

Aarhus **Bialystok** **Halle**

Manresa **Newcastle**

Piraeus **Vienna**

Magdeburg

The Local Support Group (ULSG) required in the framework of URBACT projects was formed by members of the City Administration, the University Otto von Guericke and the University of Applied Sciences, the scientific institutes, companies and schools.

According to the Working Plan, the ULSG met four times. The most important task was the support for the development of the general conditions of city planning. The ULSG members were involved in the Implementation Lab in Magdeburg, where - together with the REDIS partners - proposals for the development of the Port of Science were prepared, which in turn were used for the Urban Planning Competition.

The USLG members were represented in the ULSG awards jury. The winner of the competition, who was also awarded the order for developing further urban plans, presented his proposals to the ULSG as a first step. On the basis of the discussion the master and framework plan are being elaborated.

The ULSG will continue to accompany the development of the Port of Science as a consulting board after the end of the REDIS project.

REDIS Local Support Group

Universities	University Otto von Guericke University of Applied Sciences Magdeburg Stendal (FH)	Prof. Klaus Pollmann Prof. Andreas Geiger
Scientific Institutes	Max Planck Institute Fraunhofer Institute IFF Institute for Automation and Communication	Prof. Kai Sundmacher Prof. Gerhard Müller Prof. Ulrich Jumar
Enterprises	GETEC KGE Kommunalgrund Zephram	Dr. Karl Gerhold Herr Hans-Joachim Bartsch Prof. Graham Horton
Schools	Grammar School Werner von Siemens	Principal Dr. Muth
City administration	Lord Mayor Construction Administrator Economic Administrator Urban Planning Director	Dr. Lutz Trümper Dr. Dieter Scheidemann Herr Rainer Nitsche Herr Joachim Olbricht

2. Actions in connection with the LAP

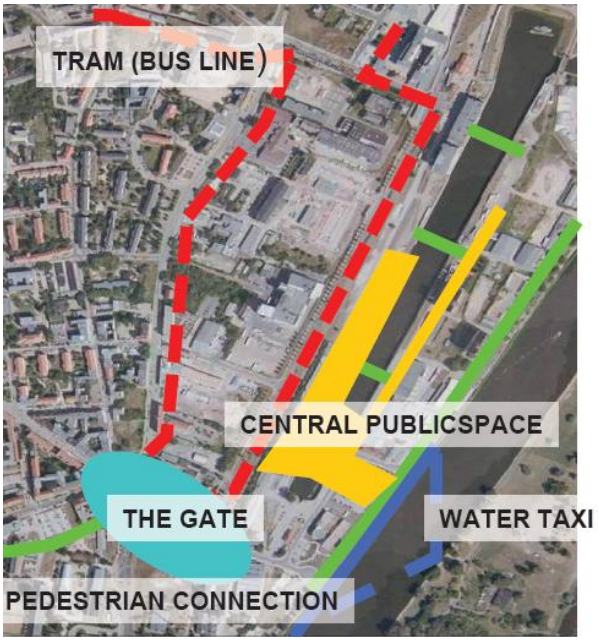
Goals, objectives and activities

Implementation Lab 2 - 4 March 2009

An important part of the REDIS Project and the Local Action Plans was the Implementation Lab in Magdeburg. During this meeting the experts from the partner cities and representatives of the City of Magdeburg, especially the ULSG members, discussed the development of the Port of Science.

The discussion focussed on issues of urban development, particularly the connection of the area with the university campus. The proposals developed within the framework of the Implementation Lab became an essential part of the international competitive tender for the international urban development.

Excerpt from the final presentation of the Implementation Lab:



The development of transport connections is of paramount importance. In the focus of attention are the links to the university campus. Another important issue is to provide public transport services for the area. At the same time the area requires architectural landmarks in order to create a unique and distinctive character. Moreover, the accessibility of the city centre is to be improved.

International Ideas Competition for Architects and Landscape Planners

The conversion of the former industrial area into a science quarter requires urban design documents providing the legal basis for the reconstruction of the area. In order to achieve this, a master plan and - based on this - a framework plan are envisaged.

As this constitutes a complex planning process, an International Ideas Competition was initiated in order to find good ideas and particularly qualified architectural offices.

The technical responsibility for this competition was assumed by the *Urban Planning Office.* The *Science Team* and the REDIS partners arranged for the participation of qualified offices from the partner cities. The number of participants was limited to 20 offices. All architects were invited to Magdeburg for the kick-off workshop. They were informed about the framework conditions and had the chance to ask questions. This colloquium was organized by the *Science Team* which also provided support for the foreign offices.
The *Urban Planning Office* was in charge of the organisation of the event (submission of competition entries, jury sessions, preparation of the award ceremony) and the composition of the jury. The award ceremony was held in the library of Otto von Guericke University on 16 February 2010.

Development of a master and a framework plan

The winner of the competition was commissioned to develop a master and a framework plan. Technical support for this is provided by the *Urban Planning Office.* The Science Team as well as other specialist authorities are involved in this process.

The winner of the competition presented his results to the ULSG, and - based on the ensuing discussion - started his work. The ULSG will accompany the development of the Port of Science also after the end of the REDIS Project.

Development of a scientific profile

"Science Areas" such as the Port of Science require a scientific profile. One of the essential advantages of such development projects is that the scientific institutes and facilities as well as the technology-oriented enterprises in the area can benefit each other in their work. That is to say that the development needs to be accompanied by clear structural targets in keeping with the scientific orientation of the University. As the Port of Science is located in close vicinity to the university campus, this will result not only in synergies within the area but also in considerable positive effects as a result of the cooperation with the faculties of the University. Apart from that, the cooperation aims at having positive effects on the students' training. The *University Otto von Guericke* is in charge of the development of the scientific profile. For this, the cooperation with the institutions established on site is very useful.

Infrastructure

The basic condition for developing the area is to create the required infrastructure. Both traffic connection and supply and disposal systems were designed for operating a commercial port and the facilities require urgent rehabilitation. As an additional feature the area was crossed by a high voltage power line supplying large parts of the Regional Capital of Magdeburg with electricity. This line had to be rerouted.

The *Construction and Urban Development Office* - in close cooperation with the private development agency KGE Kommunalgrund - is in charge of rebuilding the infrastructure.

The infrastructure is being renewed step by step, starting in the southern part of the Port of Science. So far the power line has been rerouted, and a transformer station, which would have made the establishment of facilities with highly sensitive technical equipment impossible, has been demolished.

Improving the quality of life / Tapping potential for tourism

A high quality of life in the area is particularly important for science quarters. The institutions employ highly-qualified staff who require an environment stimulating their creativity. Apart from that, it is imperative to create spaces facilitating communication between the employees of the individual institutions.

Furthermore, a science quarter needs to be attractive for other parts of the population. Visitors should be able to experience science and creativity, which in turn influences the culture and the intellectual climate in the city.

Points of interest enhancing the area's attractivity need to be created in order to implement this strategy. The *Economy and Tourism Office* is overseeing this development. There are plans for cycle paths, the redevelopment of the northern part with a historic railway and boat exhibition as well as the establishment of a small shipyard.

Marketing for the area / Science events

A marketing strategy for the science quarter needs to be developed. The Port of Science must obtain a high degree of popularity with technology-oriented companies as well as scientific institutions of the most important branches. This task is to be coordinated by the *Science Team* of the city administration in cooperation with the University and the on-site institutions.

At the same time the awareness of citizens of Magdeburg for this area must be raised, thus underlining the particular role played by science und research for the city's development. For this, suitable marketing strategies are to be employed. The Port of Science must become the focus of attention over and over again by science events such as the "Long Night of the Sciences". This is also a task for the *Science Team*.

Establishing technology-oriented enterprises

On the basis of the priority focus, technology companies are to be targeted directly. This requires particularly close cooperation of all actors involved. The activities are to be coordinated by ULSG, the cooperation with this group is to be continued after the end of the project period. The *Science Team* is in charge of the cooperation between the actors involved. For the time being, the companies are being approached by the *development agency KGE* in close cooperation with the Economy and the Construction department.

Establishing scientific institutions

Increasing the number of scientific institutions already established in the Port of Science is of utmost importance. This can be public institutions, e.g. from the University environment, or expansion or new investment projects of big scientific associations and communities, but also private institutes. All parties involved in the development process are required to participate actively. The *University* with its manifold scientific contacts plays a particularly important role in this process.

Establishing specific service providers / Building flats

The success of the science quarter largely depends on the availability of specific services. In tune with the development of the area, such companies must be established in a targeted manner, accompanied by social and cultural facilities as well as restaurants and bars.

An important aspect of the project is to create a good balance of scientific institutions, technology-oriented enterprises and service providers. Additionally to that, a suitable amount of housing should be provided in order to make sure that there is a full-time public life in the area and that the social control required is guaranteed.

For the time being, the private *development agency KGE Kommunalgrund* is in charge of this task for which close coordination with the Construction and the Economy Department is necessary.

Public transport connections of the area

The functionality of the area largely depends on how it can be reached. Apart from creating suitable street and footpath access, efficient public transport connections are a central issue. The *Urban Planning Office* is coordinating the cooperation with the municipal transport company *Magdeburger Verkehrsbetriebe*. A bus route has been tested since December 2010.

Integration of the Port of Science into the neighbourhood

The Port of Science is not only adjacent to the university campus, it also constitutes an important element of the district "Alte Neustadt", which is characterized by large residential areas and some industrial companies. These enterprises are located directly at the boundary to the Port of Science. It is the task of the urban planners to create the conditions that the Port of Science can be developed without endangering the existence of the neighbouring companies. In order to achieve this, the existing potential for conflicts is to be minimized.

The inhabitants of the neighbouring residential areas are to be informed about the development of the Port of Science and to be involved in the process of integrating the area. The *Urban Planning Office* is in charge of coordinating all relevant activities.

Coordinating the cooperation

The close cooperation with the University, the companies and institutions in the area and the city administration are indispensable for the development of the Port of Science. The ULSG is in charge of this task during the project period. As the development of the area will continue long after the project is finished, this cooperation needs to be maintained, for which the *Science Team* of the city administration will be responsible.

Business model and governance of the area

The Port of Science is part of the urban development project Rothensee. Being part of this project means that the development goals for the area had to be defined. During the implementation phase these goals can be adapted and revised. At present the master and the framework plan are being developed for the Port of Science.

The city has commissioned the private development agency KGE Kommunalgrund (KGE), a subsidiary of Bayrische Landesbank, to develop the area. The contracts guarantee that the city is still in the driver's seat by way of creating a steering committee to which the development agency is accountable. A work group under the responsibility of the Building Department was established for the coordination of the cooperation.

KGE is in charge both for setting up the required infrastructure for supply and disposal and for building roads. In addition to that, KGE assumes the task of attracting investors in close cooperation with the city administration.

An essential prerequisite for a positive development is the fact that the city is the owner of the vast majority of the plots in the Port of Science.

4. Added value of REDIS

The Port of Science is one of the most important and long-term urban projects of the regional capital Magdeburg. After the end of the commercial operation of the port, an intensive discussion resulted in the decision to develop the area for the establishment of scientific and research institutions as well as for technology companies under the name "Port of Science".

During the implementation of the project it became apparent very quickly that the task at hand is very complex and the city does not have any previous experience with such a project.

The URBACT programme has provided the tools to elaborate solutions within the framework of an international city network and to benefit from the positive experience of the other partner cities. The REDIS project has provided the framework for this successful exchange.

The necessity to bring together the local decision-makers in a Local Support Group for the implementation of URBACT project is of particular significance for the Port of Science, as it has created an intensive communication exchange between the individual institutions and companies involved in the project. It is planned to continue this cooperation beyond the end of the project.

The role of Managing Authority for REDIS was assumed by the Ministry of Regional Development and Transport of the Federal State of Saxony-Anhalt for the regional capital Magdeburg. This has given a lot of fresh impetus to the development of the area thus ensuring that the Port of Science could become an important project of the International Building Exposition 2010. The Ministry provided a large part of the grants required for the development of the Port of Science.

REDIS used the Implementation Lab method where the situation on site is analysed by all partners in a structured process and proposals for the further development are submitted. In this process the representative of ULSG and representatives of the project partners work closely together.

The effect of the REDIS project became quite apparent when the Implementation Lab in Magdeburg was evaluated. The final presentation identified deficiencies in the development process before the start of the project:

These critical comments have been a useful basis for the work of the city administration and ULSG. Within the framework of the Implementation Lab very constructive discussions on the perspective of the Port of Science were held. The proposals drawn up in the Lab constituted the basis for the tasks of the International Urban Design Competition. Qualified architectural offices from all partner cities were invited thus making sure that the experience from the city network could be incorporated into the development.

An important contribution to the development of the project, particularly in Magdeburg, was provided by the Lead Expert. With Willem van Winden the REDIS network succeeded in recruiting an international expert for the project management. His experience was also beneficial when he acted as a jury member in the International Urban Design Competition for Architects.

The project approach of REDIS to organize a meeting in each partner city and to look into the individual projects of science quarters on-site within the framework of an Implementation Lab with exactly identical methods, was very helpful for understanding the issues thanks to the comparability and provided useful methods for resolving detail problems within the development of the Port of Science. An important stimulus was provided by the Site Visits in Tampere (FIN) and Aachen (GER).

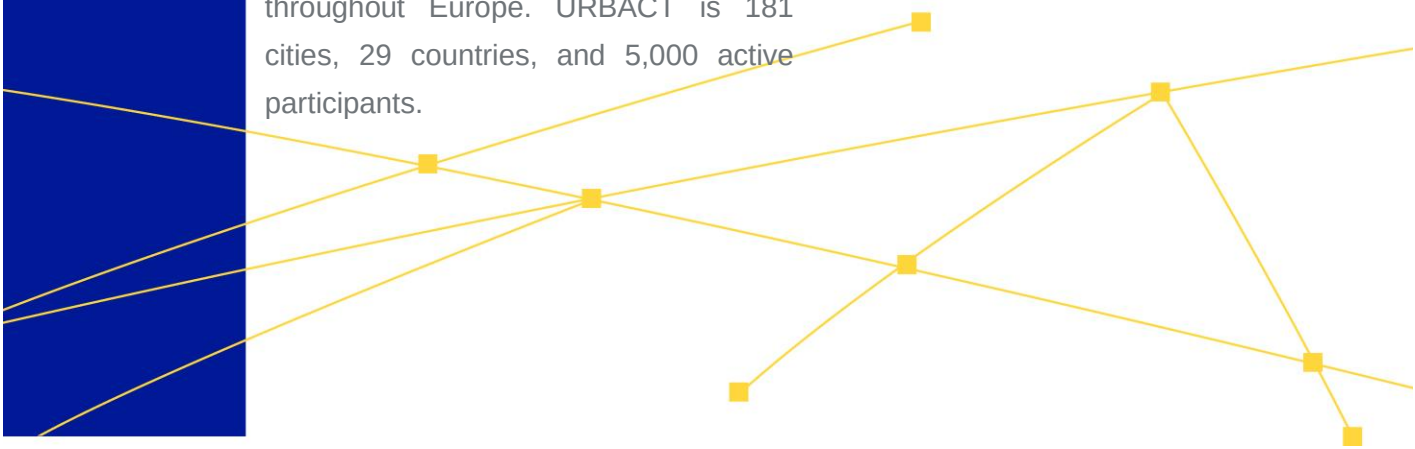
URBACT with its REDIS project has established the basis for creating a network that works very well as a platform for exchanging information, also outside the official project meetings for solving day-to-day problems on a bilateral level. This platform will continue to exist after the end of the project.

REDIS was the first EU project for the Regional Capital Magdeburg. It has basically promoted the understanding for the mechanisms of cooperation with communities in other EU countries and has stimulated the willingness to participate in future European projects.

URBACT II

URBACT is a European exchange and learning programme promoting sustainable urban development.

It enables cities to work together to develop solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal challenges. It helps them to develop pragmatic solutions that are new and sustainable, and that integrate economic, social and environmental dimensions. It enables cities to share good practices and lessons learned with all professionals involved in urban policy throughout Europe. URBACT is 181 cities, 29 countries, and 5,000 active participants.



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