COBRAMAN

Manager Coordinating Brownfield Redevelopment Activities

CENTRAL EUROPE Project 1CE084P4 COBRAMAN www.cobraman-ce.eu

Report about concepts and tools for brownfield redevelopment activities

WP 3
Output No. 3.1.1

Prepared by:
Alexander Tölle, Dominika Muszyńska – Jeleszyńska, Jakub Tadych, Magdalena Jasińska and supporting team
University of Economy in Bydgoszcz
PP No. 3

Bydgoszcz, Poland, July, 2009

WYŻSZA SZKOŁA GOSPODARKI W BYDGOSZCZY www.wsg.byd.pl

CENTRAL EUROPE COOPERATING FOR SUCCESS.

EUROPEAN UNION EUROPEAN REGIONAL DEVELOPMENT FUND

This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF.

Working group:

Alexander Tölle

Dominika Muszyńska – Jeleszyńska

Jakub Tadych

Magdalena Jasińska

Supporting team:

Agnieszka Goździewska

Agnieszka Jeran

Cezary Kościelak

Mieczysław Kunz

Marcel Kamba – Kibatshi

Joanna Nieżurawska

Katarzyna Szalla – Neumann

Project cordinator:

Dariusz Sokołowski

Contents

Introduction

The presented document is the first report undertaken within the COBRA MAN project which one of the core output is to set up a knowledge data base about previous brownfield regeneration projects. The idea of the data base is to create an effective decision support tool which will be useful for all direct and indirect beneficiaries of the brownfield redevelopment areas first in the Partners' and next in all Central Europe countries. The report is also an important document with the main objective defined as the description of the existing concepts and tools in the previous brownfield regeneration projects. The reason why the concepts and tools developed in the previous EU projects on the brownfield regeneration are presented in the report is looking for inspiration on how the brownfield management matrix should look like. This matrix, being one of the mile stones of the COBRA MAN project will be discussed in details during the Workshop assessing existing concepts and tools on brownfield regeneration which will take place in Bydgoszcz on October 5th – 7th 2009.

The Authors took into their investigation and research the following, among others, projects which dealt with the brownfield regeneration issues:

- BERI
- CABERNET
- INCORE
- LUDA
- MAGIC
- NORISC
- PROSIDE
- REKULA
- RESCUE
- REVIT
- SEBCO

The report consists of three chapters. The first one contains the description of the importance of revitalization issues in the Partners' countries and widely in the Central Europe. It also underlines the threats and opportunities associated with practical aspects of revitalization projects in different countries. Besides described difficulties, brownfield regeneration becomes more and more important issue for stakeholders in EU countries. The situation is caused by the large number of cultural and historical importance sites, which has been destroyed mainly because of the economic transformation process in the Central Europe.

The second chapter contains descriptions of particular EU revitalization projects. It starts (point 2.1) with the description of diagnosed problems connected to undertaken research on brownfield regeneration issues. Next (2.2) is a characteristic of the above listed projects and contains the following data: general information about each project, place and time where it had been undertaken, its budget, key objectives and additional sources of information. The Authors tried to concentrate on the best practices of the following dimensions developed by the described projects:

- environmental
- project management
- economic and financial
- technical solutions
- legal
- social
- marketing
- heritage

The last part of this chapter (2.3) concentrates on the description of relevant concepts and tools in brownfield regeneration. The Authors presented the most important models and tools in the field putting emphasis on their theoretical and technical aspects. Unfortunately, the Authors were not able to receive all necessary information, and this is the reason, why the models and tools descriptions are sometimes lack of important data. It was difficult to identified all concepts, models

and tools developed by the above mentioned projects partially because there was not a proper definition what can be regarded as a new concept, model or tool in the brownfield regeneration. The Authors tried to present only the new concepts, models and tools developed as an effects of the particular UE projects.

The last chapter concentrates on practical relevance, usefulness and applicability of the concepts, models and tools which had been developed as outputs of the projects described in chapter 2. These tools are to be practically used, so therefore they had been categorized into the following groups:

- Conceptual models in brownfield regeneration & learning (7 models and tools)
- Management & marketing dimension (10 models and tools)
- Economic and financial dimension
- Environmental dimension & Technical solutions (4 models and tools)
- Social dimension (6 models and tools).

The Authors decided to use tables for the models and tools presentation. They hoped, it would be helpful in looking for the particular information which are important for those who are interested in this report.

Report has been created on the basis of the informations from similar brownfield regeneration's projects. Below we would like to highlight all source of informations which have turned out to be an asset for us and had a huge impact for the progress of creating that report:

- Final reports
- Brochures
- Links to relevant internet sites
- Databases
- Best practices guidelines

Brownfield sites in Central Europe: A brief introduction to problems and potentials

The Deindustrialisation Context

For more than half a century, the cities west of the former Iron Curtain have experienced a massive process of change and restructuring in spatial, social and economic terms. Under the influence of digitalisation and rationalisation and even more significant in the context of globalisation industrial activities have undergone considerable changes. In particular, significant impacts are seen in the downsizing of enterprises and the complete loss of whole production industries and industrial centres. Growth in other service industries and transformations in the urban lifestyle have also led to significant changes in land use. These processes have led to the creation of brownfield sites in urban areas. This process of deindustrialisation has resulted in wide scale dereliction in some areas and scattered temporal declines in other cities. Overall these changes have left Europe with a significant legacy of brownfield sites. The persistence and distribution of brownfield sites represents a significant trans-European urban management problem. Despite of the long legacy and massive scale, there still is no standard definition for brownfield sites across Europe. However, common usage of this term would subscribe to the definition applied in the CABERNET report, stating that brownfields are sites “that have been affected by the former uses of the site and surrounding land; are derelict and underused; may have real or perceived contamination problems; are mainly in developed urban areas; and require intervention to bring them back to beneficial use”.

Brownfields Require Active Policies

The aspect of required intervention on behalf of the cities and regions is at the core of the COBRAMAN project. Brownfield sites are not some inevitable plight cities have to come to terms with in the face of global processes that they cannot influence. On

the contrary, they require action. There are some cases where the creation of brownfield sites in conjunction with poor land management practices have led to urban decay, deprivation and social conflicts. Tackling the roots of the problem that relate to unsustainable land management and in particular brownfields is a challenge, and the importance of this task is not to be underestimated. The economic, social and environmental burdens are undoubtedly significant, and unfortunate handling may increase land–related conflicts in densely urbanised regions. This could undermine the social coherence and competitiveness of European cities and regions.

Brownfields Area Offering Potentials

However as has become clear and proven in numerous projects brownfield sites are more than just a threat – they are also offering important potentials for the sustainable development of cities and regions. As well as reducing negative impacts (e.g. reducing suburbanisation processes), revitalising these areas can also facilitate opportunities at numerous levels by improving urban quality of life and enhancing urban competitiveness. Although political decision makers face numerous challenges, for example in the areas of transportation and urban health, the beneficial re-use of brownfield sites pervades and impacts on so many other urban issues that it requires a high level of both technical and political attention. Finding solutions for brownfield sites is an increasingly important part of the search for effective policies that are aimed at ensuring a sustainable future for land and cities in particular. Taking this potential into account, brownfield restructuring should consistently be part of a coherent spatial and strategic land management approach, particularly with respect to the wider issues of economic, environmental and social dimensions of sustainable development (as e.g. defined in the CABERNET project):

- Economic: Mobilising human resources, using existing sites and infrastructure to modernise and improve the urban fabric. Generate economic growth in urban quarters, increase public and private income,
- Environmental: Cleaning up, restoring previously used land. Placing brownfields regeneration at the forefront of regeneration strategies and using

this programme as a driver for the clean-up of contaminated land. Reducing land consumption and urban sprawl by encouraging sustainable brownfield regeneration projects,

- Social: Ensuring the long-term sustainability of brownfields redevelopment by including socio-cultural dimensions. Mobilising communities to ensure representative and equitable sustainable development which may reduce the potential for subsequent decline and recreation of brownfields, improving the quality of life in city areas.

Brownfield Redevelopment as Integral Part of EU Policy Objectives

As has been summarised in the EUBRA Agenda 2007, there can be no doubt that the importance of brownfield site restructuring has steadily grown in the context of European policies. With the Lisbon Agenda setting the target for economic growth and job creation and the EU Sustainable Development Strategy (SDS) adding an environmental dimension to it, the overall aim is to ensure that economic growth, environmental quality and social inclusion go hand-in-hand. With more than 60% of the EU population living in urban areas, the cities are bound to play an important role in this context. Sustainable urban regeneration is a key component in improving economic prosperity, creating more employment opportunities, supporting social inclusion and protecting the environment. These issues, more than ever, need to be complementary and achieve mutually beneficial goals. It is in urban areas where the environmental, economic and social dimensions are strongly interlinked. A high quality urban environment contributes to the priority of the renewed Lisbon Strategy to make Europe a more attractive place in which to work, live and invest. In this context, it is important to dedicate resources to rehabilitate the physical environment, revitalise brownfield sites, and preserve and develop the historical and cultural heritage of depressed sites and areas. This has potential positive spin-offs for retail, commercial and tourism interests, creating more attractive cities. The regeneration of existing public spaces and industrial sites plays an important role in avoiding suburbanisation and urban sprawl, thereby helping to create the conditions necessary for sustainable economic development.

Experience on Brownfield Redevelopment

Given the importance of brownfield sites restructuring, it is small wonder that this topic has been an issue of numerous European as well as national and regional projects in the "old" EU member states. In that context one may define two challenges: first to bring together the experiences of these projects, a task that has not been accomplished before and is the objective of this report. The COBRAMAN partners have defined seven dimensions deciding on the practical relevance, usefulness and applicability of identified tools and concepts for brownfield site redevelopment:

- environmental dimension
- project management
- economic and financial dimension
- technical solutions
- legal dimension
- social dimension
- marketing

The choice of these relevant dimensions is based on the evaluation of former projects dealing with brownfield sites redevelopment. As has been stated in the EUBRA Agenda 2007, brownfield related issues can be grouped based on the key elements of sustainable development, i.e. social, economic and environmental issues. The regulatory and institutional dimension, covering policy approaches and regulatory practises can be considered as a cross-cutting issue. Yet so far economic and environmental objectives have largely driven brownfield redevelopment, therefore in future more attention needs to be paid to the social dimension. Hence community involvement plays a key role in achieving an improved quality of life in urban areas and fostering social well being of the residents. Concerning the economic dimension, key issues on finance and marketing of brownfield redevelopment are the development of better ways of Public Private Partnership (PPP) and new forms of financial engineering and marketing. Dealing with the environmental dimension at the urban scale comprises environmental management

and regulations, environmental aspects of planning, environmental tools dealing with air, soil, water and waste as well as the consideration of natural assets. Hence there is above all a challenging need to generate multidisciplinary integrated approaches based on the defined dimensions, in order to achieve well balanced redevelopment schemes to improve quality of life in urban areas.

The Central European Latecomer Situation

The second challenge concerning prior experiences however is perhaps even more demanding: to apply the “western” experiences to the post-communist countries in CENTRAL Europe where brownfield revitalisation will be of growing importance. Large investments will be needed to revitalise the sites and reintegrate them in the real estate market. Alongside with any EU subsidy measures the know-how transfer in order to achieve effective capacity building as well as transfer from research to practice needs to be stimulated. While it is not possible to generally summarise the situation in all post-communist countries, there are certainly some features applying to most of them:

- The deindustrialisation process and with it the emergence of brownfield sites after the breakdown of communist rule have been severe, and in contrast to western cities this took place rather in a time lapse.
- During the 1990s, the economic conditions as well as political, legal and administrative structures were often chaotic, rarely allowing for any strategy on brownfield management.
- Existing brownfield sites restructuring projects tend to have been implemented – just like other large urban investment projects – by the private sector.
- Restricted municipal budgets limit the public sector’s possibility to act.
- Public awareness for industrial heritage and environmental aspects is only growing.
- Deindustrialisation and job losses lead to increasing social tensions and polarisation processes.

Even if brownfield sites in different regions have their specific characteristics, history and relations to their surroundings, general procedures can be considered. The reason for transnational co-operation is to share best practices, to define verified methods of urban regeneration, to use the methods in practical cases and to offer them in a European framework to others. There is a strong demand on know-how-transfer, both horizontal between different national expertises, notably in an West-East exchange context, and vertical from research into daily practise. Given the mentioned common features, it is small wonder that urban brownfields in the cities east of the former Iron Curtain are sometimes treated without proper organisational, technical and financial background. Wild investment however can lead to non-effective results and to cost increasing. Many municipalities lacking professional managers cannot afford their education and have no organisational schemes how to manage complex projects such as brownfield redevelopment schemes. Also information basis is often very poor, and such is transnational comparison of best practices. On the other side these cities are keen to be applicants for support from special Operational programmes (EU Structural funds) focused on land and brownfield remediation as the costs involved are often very high. Hence brownfield revitalisation will be of growing importance in the eastern EU member states. Large investments will be needed to revitalise the sites and reintegrate them in the real estate market. Alongside with any EU subsidy measures the know-how transfer from western to eastern Countries in order to achieve effective capacity building as well as transfer from research to practice needs to be stimulated. Brownfield revitalisation is often long term, complex, and involves a wide range of professional disciplines as well as political actors and different stakeholder groups. There is a profound need for professional process management to develop opportunity plans and to steer revitalisation processes.

The Need for Good Management of Brownfield Site Redevelopment Projects

Deindustrialised areas are challenging all CENTRAL European cities (e.g. from “western” Stuttgart as traditional core of automotive industry to “eastern” Ostrava as traditional mining area or to Bydgoszcz as a centre of communist mass industrialisation policies). Due to water and soil pollution those areas are risky for inhabitants and neighbourhoods concerning health, environment, administration, finance, social, culture, etc. Local government needs to deal with the above mentioned risks in a competent, integrative and interdisciplinary way. In CENTRAL Europe there is no standard of education in this field, therefore the expected outcomes of COBRAMAN concerning standards of education in all countries will be most beneficial for local governments. Effective management of revitalisation processes and related tools are the urban contribution to growth and jobs within cities and regions. Moreover it strives to combat related social and spatial segregation threatening the competitiveness of CENTRAL European cities. It is a key to improve the quality of life and the environment in urban areas and to promote a more balanced urban development of these cities and regions. An effective brownfield management based on prior experiences, concepts and tools as well as on exchange between the COBRAMAN partners is to support the necessary paradigm driven by globalisation and the new knowledge economy. Thus the integration of a well trained brownfield manager within a municipality and the availability of a user’s guide to brownfield management will enable effective and successful rehabilitation and conversion processes.

2. Relevant Research Projects on Brownfield Sites in CENTRAL Europe

2.1. Scope and issues of Brownfield research

There are numerous multifaceted activities related to the topic of “Brownfields” from several past funding programmes like the INTERREG IIIB co-operation areas, furthermore from RDT Framework Programmes. It was the aim of the European Brownfield Revitalisation Agenda EUBRA to connect them.

The five key messages of EUBRA are:

1. Revitalisation of brownfield sites plays an important role in avoiding urban sprawl, thereby helping to create the conditions necessary for sustainable development. A high quality urban environment contributes to the priorities of the renewed Lisbon Agenda to make Europe a more attractive place to work, live and invest. Current practice can still be substantially improved and awareness of the need to integrate brownfield revitalisation in sustainable urban development should increase. Professional stakeholder engagement in the western and eastern EU Member States may enhance the process of rethinking in daily practice, to reach a paradigm shift, where more and more brownfield sites will be favoured over developments on greenfield sites.
2. Comprehensive data sets on brownfield land and other land uses would be useful to translate sustainable regeneration principles and objectives into actions at EU, national and regional level. This will allow to develop indicators and to set operational targets for brownfield revitalisation and will help to set priority targets at the different levels of action.
3. Brownfield revitalisation will be of growing importance in the eastern EU Member States and the issue of dealing with mega-sites will gain more attention. Besides new concepts for brownfield management, large
4. investments will be needed to revitalise these sites and reintegrate them in the real estate market. Alongside with any EU subsidy measures the know-how transfer from western to eastern countries in order to achieve effective capacity building as well as transfer from research to practice should be stimulated.

5. Currently there is a wealth of methodological project results, approaches and technical tools available from EU funded projects. The first steps towards a collecting and structuring these (e.g. EUGRIS information system) have been taken. This route should be followed to achieve an optimal capitalisation of knowledge gained with the support of public funds – the existing knowledge should be disseminated more effectively and in a well structured way. Demonstration projects are needed to enhance the application of innovative approaches.
6. Brownfield revitalisation is often long term, complex, and involves a wide range of professional disciplines as well as political actors and different stakeholder groups. Co-ordination and communication are essential to sustain complex projects, and the management of the process as such is more evident than sole technical aspects. There is a need for professional process management to develop and deliver opportunity plans and to steer revitalisation processes. Besides a thorough consideration of process management aspects, the issue of community involvement as well as new market instruments to facilitate the redevelopment of brownfield sites should be main objective of future research and pilot projects.

One of the main aim of the Cobra Man project within the Work Package 3 “Knowledge base and decision support”, was gathering and analysing the knowledge about the previous - realised projects from Central Europe, which had obtained founding from European Aid Programs (particularly either from FP5 or FP6, and INTEREG III B). They mainly refer, in the broad sense, to urban, degenerated sites within the cities. First steps into the project enabled to create the list of projects, which is attached below.

Table.1. An exhausting list of urban revitalisation's project

Project's Name (Abbreviation)	Full Project's Name
BERI	Brownfield European Regeneration Initiative
BERISP	Breaking Ecotoxicological Restraints in Spatial Planning
BUUF	Balitic Univeristy Urban Forum
CABERNET	Concerted Action of Brownfield and Economic Regeneration Network
CONVERNET	Developmnent of a Central/Eeastern European Conversion Network
EUGRIS	European Groundwater and Contaminated Land Information System
HERMES	Hotspot Eurosystem Research on the Margins of European Seas
HYGEIA	Hybrid geophysical technology for the evaluation of insidious contaminated areas
INCORD	Integrated Concepts for Regional Development
INCORE	Integrated Concept for Groundwater Remediation
INTEGRA SITES	Integrated Management and Revitalisation of Contaminated SITES Country: France
LNET	The European Learning Network
LUDA	Improving the quality of life in the Large Urban Distressed Areas
MAGIC	Management of Groundwater in Industrially Contaminated Areas
MASURIN	Management of Sustainable Revitalisation of Urban Industrial Sites
NICOLE	Network for Industrially Contaminated Land in Europe
NORISC	Network Oriented Risk assessment by Instu Screening of Contaminated sites
PROSIDE	Promoting Sustainable Inner Urban Development
RARE	Rhetoric And Realities: Analysing Corporate Social Responsibility in Europe
RECORE	Regenerating Europe's Coalfield Regions
RECULA	Restructuring Cultural Landscapes
RELEMCOM	Reclaiming Land Empowering Communities
RESCUE	Regeneration of European Sites in Cities and Urban Environments
REVIT	Revitalising Industrial Sites
SAUL	Sustainable and accessible urban landscapes
SEBCO	City-hinterland cooperation as motor for regional development in the South Eastern Baltic
SNOWMAN	Sustainable management of soil and groundwater under the pressure of soil pollution and soil contamination
SULFANET	Sustainable Use of Former and Abandoned Landfills Vitalizing City Centres through Integrated Spatial Planning
SURE	A Time Oriented Model for Sustainable Urban Regeneration
VISP	Vitalizing City Centres through Integrated Spatial Planning
WUD	Waterfront urban development

SOURCE: own elaboration

Presented projects involve several areas of regeneration. Thus, for example, the Recore project focuses on the problem of regenerating of European coal mining regions, Magic and Incore concentrates on groundwater supplies, Convernet is acting for the civil reuse of former military sites. Beri project promotes Brownfield development as a holistic process directly connected to sustainable development.

Project Sure is acting in the name of improvement the quality of urban life. Sebco engaged. Despite differences in the approach, every projects has a close relationship with the foundation of sustainable development and also underlines the multi dimension of Brownfield revitalization. Also the issue of stakeholders involvement is discussed in detail in each project.

In accordance with the research article is an attempt to identify, describe and analyze the actions which bear the characteristics of good practice.
As a result, research projects and analyzes all the activities described are grouped into eight dimensions, which are:

- environmental dimension,
- project management,
- economic and financial dimension,
- technical solutions,
- legal dimension,
- social dimension,
- marketing,
- heritage.

The point of that report was to systematize the knowledge regarding the revitalizing projects, and on the other hand the assessment of either existing or recently created tools (within that projects) for Brownfield Redevelopment Activities. In order to achieve it, plenty of Project's analysis which had been already realized from 90's up to now, has been made. These studies indicated a dozen or more projects, which subject matter was very interesting from the relevance for Brownfield Manager's point of view. These projects are:

Table 2. The list of key urban revitalisaion's project which had been presented in the report.

Project's Name (Abbreviation)	Full Project's Name
BERI	Brownfield European Regeneration Initiative
CABERNET	Concerted Action of Brownfield and Economic Regeneration Network
INCORE	Integrated Concept for Groundwater Remediation
LUDA	Improving the quality of life in the Large Urban Distressed Areas
MAGIC	Management of Groundwater in Industrially Contaminated Areas
NORISC	Network Oriented Risk assessment by Instu Screening of Contaminated sites
PROSIDE	Promoting Sustainable Inner Urban Development
RECORE	Regenerating Europe's Coalfield Regions
RECULA	Restructuring Cultural Landscapes
RESCUE	Regeneration of European Sites in Cities and Urban Environments
REVIT	Revitalizing Industrial Sites
SEBCO	City-hinterland cooperation as motor for regional development in the South Eastern Baltic

SOURCE: own elaboration

2.2. Description of individual project

1. Project name

Brownfield European Regeneration Initiative (BERI)

2. Lead partner

BERI Network

Belfast, Northern Ireland

info@berinetwork.com

3. URL

http://www.berinetwork.com/

4. Source of informations

BERI Final Report

BERI Application Form

BERI Booklet

5. Project time span

April 2004 – January 2007

6. Project budget and funding

€ 1 024 200 funded by the INTERREG IIIC programme

7. Project description

BERI has built a relationship with the networks to utilise this valued experience and ensure that there is no duplication. BERI represents a different approach specifically addressing the importance of brownfield development in terms of how it contributes to the revitalisation of regions and cities, providing a structured framework from which to exchange ideas, share experience and expertise, and learn from current models of best practice.

8. Key project objectives

BERI seeks to promote holistic brownfield development as an integral component of sustainable development. BERI will adopt an approach which balances the financial,

social, economic, heritage and environmental pressures. BERI will seek to influence future policy on brownfields at all levels (local, regional and EU), through examples derived from successes and the outputs of the network decisions. The network seeks to provide a supportive framework which promotes both private and public sector involvement in brownfield development. BERI will develop expertise in how to develop a model to ensure brownfield regeneration is undertaken in a holistic manner addressing all integral elements in line with the sustainable urban regeneration of cities, encouraging international networking, trans-disciplinary and trans-sectoral cooperation. The partners will seek to work and develop partnerships with their regional authorities to further promote all the objectives.

9. Best practice related to key topics

9.1. Environmental dimension

The regeneration of brownfields contributes to a sustainable development of urban areas through the use of existing urban assets. This should ensure that urban expansion is minimised as less Greenfields need to be developed, thereby preserving the urban quality and contributing to the efficient use of existing support systems (e.g. infrastructure); prevention of urban sprawl. The accurate determination of environmental conditions with the potential to impact the revitalisation of potentially contaminated sites is critical for the success and the local removal of the problems and risks increases the market potential of the site.

The intensive management of decontamination and the sustainable ecological approach taken to cleaning and remediating land contributes to environmental sustainability and long-term benefits. Costs for decontamination can be reduced by matching the level of remediation to the planned land use through early assessment of potential uses and agreed principles for the development. To ensure early consideration of issues which will affect the sustainability of the development in terms of its construction, its use, its whole life costs and its impact on the environment, developers should prepare a Sustainable Development Profile for the site. To protect Greenfields from development positive planning tools such as the establishment of green belts or the stricter setting of urban growth boundaries should be more frequently applied.

9.2. Project management

Establishing a team with a broad regeneration expertise is very important in the early phases of planning. The success of a brownfield regeneration project is often a result of assembling together a coordinated and efficient team from different fields. Strong consistent political and executive leadership is a significant factor in successful brownfield redevelopment. The management of brownfield projects clearly requires a holistic, systematic and integrated approach. A champion for the development is essential to provide clarity to all involved stakeholders. There is a need for commitment from political leaders, a political will to bring forward the redevelopment and seize the challenge of securing the maximum long term benefit from such a project. The different roles of the public and the private sectors have to set out clearly and the deliverables established at an early stage with responsibilities allocated to the relevant stakeholders. Successful brownfield projects are achieved by teams being project led rather than organization led.

9.3. Economic and financial dimension

The BERI project results suggest that the improvement or enhancement of the image and perception of the sites leads to an increase in the value of the plots. The redevelopment of brownfields can stimulate growth and improve a local community's economic vitality when considered as part of a broader perspective. The lesson is that this potential benefit needs to be considered and factored into the equation from the beginning of the evaluation – we have to show the wider benefits or profits from regeneration investment. To make the sites more attractive and viable in comparison to other development opportunities the costs for "extra work" such as remediation or archaeological investigations have to be subsidised by tax incentives or direct grants. Innovative funding is crucial and a partnership or profit share helps to attract investors to these development opportunities. Incentives for the "first movers" in form of tax breaks or subsidised land prices can be provided – establishing a position.

9.4. Technical solutions

Information about the issues have not been found in the description

9.5. Legal dimension

Redevelopment of Brownfields should be stimulated by incentives and positive planning instruments e.g. establishing extra protection for Greenfields to reduce their potential for development, through measures such as green belts or other environmental designations. Setting of "urban growth boundaries" to constrain the

amount of additional land available and focus development in existing urban areas (smart growth) can be one of such tools.

Brownfields must form a standard element in urban policies at all levels and should be formulated as an integrated urban development including environmental standards. A common definition at EU level is essential to begin to address the issues involved and develop either programmes or interventions to assist with re-use and regeneration. Brownfield regeneration needs to be embedded in strategic land management at the regional level. This strategic management has to include Greenfield protection, higher density building in inner cities and unsealing measures. The reuse of Brownfield land has a key role to play in providing development sites for sustainable communities to minimise the use of Greenfields.

9.6. Social dimension

Community involvement is a very important factor in all aspects of the regeneration process. Early involvement of all stakeholders into the planning process is important. This ensures recognition of the community interests at an early stage and enables both the ability to react to suggestions as well as securing project acceptance among decision-makers and the wider public.

As in other development projects public consultation is even more important and relevant in the context of brownfield redevelopment as there are likely to be influences such as history and tradition combined with existing local stakeholders. Whilst public consultation and engagement is essential for all development projects it is particularly important for brownfield regeneration as there are existing contextual influences. To be successful the entire consultation and engagement approach has to start early, involve all stakeholders and be transparent. Public participation has to be maintained as part of the ongoing development process.

9.7. Marketing

Information about the issues have not been found in the description

9.8. Heritage

Incorporation of cultural heritage into revitalisation often provides an excellent opportunity to formulate or present a new vision for the site. Refurbishing historic buildings and areas not only offers potential economic benefits but can also increase community ownership as they celebrate the unique culture of the place and a degree of continuity. Preservation of old industrial buildings has a strong social dimension –

peoples' memories and sense of identity. Valuable historic buildings should be retained/ restored and be brought back into productive use. Also other elements with heritage value should be assessed, retained and integrated in the plans, as they provide links to the history of the site. However, funding has to be sought after for the restoration as a compensation for these "extra" costs. It is the responsibility of the community and the public authorities to offer guidance to landowners and developers on broader conservation issues and integration. Public Authorities also have to consider proactive action in situations where there is potential for enforcement measures to preserve recognized.

10. Key products (concepts and tools):

BERI Virtual Masterplan

11. Case studies in Europe

- Belfast Gasworks North Foreshore
- Haviland / OVAM / IOK Tannery Manta VETEX
- Dublin Smithfield Markets Area
- Lyon Vaise Le Carré de Soie / La Vallée de la Chemie
- Bristol Harbourside Temple
- Stockholm Hammarby Sjöstad Hjorthagen Värtan
- Tallinn Ilmarine Quarter Harbour Area
- Rostock Silo Peninsula Neptun Shipyard

1. Project name:

Concerted Action f Brownfield and Economic Regeneration Network (CABERNET)

2. Lead partner:

University of Nottingham

Nottingham, UK

cabernet@nottingham.ac.uk

3. URL:

http://www.cabernet.org.uk /

4. Source of information

Sustainable Brownfield Regeneration: CABERNET Network Report

5. Project time span:

January 2002 – June 2005

6. Project budget and funding:

The CABERNET research project funded by the Fifth Framework Programme

7. Project description:

The CABERNET is a multidisciplinary network comprising of 6 expert working groups that aims to facilitate new practical solutions for urban brownfields. Its vision is to: enhance rehabilitation of brownfield sites, within the context of sustainable development of European cities, by the provision of an intellectual framework for coordinated research and development of tools.

CABERNET has provided one of the few forums for the interaction of diverse Stakeholder Groups at a European level. CABERNET consists of stakeholders from groups such as landowners, municipalities, researchers, developers, national regulators, representatives of community groups, consultants and professional advisors. These groups meet to discuss and exchange practices, experiences and

aspirations relating to brownfields and the wider issues of urban regeneration. The Network has successfully found and exchanged practical sustainable solutions to both strategic and site specific urban brownfield problems.

8. Key project objectives:

- Better awareness and shared understanding of brownfield issues across stakeholder groups
- A conceptual model for brownfield issues
- Coordinated research activities across different sectors and countries
- Identification of best practice approaches and other tools

9. Best practice related to key topics:

9.1. Environmental dimension

CABERNET endorses an integrated management of construction and demolition debris and of excavated soils; recycling waste from building and infrastructure demolition materials (selective demolition), reducing and recycling construction waste and applying on-site remediation, construction or renovation of the redevelopment process as well as recover resources.

Successful urban land management requires integrated consideration of the spatial, subsurface and time components within the planning and development control process. CABERNET encourages the reuse of old buildings and the recycling and reduction of waste produced during demolition, soil remediation, construction and changes in infrastructure.

9.2. Project management

It is recognized that brownfield land is a problem at many levels. Brownfield sites promote blight and can be an environmental risk. The principal skills required for managing these sites are not only technical ones, but skills of conceptual thinking, leadership and consensus building, and the ability and focus to understand the regeneration needs of a community. The way in which the process is managed by the Brownfield Manager will directly influence and dictate the technical skills that are applied and how they interact. Flexibility and adaptability are essentials. Many skills are required to achieve sustainable brownfield regeneration. It is suggested here that some of the skills of a Brownfield Manager cannot be taught or learned using some of the traditional methods of knowledge transfer seen in some professions.

9.3. Economic and financial dimension

One of the key drivers of brownfield regeneration is the economic revitalisation of an urban area and the potential profit to be made. When examining the effects of economic globalisation and the growing challenges of current European real estate markets, the role of brownfield redevelopment as a means for supporting economic development and competitiveness across Europe has become more prominent. This is particularly true in more traditional formerly industrial areas, where the economic possibilities associated with site redevelopment are increasingly acknowledged. The cost - value gap prevents the development and regeneration of many marginally commercially non-viable brownfield sites (B sites) across the European territory. EU competition policy has the unintended effect of restricting the ability of member states to develop public-private partnerships to facilitate the regeneration of commercially non-viable sites, other than where the private sector partner is an SME, and / or the site is located in an assisted region. CABERNET believes effective public-private partnerships, that have been designed to bridge the cost-value gap that often prevents the commercial regeneration of many marginally non-viable brownfield sites, should be exempt from EU competition policy.

9.4. Technical solutions

Information about the issues have not been found in the description.

9.5. Legal dimension

Information about the issues have not been found in the description.

9.6. Social dimension

CABERNET has defined 8 fundamental social and cultural principles that should be considered when developing brownfield sites. These objectives go to the core of a social and cultural challenge to redefine the traditional concept of brownfield regeneration as an endeavour that relates to sites and reclamation, to an activity that is about delivering sustainable places that enrich the lives of the people who live and work there. People-oriented objectives: focusing on social and cultural needs:

- Preserve cultures that are valued by the local people and exploit opportunities for new forms of social and cultural development

- Provide or enable learning, or “up-skilling”, opportunities (improve employability)
- Promote employment opportunities appropriate for the development
- Promote social equity in the brownfield development
- Improve perceptions and image of the brownfield development
- Contribute to strategic sustainability objectives in the urban context
- Ensure physical accessibility
- Provide liveable, healthy and safe environments for local communities

The importance of including social and cultural aims and objectives in brownfield regeneration schemes is increasingly acknowledged.

9.7. Marketing

Information about the issues have not been found in the description.

9.8. Heritage

Information about the issues have not been found in the description.

10. Key products (concepts and tools):

The CABERNET Bath Model

The A-B-C Model

The CABERNET Football Model

The Land Use Puzzle

The Cabernet Interaction Matrix

11. Case studies in Europe

- Berryhill Fields, Stoke on Trent
- Havnestad, Copenhagen
- Holgate Development, York
- The Lowry, Manchester
- Urbis, Manchester
- Gasometers, Vienna, Austria
- Stora Mossen, Sweden

1. Project name:

Integrated Concept for Groundwater Remediation (INCORE)

2. Lead partner:

UW-Umweltwirtschaf GmbH

Stuttgart, Germany

Dr Thomas Ertel

e-mail: uwstuttgart@umweltwirtschaft-uw.de

3. URL:

http://www.umweltwirtschaft-uw.de/incore/

4. Source of information

INCORE brochure

5. Project time span:

1 April 2000 – 31 March 2003

6. Project budget and funding:

Total costs € 3 518 350

EC-Funding € 2 406 000

7. Project description

Existing soil contamination, but also non-calculable risk by long-term groundwater remediation, is relevant location factors. Healthy residential and working conditions can be guaranteed only on unburdened ground. But soil and groundwater pollution are investment restraints for urban development. Now, the structural change offers the chance to improve soil and groundwater quality. It needs an extensive conception in order to reach a sustainable improvement of the situation – as given within the integral procedure of INCORE. In four european cities, the location revaluation should be reached long – termed by investigation and remediation of extensively polluted industrial zones. Without revitalisation of soil and groundwater resources, locations in such areas may lose their international competitiveness. Still active trade areas may decline to brownfields in near future.

Only an accomplish and competitive trade can adopt funding of the necessary clean-ups. Revitalisation of soil and groundwater is therefore bound into economic development. A positive drive causes and promotes itself the economic, ecological, structural and social elements mutually. However, if single elements will not be initiated or only with delay, the entire development slows down.

INCORE supports the revitalisation of urban industrial areas striven for in the Aalborg Charter of European cities and towns and aids to reach the basic goal of the EC water policy: the sustainable use of groundwater resources. INCORE results are also relevant for the odds communes since considerable savings of remediation costs are expected and contaminated sites gain at attractiveness for the revitalisation again.

Key project objectives

INCORE aims at providing a cost-efficient technical-administrative set of tools to optimise investigation, evaluation and management of contaminated groundwater and land in urban industrial areas, considering regional aspects such as complex land-use patterns, land-use specific contamination and the extent of urban industrial areas. This will allow the revitalisation of groundwater resources and soil in these areas. Innovation of current scientific, technical, economic and administrative methodologies will be tackled.

Major project goal is to improve groundwater quality sustainable and therewith to correspond to the requirements stated by the EU, namely the directive in the field of water and the Aalborg Charter towards a sustainable revitalisation of urban industrial areas. For groundwater this concretely means a recreation of drinking water quality in all aquifers. A subsidiary goal, a quality is striven for soil, which excludes further groundwater endangerment as well as a recycling of excavated soil within construction on a complete.

9. Best practice related to key topics

9.1. Environmental dimension

New cyclic approach has been determined. It referred to contaminated land assessment and revitalization in urban industrial areas, focusing on groundwater quality and complex contamination patterns at megasites which are typical for many European cities. The new approach comprises three cycles: (I) the assessment of groundwater contamination using an innovative integral investigation method to

estimate contaminant concentrations and mass flow rates across control planes at the scale of entire industrial sites, (II) the delimiting of potential contamination source zones using backtracking methods, laboratory and on-site analysis as well as contaminant fingerprinting techniques, and (III) the development of emission oriented remediation strategies.

9.2. Project management

The INCORE approach for management of contaminated sites is based on the strategy of EU water-framework-directive. The legal requirements of the partner-countries were examined to assess the likely acceptance and implementation of the integrated INCORE approach. Results showed that legislation in most countries is based on the particular, single site of contamination. Very few regulations for the management of complex, overlapping groundwater contamination exist under prevailing law.

The implementation of the INCORE approach will therefore require new administrative concepts. On the other hand this survey of national regulations revealed that there are no significant conflicts exist between the integral INCORE approach and prevailing national law.

9.3. Economic and financial dimension

Information about the issue has not been included into the final report

9.4. Technical solutions

Information about the issue has not been included into the final report

9.5. Legal dimension

The allocation of laws and regulations pertaining to investigation and remediation of soil and groundwater contamination differ among the compared countries. Either they are covered by supervision of the industry, soil and groundwater laws, special laws on contaminates sites or by laws for the protection of the nature as a whole.

In Austria the clean-up of contaminated sites executed along the provisions of the WATER ACT. The Austrian Law for the Clean-up of Contaminated Sites provides an important legal basis for financing of investigation and remediation actions of contaminated sites. In France the regulations concerning contaminated sites are allocated to the law, that manages the remediation of soil pollution by industry. In

Poland for example, the Act on Nature Conservation is the legal basis for soil and groundwater protection.

9.6. Social dimension

Information about the issue has not been included into the final report

9.7. Marketing

Information about the issue has not been included into the final report

9.8. Heritage

Information about the issue has not been included into the final report

10. Key products (concepts and tools)

Information about the issue has not been included into the final report

11. Case studies in Europe

- Stuttgart
- Linz
- Milan
- Strasburg

1. Project name

Large Urban Distressed Area (LUDA)

2. Lead partner:

Leibniz Institute of Ecological and Regional Development

Dresden, Germany

3. URL:

http://www.luda-europe.org/

4. Project time span:

February 2004 - January 2006

5. Source of informations

http://www.luda-europe.org/index.html

6. Project budget and funding:

The project funded by the Fifth Framework Programme

7. Project description:

Most european cities have large urban areas suffering environmental, economical and social distress that results in a high level of political pressure to make rapid improvements to the quality of life. Especially in a take-off phase of urban rehabilitation, this often leads to an uneconomic use of resources, which narrows options for development. It contradicts the need of far-sighted strategic planning and development addressing three main challenges of these areas: their large dimension, the complexity of problems and the uncertainty of their future development. LUDA seeks to meet this challenge by providing tools and methods for a more strategic approach towards urban rehabilitation, and by supporting cities in initiating and managing such an approach in its early stages.

From a scientific perspective LUDA serves to enhance the knowledge about the phenomenon of large urban distressed areas. Of particular importance are analytical tools for setting boundaries and defining priority action areas, co-operation and participation in distressed areas, and the applicability of methods to cope the

challenges of such areas. From a practical perspective LUDA will provide decision-making aids and consultation about available tools, methods and success factors, facilitate a learning process, organize city-networking, formulate policy recommendations and support the implementation of key projects that will lead to an improved quality of life in large urban distressed areas. The project provides a platform for broader discussion with other cities, research institutions and civic organisations.

8. Key project objectives:

The goal of the project is to contribute to improvement of quality of life in large urban distressed areas by providing a systematic strategic planning and development approach with special consideration of the take-off phase of rehabilitation processes. In practical terms, the LUDA project seeks to identify the issues driving the rehabilitation process, which may require assessment or evaluation, in addition to issues that represent common problems across the partner cities. LUDA will provide decision-making aids and consultation about available tools, methods and success factors, facilitate a learning process, organize city-networking, formulate policy recommendations and support the implementation of key projects that will lead to an improved quality of life in large urban distressed areas.

Another project's aim is to help the likes of planners and politicians to understand both the complex problems and potential in large urban distressed areas. By developing an inclusive decision-making approach, LUDA should encourage those who hold the levers of power to interact with the local community and explore its needs and aspirations. Those using LUDA's broad approach should be able to use regeneration funding more effectively and bring together programmes and projects that might otherwise lack synergy.

9. Best practice related to key topics:

9.1. Environmental dimension

The information about the issue has not been included into the final report.

9.2. Project management

The improvement programme of the LUDA rehabilitation is a long-term development process, in which must be applied a bottom-up approach of communication, with a maximum integration of the partners which are intimately involved with the area e.g.

companies having a place of business here or acting in the area, land owners, inhabitants, schools, students etc. The most important component in this process seems to be the communication. Their opinions and proposals need to be evaluated and incorporated into the complex task of developing an overall solution for the territory. Therefore it will be vital to develop a functional communication platform.

Monitoring systems currently applied in European cities are largely multi-sectoral, backing on the three core domains of sustainability or on multiple issues of quality of life. This multidimensional character should as well be used within a LUDA monitoring system but with a stronger focus on urban regeneration issues. However it has to be taken care to achieve a multidimensional character of the monitoring system without losing manageability.

9.3. Economic and financial dimension

Small economic and physical improvements can have enormous influence on private initiatives, as they awake the internal dynamics of the local communities by showing people interest and respect. It is difficult to find external funding without internal resources and the objectives of external funding bodies do not always coincide with local priorities.

9.4 Technical solutions

Documenting and mapping the deprived areas in a systematic way has been enormously beneficial. Critical state maps have been used in LUDA's projects as a way of recognising, prioritising, estimating and evaluating the situation. Maps have also been used to control, monitor and verify the implementation process, particularly in relation to environmental issues. It has also been shown that city mapping and cultural mapping help to increase social awareness and improve the image of the area. The mapping process is also proving useful, even in areas where funding is not yet available to carry out renovation or regeneration projects. In these situations, the mapping of cultural and historic features, as well as measurements of individual buildings means that there is some record of what exists, even if it cannot be preserved. This process of mapping applies to individual buildings as well as the district. The themes covered in the maps are as follows: aesthetics; accessibility; the physical environment; socio-economic conditions; documentation and research.

9.5. Legal dimension

The information about the issue has not been included into the final report.

9.6. Social dimension

The information about the issue has not been included into the final report.

9.7. Marketing

The information about the issue has not been included into the final report.

9.8. Heritage

The information about the issue has not been included into the final report.

10. Key products (concepts and tools)

The information about the issue has not been included into the final report.

11. Case studies in CENTRAL Europe

- Centro Storico & Porto Antico, Genoa, Italy
- Rača, Bratislava, Slovakia
- Dresden – Weißeritz
- Brozzi-Peretola area, Florence

1. Project name:

Management of Groundwater in Industrially Contaminated Areas (MAGIC)

2. Lead partner:

Central Mining Institute (GIG)

Katowice, Poland

e-mail: gzyl@gig.katowice.pl

3. URL:

http://www.magic-cadses.com/

4. Source of Information

MAGIC Handbook for Integral Groundwater Investigation

5. Project time span:

June 2005- March 2008

6. Project budget and funding:

355 000 € (ERDF - 1 547 250 €), INTERREG IIIB CADSES 2

7. Project description:

The MAGIC (Management of Groundwater in Industrially Contaminated Areas) project is designed to promote sustainable spatial development by the abatement of large groundwater damages by applying the innovative, integral, emission-orientated management approach. The MAGIC project is fulfilled under INTERREG IIIB CADSES Programme and utilizes the transnational co-operation, experiences of project partners for a wider dissemination and know-how transfer on technical, administrative and management topics in CADSES region. The MAGIC-approach was developed to achieve good groundwater quality in particular in areas which were formerly polluted by industrial production. This is essential where former industrial areas are in the process of restructuring. To successfully transform former industrial areas to a new type of land use, good environmental quality is required.

The integral groundwater investigation approach is the core of the MAGIC integral groundwater risk management approach, established on a survey and a balance of the pollutant charge (load) in the entire investigation area. In this context “integral” is

to be understood in the sense of both “holistic” and “spatially over the entire investigation area”.

8. Key project objectives:

- Supporting sustainable spatial development by the abatement of groundwater damages
- Developing the innovative, integral, emission-orientated management approach developed in the FP5 RTD-project INCORE
- Elaboration, implementation and specification of a set of proper tools of groundwater management
- Application of the integral approach in the CADSES region
- Publication and dissemination of the results in training seminars offered to the main target groups as staff of public administration and service providers

9. Best practice related to key topics:

9.1. Environmental dimension

Information about the issue has not been included into the final report

9.2. Project management

A general aim of groundwater management is to obtain good chemical status of the body of groundwater concerned. This requires a survey of the qualitative status and, if necessary, a trend description of the groundwater quality. If in polluted groundwater bodies no trend for a qualitatively good condition can be assumed, a trend reversal must be achieved with the long-term objective of a good quality. The integral groundwater investigation facilitates the description of the qualitative condition of a body of groundwater in an efficient way - also beyond a longer time period – and creates thereby an important basis for the trend reversal.

The integral groundwater investigation is the core element of the MAGIC risk management approach. This integral investigation requires a reversion of the investigation approach from the individual case related consideration of sources of pollution (case-by-case approach, source approach) to the integral investigation of the plumes of pollution (integral groundwater investigation). The description of the approach is made under two aspects: A strategic tasks and B operational technical measures. In the first part all strategic tasks are listed and described, which are suitable. Which of these tasks in a concrete individual case are to be settled, must be

determined in the individual design depending on the specific characteristics of the investigation area. For the integral groundwater investigation generally the following *strategic tasks* can be tackled:

- *Record of groundwater quantity and quality*: Integral, three-dimensional and simultaneous recording and description of the groundwater status in the investigation area in terms of quantitative and qualitative aspects.
- *Identification of the sources* of pollution
- *Interaction between plumes and sources*: Identification of Plumes of pollution, description of the interactions in terms of quality and quantity, for example in terms of emission rates (mass fluxes) and plume lengths for the description of the pollution impacts.
- *Prioritisation*: Ranking of the pollutant impacts to prioritise the particularly relevant sources of pollution on which remedial actions should be concentrated and for the exclusion of irrelevant subordinate sources of pollution from the further treatment
- *Remediation* of the sources and the plumes of pollution or implementation of any other kind of measures to be undertaken by the competent authority to tackle the strategic tasks, *operational technical measures* are to be carried out. The measures are described in detail in the technical part of this handbook. Depending on the single site or area, specific measures have to be selected and compiled depending on the specific local characteristics.

  Operational technical measures are:
- Data collection and – evaluation, monitoring of the groundwater quality, trend observation and evaluation by a survey and summary of all former investigation activities on contaminated sites, the single sources of pollution and groundwater monitoring wells (results of former investigations).
- Compilation and mapping of all available information in a data base and in a GIS: Sources of pollution and groundwater monitoring wells.
- Conceptual hydro-geological modelling - Modelling of the hydro-geological settings, the groundwater flow conditions and the quantitative and qualitative status of the groundwater in the different aquifers.
- Integral pumping tests - Integral investigation, i.e. the summarising, three dimensional and simultaneous recording and description of the

hydrogeological conditions in the investigation area in terms of quantitative and qualitative aspects.

- Delineation of the plumes of pollution with the help of reference values (threshold values, test thresholds), i.e. with the help of concentration values. These are to be specified (up to Nitrate and Pesticides) on the basis of national reference values.
- Numerical modelling the plumes of pollution, i.e. development of a conceptual model of the groundwater flow and pollutant transport to the summarizing record, balance and evaluate the transport processes in the groundwater layers (aquifers) and the interactions, i.e. the current and/or transport mechanisms including the mass fluxes between the aquifers.
- Backtracking of the pollutants from the plumes of pollution to the sources of pollution, i.e. clarification of the source – plume relationships. This can be done e.g. via advanced modelling techniques or fingerprinting.
- Risk assessment for sources and plumes of pollution using national evaluation tools, if necessary numerical groundwater modelling. Ranking of the pollutant impacts to prioritise the particularly relevant sources of pollution on which remedial actions should be concentrated and for the exclusion of irrelevant subordinate sources of pollution from the further treatment. This procedure implies that relevant sources of pollution emit large and spacious plumes. All other sources of pollution are not relevant for groundwater risk management, nevertheless they can be ecologically important (e.g. on the effect the path soil – human being, which is not regarded here further).
- Identification and description of natural retention and degradation processes Natural Attenuation

9.3. Economic and financial dimension

Information about the issue has not been included into the final report

9.4. Technical solutions

An explicit aim of MAGIC is to develop comprehensive and reliable tools for site characterization and risk assessment for groundwater contaminations. A well-established method for performing integral groundwater investigations are so-called integral pumping tests IPT, which are defined as long-term pumping tests with systematic analysis of concentration of contaminants in the pumped water.

A successful interpretation of IPTs is strongly influenced by the quality of groundwater samples taken. The procedures and methods applied for obtaining the input data could affect the reliability of the interpretation of integral pumping tests. It is necessary to apply the principles of quality assessment of sampling and analytical works (Program QA/QC) with the implementation of integral pumping test Method. The goal of QA/QC program is to quantify the uncertainty of received populations of data. Conclusions issued from data without evaluation of uncertainty of results (from sampling and analytical works) will miss the requested reliability. All activities connected with the sampling, handling of samples, with the preparation of sampling equipments etc., should be implemented according to standardised procedures or standards to eliminate the total uncertainty of the field works. It should be assured with the selection of applied procedures that these procedures comply with the purpose of investigation and they are suitable for that. The special attention should be paid to the procedures of sampling of unstable parameters (e.g. volatile organic compounds etc.)

9.5. Legal dimension

In legal terms groundwater pollution is to be considered as a breach of law or a breach of the public safety. It is the principle of the public law (the law concerning public safety) that the responsible of a breach (the polluter) must provide for the re-establishment of a trouble free condition. This includes the clarification of the facts (the investigation of the pollution).

In the case of environmental damages remediation goals are defined on this basis, according to the principle of the proportionality of the measures, and the damage is remediated. Thereby different tasks are to be tackled by the competent authority:

- Clarification of the facts of the case, i.e. the authority has to clarify whether a breach of law is present.
- If a breach is present, the authority must enforce the responsible person to investigate the damage to the necessary extent and scope and completely clarify the facts of the case. In case of an environmental damage: The polluter has to clarify the spatial delimitation of the damage and to investigate the consequences for the environment, in particular for the groundwater (including plumes of pollution).

- If the facts of the case are clarified (i.e. the investigation of the damage is completed), the authority has to commit the liable person (legal body) to create a concept for remediation. If a liable person (legal body) cannot be determined with sufficient security or if this person is not capable and/or willing, the authority has to implement the necessary measures itself. Legal basis: Groundwater risk management according to the polluter pays principle
- The authority has to ensure that the damage is remediated in a sufficient way. Thereby it must keep in mind that in certain cases the polluter's liability is limited.
- In case of an acute endangerment (e.g. the pollution of waterworks of the public drinking water supply) the authority has to provide immediate corrective actions, as soon as it recognises the acute endangerment, therefore for example to prevent that contaminated water is supplied into the waterworks.
- Finally, the authority is responsible for the supervision of the general groundwater quality

9.6. Social dimension

Information about the issue has not been included into the final report

9.7. Marketing

Information about the issue has not been included into the final report

9.8. Heritage

Information about the issue has not been included into the final report

10. Key products (concepts and tools):

MAGIC software tool

11. Case studies in CENTRAL Europe

- Olsztyn Site – old gasworks in Łyna River Bend (Zakole Łyny)
- Vitkovice Site, Ostrava, the Czech Republic
- Feuerbach site, Stuttgart, Germany
- Trachy Site - Trachy near Gliwice, Poland

1. Project name

Network Oriented Risk assessment by Insitu Screening of Contaminated sites (NORISC)

2. Lead partner:

City of Cologne, European Office

Köln, Germany

Barbara.Moehlendick@stadt-koeln.de

3. URL:

http://www.norisc.com/

4. Source of information

NORISC project summary

5. Project time span:

2001 - 2003

6. Project budget and funding:

5th Framework Programme. Information about budget has not been found.

7. Project description:

NORISC is a technology development project under the 5th Framework Programme of the European Commission that provides an integrated site investigation methodology focusing on in situ and on site techniques for more accurate environmental assessment of contamination profiles in urban areas.

8. Key project objectives:

Combine and integrate new and existing investigation methods, especially innovative in situ and on site techniques

Provide a standard guideline for site characterisation and assessment in the form of a decision support software system prevailing on site and in situ methods for time and cost effectiveness, as well as reliability

Demonstrate the effectiveness of this investigation approach and the developed decision support system via field test

Integrate site investigation with general contaminated site management that includes data management, site assessment, clean up targeting and revitalisation strategy

9. Best practice related to key topics:

9.1. Environmental dimension

Information about the issues have not been found in the description

9.2. Project management

As the Norisc methodology significantly contributes to improvements in contaminated site management by minimising time and cost needed for site investigation and assessment, as well as for remediation and revitalisation, the developed approach meets the basic interest of city planners, decision – makers, landowners and investors involved in brownfield redevelopment.

9.3. Economic and financial dimension

Information about the issues have not been found in the description

9.4. Technical solutions

The investigation techniques were evaluated both technically and economically, and then the most suitable methods were selected according to their practical and scientific relevance. The integration of techniques of different disciplines and the appropriateness of each particular method to improve the information obtained by other disciplines were other important issues in this assessment. Finally, the different methodologies were refined, optimised and harmonised with each other. Modern on site methods have been available for several years and their effectiveness has been proven in research projects and sometimes even in practice. They are used to enhance data representativity and thereby to reduce the risk incurred by stakeholders.

9.5. Legal dimension

Information about the issues have not been found in the description

9.6. Social dimension

Information about the issues have not been found in the description

9.7. Marketing

Information about the issues have not been found in the description

9.8. Heritage

Information about the issues have not been found in the description

10. Key products (concepts and tools):

Site investigation strategy (SIS)&Decision Support System (DSS)

11. Case studies in CENTRAL Europe

- Cologne, Germany – Refinery filing station for trucks with fuels
- lLyftkranen, Sweden – Chemical factory based on petroleum products and coal tar
- Massa, Italy – Agrochemical production plant, based on pesticide products
- Balassagyarmat, Hungary – Fuel storage and Electronic production plant

1. Project name:

Promoting Sustainable Inner Urban Development (PROSIDE)

2. Lead partner:

UW Umweltwirtschaft GmbH

Stuttgart, Germany

email: thomas@sv-ertel.de

3. URL:

http://www.proside.info/

5. Source of information

Proside – final brochure.

4. Project time span:

March 2003 – June 2006

6. Project budget and funding:

Total budget: 2 139 000 € in which ERDF: 1 130 500 €, INTERREG III B CADSES

7. Project description:

Due to the political, social and economic structural changes of the 90s in various European cities many former industrial or commercially-used areas were abandoned. The negative impact of these areas on the quality of urban life reaches far beyond the site itself. The conversion process of former commercially-used brownfields located in inner-city districts shows that projects of investors are often at odds with the ideas of municipal authorities on sustainable inner urban development. These conflicting interests create a deadlock caused by the existing administrative tools. PROSIDE improves urban development and ensures that natural areas are preserved and run-down areas restored. Quality of life and environmental quality in inner cities will be clearly enhanced by private investors. The project's communication tools are a contribution to the CADSES information society, providing a database for private investors and promoting communication among all municipal departments as well as a better involvement of European society and the relevant socio-economic units early in the development process. The planning tools bring together the objectives of implementing a more balanced social and economic

development of inner urban areas, and reducing environmental damage. Furthermore the PROSIDE approach reduces the time frame for future investor-driven planning activities and increases the success rate of privately funded rehabilitation projects. The co-operation of different cities with various spatial conditions in the CADSES area improves the horizontal exchange of experiences in spatial and environmental planning. The co-operation of university institutions with public administration bodies and private companies enhances the direct information flow and know-how transfer between basic research and practical applications.

8. Key project objectives:

- Overall objective of PROSIDE is to ensure that the plans of private investors harmonise with municipal needs for sustainable urban development within a short and adequate timeframe while enhancing the rehabilitation of industrial sites and areas with private funds.
- PROSIDE encourages private investors to carry out sustainable remediation of brownfields by promoting the communication between the participating parties. Thus the overall goal of using private capital for the enhancement of inner city development can be realised.
- To attract private investors, such areas and elementary data have to be recorded in a web-available information platform.

9. Best practice related to key topics:

9.1. Environmental dimension

The environmental aspects of the development process should be dealt in parallel with the planning process. Instead of concentrating on individual problems such as contaminated soil an integrated assessment of the environmental situation is needed. This includes groundwater quality as well as air and noise pollution. The need to screen for groundwater contamination as early as possible in the process was also identified. To achieve sufficiently reliable cost estimates the application of a new approach to cost analysis was tested.

9.2. Project management

The project showed clearly that investors need more and clearer information about the areas with development potential. The transition from the existing database to an internet-based system could be an important tool for providing this information and

accelerating development. The database needs to be incorporate specific data to meet investors' needs.

9.3. Economic and financial dimension

Experience shows that initial environmental assessments provide a sufficient basis for preparing the cost estimates needed for the planning concept and project development phases. More complete cost estimates can be done following completion of studies to identify remediation needs which take at least several months. If the cost estimated after the initial assessments already represents a significant part of total development costs, remediation studies should be done before continuing with the planning activities.

9.4. Technical solutions

Information about the issues have not been found in the description.

9.5. Legal dimension

Information about the issues have not been found in the description.

9.6. Social dimension

Information about the issues have not been found in the description.

9.7. Marketing

Optimising information and communication processes to promote the project development:

- Modification of content and layout of the existing NBS information platform
- Increasing transparency within the different departments of the municipality and more topic related One-Stop-Shops
- Active promotion and tackling of difficult sites and areas for development by the municipality, as was the case under the PROSIDE project.
- Establishment of an internet-based information platform as prototype for a "District Management System (DMS)", designed for the special requirements of a district manager;
- Establishment of a district management team in order to enhance the conversion and marketing of the pilot area
- Definition of strategic goals, guiding principles and projects by a temporary 'ad-hoc' committee for redevelopment around the area of the "Neckar knee

9.8. Heritage

Information about the issues have not been found in the description.

10. Key products (concepts and tools):

Internet Based Information System for Investors

Investors Contact Point

District Management System (DMS)

Communication and Information Access

Test Planning Method

Integrated Environmental Assesment - Integral Investigation

Cost Prognosis Tool

11. Case studies in CENTRAL Europe

- Bad Cannstatt, Stuttgart
- Bovisa, Milan
- Mester Business Park, Budapeszt

1. Project name:

Regenerating Europe's Coalfield Regions (RECORE)

2. Lead partner:

ACOM FRANCE

acom.france@nordnet.fr

3. URL:

www.recore-programme.com

4.Source of information

Boosting the regeneration process of Europe's coalfield regions: Good practice guidelines.

5. Project time span:

Information about the issue has not been found

6. Project budget and funding:

€1 071 with a 75% participation of the ERDF. The RECORE programme is co-financed by Interreg IIIC.

7. Project description

Recore is a project with a wealth of distinctive features, which has been undertaken at instigation of the members of Eurocom (European Coal-mining Association). This programme of exchanges of experience stands out first and foremost by the nature of the partners involved, given that is has been carried out exclusively by representatives of the local authorities of the mining regions. Indeed, these latter have to bear the brunt of the aftermath of the decline of the coal-mining industry.

The project has also demonstrated that the transformation of the mining regions is not a simple process. It is one that encompasses all aspects of regional development. In this context, Recore made it possible to produce a comprehensive overview of the issues and achievements of regional policies in the mining regions including infrastructure, the environment, the enhancement of cultural heritage, economic development and training.

Finally, the Recore project has considered the role of local authorities and regional development during the present period of transition, during which the European Union itself is undergoing profound change. For this reason Recore has deliberately embraced Wider Europe.

8. Key project objectives:

The RECORE project has a double objective:

- Implementing a programme of exchange of experiences among mining regions to highlight good practices in regeneration,
- Distributing the lessons of these experience exchanges with the aim of improving regeneration policies and extending the network of relations between local authorities of European coal-mining regions.

9. Best practice related to key topics:

9.1. Environmental dimension

Planned management of water resources as well as urban planning and mapping of mining risks, all appeared to be decisive for sustainable development. Long-term planning is required to guarantee successful environmental rehabilitation.

Where coal is still being mined it is fundamental to produce if in a different way. Integrating industrial activity in a strategy for sustainable development cannot be avoided. This implies setting up monitoring systems and providing an efficient legal framework. Standards must also be defined for assessing pollution.

Improvement of the environment must be supported by European funds to be used in compliance with the objectives defined. These are the conditions under which the rehabilitated areas can attract investors. The economic and social environment will also be revitalised.

9.2. Project management

Information about the issues have not been found in the description

9.3. Economic and financial dimension

Some investors are attracted by the financial aid attached to a particular location, but once the honeymoon period is over, they move on. It is important to avoid this type of behaviour, there is a need to carefully select investors that are best suited to a region.

Large-scale modernisation of infrastructure is very costly and is a long-term investment that the private sector is unlikely to fund. Local and regional government

are key players in this process, but cannot be expected to find all the funding. The basic physical renewal of coal areas therefore requires intervention and financial assistance from national, international governments and other organisations.

9.4. Technical solutions

Infrastructure improvements are the foundation for regeneration of the former coalmining areas of Europe and beyond. The process of regeneration requires a modern infrastructure within a cleaned up environment. Inward investment, new jobs and social and economic renewal are founded on the basic renewal of the physical features of coalfield areas.

Differences at national regional and local level with regard to government structures, financial and legal frameworks need to be taken into account when considering the most effective methods of providing funding.

9.5. Legal dimension

Information about the issues have not been found in the description.

9.6. Social dimension

The choice of location and timing for this development is fundamental. Long-term thinking is important to take full advantage of this mining legacy. The economic logic underlying any development process must take this time factor into account. Furthermore, the approach can only be constructive if it combines the local and territorial contexts (municipalities, basin, country, etc.). As it opens mining areas to the world, it will provide synergies that will shape renovation as part of the urban and landscape framework.

9.7. Marketing

Information about the issues have not been found in the description.

9.8. Heritage

The potential for developing mining heritage is multi-faceted. In addition to historical and social aspects, the extensive land reserves can trigger growth once they have been rehabilitated. Museums, historical centres, leisure parks and cultural activities or service activities can take place on the old sites.

10. Key products (concepts and tools):

Information about the issue has not been found

11. Case studies in CENTRAL Europe

Information about the issue has not been found

1. Project name

Restructuring Cultural Landscapes (REKULA)

2. Lead partner:

Internationale Bauausstellung Fürst-Pückler-Land

Großräschen, Germany

e-mail: info@iba-see.de

3. URL:

http://www.iba-see.de/rekula/

4. Source of Information

Transform in Landscapes. Recommendations based on three industrially disturbed landscapes In Europe.

5. Project time span:

January 2003 – September 2006

6. Project budget and funding:

Total budget: 3.435.100,00 €, ERDF: 2.300.075,00 €, INTERREG III B

7. Project description:

Industrial processes, such as mining, have altered and disturbed landscapes within a short time. Natural and cultural heritages as well as regional identities have often been neglected by changing economic structures. A committee of experts was established in order to develop landscaping criteria and assume the evaluation tasks. The expert commission acts as a group of consultants for the EU via the REKULA project and transmits the dialogue to the European level as an international discourse on the treatment of altered landscapes. Pilot projects are intended to help establish the necessary set of tools for application throughout Europe. They are intended as a set of rules for the production, i.e. preservation, of the balance of natural resources as well as handy tools for managing the entire process.

8. Key project objectives:

- The aim is to provide impulses and recommendations to every public administration, all planners and organizations, public agencies and project

developers who are involved in the restructuring of disturbed landscapes in Europe.

- Establishing integrated and co-ordinated measures for a renewed appreciation of altered cultural landscapes.
- Management handbook to support the revalorization of landscapes

9. Best practice related to key topics:

9.1. Environmental dimension

Information about the issues have not been found in the description.

9.2. Project management

As many actors as possible should participate in the search for a vision for the future of the landscape. This involves a cooperative learning process, not an elitist planning task. In addition to the participation of regional and local actors, the solicitation of external expertise for innovative approaches is absolutely essential.

The restructuring of post-industrial landscapes requires diverse knowledge and broad based support. It is necessary to establish and maintain networks in which different levels of knowledge, abilities and creative potential supplement and enrich each other. Each region commands a wealth of know-how in administrations, corporations, associations and initiatives which should be accessed for the common work. Establishing relations to regional structures, initiatives and projects supports the idea of “help for self-help” and prepares from the very beginning the process of transferring responsibility to the local actors which is necessary sooner or later.

A will to change that enthuses an entire region can evolve out of single ideas and apparently unrealistic individual projects. To ensure their success, such “beacon” projects should at an early stage be integrated into an overall concept which repeatedly must be corrected and updated in dialogue with as many actors as possible.

The overall concept and individual projects should correspond to a model which in a clear, well founded and emotionally appealing manner describes the overall direction of the desired development and which should be adapted continuously to new developments. This triad of model, overall concept and individual project no longer corresponds to the classic differentiation between “bottom- up” and “top-down” in planning strategies. It is better described with the image of a continuous change of scale in planning in which the respective appropriate planning level influences the

other levels. The participants “surf” from the crest of the model to the trough of the detail project and back again.

Monitoring is absolutely essential for the evaluation of the landscape transformation. This requires in turn binding consensual indicators that portray the conditions in a reliable manner. For the continuous evaluation of the effects of economic growth on the environment, the introduction of European environmental indicators according to uniform standards is planned, whereby initially standards for pollution emissions and energy consumption are intended. With regard to the holistic evaluation of restructuring processes in landscapes, it is necessary to place these indicators in relation to the economic and social indicator systems for regional development which are comparable throughout Europe. How this may occur is the task of research and must be tested in the exemplary regions.

The design of the landscape transformation must create a balance between:

- traditional and new landscape elements
- long-term goals and short-term projects
- stringent management and broad participation
- orientation to good examples elsewhere and local identity
- standard solutions and specifically individual ways
- public and private involvement
- investments in construction and in socio-cultural projects.

9.3. Economic and financial dimension

The restructuring of landscapes is a holistic process with many actors. This fact makes it necessary to use creatively and to combine diverse financial models and subsidization possibilities to which the actors have a respective specific relationship. Where, as a rule, sectorally distributed subsidization is already available for traffic projects, environmental protection, business promotion, housing etc., it may be possible, by prioritizing and intelligently combining projects on the basis of a plausible overall concept, to achieve a gain in landscape quality with the same amount of subsidization.

9.4. Technical solutions

Monitoring is absolutely essential for the evaluation of the landscape transformation.

Diverse forms of idea finding – workshops, competitions, stagings, festivals, exhibitions - can serve as “eye-openers” and promote creativity in the restructuring of the landscape.

9.5. Legal dimension

Information about the issues have not been found in the description.

9.6. Social dimension

Without the active recruitment of participation by the local inhabitants, without their emotional presence and daily involvement, the sustainable design of new landscapes is not possible. A proven approach is to utilize a broad spectrum of forms that appeal to various segments of the population to differing degrees.

9.7. Marketing

Positive communication and a search for consensus are necessary. The work with the press, radio and television should be granted a high priority from the very beginning. Prominent external persons can act as multipliers in order to win local actors, to integrate the ideas of the local inhabitants and to create a climate of openness and the will to change.

9.8. Heritage

Information about the issues have not been found in the description.

10. Key products (concepts and tools)

Information about the issue has not been found

11. Case studies in CENTRAL Europe

- Veneto, Italy
- Upper Silesia, Poland
- Lower Lusatia

1. Project name:

Regeneration of European Sites In Cities and Urban Environments (RESCUE)

2. Lead Partner:

Montan Grundstücksgesellschaft GmbH (MGG)

Essen, Germany

e-mail: info@rescue-europe.com

3. URL:

http://www.rescue-europe.com/

4. Source of information:

Best Practice Guidance for Sustainable Brownfield Regeneration

Development of an Analytical Sustainability Framework for the Context of Brownfield Regeneration in France, Germany, Poland and the UK

Administrative Tools and Incentives for Sustainable Brownfield Regeneration

Technical and institutional validation reports for WP 2-5. Stakeholder & Validation Team

5. Project time span:

March 2002 – February 2005

6. Project budget and funding:

Rescue is supported by European Commission under the 5th Framework Programme

7. Project description:

The process of industrial change has resulted in the creation of so-called "brownfields" across Europe, particularly in urban areas. These sites present particular challenges to national and regional policymakers, including the remediation of hazards to human beings, groundwater and ecosystems. But there is also a need to facilitate the reintegration of rehabilitated sites into the property market and to ensure that they can be brought back into new economic uses. The management of the increasing amount of derelict land in inner city locations is one of the most important issues on the agendas of today´s urban planners and property related private stakeholders. Taking into account the ongoing consumption of open space for housing, retailing and industry, it is recognised that a sustainable built environment

cannot be achieved without re-integrating derelict land into the property markets and encouraging development back to central urban locations.

8. Key project objectives:

RESCUE intends to improve the quality of derelict land recycling in terms of the sustainability of the build environment and the quality of urban life. It will develop tools for the practical work of real estate owners, planners, architects, engineers and public authorities involved in the complex processes of brownfield regeneration projects. By reducing the costs of land rehabilitation, RESCUE will help to overcome the current obstacles in such projects, contribute to reduce the demand for greenfield development and therefore save natural resources. Based on concrete case study sites, the regeneration process will be broken down into the main steps of decision making and analysed along transnational work packages by interdisciplinary teams.

The results of this will be integrated into a Manual of a European System Approach for Sustainable Brownfield Regeneration. This Manual will provide both scientifically and practically tested guidance and substantial decision making tools for stakeholders, public administration and financial funding bodies. The checklists, performance indicators, evaluation criteria, examples of best practice etc. generated in RESCUE will be disseminated throughout the European Community and the EU Accession States to scientific networks and practical end users such as real estate owners, planners, architects, engineers, public entities and public and private financiers. Moreover, the results aim at supporting the formulation of European policies in derelict land recycling programmes as well as future decisions about the public funding of brownfield projects.

9. Best practice related to key topics:

9.1. Environmental dimension

Information about the issues have not been found in the description.

9.2.Project management

Local policy-makers and professional planners should collect and use comments and ideas from those who know the community best: people who live and work there. Citizens should be involved in the collection and production of the information needed to develop, maintain, and carry out an effective comprehensive plan.

Local policy-makers should get to know the local situation and any detailed problem structure. This fosters the development of appropriate solutions. They can then

reduce cost and energy input by avoiding promoting unpopular or unacceptable projects against the opposition of the citizen majority and by early re-design of projects (this is also the case for a private company).

Policy-makers can improve their strategic ability in defining issues, enlarging possible choices, grasping stakeholders' different standpoints, finding satisfying solutions and compromises. This leads to fewer conflicts (complaints or legal cases) and less litigation, which finally reduces costs for re-planning and conflict resolution and leads to a greater acceptance of results.

For planners, developers and investors, citizen participation increases planning security, offers an additional opportunity to promote the project and enables an improvement of the project approach according to local needs. It reduces the risk of delay or total failure of the project, which saves money. The implementation phase can be kept leaner and more target orientated.

Beyond the holistic principles that are embodied in the concept of Sustainable Brownfield Regeneration, there are significant practical challenges for a Project Manager. It is the Project Manager's task to co-ordinate and control the overall process to satisfy the participants' prioritised needs.

9.3. Economic and financial dimension

Information about the issues have not been found in the description.

9.4. Technical solutions

Information about the issues have not been found in the description.

9.5. Legal dimension

Information about the issues have not been found in the description.

9.6. Social dimension

Traditionally policy-makers address and involve organized citizens who are part of the information network, and who often have to be heard by law. But in the context of brownfields, a critical eye should be kept on the way local governance structures are constituted because paradoxically, the effort to integrate citizens into the decision-making process and increase legitimacy can miss its target: indeed, those processes cannot "touch" the people (unemployed, women and children, ethnic minorities) who are the most concerned because they reject traditional forms of organization (they feel their everyday life matters are not listened to) or because the chosen "CP" method is not adapted to them (time and meeting places, language for instance).

Hence, Policy-makers should develop pro-active methods in order to identify and select all relevant stakeholders and involve them properly.

Some associations, private investors and companies - are increasingly involved and play an important role, which endows them with more power even if they are not democratically legitimate. In this context, elected representatives are no more the "designers" or "controllers" of development processes, but they "regulate" or "repair" negative impacts caused by decisions of others. The activities of associations, private investors and companies need to be regulated on the basis of a commonly accepted scale in order to create sustainable development processes. Ensuring maximum organization and efficiency needs a new deal of power between the social and the political sphere, at the most meaningful level for inhabitants, in order to be able to guarantee conditions for an active and participative citizenship.

9.7. Marketing

The information about the issue has not been included

9.8. Heritage

The information about the issue has not been included

10. Key products (concepts and tools):

Virtual Training Centre (VTC)

Sustainability Assessment Tool (SAT)

11. Case studies in CENTRAL Europe

- Radbod, Ruhr and Espenhain, South of Leipzig, Germany
- Dolomites Sports Valley, Bytom and Sosnowiec Coal Mine, Sosnowiec, Poland

1. Project name:

Revitalising Industrial Sites (REVIT)

2. Lead partner:

City of Stuttgart, Thomas Zügel,

Stuttgart, Germany

e-mail:thomas.zuegel@stuttgart.de

3. URL:

http://www.revit-nweurope.org/

4. Source information

Revit booklet

5. Project time span:

April 2003 – August 2007

6. Project budget and funding:

€ 11,0 million, 50% funded by the INTERREG IIIB NWE ENO programme

7. Project description:

The project partners have worked together to develop new ways of tackling brownfield regeneration, focusing on stakeholder engagement processes, financing techniques, in particular Public Private Partnerships, marketing approaches, and protection and promotion of industrial heritage. They have also developed a framework for sustainable evaluation that can be applied on a site-specific basis. Moreover the consortium also focused on technical environmental issues such as remediation, natural assets and water management.

8. Key project objectives:

Develop best practice examples and toolkits in connection with three Co-operation issues:

- Formal and informal brownfield regeneration instruments and methods that stimulate participation and community involvement.
- New financing techniques, public private partnership models and re-use marketing concepts in the context of brownfield regeneration.

- Preservation and intelligent re-use of industrial heritage potentials and elimination of environmental damages as well as protection of natural assets.

9. Best practice related to key topics:

9.1. Environmental dimension

Sustainability: Recommendations and Conclusions:

- Environmental legislation at both the EU and local levels is a key consideration for sustainable development during the planning and redevelopment of brownfield sites.
- It is important to recognise that brownfield sites frequently have a greater negative impact on sustainable issues than standard urban development sites. These include environmental, economic and social issues.
- Sustainable targets and indicators for brownfield site redevelopment should be relevant to the area and the site as well as relate to national and local sustainable development policy and strategy.
- It is essential to undertake a sustainable development assessment, followed by a management plan and supported by plans for monitoring, reviewing and auditing. At the outset it is necessary to agree responsibilities for sustainable development issues and who is able to make decisions.
- Stakeholders, both professional and members of the community, are key to devising and agreeing sustainable development indicators and targets. This process itself heightens the awareness of sustainable development issues for all involved. Sustainable development workshops have been found to be a good way of engaging, influencing and informing stakeholders.
- New remediation techniques that rely on natural processes, such a bio-remediation, take time to be effective. This should be factored into the project phasing.
- New technologies that support sustainable development can be promoted through policy, the use of planning tools and software that shows how these can be deployed on new developments.
- Brownfield sites that have been developed along the sustainable development principles offer investors, developers, local government and end-users greater assurances that risks often associated with brownfield sites have been addressed. This also provides a positive marketing message.

Natural Assets: Recommendations and Conclusions:

- Wildlife surveys must be undertaken as early as possible and during the correct time of the year to determine the measures needed to protect and conserve habitats and legally protected species.
- Mitigation measures to conserve and protect wildlife may be required during the redevelopment of brownfield sites. Where needed, these must be designed, agreed and costed.
- Delays and poor publicity can result from not taking account of wildlife issues on brownfield sites. These risks can be avoided if correctly planned and project managed.
- Distinctive wildlife can add value to the redevelopment of an area. Working to save and/or conserve unique wildlife can create a positive image for a brownfield site.
- Brownfield sites that have remained undeveloped for long periods of time often develop unique ecosystems that may then have to be protected.

Water Management: Recommendations and Conclusions:

- The redevelopment of brownfield sites for housing, commerce and industry requires large volumes of water for construction, during redevelopment, and later, by the end-users. It is crucial that a full evaluation of the water requirements, both input and waste disposal, has been fully carried out and that these are calculated to meet the potential demands.
- There are many new techniques and technologies to reduce water consumption. These should be fully considered throughout the life cycle of a brownfield redevelopment.
- Large and small bodies of water provide a natural appeal for new developments. Brownfield sites can capitalise on this by using water imaginatively during the development of masterplans.
- Water provides potential interest for leisure and tourism businesses. The opportunities should be fully explored at the outset of a project to see how the appeal of water can be exploited in this respect.

9.2. Project management

Stakeholder Engagement Toolkit (Obtaining Institutional Buy-in)

Critical Success Factors for PPP

- All parties involved should have a clear idea of their own objectives and constraints regarding the project. They should know what they want, what they can do and what they cannot do.
- When choosing a PPP structure for a particular project, it is necessary to have acquired a sufficient degree of insight into the extent to which public-private co-operation can add value, in relation to other, more traditional contract forms (private development, public development).
- The public authorities that are involved in the preparation, procurement (tender) and/or execution of a project, should, before procuring the project, or parts of it, have formed a “public consortium”. This should include proper agreements as to project organisation, authority, mandates, delegation, financing and the required authorisation, zoning and planning, in order to prevent discord between different public bodies in later project phases: they should “get their act together” beforehand.
- The earlier the private sector is involved in the preparation of a particular project, the greater the chance of success.
- Selection of private parties should be based on competition as much as possible. A diligently executed market consultation increases the chances of success of a project. The overall number of parties involved should be minimised. Involvement of parties can be limited to certain phases of the project chain on a “need-to-participate”-basis.
- Involvement of neighbouring citizens and businesses is important, but requires specific arrangements rather than including them as “part of the consortium”.
- When selecting the most suitable PPP parties, it is more important to focus on their ability to manage the disciplines required for the project than their ability to execute the various tasks. A PPP contractor should be selected on their ability to manage the process and the inherent risks.
- For success of PPP projects the involvement of financial institutions such as the European Investment Bank (EIB) is a must. The initiative and planning phases should provide sufficient time and opportunity to involve such institutions.
- The scope of a PPP project should be sufficiently substantial financially to justify the upfront investments in terms of transaction and management costs.

- The composition of and the culture within the teams involved in a project are a crucial factor for the successful completion of the project.

Financing Techniques: Recommendations and Conclusions:

- A Public Private Partnership is not a target in itself. It is one of the financing techniques for brownfield development. PPP must have advantages for both partners, such as risk sharing and bringing in mutual expertise.
- Both the public and the private parties must have a clear view beforehand of their own ideas and expectations. They have to know what they want, what they can do and what they cannot do.
- Transparency in co-operation and communication throughout the whole project period is essential.
- Private partners should be selected in an open, transparent tendering procedure via a “competitive dialogue”.
- High quality private partner managers, as well as public partner managers, are required to oversee these complex redevelopments. This is as important as the ability to execute the various tasks themselves.
- Finance is just one aspect of the redevelopment: the "social context", both within the project team and in the community, is also an important consideration.

9.3. Economic and financial dimension

Stakeholder Engagement Toolkit

Success Factors for PPP

Critical Success Factor 1 – All parties involved should have a clear idea of their own objectives and constraints regarding the project. They should know what they want, what they can do and what they cannot do.

Critical Success Factor 2 – When choosing a PPP structure for a particular project, it is necessary to have acquired a sufficient degree of insight into the (reasonable) expectations surrounding to what extent the private-public cooperation can add value, in relation to other, more traditional contract forms (private development, public development).

Critical Success Factor 3 – The public authorities that are involved in the preparation, procurement (tender) and/or execution of a project should, before procuring (parts of) the project, have formed a ‘public consortium’ which includes proper agreements as

to project organisation, authority, mandates, delegation, financing and the required authorisation, zoning and planning, in order to prevent discords between different public bodies in later project phases. They should 'get their act together' beforehand.

Critical Success Factor 4 – The earlier the private sector is involved in the preparation of a particular project, the greater the chance for success.

Critical Success Factor 5 – Selection of private parties should be based on competition as much as possible. A diligently executed market consultation increases the chances of success for a project. The overall number of parties involved should be minimised. Involvement of parties can be limited to certain phases of the project-chain on a 'need-to-participate'

basis.

Critical Success Factor 6 – Involvement of neighbouring citizens and businesses is important, but ask for specific arrangements rather than making them 'part of the consortium'.

Critical Success Factor 7 – When selecting the most suitable PPP parties, it is more important to focus on their ability to manage the disciplines required for that project than the ability to execute the various tasks themselves. A PPP contractor should be selected on its ability to manage the process and the inherent risks.

Critical Success Factor 8 – For success of PPP projects the involvement of institutions such as the European Investment Bank (EIB) is a must. The initiative and planning phases should provide sufficient time and opportunity to involve such institutions.

Critical Success Factor 9 - The scope of a PPP-project should be of sufficiently relevant size to justify the upfront investments in terms of transaction costs. The scope should be sufficient for such projects to be managed effectively.

Critical Success Factor 10 – The composition of and the culture within the teams involved in a project are crucial factors for the successful completion of that project

9.4. Technical solutions

Remediation Techniques: Recommendations and Conclusions:

- Advanced monitoring and site investigation technologies and approaches are needed in order to achieve reliable site characterisation on a large scale in a cost effective way.

- Waste legislation and landfill costs are key criteria for the selection and development of remediation solutions and technologies. Life cycle assessment and cost benefit analysis of the technologies is an essential step in the remedial planning process.
- Pilot tests should use site-specific technological solutions.
- Successful new remediation technologies must be supported by a strong marketing and demonstration campaign in order to gain wider user acceptability.

9.5. Legal dimension

Information about the issue has not been included into the final report

9.6. Social dimension

Stakeholder Engagement Toolkit (Stakeholder Identification, Scope, Context, Engagement Plan, Review)

Stakeholder Engagement: Recommendations and Conclusions:

- The legislative framework on stakeholder engagement provides room for informal and flexible methods of stakeholder engagement. A structured procedure including a clear brief and strategy following a project management approach should be followed in order to plan and execute a stakeholder engagement programme throughout the life of the project.
- It is important to identify and evaluate the stakeholders and select appropriate methods of engagement to suit the target groups and their abilities. Each engagement exercise should be planned according to the individual circumstances involved.
- It is vital to obtain Institutional Buy-in for the goals and content of the engagement process. This support from decision-makers at political and developer levels must begin as early as possible and continue throughout the life of the project.
- Sufficient budget and resources should be allocated in order to ensure that the stakeholder engagement process is implemented effectively. If you are going to do it at all, ensure that it is done properly!
- The REVIT Stakeholder Engagement Toolkit provides guidance on how best to plan, manage, implement and evaluate stakeholder engagement. Stuttgart's manual, REVIT Planning Workshop, demonstrates preparation,

implementation and assessment of a public workshop during the planning process, ensuring support of decision makers at political and developer level.

-

9.7. Marketing

Stakeholder Engagement Toolkit (Engagement Plan)

Improving the Image, Marketing Strategy, Communication between stakeholders

Marketing: Recommendations and Conclusions:

- Marketing brownfields needs a unique selling point [USP] and a positive image as a first step towards a strategic marketing approach.
- Brownfield promotion requires a strong communication focus to engage private partners and end-users.
- Networks, events, competitions and publicity promotions are essential to reinforce a positive vision for a redevelopment site.
- Communication channels should be well set up and best use should be made of modern technology.

9.8. Heritage

Industrial Heritage: Recommendations and Conclusions:

- Create an inventory and assess the industrial heritage potential on a brownfield site, prior to development of a masterplan. This will help to achieve consensus for future actions and uses without compromising the integrity and cultural history of the site.
- It is essential to undertake a full assessment of the specific conservation needs, costs including lifetime costs, and special skills and resources required for effective and sustainable restoration.
- Cultural heritage can be strengthened through festivals, events and social links with the industrial past. The same can apply in reverse, with marketing activities being augmented by cultural heritage.
- Industrial heritage should be used as a key driver for regeneration and investment.

10. Key products (concepts and tools):

REVIT Checklist of Success Factors for Procurement and Concession PPP and PPP Alliance project structure

Models for PPP

REVIT Stakeholder Engagement Toolkit

Brownfields START-UP" Tool

11.Cases Studies in CENTRAL Europe

- Stuttgart, Germany
- Nantes, France
- Tilburg, The Netherlands
- Hengelo, The Netherlands
- Medway, United Kingdom
- Torfaen, United Kingdom

1. Project name:

City – hinterland cooperation as motor for regional development In the SE-Baltic (SEBCO)

2. Lead partner:

Ministry for Transport, Building and Regional Development Mecklenburg-Vorpommern

Schwerin, Germany

3. URL:

http://www.sebco.eu/

4.Source of information

SEBco WP5: Final draft recommendations

Medium-sized Towns as Development Motors in the South Baltic Arc – final brochure

Medium-sized Towns, Strategic Planning and Creative Governance in the South Baltic Arc

5. Project time span:

January 2006 - December 2007

6. Project budget and funding:

The total project budget 862.500 €, the INTERREG IIIB Neighborhood Programme

7. Project description:

The South-East Baltic Sea Region, the so-called "South Baltic Arc", is characterized by medium-sized cities lying in the "development shadow" of large growth centres such as Berlin, Warsaw, Vilnius and Riga. The regions' urban centres, therefore, do not profit adequately from this prosperous development, but are constantly loosing functions and population.

To achieve the objectives of Sebco, an inter-institutional and international approach is used:

- The core partners, regional administrations, regional development agencies, business associations and universities possess expertise in all aspects of regional development. Additional competence can be found in-house or in

closely related organisational units. Thus, Sebco can generate results, which exceed expectations from traditional monosectoral approaches.

- All regions in the South Baltic Arc have to deal with similar development problems. SEBco provides an arena for experts and stakeholders to exchange existing experiences and to discuss new approaches within the South Baltic Arc and beyond. Furthermore, it links small and medium-sized enterprises (SME). On this basis, innovative planning tools and model solutions will be developed. They will represent the international state-of-the-art and can be transferred and adjusted to conditions in other regions.

8. Key project objectives:

The project aims at enabling medium-sized cities to become motors for regional development in the South Baltic Arc. SEBco concentrates on issues that:

- are in the competence of local and regional authorities,
- require a joint approach by medium-sized cities with their surrounding region, and have a "leverage effect" for the regions' development.

The project activities will:

- establish new city-suburban alliances,
- initiate innovative land-use planning for large-scale industrial areas,
- improve the accessibility of medium-sized cities by revitalising secondary railway lines,
- enable the ability of small and medium-sized enterprises (SME) to establish transnational chains of production and
- facilitate the exchange of knowledge, experiences and views within and beyond the project partners.

9. Best practice related to key topics:

9.1. Environmental dimension

Information about the issues have not been found in the description.

9.2. Project management

Local governments have to be creative, initiative and pro-active in using the local territorial capital for developing the local economy and the local community. They have to secure jobs at the local level for the people of the city, and maintain services for households and local enterprises. In the context of their unanimous right to self-government, they are both free and responsible to respond to local challenges and

develop the strategic integrated framework for local spatial, economic, cultural and social development. Much can be done and should be done at the local level, where initiatives have to be taken, visions be developed, consensus among local citizens and stakeholders be sought, and implementation be organised.

There is no other way to stabilise and develop a medium-sized town located beyond metropolitan regions than to rely on the endogenous territorial capital. The knowledge of the particular local capital is essential. It has to be carefully researched, evaluated, documented and locally communicated. Only with such knowledge mainstream fashions in economic development can be adequately assessed as to their respective relevance for the local economy and longer-term employment strategies.

In recent years, INTERREG projects have been very successful to build-up interregional networks among cities and regions in the Baltic Sea region. Based on such projects and related experience, it could make much sense to forge sustainable interregional, and intercultural networks across national borders. Such networks could involve students and teachers of schools, sports and business clubs, choirs and youth orchestras. And they could be strengthened by un-bureaucratic temporary exchange of professional staff in public and semi-public institutions, as well as the exchange of trainees and apprentices. Thematic networks, such as the successful launch of the European route of brick architecture should encourage the establishment of such networks (Pienkoss 2007). Joint thematic fairs (food, arts, health) could be another option, as well as sport events, where teams of the participating cities compete for an annual trophy.

9.3. Economic and financial dimension

In case, for whatever political or local reasons, local governments are not initiative and creative, the regional institution has to find appropriate ways and means to enhance a town's initiative strength. Competitions among towns for special programmes (such as the Regionale in North Rhine-Westphalia, the competition for the Cultural City of Europe, or the competition for casino development in the United Kingdom) have proved to be such an instrument. In this context it could also make sense to support applications of medium-sized cities by a small budget to overcome initial hesitance. It would however be important that local administrations, which have

to manage and implement the programme later, write the application themselves, and do not ask external consultants to do the job.

It has become the habit that local (as well as regional) governments expect continuous support for local initiatives and projects from European and central government programmes. This has led to a new dependency culture and it has fostered an attitude where application for funding follow the interest of the programme managers, and rather not local needs and requirements.

9.4. Technical solutions

Information about the issues have not been found in the description.

9.5. Legal dimension

There are plenty of statements concerning Legal dimensions. Those are:

- Existing lobby groups in the BSR should raise their concern in debates with national governments and the EU-COM.
- Decision-makers on all levels will have to actively develop the growth potential of medium-sized towns, instead of looking anxiously towards the real or would-be metropoles
- Stakeholders in medium-sized towns have to look with caution for the best possible partners. Geographic proximity can only be one of several decision factors.
- Regional administrations should support “their” stakeholders in the search for international contacts.
- Decision-makers on all levels, spatial planning and spatial research should actively work for an understanding of cities not within their administrative boundaries, but in functional areas. The concept of “functional urban areas” (FUA) developed by ESPON may show the way.
- Decision-makers on higher levels should enter an international exchange of experience about a wise balance of priorities for transport infrastructure investments. Current cost-benefit analyses which tend to guide investments to metropolitan regions should be charged from a polycentric point of view.
- Decision-makers on higher levels should use the chance of revitalising neglected secondary rail infrastructure more actively. An international exchange of “best practice” can support this and may help avoiding costly failures.

9.6. Social dimension

Young people in a medium-sized town are more likely to be attracted by metropolitan opportunities and promises. Their early active involvement in local projects could contribute much to reduce their willingness to leave the town after school. The more they feel that their concerns are taken serious, the more they are willing to get involved in community projects. Costs for such involvement and for small projects are marginal compared with infrastructure costs or subsides for attracting volatile inward investment. In the end they may change consumer attitudes in to more pro-active collaboration.

9.7. Marketing

The better a town succeeds to use local endogenous potentials, the embeddedness of local merchants, crafts and firms or regional competence and tacit knowledge, the more it sharpens the local identity and its urban profile. This in turn attracts external interest and strengthens local commitment. The promotion of SMEs in areas of local knowledge and competence is a logical strategic consequence for action. As a rule local media are invited to report about local political, social, or cultural events. And they do it from a more or less neutral position and with a journalistic ethos of opening-up and controlling political decision-making processes. It may be useful to invite key editors of local media to participate early in city profiling efforts, in developing city visions, and in communicating visions to the local community. Being involved in development processes may better help to mobilize community participation and local commitment, and contribute to build up trust in local decision-making.

9.8. Heritage

Information about the issues have not been found in the description.

10. Key products (concepts and tools):

Medium-sized Towns, Strategic Planning and Creative Governance in the South Baltic Arc

11. Case studies in CENTRAL Europe

- Reda – Hel railway line in Poland

2.3. Description of relevant products concepts and tools

Knowledge of the key products and their participation in the success of redevelopment projects, undoubtedly have a major impact on the safety level of realized redevelopment activities.Assessment of identified concepts and tools against their practical relevance, usefulness and applicability. In particular, they are working to select, describe and analysis best practices in the European redevelopment projects in order to answer the demand on know – how – transfer, this transfer takes place in two dimensions, at first between different national expertise, and at second from research into daily practice. Due to transnational co-operation it is possible to share the best practices, as well as defining verified methods allows to use them in another practical cases in more efficient way and offer them to others.

Table 1. The review of tools created through the European urban revitalizing site's projects (in a project's alphabetical order).

Project name	Concepts and tools
BERI	Virtual Masterplan
CABERNET	A- B -C Model
CABERNET	Bath Model
CABERNET	Football Model
CABERNET	Interaction Matrix
CABERNET	Land Use Puzzle Model
MAGIC	ltp Software
NORISC	Decision Support System DSS & Site Investigation Srategy SIS
PROSIDE	Communication And Information Access
PROSIDE	Cost Analysis Tool
PROSIDE	District Management System DMS
PROSIDE	Integrated Environmental Assesment - Integral Investigation
PROSIDE	Internet Based System Information For Investors
PROSIDE	Investors Contact Point
PROSIDE	Test Planning Method
RESCUE	Sustainability Assessment Tool
RESCUE	Virtual Training Centre VTC
REVIT	Brownfields Start-Up" Tool
REVIT	Checklist Of Success Factors For Procurement And Concession PPP And PPP Alliance Project Structure
REVIT	Stakeholder Engagement Toolkit

SOURCE: own elaboration

Virtual Masterplan (BERI)

The major results of these Best Practice examples have been incorporated into the Virtual Masterplan. The virtual Master Plan has been developed by the Beri network as a toll to explore and learn about brownfield regeneration projects – drawing on real life case studies from all over Europe. That help describe best practise principles. It shows the “idealised” process for the transformation of a brownfield.

The Virtual Masterplan is divided into 2 parts:

- The real life experience through the case studies
- The process timeline

BERI - VIRTUAL MASTERPLAN
SOURCE: Beri Final Raport

Conceptual Models and Conceptual Thinking in Brownfield Regeneration (CABERNET)

When examine the underlying nature of the brownfield problem, the Network's discussions are based on the CABERNET Conceptual Models.

These focus on the dynamics of brownfield regeneration / creation and attempt to characterise the problem from a multi-stakeholder perspective. Models have been developed to:

- Represent the dynamics of the system in the context of urban land management (Brownfield Bath Model)
- Characterise different types of sites which reflect location, former use, treatment costs and economic conditions (A-B-C Model)

- Raise awareness of the different stakeholders' understanding and problem characterisation (Football Model)

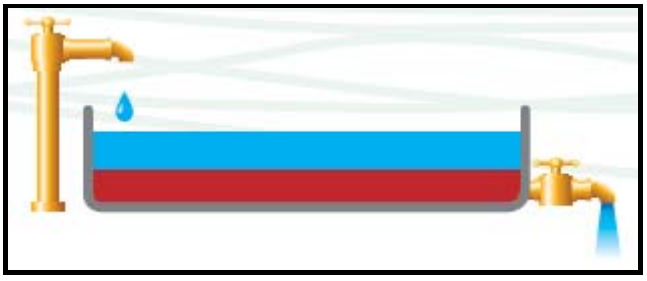
In terms of the conceptual models, these have been proposed by the CABERNET Network to facilitate a greater multi-stakeholder understanding of the key aspects of brownfields, particularly the dynamic of brownfield regeneration/creation and the characterization of the problem by different stakeholders.

Model 1: The Cabernet Bath Model

The dynamics of the brownfield problem in cities/regions is illustrated by the "bath model". It attempts to highlight the dynamics of the brownfield problem either for Member States, regions or cities, as a “bath” that is not only affected by the regeneration process that can “empty the bath”, but also by wider land use issues that “fill the bath”. The conceptual model demonstrates that as long as the brownfield bath continues to “refill”, due to the creation of brownfield sites, cities will always have brownfield sites. In some regions more sites become derelict than regenerated and therefore the overall area of brownfields will increase. More importantly for some regions, a number of types of sites remain on the bottom of the bathtub for a considerable amount of time. These persistent sites are often sites of low economic value that have remained derelict for a number of years. If public policies that deal with brownfield sites only focus on reducing the overall number or total area of sites, then it is possible to deal with, such as the hardcore sites, will remain. This could potentially result in public funds being targeted, in form of “cherry picking”, to brownfields that may not require significant public intervention of this type. Understanding the nature of “brownfield bath” and the prevalence of long – term hardcore sites can help policy makers target limited resources at sites that can be permanently removed from the bath, preventing stagnation of city areas through persistent dereliction and the impact that can have on urban decline.

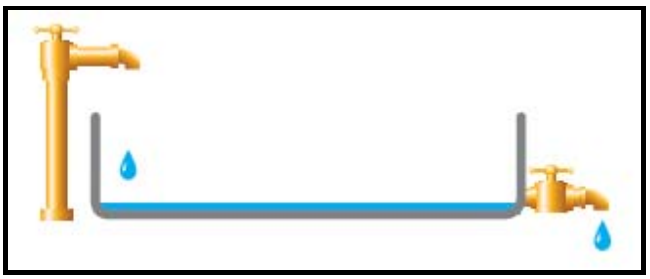
1. The Brownfield Bath Model – showing the filling and emptying of the bath

2. The Brownfield Bath Model – showing the 'sludge' or hardcore sites



3. The Brownfield Bath Model – showing the 'sludge' or hardcore sites that persist

4. The Brownfield Bath Model – showing optimal brownfield flow



CABERNET BATH MODEL
SOURCE: Sustainable Brownfield Regeneration:CABERNET Network Report

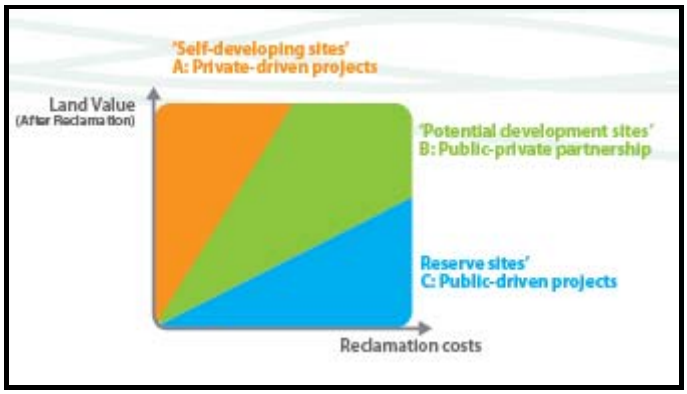
Model 2: Brownfield Redevelopment Types - The A-B-C Model

Different types of brownfield regeneration projects, in relation to their economic status and funding, are illustrated by the A-B-C Model. Depending on the cost of regeneration and the value of the land, sites can be classified as:

A Sites - these represent development projects that are driven by private funding

B Sites - these projects are characterised as being on the borderline of profitability. These projects tend to be funded through public-private co-operation or partnerships

C Sites - these projects represent mainly public sector or municipality projects driven by public funding or specific legislative instruments (e.g. tax incentives). The A-B-C model highlights the funding drivers for brownfield regeneration. It can also assist institutions that are responsible for regional development and investment, and review strategies for dealing with different types of brownfield land. Using this conceptual approach to examine the factors that affect a B Site and the drivers that can result in a site changing its status from a B Site to an A site, can also be useful.



THE A-B-C MODEL
SOURCE: Sustainable Brownfield Regeneration:CABERNET Network Report

Model 3: The Cabernet Football Model

The CABERNET Football Model was devised to highlight how different stakeholder perspectives can influence and affect the regeneration process. With this interactive model, individuals are asked to list the most significant regeneration drivers. When the football is 'kicked' or made active the significant 'driver' determines where the football falls. When various groups of stakeholders list their drivers, it is informative to review the divergence and convergence in their views and how they 'kick' the football.

THE CABERNET FOOTBALL MODEL
SOURCE: Sustainable Brownfield Regeneration:CABERNET Network Report

Model 4: The Land Use Puzzle

The Land Use Puzzle Model demonstrates the interconnected nature of brownfield distribution, land development and the land use cycle. The model demonstrates that the creation of brownfields is part of the overall land use cycle and is in fact necessary to allow cities to manage their development through the creation and stimulation of new regeneration.

THE LAND USE PUZZLE
SOURCE: Sustainable Brownfield Regeneration:CABERNET Network Report

Model 5: The Cabernet Interaction Matrix

The interaction Matrix Has been applied to Urban regeneration. The approach involves a well-defined sequence of actions that ensures that factors relevant to a proposed Brownfield regeneration scheme in a given location have been explicitly considered.

Environmental	Health protection	Attract tourists	Environmental
Provide habitat in parks	Social	Provide a market	Prioritise policy choices
Fund habitat conservation	Provide jobs	Economic	Provide tax revenue
Prevent unnecessary use of resources	Mixed cost housing	Impose CSR or other reporting rules	Institutional controls

THE CABENET INTERACTION MATRIX
SOURCE: Sustainable Brownfield Regeneration:CABERNET Network Report

ITP Software (MAGIC)

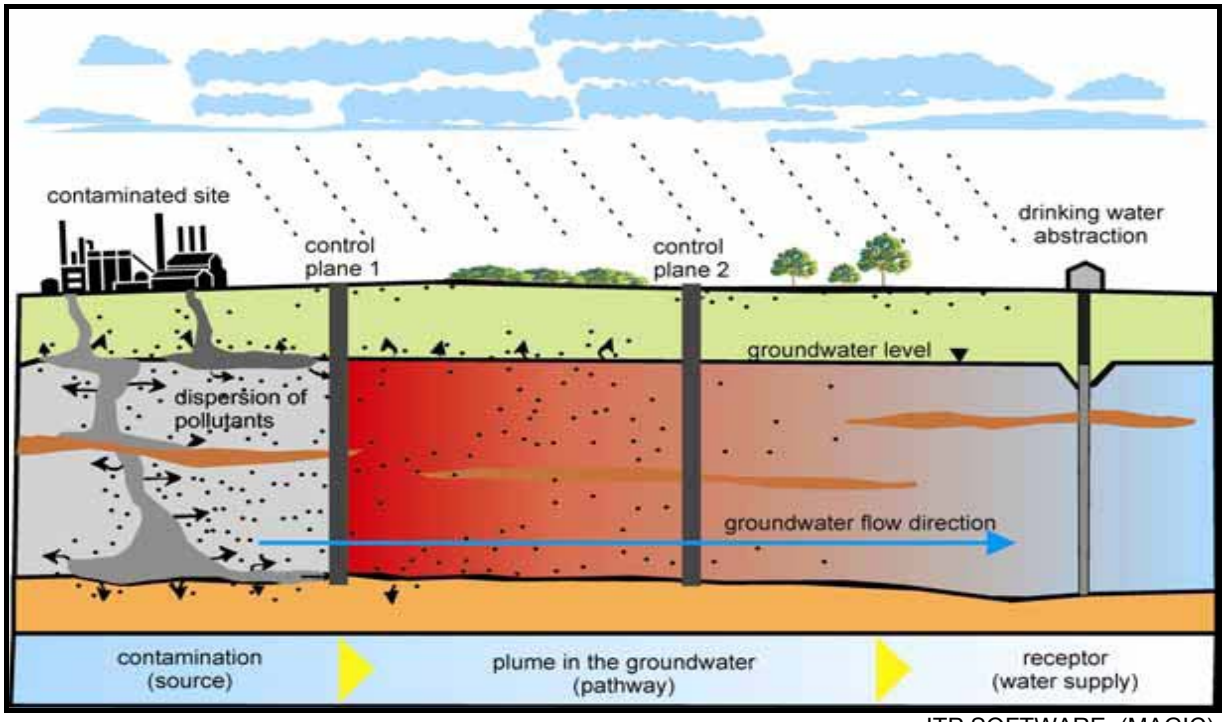
Gaining groundwaters of the right quality in Europe is an important objective of the environmental policy. It is especially related to the areas which used to be polluted by industry. Long-standing experience gained especially in Stuttgart showed that only the integral approach towards the problem enables the identification of contamination and finding out its source and its share in overall pollution.

In order to remove contamination of groundwaters successfully, PRB technology has been used for many years. By using the technology contamination is removed

directly in the water flow layer by directing the flow of contaminated groundwaters stream trough an active barrier filled with a relevant material (active).

In comparison to other methods of groundwaters remediations PRB technology characterises with numerous advantages. Among other things, contamination in waters is liquidated without the necessity of pumping the waters on the land's surface. Due to natural flow of groundwaters trough the purification sphere, the technology does not require the supply of energy and because of that it is not expensive in exploitation. PRB technology has a wide range of uses

- a means for the liquidation of groundwaters contamination, which was caused by a leakiness of tanks and pipelines as well as machines and devices damages,
- a means preventing the degradation of ground and water environment for existing, badly situated and badly secured waste stockpiles,
- a means preventing the degradation of ground and water environment for waste stockpiles whose security has been damaged etc.

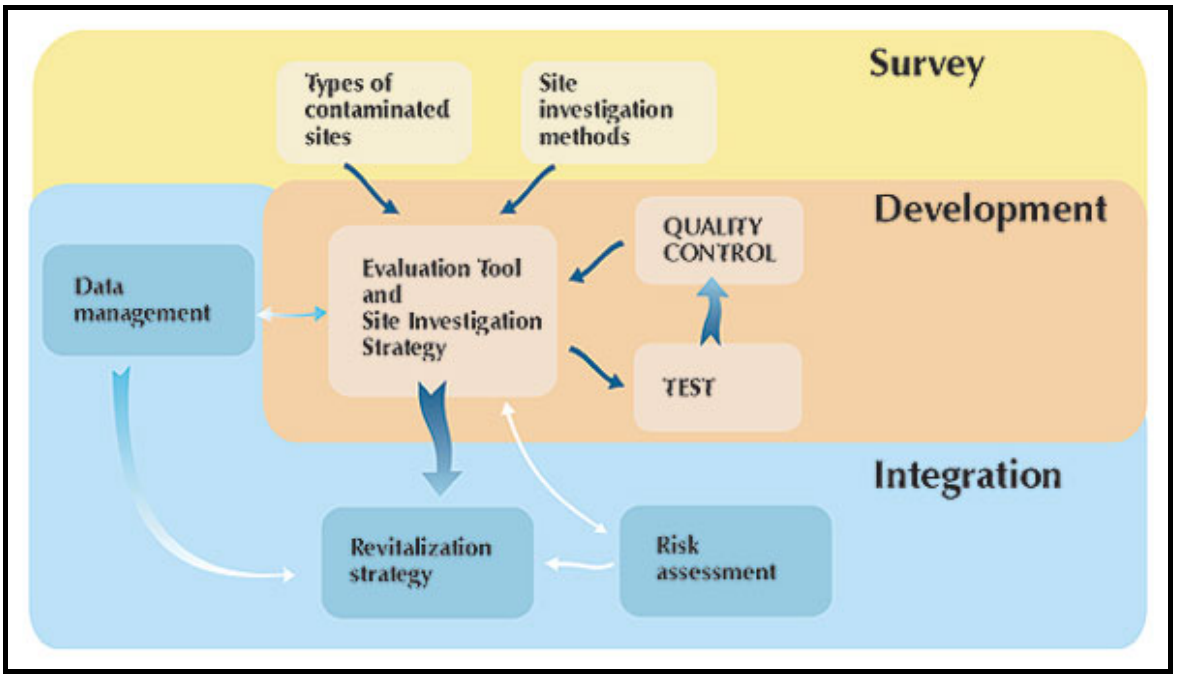


ITP SOFTWARE (MAGIC)
SOURCE: Magic Handbook for Integral Groundwater Investigation

Site Investigation Strategy (SIS) & Decision Support System DSS (NORISC)

The NORISC decision support system (DSS) basically guides the development of a methodology for investigating and assessing a contaminated site, in particular, for determining the pollution occurrence in soil and groundwater, as well as the risks involved and the potential site reuse.

Then the NORISC decision support system (DSS) was provided integrating the former tool with software module guided procedures for on site and real time data management compatible to general contaminated site management systems for the quick compilation and easy exchange of data among different communicators, site specific risk assessment for human health effects at the concerned site and determination of risk based remedial goals for soil and groundwater, and the development of a site revitalization (marketing) strategy that economically evaluates the different clean up - land use options according to the stakeholders' expectations



SITE INVESTIGATION STRATEGY (SIS) & DECISION SUPPORT SYSTEM DSS (NORISC)
SOURCE: Norisc project summary.

Inventories were compiled containing the characteristics of contamination types, site conditions, as well as the requirements of the different stakeholders involved in pollution management across the European Union and the associated countries. In

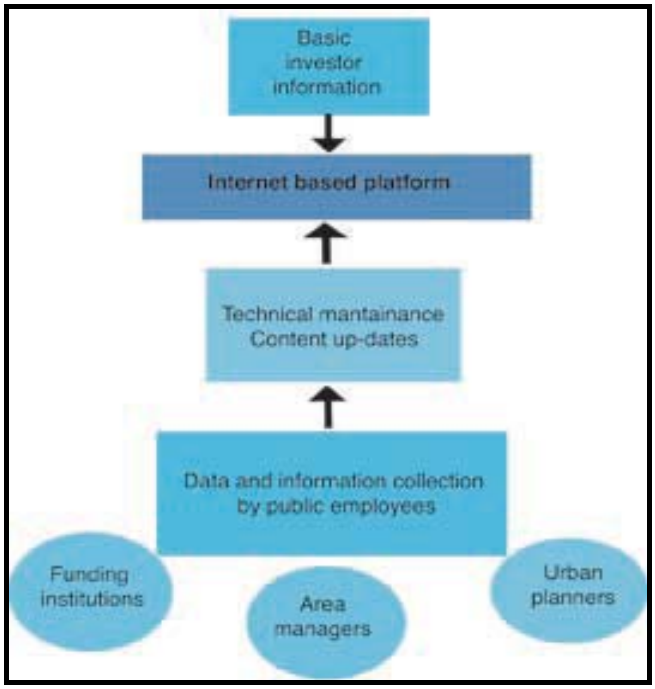
addition, current investigation standards and norms were analyzed. Existing and new investigation and assessment techniques, as well as data processing were researched and compiled. A register of geophysical screening, sampling, (hydro-) geological characterization, field and laboratory analytical measurement techniques was established and the performance of individual methods was evaluated both technically and economically.

To define the optimum combination of methods for a complex site investigation, focusing on field techniques, a selection procedure was established in the form of a decision support tool software. Furthermore, a site investigation strategy was developed as a guideline for field actions. An evaluation methodology including criteria for quantitative and qualitative verification of the methods was defined for a comprehensive assessment of the new, field-action-oriented investigation approach. The developed methodology was tested in the field at selected sites in the partner countries to demonstrate its reliability, cost and time effectiveness in comparison with common “drill and take to lab” investigation strategies.

Then the NORISC decision support system (DSS**)** was provided integrating the former tool with software module guided procedures for on site and real time data management compatible to general contaminated site management systems for the quick compilation and easy exchange of data among different communicators, site specific risk assessment for human health effects at the concerned site and determination of risk based remedial goals for soil and groundwater, and the development of a site revitalization (marketing) strategy that economically evaluates the different clean up - land use options according to the stakeholders' expectations. SIS In addition to the NORISC decision tool software, a site investigation strategy (SIS) was prepared that enables a flexible and dynamic field investigation approach. Its key elements are the combination of geophysical screening with field investigation techniques, as well as the daily evaluation of results and adjustment of the investigation plan. During the site investigation the location of sampling points is to be recorded by GPS and downloaded to a portable computer unit together with measured determinant values. Data processing is to be carried out on-site, too.

Internet Based Information System for Investors (PROSIDE)

Investors need a set of basic information to decide whether an area or site is of interest or not. The proposed information content of the database is based on the results of interviews, experiences in establishing databases in Stuttgart and Milan and technical possibilities. Three categories of information are defined: (1) information required, (2) “nice to have” information and (3) supporting information. It is essential to design a database which is easy to handle and provides clear and concise information. The database should provide investors with information which allows them to determine the potential for area or site development and the names of contact persons if more detailed information is required. Regular maintenance and up-dates of the database are a prerequisite for the successor an internet-based information system for investors



Proside - Best Practice Guidance for Sustainable Brownfield Regeneration
SOURCE: PROSIDE PROmoting Sustainable Inner urban DEvelopment"

Investors Contact Point (PROSIDE)

The Investors Contact Point offers a range of advice from the choice of location to the set-up phase and coordinates the different activities for the investor. The Investors Contact Point provides relevant information to support decision-making, whether an investor wishes to establish a new site or whether is planning the expansion of an site. The Investors Contact Point is also the first port of call for other questions following successful conclusion of the investment, and remains an important partner and source of support, allowing companies to concentrate fully on their own business, especially during the start-up phase.

INVESTORS CONTACT POINT (PROSIDE)
SOURCE: PROSIDE PROmoting Sustainable Inner urban DEvelopment"

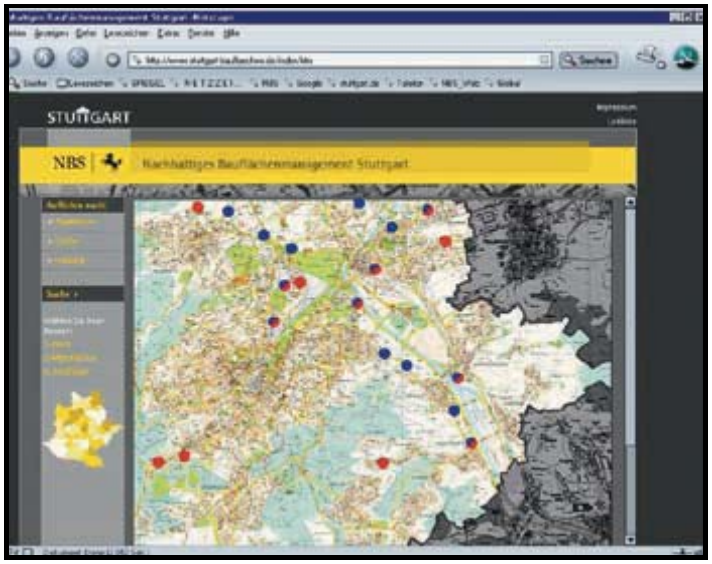
District Management System Dms(PROSIDE)

The test planning process showed that a particular set of information was needed for the development process requires to promote sustainable and coordinated development in the area the need for a development coordinator was identified, responsible for both collecting information from the different departments and authorities concerned and for dissemination. The coordinator should have the latest information and updates on development potential to inform interested investors. For

this reason an internet-based planning information system that acts as a district management system is proposed to provide a solid foundation for decision-making.

Communication And Information Access (PROSIDE)

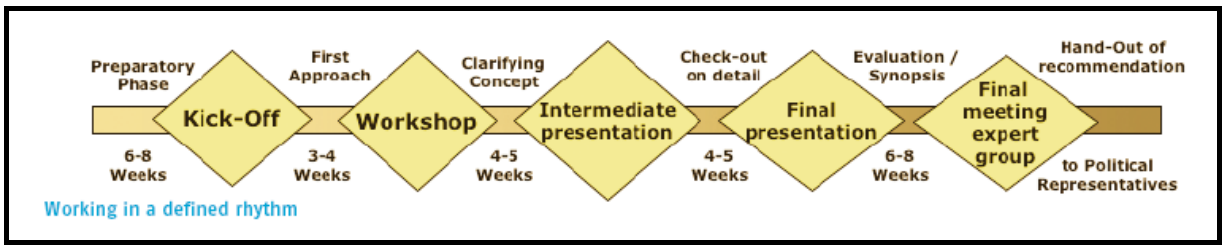
Inner urban development projects are based on many decision-making processes subject to a high level of time pressure, especially in the initial phases. Good decision-making requires up-to-date and relevant information. Quick access to information and good communication and co-operation between the different partners of urban development projects are essential, in particular among the different municipal departments involved. Efficient internal project organization in the municipalities is a further factor for success. Innovative technologies, in particular based on internet technology, can contribute to improved communication and information exchange and access, irrespective of time and place.



COMMUNICATION AND INFORMATION ACCESS (PROSIDE)
SOURCE: PROSIDE PROmoting Sustainable Inner urban DEvelopment"

Test Planning Method (PROSIDE)

Complex planning tasks have a better chance of succeeding if the planning procedure is well-structured and time taken to properly define and explore the problem and issues at hand before attempting to explore the possible solutions. The test planning approach is based on an exploratory step by- step procedure and early assessment of opportunities and risks related to the actions proposed and evaluation of their consequences. In the test planning process several teams work simultaneously on the same task to explore the whole range of possibilities for development. The core purpose of test planning is to test different possibilities and potential for the type and intensity of exploitation of a specific area or site and then to evaluate which actions are essential, for the realization of the different plans. The core methodological elements of the test planning process are:



TEST PLANNING METHOD (PROSIDE)
SOURCE: PROSIDE PROmoting Sustainable Inner urban DEvelopment"

The experience gained through the PROSIDE project, shows that the test planning process provides a very useful tool for identifying development potential and specific projects in keeping with overall spatial planning. Test planning is particularly useful in the early stages of the planning process. It also has the advantage of covering both

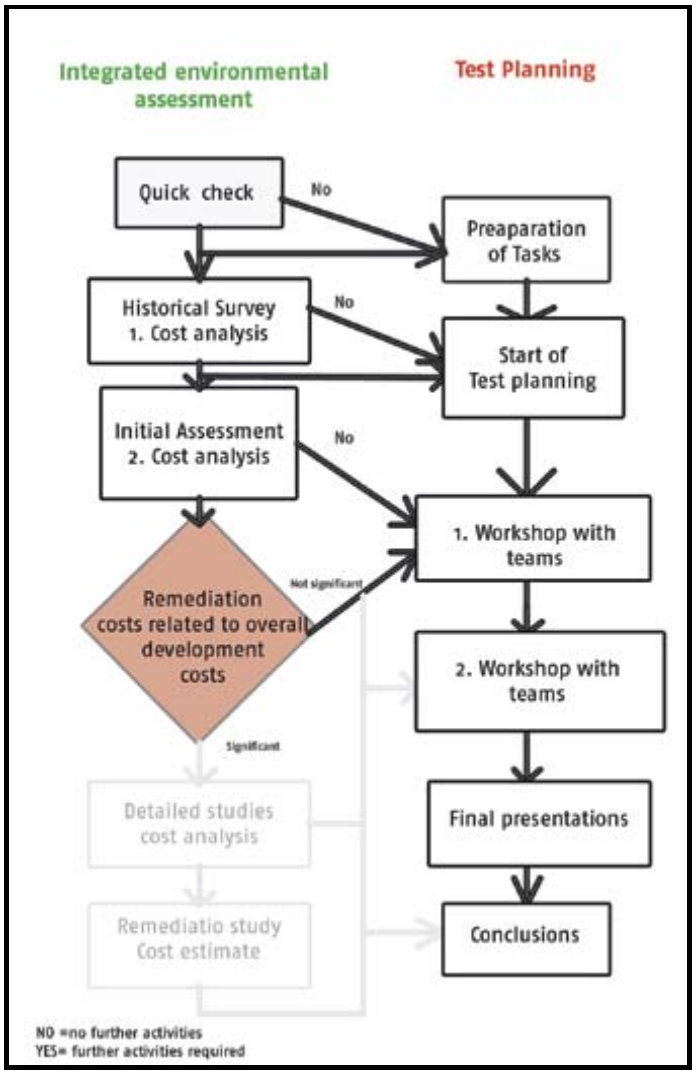
technical and practical considerations while at the same time promoting cooperation and communication between the different actors concerned and creating a climate of trust..

TEST PLANNING METHOD (PROSIDE)
SOURCE PROSIDE PROmoting Sustainable Inner urban DEvelopment"

TEST PLANNING METHOD (PROSIDE)
SOURCE: PROSIDE PROmoting Sustainable Inner urbanDEvelopment"

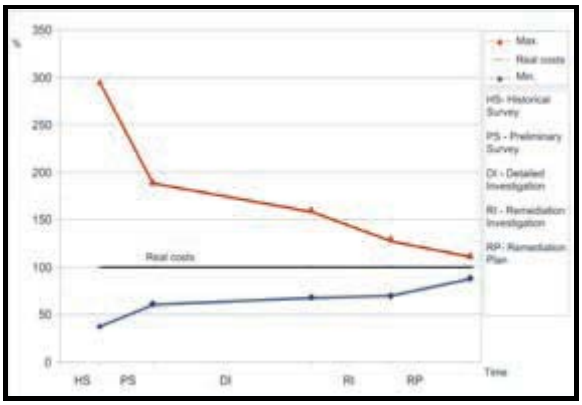
Integrated Environmental Assesment - Integral Investigation (PROSIDE)

Environmental assessment methodologies to evaluate risks for human health and the environment are well established. In many cases they do not however provide sufficient information for the different stages of planning processes and private project development. The assessment steps need to be completed by related cost estimates, see the Cost Analysis Tool. Experience shows that initial environmental assessments provide a sufficient basis for preparing the cost estimates needed for the planning concept and project development phases.



INTEGRATED ENVIRONMENTAL ASSESMENT - INTEGRAL INVESTIGATION (PROSIDE)
SOURCE: PROSIDE PROmoting Sustainable Inner urban DEvelopment"

The cost-prognosis tool is designed for application in the early planning phases with information available from historical survey or preliminary investigation. The tool is based on transparent procedures to be derived from the information about the site physical units and unit prices as well as an appropriate consideration of uncertainty. Based on existing experience technical options were linked with current market prices. In every case an idea on the dimension will be imparted, on the costs as well as on the tolerance limit. The user of the tool cost prognosis can identify on the basis of the tolerance limit the need for further detailed investigation.

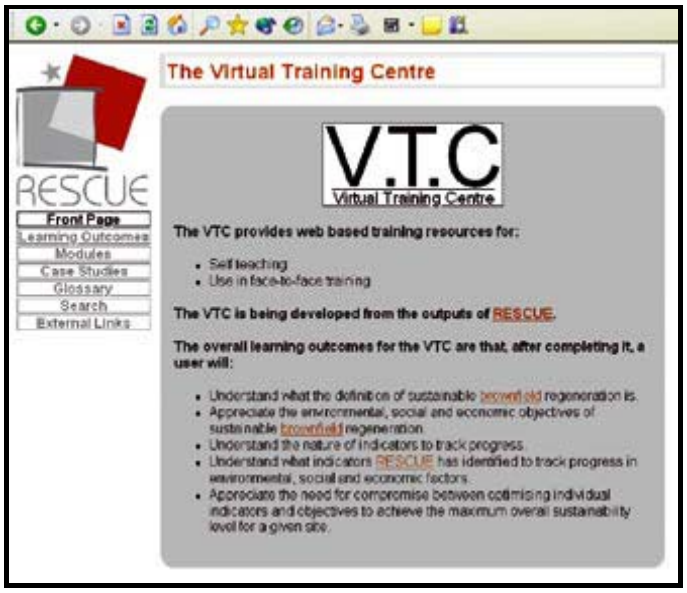


COST PROGNOSIS TOOL (PROSIDE)
SOURCE: PROSIDE PROmoting Sustainable Inner urban DEvelopment"

Virtual Training Centre - VTC (RESCUE)

RESCUE has developed a virtual training centre (VTC) to allow newcomers to and practitioners in brownfield regeneration to acquire an awareness and understanding of the broad spectrum of topics considered by the Project. The RESCUE VTC consists of 6 modules each of which comprises a series of lessons to achieve specific learning outcomes. The material has been designed to be accessible and understandable by someone going through it on their own without need to recourse to a teacher or trainer.

The VTC is designed to offer easier access to RESCUE Project Findings than simply reading through the project's not inconsiderable outputs. Through guided reading, images, animations the self-learner gains an awareness of and understanding in a wide range of topics. The need for higher levels of learning, such as developing specific skills, will no doubt arise and it is hoped that self-learners will be inspired to deepen their skills base.



VIRTUAL TRAINING CENTRE - VTC (RESCUE)
SOURCE: Rescue - Best Practice Guidance for Sustainable Brownfield Regeneration

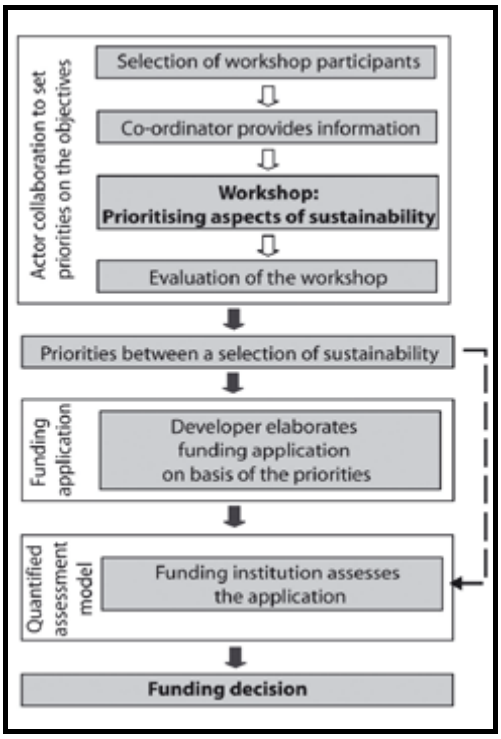
Sustainability Assessment Tool SAT (RESCUE)

RESCUE developed the Sustainability Assessment Tool to specifically assess the sustainability of future brownfield regeneration projects through a methodology that considers the variable parameters and conflicting priorities of brownfield regeneration projects.

There are three steps in assessing the sustainability;

- Actor collaboration to set priorities. The relative importance of the objectives has to be defined for each individual brownfield project – the actors set priorities on aspects of sustainability. This will happen by means of a workshop.
- Funding application by the project developer On the basis of the weighed aspects of sustainability and all sustainability objectives the project developer elaborates a funding and/or planning application. These will be submitted to precisely the same agencies or departments as a normal application.
- Quantified assessment model (QAM) for decision making

The application will be assessed by a funding institution and/or a planning department. The EU/ funding agency/ planning department can evaluate how sustainable the project is and how public priorities were taken into account. The three steps from actor collaboration to quantified assessment model can take- typically - one to two years.



SUSTAINABILITY ASSESSMENT TOOL SAT (RESCUE)
SOURCE: Rescue - Best Practice Guidance for Sustainable Brownfield Regeneration

Brownfields Start-Up" Tool (REVIT)

Brownfield sites "do not sell on their own". In the context of marketing, it is therefore important to log the key attributes of a side and use this profile to develop its unique selling points. The REVIT partners have identified three key aspects to "sell" their brownfield sites: to improve the image of the brownfield site, to set up and implement a positive marketing strategy, and to improve communication between relevant stakeholders. The "Brownfields START-UP" Tool, developed by a US-German bilateral research group, makes it possible to create a start-up plan: a target-group specific, integrated project and business plan, tailored to a specific brownfield and

addressed to property owners, investors and banks, real estate developers and politicians. As a powerful marketing tool, it simplifies communication between the participants and strives towards a collective development vision. This tool has been successfully applied by two REVIT partners.

Checklist Of Success Factors For Procurement And Concession PPP and PPP Alliance Project Structure (REVIT)

While brownfield site regeneration offers great opportunities for structural economic change, in most cases redevelopment does not take place spontaneously. The main reasons for this are the possible risks associated with brownfield sites and the lack of knowledge concerning the way these risks can be handled financially. With private investors usually not being interested in considering collective benefits of regeneration projects, an analysis of the barriers to invest has to be done by the public sector. In that various models of public-private co-operation need to be evaluated, with the most appropriate selected. The REVIT “Checklist of Success Factors for Procurement and Concession PPP and PPP Alliance project structure” provides a process to assist decision-making related to the financial aspects of brownfield regeneration. The checklist deals with choices to be made by developers and by the public sector on development and co-operation issues, and on financial incentives and techniques, including EU regulations on state aid and procurement.

Models for PPP

Models of Public-Private Cooperation in Brownfield Redevelopment

Regarding the use of public-private partnerships in infrastructure projects it is common to distinguish between four basic phases in the development of these projects: Design (D), Finance (F), Build (B), and Operate (O, or: Maintain, M). Between each of these phases ownership can be transferred (T) from one party to another. The actual arrangement can then be denoted by the phases for which the private party is responsible, and the moment transfer of ownership takes place.

Some examples are:

- DFBT: the private sector takes care of the full development of the infrastructure which is then transferred to the public sector (turnkey project);

- BOT: the private sector builds the infrastructure (designed and financed by the public sector), operates the infrastructure for a certain amount of time, after which the infrastructure is handed over to the public sector;
- F: private financing only (like the UK PFI projects). If the private sector is involved in the operation of the infrastructure, often a system of concessions is used which makes it possible to allow private parties to compete from time to time. Concession fees (paid by government to the concessionaire) can be based on the availability and/or actual use of the infrastructure during the concession period (availability fee, user fee or mixed fee). In some cases of private financing (PFI) the actual use of infrastructure is used to (partly) to determine the level of return payments made by government, putting part of the long-term project risk with the private financier.

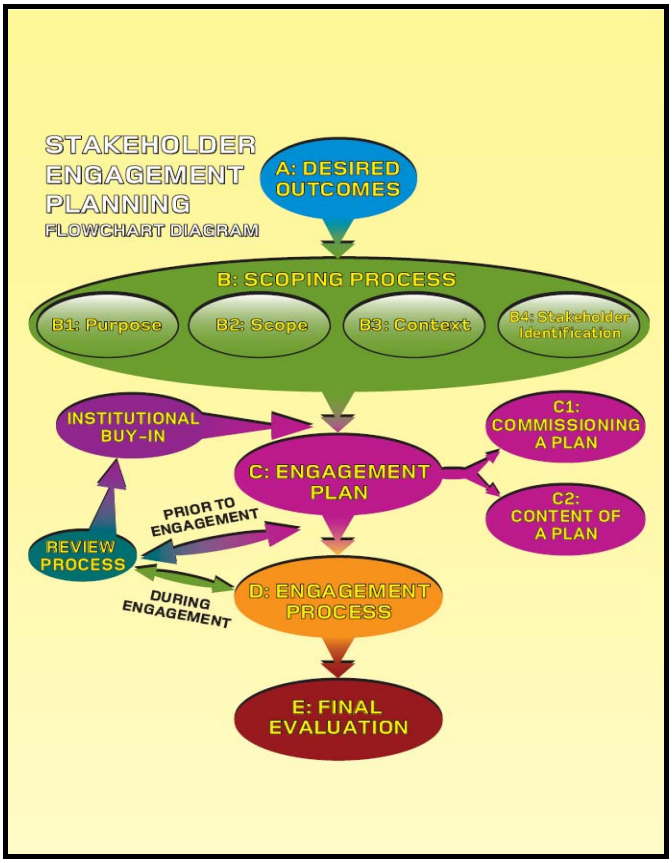
Stage/model	I. Private development	II. Public development	III. Procurement & concession PPP	IV. PPP Alliance
Initiative	Private	Public	Public	Priate, public
Planning	Private, with public assistance	Public	Possibly private	Priate, public
Financing	Private, with public financial assistance	Public	Possibly private	Priate, public
Site development	Private	Public	Possibly private	Priate, public
Building	Private	Public	Possibly private	Priate, public
Operating & maintenance (commercial facilities	Private	Private, public	Possibly private	Priate, public
Maintenance of public facilities	Public	Public	Public	Priate, public

FOUR MODELS OF COOPERATION
SOURCE: Revit Stakeholder Engagement Toolkit

Staheholder Engagement Tollkit (REVIT)

Stakeholder engagement is steadily growing in priority and is now a vital component in sustainable development. The REVIT Stakeholder Engagement Toolkit has been developed to foster a professional approach towards stakeholder development. There are both formal and informal frameworks for undertaking stakeholder engagement, which have been researched, and the latter developed, through the REVIT transnational working group. It is important to develop a comprehensive and agreed Stakeholder Engagement Plan in addition to formal frameworks. This informal

framework should include clear aims and objectives, identification of stakeholders, funding for resources, outlines for key events, venues, processes, and milestones. There should also be a response strategy to ensure that there is clarity on what can and cannot be negotiated and that any commitments made can be honoured. Planning this response strategy should include agreement on the level of engagement. The REVIT Stakeholder Engagement Toolkit outlines a framework for this process. It has been designed for practitioners as an instrument to help in the process of planning and executing engagement exercises. The key elements are shown in the following flow diagram.



STAHEHOLDER ENGAGEMENT TOLLKIT (REVIT)
SOURCE: Revit Stakeholder Engagement Toolkit

Table 2 The review of tools created through the European urban revitalizing site's projects according to thematic blocks

Concepts and Tools	Project Name
Conceptual models and conceptual thinking in brownfield regeneration & learning	
Model 1: "Brownfields Dynamics" - the Cabernet "Bath Model"	CABERNET
Model 2: Brownfield Redevelopment Types - the " A-B-C Model"	CABERNET
Model 3: The Cabernet "Football Model"	CABERNET
Model 4: "The Land Use Puzzle"	CABERNET
Model 5: The Cabernet "Interaction Matrix"	CABERNET
Virtual Master Plan	BERI
Virtual Training Centre (VTC)	RESCUE
Management &Marketing	
Brownfields START-UP" Tool	REVIT
Internet Based Information System for Investors	PROSIDE
Investors Contact Point	PROSIDE
District Management System (DMS)	PROSIDE
Communication and Information Access	PROSIDE
Sustainability Assessment Tool (SAT)	RESCUE
Test Planning Method	PROSIDE
Integrated Environmental Assessment - Integral Investigation	PROSIDE
Checklist of Success Factors for Procurement and Concession PPP and PPP Alliance Project Structure	REVIT
Stakeholder Engagement Toolkit	REVIT
Economical and Financial Dimension	
Checklist of Success Factors for Procurement and Concession PPP and PPP Alliance Project Structure	REVIT
Cost Prognosis Tool	PROSIDE
Environmental & Technical Dimension	
Sustainability Assessment Tool (SAT)	RESCU
Integrated Environmental Assessment - Integral Investigation	PROSIDE
Site Investigation Strategy (SIS) & Decision Support System (DSS)	NORISC
ITP Software	NORISC
Social Dimension	
Stakeholder Engagement Toolkit	REVIT
Brownfields START-UP" Tool	REVIT
Communication and Information Access	PROSIDE
Sustainability Assessment Tool (SAT)	RESCU
Test Planning Method	PROSIDE
Integrated Environmental Assessment - Integral Investigation	PROSIDE

SOURCE: own elaboration

3. Assessment of identified concepts and tools against their practical relevance, usefulness and applicability

Conceptual models and conceptual thinking in brownfield regeneration & learning

Tool	*MODEL 1: THE CABERNET BATH MODEL*
Key strength	The dynamics of the brownfield problem in cities/regions is illustrated by the "bath model". The conceptual model demonstrates that as long as the brownfield bath continues to “refill”, due to the creation of brownfield sites, cities will always have brownfield sites.
Practical Relevance	The tool explains in a practical and highly demonstrative way the policy of optimal brownfield flow.

Tool	*MODEL 2: THE A-B-C MODEL*
Key strength	The A-B-C model highlights the funding drivers for brownfield regeneration. It can also assist institutions that are responsible for regional development and investment, and review strategies for dealing with different types of brownfield land. Using this conceptual approach to examine the factors that affect a B site and the drivers that can result in a site changing its status from a B site to an A site, can also be useful.
Practical Relevance	The tool explains in a practical and highly demonstrative way the different types of brownfield regeneration projects with regard to economic components.

	MODEL 3: THE CABERNET FOOTBALL MODEL
Key strength	The CABERNET Football Model was devised to highlight how different stakeholder perspectives can influence and affect the regeneration process.
Practical Relevance	The tool explains in a practical and highly demonstrative way the different perspectives of different stakeholders in the brownfield site revitalisation process

Tool	*MODEL 4: THE LAND USE PUZZLE*
Key strength	The model demonstrates that the creation of brownfields is part of the overall land use cycle and is in fact necessary to allow cities to manage their development through the creation and stimulation of new regeneration.
Practical Relevance	The tool demonstrates in a practical and highly didactical way the interconnected nature of brownfield distribution, land development and the land use cycle.

Tool	*MODEL 5: THE CABENET INTERACTION MATRIX*
Key strength	The Interaction Matrix, presented within the confines of the project, is a tool integrating the issues of environmental, social, economic and institutional conditions and interests. The analysis of mutual interactions, superiority and dependence between factors belonging to particular areas.
Practical Relevance	The tool allows to study in a practical and highly demonstrative way the relative interactiveness, dominance and dependence of brownfield site development parameters.

Tool	*VIRTUAL MASTERPLAN (BERI)*
Key strength	The virtual Master Plan is a toll to explore and learn about brownfield regeneration projects – drawing on real life case studes from all over Europe. The Beri Master Plan help describe best practise principles. It shows the “idealised” process for the transformation of a Brownfield.
Practical Relevance	As a showcase (virtual site), the tool presents to people facing similar situations in an easily accessible way brownfield site developments through time – starting with a derelict site and going through the whole transformation process to the finished or developed site. It has integrated all BERI projects.

Tool	*VIRTUAL TRAINING CENTRE - VTC (RESCU)*
Key strength	The RESCUE VTC consists of 6 modules each of which comprises a series of lessons to achieve specific learning outcomes. The material has been designed to be accessible and understandable by someone going through it on their own without need to recourse to a teacher or trainer.
Practical Relevance	The tool allows practitioners as well as newcomers in a virtual form to: ▪ Understand what the definition of sustainable brownfield regeneration is. ▪ Appreciate the environmental, social and economic objectives of sustainable brownfield regeneration. ▪ Understand the nature of indicators to track progress. ▪ Understand what indicators RESCUE has identified to track progress in environmental, social and economic

	factors. The RESCUE VTC is a freely available on line learning resource. You simply need to visit www.rescue-europe.com and access the VTC page.

Management & marketing dimension

Tool	*BROWNFIELDS START-UP" TOOL (REVIT)*
Key strength	The tool makes it possible to create a start-up plan: a target-group specific, integrated project and business plan, tailored to a specific brownfield and addressed to property owners, investors and banks, real estate developers and politicians.
Practical Relevance	As a powerful marketing tool, it simplifies communication between the participants and strives towards a collective development vision. It has been successfully tested by two REVIT partners.

Tool	*INTERNET BASED INFORMATION SYSTEM FOR INVESTORS (PROSIDE)*
Key strength	Information about required, nice to have and supporting is essential to design a database which is easy to handle and provides clear and concise information for investors.
Practical Relevance	The tool provides investors with relevent information at an early stage in the form of a easy to handle and up-to-date data base. It as been successfully tested by two Proside partners.

Tool	*INVESTORS CONTACT POINT (PROSIDE)*
Key strength	The Investors Contact Point provides relevant information to support decision-making, whether an investor wishes to establish a new site or whether is planning the expansion of an site.
Practical Relevance	As a first port of call, the tool provides investors with relevent information at an early stage and in the further development process. It as been successfully implemented by one PROSIDE partner.

Tool	*DISTRICT MANAGEMENT SYSTEM DMS (PROSIDE)*
Key strength	An internet-based planning information system acts as a district management system provide to be a solid foundation for decision-making.
Practical Relevance	The tool allows for the collection and dissemination of relevant data between different departments and authorities. The tool is compatible to GIS, CAD, OFFICE etc. programs, not requiring special software programs. One PROSIDE partner integrated the tool into the platform of its main municipal information system, thus reducing the effort required to maintain two systems.

Tool	*COMUNICATION AND INFORMATION ACCESS (PROSIDE)*
Key strength	Quick access to information and good communication and co-operation between the different partners of urban development projects are essential, in particular among the

	different municipal departments involved. Efficient internal project organization in the municipalities is a further factor for success.
Practical Relevance	The tool contributes to improved communication and information exchange between different partners at different project stages. The tool was successfully tested by three PROSIDE partner cities. It required however the existence of a pre-requisite data base.

Tool	*SUSTAINABILITY ASSESSMENT TOOL - SAT (RESCU)*
Key strength	RESCUE developed the SAT to specifically assess the sustainability of future brownfield regeneration projects through a methodology that considers the variable parameters and conflicting priorities of brownfield regeneration projects.
Practical Relevance	The tool seeks to answer questions such as what kind of land use is appropriate or sustainable on a given site depending on the spatial and socio-economic context and on the person answering the question. It includes the views of relevant stakeholders.

Tool	*TEST PLANNING METHOD (PROSIDE)*
Key strength	In the test planning process several teams work simultaneously on the same task to explore the whole range of possibilities for development. The core purpose of test planning is to test different possibilities and potential for the type and intensity of exploitation of a specific area or site and then to evaluate which actions are essential, for

	the realisation of the different plans.
Practical Relevance	This informal instrument allows for early engagement of stakeholders and decision makers in the preparatory project phase. A systematic evaluation of results allows for recommendations to decision-makers based on teamwork results, summary findings and experiences. The tool has been implemented in different PROSIDE projects.

Tool	*INTEGRATED ENVIRONMENTAL ASSESMENT - INTEGRAL INVESTIGATION (PROSIDE)*
Key strength	Experience shows that initial environmental assessments provide a sufficient basis for preparing the cost estimates needed for the planning concept and project development phases.
Practical Relevance	The tool provides for sufficient information on risk for human health and environment for different stages of the planning process. It integrates air pollution and noise as often neglected aspects to ground water and soil pollution.

Tool	*REVIT CHECKLIST OF SUCCESS FACTORS FOR PROCUREMENT AND CONCESSION PPP AND PPP ALLIANCE PROJECT STRUCTURE*
Key strength	The checklist provides a process to assist decision-making related to the financial aspects of brownfield regeneration. The checklist deals with choices to be made by developers and by the public sector on development and co-operation issues, and on financial incentives and techniques, including EU regulations on state aid and procurement.
Practical Relevance	As has been shown by REVIT case studies, with

	procurement and concession, private sector involvement can be a large proportion of the public-private partnership created to undertake a brownfield regeneration project – yet the private sector remains the contractor. Public-private alliances provide a share of profit and risk between the parties. The checklist may help to assess these risks.

Tool	*REVIT STAKEHOLDER ENGAGEMENT TOOLKIT*
Key strength	With stakeholder engagement being a vital component in sustainable development, the toolkit outlines an informal framework for the process of developing a Stakeholder Engagement Plan, including the definition of aims and objectives, identification of stakeholders, funding for resources, outlines for key events.
Practical Relevance	The toolkit was developed through involvement of practitioners and piloted on five different demonstration projects within the REVIT project. A successful stakeholder engagement process may aid in decision-making, building trust, improving image, building community cohesion, and lead to economic benefits to investors and other stakeholders.

Economic and financial dimension

Tool	*REVIT CHECKLIST OF SUCCESS FACTORS FOR PROCUREMENT AND CONCESSION PPP AND PPP ALLIANCE PROJECT STRUCTURE*
Key strength	The checklist provides a process to assist decision-making related to the financial aspects of brownfield regeneration. The checklist deals with choices to be made by developers and by the public sector on development and co-operation issues, and on financial incentives and techniques, including EU regulations on state aid and procurement.
Practical Relevance	As has been shown by REVIT case studies, with procurement and concession, private sector involvement can be a large proportion of the public-private partnership created to undertake a brownfield regeneration project – yet the private sector remains the contractor. Public-private alliances provide a share of profit and risk between the parties. The checklist may help to assess these risks.

Tool	*COST PROGNOSIS TOOL (PROSIDE)*
Key strength	The user of the tool cost prognosis can identify on the basis of the tolerance limit the need for further detailed investigation.
Practical Relevance	The user of the Cost Pognosis Tool can identify on the basis of the tolerance limit the need for further detailed investigation in an early planning phase.

Tool	*SUSTAINABILITY ASSESSMENT TOOL - SAT (RESCU)*
Key strength	RESCUE developed the SAT to specifically assess the sustainability of future brownfield regeneration projects through a methodology that considers the variable parameters and conflicting priorities of brownfield regeneration projects.
Practical Relevance	The tool seeks to answer questions such as what kind of land use is appropriate or sustainable on a given site depending on the spatial and socio-economic context and on the person answering the question. It includes the views of relevant stakeholders.

Tool	*INTEGRATED ENVIRONMENTAL ASSESMENT - INTEGRAL INVESTIGATION (PROSIDE)*
Key strength	Experience shows that initial environmental assessments provide a sufficient basis for preparing the cost estimates needed for the planning concept and project development phases.
Practical Relevance	The tool provides for sufficient information on risk for human health and environment for different stages of the planning process. It integrates air pollution and noise as often neglected aspects to ground water and soil pollution.

Tool	*SITE INVESTIGATION STRATEGY (SIS) & DECISION SUPPORT SYSTEM DSS (DSS) (NORISC)*
Key strength	Decision Support System (DSS) was provided integrating the former tool with software module guided procedures for on site and real time data management compatible to general contaminated site management systems for the quick compilation and easy exchange of data among different communicators, site specific risk assessment for human health effects at the concerned site and determination of risk based remedial goals for soil and groundwater, and the development of a site revitalisation (marketing) strategy that economically evaluates the different clean up - land use options according to the stakeholders' expectations.
Practical Relevance	Cost-effectiveness analysis to evaluate the economic efficiency of the site investigation carried out by using the NORISC approach by combination of methods of different disciplines. Comparison of test investigation with former conventional investigation completed at the test site. Time-effectiveness analysis of the site investigation and comparison with duration of conventional method. Evaluation showing that the combination of different methodologies reduces uncertainties in contaminated land assessment. The effectiveness of the NORISC methodology was evaluated by comparison with the results of previous investigations, which were carried out at the selected test sites. It is a known fact that contaminant concentrations are highly variable in contaminated sites. It is, therefore, crucial for the objective and reliable evaluation of the on site and in situ methods to estimate the measurement uncertainty at each test site.

Tool	*ITP SOFTWARE (MAGIC)*
Key strength	In comparison to other methods of groundwaters remediations PRB technology characterises with numerous advantages. Among other things, contamination in waters is liquidated without the necessity of pumping the waters on the land's surface. Due to natural flow of groundwaters trough the purification sphere, the technology does not require the supply of energy and because of that it is not expensive in exploitation
Practical Relevance	PRB technology has a wide range of uses: ▪ a means for the liquidation of groundwaters contamination, which was caused by a leakiness of tanks and pipelines as well as machines and devices damages, ▪ a means preventing the degradation of ground and water environment for existing, badly situated and badly secured waste stockpiles, ▪ a means preventing the degradation of ground and water environment for waste stockpiles whose security has been damaged etc.

Social dimension

Tool	*STAKEHOLDER ENGAGEMENT TOOLKIT (REVIT)*
Key strength	With stakeholder engagement being a vital component in sustainable development, the toolkit outlines an informal framework for the process of developing a Stakeholder Engagement Plan, including the definition of aims and objectives, identification of stakeholders, funding for resources, outlines for key events.

Practical Relevance	The toolkit was developed through involvement of practitioners and piloted on five different demonstration projects within the REVIT project. A successful stakeholder engagement process may aid in decision-making, building trust, improving image, building community cohesion, and lead to economic benefits to investors and other stakeholders.

Tool	*BROWNFIELDS "START-UP" TOOL (REVIT)*
Key strength	The tool makes it possible to create a start-up plan: a target-group specific, integrated project and business plan, tailored to a specific brownfield and addressed to property owners, investors and banks, real estate developers and politicians.
Practical Relevance	As a powerful marketing tool, it simplifies communication between the participants and strives towards a collective development vision. It has been successfully tested by two REVIT partners.

Tool	*COMUNICATION AND INFORMATION ACCESS (PROSIDE)*
Key strength	Quick access to information and good communication and co-operation between the different partners of urban development projects are essential, in particular among the different municipal departments involved. Efficient internal project organization in the municipalities is a further factor for success.
Practical Relevance	The tool contributes to improved communication and information exchange between different partners at

	different project stages. The tool was successfully tested by three PROSIDE partner cities. It required however the existence of a pre-requisite data base.

Tool	*SUSTAINABILITY ASSESSMENT TOOL - SAT (RESCU)*
Key strength	RESCUE developed the SAT to specifically assess the sustainability of future brownfield regeneration projects through a methodology that considers the variable parameters and conflicting priorities of brownfield regeneration projects.
Practical Relevance	The tool seeks to answer questions such as what kind of land use is appropriate or sustainable on a given site depending on the spatial and socio-economic context and on the person answering the question. It includes the views of relevant stakeholders.

Tool	*TEST PLANNING METHOD (PROSIDE)*
Key strength	In the test planning process several teams work simultaneously on the same task to explore the whole range of possibilities for development. The core purpose of test planning is to test different possibilities and potential for the type and intensity of exploitation of a specific area or site and then to evaluate which actions are essential, for the realisation of the different plans.

Practical Relevance	This informal instrument allows for early engagement of stakeholders and decision makers in the preparatory project phase. A systematic evaluation of results allows for recommendations to decision-makers based on teamwork results, summary findings and experiences. The tool has been implemented in different PROSIDE projects.

Tool	*INTEGRATED ENVIRONMENTAL ASSESMENT - INTEGRAL INVESTIGATION (PROSIDE)*
Key strength	Experience shows that initial environmental assessments provide a sufficient basis for preparing the cost estimates needed for the planning concept and project development phases.
Practical Relevance	The tool provides for sufficient information on risk for human health and environment for different stages of the planning process. It integrates air pollution and noise as often neglected aspects to ground water and soil pollution.

Conclusion

There are numerous projects on sustainable brownfield regeneration, but their results had been not brought together yet. This was the aim of the report. The information gathered in the report enabled to identify concepts and tools developed by the several EU projects.

The Authors do realize that the topic has been not completely drained. There were a lot of descriptions, case studies, and articles on projects of regional or even local influence that may developed originated concepts and tools which had been not taken into consideration in big EU projects. The Authors would like to emphasis that they present the first COBRA MAN report which summarized the introductory period of the research work, and therefore it opens the discussion on how to develop the matrix which enable us to collect the necessary information useful to build up the knowledge data base on brownfield regeneration issues.