



**WORKING TOWARDS MORE EFFECTIVE AND SUSTAINABLE  
BROWNFIELD REVITALISATION POLICIES**

**REVIT**



This project has received  
European Regional  
Development Funding  
through the INTERREG III B  
Community Initiative



nwe eno  
INTERREG III B  
NORTH WEST EUROPE

## REVIT Key Messages

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.
2. As brownfields provide areas for major redevelopment in European cities, this development should be integrated through long term planning and regeneration, as well as through support by the public and private sectors. This will substantially contribute to reaching a paradigm shift, where more and more brownfield sites will be favoured over developments on greenfield sites.
3. Brownfield revitalisation is often long term, complex, and involves a wide range of professional disciplines. This requires active political support and an interface with different stakeholders throughout the lifetime of a project. Lessons learned from the REVIT project activities have led to the following set of recommendations:
  - Effective communication strategies should be set up, which closely link community involvement and marketing activities and ensure the support of politicians in order to achieve a positive image for an area.
  - At the outset, a project team should be set up that is committed to long term professional planning and development, and that includes technical experts, administrative staff, investors and developers. Co-ordination and communication are essential to sustain complex projects.
  - All planning activities and physical works related to the different disciplines, such as industrial heritage, the clean-up of soil and groundwater etc., should be checked against their potential benefits in order to add value to the marketing of the site and to ensure early stakeholder engagement.
  - Transparency in co-operation and communication throughout the project is fundamental to building trust amongst the partners involved.
4. The transnational partnership of the REVIT project provides mutual benefits for participating practitioners: by allowing those concerned with brownfield redevelopment to learn about new processes and ways of doing things; as well as understanding the differences, evident in each of the partner countries. Understanding the differences in the political and cultural backgrounds of interest groups is essential, since real estate development is increasingly being driven by international investors.



# Contents

<b>04</b>	<b>Introduction</b>	
<b>11</b>	<b>Common Co-operation Results</b>	
	Introduction	11
	Stakeholder Engagement	12
	Financing Techniques	16
	Marketing	22
	Industrial Heritage	27
	Sustainability	30
<b>34</b>	<b>Environmental Technical Issues</b>	
	Remediation Techniques	34
	Natural Assets	37
	Water Management	39
<b>40</b>	<b>Partner Area Reports</b>	
	City of Stuttgart Area Report – Freight Depot Stuttgart-Bad Cannstatt	40
	Nantes Métropole Area Report - Île de Nantes	47
	City of Tilburg Area Report	55
	Municipality of Hengelo Area Report – Hart van Zuid	60
	Medway Council Area Report	65
	Torfaen County Borough Council Area Report	70
<b>74</b>	<b>Recommendations and Conclusions</b>	
<b>78</b>	<b>The REVIT Self-Guiding Trail</b>	

# Introduction

REVIT is one of the largest projects funded by the EU Community Initiative INTERREG III B North West Europe. Its overall goal is “to generate a significant contribution to the increase of ‘efficiency’ and ‘wider sustainability’ of applied brownfield regeneration policies through transnational co-operation”. Brownfield regeneration relieves pressure on greenfield land that may otherwise be required for urban development. Sound, sustainable revitalisation practices ensure that the sites despoiled by past industrial activities are “cleaned up”, whilst minimising the use of resources in developments for the future.

The time period of the REVIT project is from April 2002 until August 2007. The partners comprise Stuttgart (D) (Lead Partner), Nantes (F), Tilburg and Hengelo (NL), Medway and Torfaen (UK).

The 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, for completion of an integrated approach, the consortium also focused on technical environmental issues such as remediation, natural assets and water management.

The products of this transnational co-operation have been tested on the partners’ brownfield sites that are being regenerated through REVIT. By working together to evaluate the test results, these methodologies have then been further improved. The test sites have included two maritime areas (Nantes and Medway); a railway freight terminal (Stuttgart); and industrial areas of varying sizes, from the extensive factory site in Hengelo to two pilot sites in Tilburg. Torfaen has tested the products on a variety of brownfield sites at different stages of redevelopment and has also benefited from the partners, who have well-advanced GIS systems, to establish its own GIS “Brownfield Sites Asset Register”.

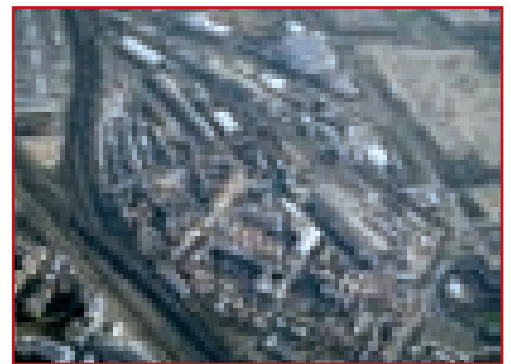
## European Context

European Union leaders wish to place new impetus on economic reforms - especially to make their countries more competitive. The Lisbon Agenda, agreed by the EU member states, strives for economic growth and job creation. Similarly, the European Council, at its Gothenburg meeting in June 2001, agreed an EU

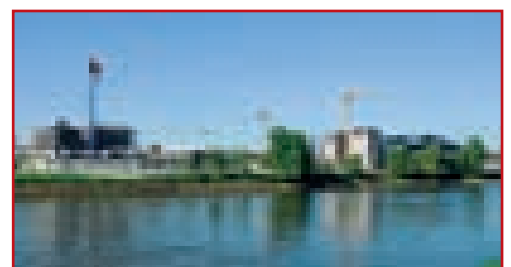
Sustainable Development Strategy (SDS) which “adds a third, environmental dimension to the Lisbon Agenda” for economic and social renewal. Its stated aim is to ensure that economic growth, environmental quality and social inclusion go hand-in-hand.



Partner locations



Former Freight Depot Bad Cannstatt - Stuttgart



The Île de Nantes:  
housing development programmes

© Vincent Jacques

Cities 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.

As outlined in the Commission's communication on cohesion policy for cities, over 60% of the population in the European Union live in urban areas. Cities and urban areas, in general, provide most jobs, are actively supported by businesses and higher education institutions and are key to achieving social cohesion. European cities and metropolitan areas tend to attract highly skilled workers, leading to a virtuous circle that stimulates innovation and business development. This adds to the charm and vibrancy of a city and thereby attracts new talent.

Cities and urban areas present not only opportunities but also challenges and account should be taken of the specific problems facing urban areas, such as unemployment, social exclusion, high and rising crime rates, increased congestion and the existence of pockets of deprivation within city boundaries. Historically the growth of cities in Europe has been driven by increasing urban populations.

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 where people want to work, live and play. 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. More generally, by improving the planning, design and maintenance of public spaces, cities can "plan out" crime, helping to create attractive streets, parks and open spaces which are safe and, importantly, feel safe. In urban areas, the environmental, economic and social dimensions are strongly interlinked. A high quality urban environment contributes to the priority of the renewed Lisbon Agenda to make Europe a more attractive place in which to work, live and invest.

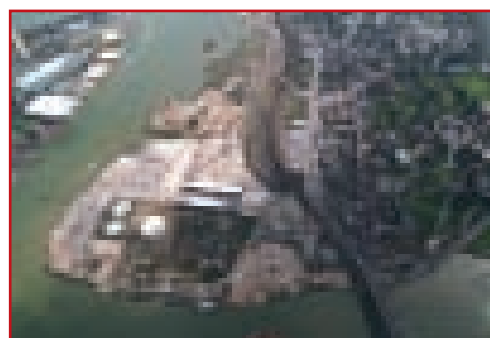
The six REVIT partners confront similar problems regarding brownfield revitalisation. Some of these can be tackled in the same way; however the influences of differing local legislation, culture and economic situations between the partners means that there is no single approach. The challenge for the partners has been to research, develop, pilot and produce methods of working that are flexible enough to take account of these differences whilst not compromising a high standard of sustainable development for brownfield sites. The partners have also had to ensure that redevelopment proposals remain financially viable and acceptable to a wide range of stakeholders.



Masterplan for Dirigentenlaan – Tilburg



Hart van Zuid – Hengelo



Rochester Riverside – Medway



"Brownfield Sites Asset Register" GIS – Torfaen

## Common Understanding

There is no universally accepted definition of what constitutes a brownfield site. One definition that gains a common understanding and is based on previous European research activities in the field is given by the Contaminated Land Rehabilitation Network for Environmental Technologies [CLARINET] network.

According to the CLARINET definition brownfield sites are those that are considered to have the following attributes:

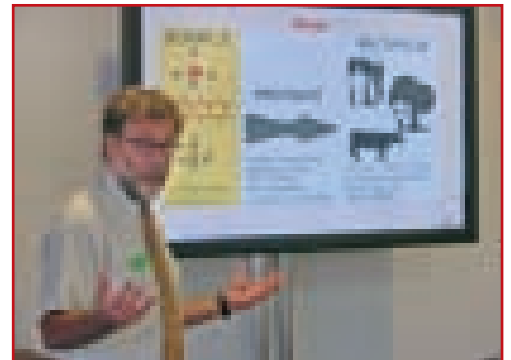
“Have been affected by the former uses of the site and surrounding land  
Are derelict or underused  
Have real or perceived contamination problems  
Are mainly or partly in developed urban areas  
Require intervention to bring them back to beneficial use”

[www.clarinet.at](http://www.clarinet.at)

Sustainable brownfield regeneration as defined by the Regeneration of European Sites in Cities and Urban Environments [RESCUE] project is “the management, rehabilitation and return to beneficial use of the brownfield land resource base in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations in environmentally non-degrading, economically viable, institutionally robust and socially accepted ways”. [www.rescue-europe.com](http://www.rescue-europe.com)



Partner workshops



Joop Vegter - Lecture on Contamination

## Overcoming Problems

Brownfield sites present complex problems. There are, in addition, many wider aspects that need to be considered and integrated into actions to achieve long term solutions. The political, social and economic context of brownfields becomes clearer through analysis of related aspects in these areas, such as:

- Un-economic developments
- Problems attracting new investors
- High unemployment rates
- Adverse effects on urban life
- Decline of tax income for and from communities
- Social conflicts
- Consumption of greenfields

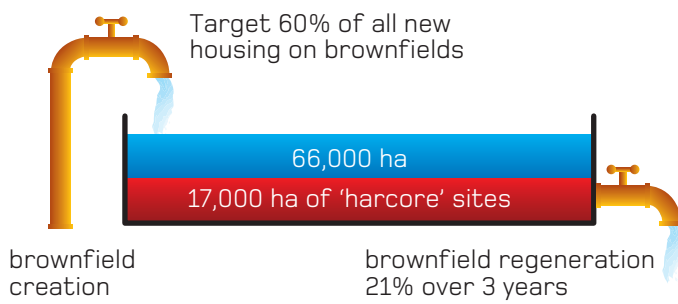
Tackling brownfield regeneration in this broader sense requires one to deal with different interests and a variety of stakeholders, including regulators, investors, land owners, developers, consultants, academics, community groups, technology providers and the financial sector. Integration of all interested parties in a revitalisation process is thus essential.

## The Brownfield Stock

The persistence of brownfield stock in cities/regions is illustrated by the "bath model" that was drawn by the **Concerted Action on Brownfield and Economic Regeneration Network** [CABERNET] in 2005 ([www.cabernet.org.uk/](http://www.cabernet.org.uk/)). 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. More sites become derelict than are regenerated in some regions and therefore the overall area of brownfields increases. More importantly, a number of types of sites remain on the bottom of the bathtub for a considerable amount of time: the so-called persistent or hard-core sites. These are often sites of low economic value that remain derelict for years.

The figure represents the CABERNET brownfield bath for the UK, where there is a target to build 60% of new housing on brownfield land. In terms of the persistent or hard-core sites, in the UK these are determined as sites that have remained derelict for over nine years.



Picture: The brownfield bath model drawn by CABERNET in 2005 ([www.cabernet.org.uk/](http://www.cabernet.org.uk/)). The figures represent the UK brownfield bath.

The majority of current brownfield land is the result of Europe's twentieth century industrial legacy. Europe's brownfield land stock consists of mining (typically the biggest source of brownfields), the chemical, oil, iron and steel industries, shipyards, docklands and waste disposal sites. Timber processing and paper and pulp production also appear to be an important source of brownfields. Other major sources of brownfield land in urban areas are railway stations and the traditional commercial quarters of cities with their origins in the nineteenth or beginning of the twentieth centuries.

The REVIT sites cover a broad range of redevelopment schemes and sites, which include a 2 ha former textile industry site; a 22 ha former railway freight terminal in Stuttgart; a 50 ha former machinery and heavy industry quarter representing huge industrial heritage potentials in Hengelo; and the Île de Nantes, a 350 ha inner urban island bearing traces of its shipbuilding, industrial and logistic past.



Table: Key facts of the partners' local regeneration projects

Partner	Facts and data	Land value in €/m <sup>2</sup>	Vision future use, timeframe	Impact on city development	Thematic focus
Stuttgart	22ha, former freight depot, now owned by municipality, interim uses, e.g. car scrapers	Housing approx. 400 €/m <sup>2</sup> Commercial approx 275 €/m <sup>2</sup>	Residential area and mixed use /commercial, 2008-2020	Important development project among a few others, prominent location close to tourist attractions and sports and event centres	Stakeholder engagement, Finance-PPP, marketing, sustainable development, contamination
Nantes	Island in the River Loire, central position, 350 ha, formerly main industrial and naval area of Nantes	Ranging from 100 €/m <sup>2</sup> for social housing, 150 €/m <sup>2</sup> for offices & businesses) and 200 €/m <sup>2</sup> for free housing	Metropolitan centre offering all urban facilities, enlargement of city centre. 2005 - 2025	One of the largest urban projects in France, outstanding importance for city and regional development	Stakeholder engagement, finance-PPP, marketing, industrial heritage, natural assets
Tilburg	2 inner urban areas, 2.1ha and 13 ha, textile and metal industries	Residential: 289 -338 €/m <sup>2</sup> Commercial: Industrial estates: 93 - 122 €/m <sup>2</sup> Office sites: 203 -303 €/m <sup>2</sup>	One area residential, mixed use with residential/ commercial in the other; 2003 - 2014	Important development due to central locations, medium sized projects	Stakeholder engagement, finance-PPP, sustainable development, industrial heritage
Hengelo	50 ha in central position, close to station, expanded industrial area, heavy industries, machinery	Residential: 125 €/m <sup>2</sup> for social housing, 265 €/m <sup>2</sup> for free housing. Commercial: 130 €/m <sup>2</sup> for company areas to 400 €/m <sup>2</sup> for office sites	Residential, education, offices and leisure, enlargement of city centre; 2005 - 2025	Most prominent development project at regional level, outstanding effect on city development	Finance-PPP, industrial heritage, sustainable development
Medway	38 ha, along the River Medway, large scale industrial structures as gas works, petrol storage and naval industries	Residential: 340-502 €/m <sup>2</sup>	Waterfront development, residential and education, leisure and shopping; 2018	Flagship project for Medway Council, part of the Thames Gateway growth area	Stakeholder engagement, finance-PPP, marketing, industrial heritage sustainable development, contamination
Torfaen	7,5 ha former gas works in a small town, 500 ha mining area in countryside position with heavy industries and landfills	Residential: 358 €/m <sup>2</sup>	Mixed use / commercial for the former gas works, no fixed vision yet for large mining area	Former gas works important development in central position for this small town, no strong pressure for development of mining site	Stakeholder engagement, finance-PPP, marketing, industrial heritage, contamination, natural assets

The partners have identified the following specific key topics to address regarding brownfield redevelopment:

- stakeholder engagement
- financing techniques, including Public Private Partnership models
- marketing of brownfields
- preservation and re-use of industrial heritage potentials
- environmental remediation and protection of natural assets
- sustainability concepts and indicators

For each of these, REVIT working groups were set up to develop and test tools and to demonstrate their application to revitalisation projects.

The key aims of the activities related to these topics are:

- to increase the success rate of projects driven by private investment and to reach a maximum amount of private money invested in projects which meet the municipal development targets and strategies
- to raise the cost-effectiveness of remediation and redevelopment works
- to reliably identify and share the risks associated with revitalisation
- to accelerate revitalisation processes: incorporating brownfield-specific elements into planning and implementation procedures by the public and private sectors
- to contribute to a paradigm shift, leading to a clear political and economic commitment to favour brownfield redevelopment as opposed to the use of greenfields

The REVIT partnership worked to a structure of four phases (with some overlap):

1. Initial “exchange of experience” on local projects and status review of current practice on key topics.
2. Elaboration of innovative management approaches and corresponding pilot projects in the field of brownfield regeneration.
3. Practical implementation of pilot projects, hand-in-hand with local project development and demonstration of good practice.
4. Summary of project results; elaboration of good practice studies and impact-assessment at transnational and local level.

The close links between the transnational activities and the local regeneration projects proved to be essential to ensure the practical relevance and applicability of all development work undertaken by the project partners in the transnational working groups. Vice versa, working group activities and related study visits continuously stimulated the work at local level by valuable exchange of experience and input from the experts from the partner cities. However, the transnational co-operation revealed significant differences in technical-organisational approaches as well as in cultural aspects and decision-making procedures within the administrations involved. Especially in the fields of community participation and Public Private Partnership, the analysis of different national approaches and attitudes proved to be stimulating and beneficial for the development of joint recommendations and implementation strategies. Nevertheless, different modes of operation in administrative bodies in the member states have to be considered in order to achieve solutions tailored to the needs at local level. The prosperity and land values of an area often influence whether or not the public sector seeks private partners in the revitalisation process.



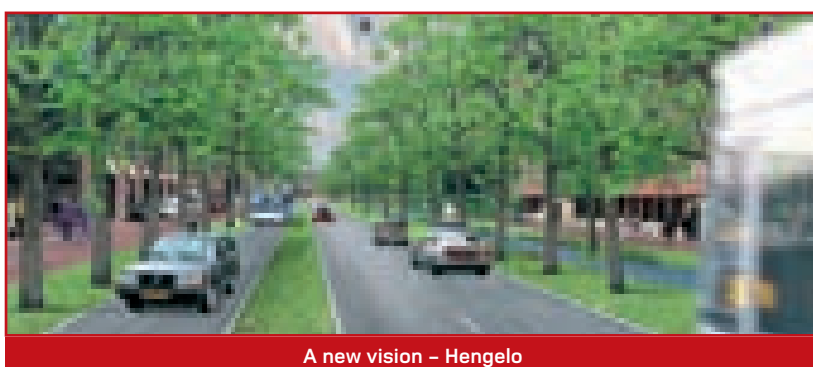
# Introduction

The development of brownfield sites is often complex, takes years to plan and deliver and requires the input of many different professions and stakeholders. Furthermore, brownfield sites have a history, sometimes a past that would be better not remembered, where contamination of the environment has virtually sterilised a site and where memories of jobs and economic stability haunt a local area. In other instances, the relics of the past are a reminder of achievements that should be preserved and promoted for the future and celebrated. Brownfield sites that have proven to be economically viable to develop, have largely seen this take place; others have required additional financial assistance; yet others are waiting their turn for either technology, or a feasible economic climate (or both) to render them viable. The Public Private Partnership approach has become a well-established development vehicle in some EU states, whereas in others it is viewed curiously, if not cautiously. The picture becomes even more complex with the ever-increasing demands of environmental legislation and the drive to develop along the principals of sustainable development, in all its guises.

The practical implementation of a series of brownfield redevelopment projects across the REVIT partner areas has, as its core, the sharing of ideas, the testing of approaches, and the improvement to systems of working, through three key themes. These are known affectionately within the REVIT project as “Common Co-operation Issues” [CCI’s]. The following chapters detail the lessons learned, and provide examples of practical implementation through the piloting, on actual REVIT redevelopment sites, of new processes and technologies.

Detailed reports on Common Co-operation Issues are also available but are not part of this brochure. They can be ordered separately (see back cover).

Throughout the REVIT project, the partners have taken an innovative approach to developing and sharing knowledge. This has been done by holding interactive workshops; using scenario-building exercises; and undertaking group work that has improved their understanding of the subject material. Through these means, partners have learned, through the experiences of others across the partnership, different approaches to a variety of themed issues, and have found new ways of tackling the redevelopment of brownfield sites.



A new vision – Hengelo

# Stakeholder Engagement

Stakeholder engagement is steadily growing in priority and is now a vital component in sustainable development. Brownfield site redevelopment projects are complex, involve a wide range of professional disciplines and often span a long time period. Such projects require active political support and an interface with many different stakeholders throughout the project's lifetime. Stakeholders include professionals, politicians, contractors, citizens, lobby groups and the press. It is no longer possible to assign the work of engaging with these interest groups without taking a professional approach.

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.

## Formal Frameworks for Stakeholder Engagement

Partner countries operate their own, different and individual formal structures of citizen participation, including legislative, statutory and cultural frameworks. However they have one thing in common – all partner countries' national and local legislation on this subject sets formal parameters within which more informal methods of engagement operate.

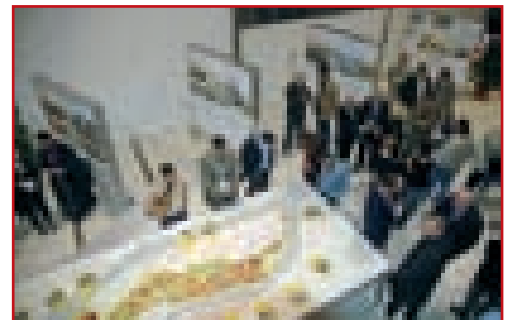
## Informal Frameworks for Stakeholder Engagement

It is important to develop a comprehensive and agreed Stakeholder Engagement Plan in addition to adhering to the formal frameworks, due to the complexity and size of brownfield sites. 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, from simple information dissemination to potential empowerment.

The REVIT transnational working group has developed a Stakeholder Engagement Toolkit, which outlines a framework for this process. This has been designed for practitioners as a practical instrument to help in the process of planning and executing engagement exercises. The key elements of this process are shown in the following flow diagram:



Engaging with young people – Medway

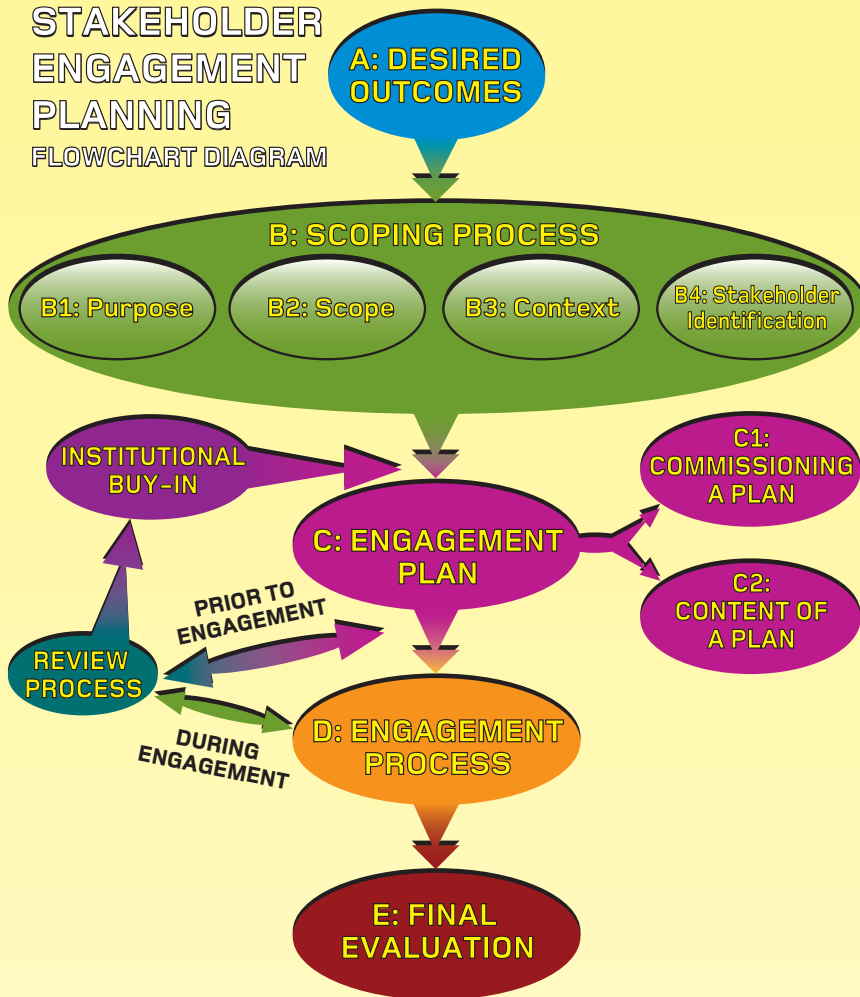


Hangar 32, public exhibition place for the Île de Nantes project

© P Garçon



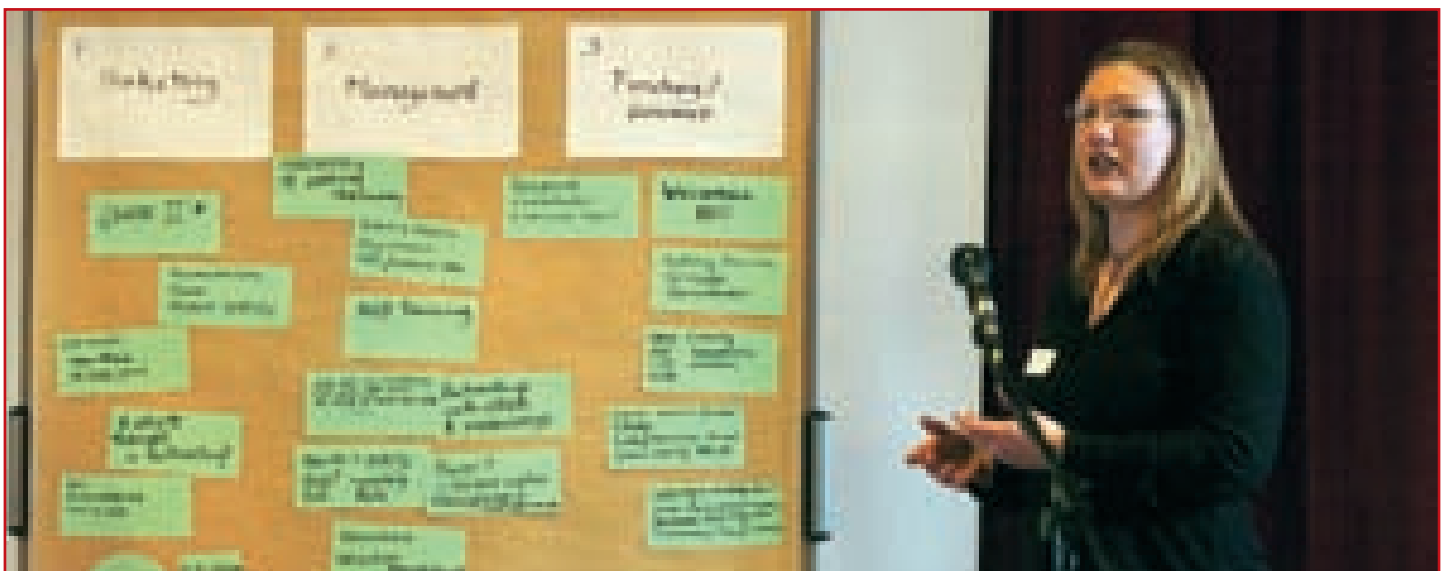
**STAKEHOLDER  
ENGAGEMENT  
PLANNING  
FLOWCHART DIAGRAM**



**The REVIT Stakeholder Engagement Toolkit** is published in three languages: English, German and French. It is available in easy-to-use printed copies and in interactive electronic format that guides practitioners through the steps of writing an engagement plan.

The toolkit was developed through involvement of practitioners, both within the REVIT partnership and outside and with input from external experts. In addition, it was reviewed by external experts and piloted by practitioners not involved in the development of the toolkit. Within the partnership the toolkit was piloted on five different demonstration projects in Stuttgart, Medway and Torfaen, and these have been presented as case studies. The case studies underwent peer reviews and feedback from these reviews, together with feedback from external experts who were asked to review the toolkit, formed part of the review process for the toolkit itself, resulting in further improvements being made to the toolkit.

The Toolkit is included in the REVIT Compendium (see back cover of this brochure).



Using engagement techniques – Torfaen

## Key elements of good stakeholder engagement in specific relation to brownfield site redevelopment

Brownfield site developments have specific characteristics that need to be considered when undertaking stakeholder engagement. These can affect elements of the engagement process.

The key differences from standard urban development projects are as follows:

Differences	Issues to Consider
<ul style="list-style-type: none"> <li>■ There are often no current users of the site, which therefore limits the engagement methods used. However, the range of stakeholders may be wide due to the complex issues surrounding brownfield sites.</li> <li>■ Some stakeholders may associate the site and/or its existing buildings with historic connections, and related good or bad associations, so proposed change of use may be an emotive issue to them.</li> <li>■ There may be legal protection for some of the historic features of the site, involving statutory bodies among the stakeholders.</li> <li>■ A rich biodiversity often develops around derelict land/buildings, and it may be necessary to comply with nature conservation policies and regulations in planning its redevelopment.</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Stakeholder Identification:</b> It is likely that there will be a wide range of stakeholder groups. It is necessary to identify these and evaluate the extent to which they may be affected by, or can influence, the development process. This will ensure that all interests have been covered and appropriate methods of engagement selected.</li> </ul>
<ul style="list-style-type: none"> <li>■ Brownfield redevelopment is often emotive and can thus become "political".</li> <li>■ Marginal brownfield sites frequently require multiple promoters, including banks, insurance companies, developers, investors and public funders.</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Obtaining Institutional Buy-in</b> is vital for the success of the stakeholder engagement process.</li> <li>■ It is imperative to understand political motivation, potential support or opposition at the start of the project as well as reviewing and evaluating this throughout the lifetime of the development. Politicians should be kept regularly informed and, where possible, positively participate in the project.</li> <li>■ These important stakeholders require regular and accurate information, at the appropriate level of competence, to ensure that relatively complex and high risk developments do not falter and financial and political support is not withdrawn.</li> </ul>
<ul style="list-style-type: none"> <li>■ Time, costs, personalities, new legislation and other unplanned events often have an impact on the initial aims, objectives and planned outcomes of a major redevelopment proposal.</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Scope:</b> It is vital that the aims, objectives and planned outcomes of a redevelopment proposal are clearly set out at the beginning of a project; that they are communicated effectively to all stakeholders and that if and when circumstances change, this is also simultaneously communicated. This requires a fail-safe management system and an effective communication strategy.</li> </ul>
<ul style="list-style-type: none"> <li>■ These projects can last in excess of 10 years. Relationships and trusts that are developed over a long period of time can quickly be lost when a key "player" moves on or is replaced. This could result in disillusionment amongst stakeholders who have previously been involved in ongoing engagement exercises and changing proposals for the site.</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Context:</b> Be realistic in relation to the context of what has happened before and integrate this into the engagement plan. There may be a risk of consultation fatigue amongst some of the stakeholders, especially at the higher levels of engagement. A robust stakeholder engagement strategy should aim to be able to cope with adjusting to relationships that may need to be re-built.</li> </ul>
<ul style="list-style-type: none"> <li>■ Brownfield sites generally have a poor image due to the risk or reality of soil contamination and health and safety issues. These could include chemicals, explosives, unstable land, asbestos, unsafe derelict buildings. Stakeholders who have a financial interest in the site face the often unknown risk of high remediation costs that could lead to the development having a lower potential value on the free market. As a result, potential developers often abandon or revise their plans after embarking on the project.</li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Engagement Plan:</b> A degree of marketing may be required in the engagement plan to "sell" the potential benefits of the site being developed and alter the image over a period of time. Allow for a long time period and anticipate different phases and stages of the engagement process throughout the life of the development. Ensure that the people drawing up the plan are aware of the complexities of the site.</li> </ul>
	<ul style="list-style-type: none"> <li>■ <b>Review</b> the engagement plan throughout the process - this could take longer in the case of a brownfield site as it is often more complex and larger than standard urban development projects.</li> </ul>

## Costs versus Risks

Developer teams should understand that a comprehensive stakeholder engagement process could involve high resource costs due to the complexity of issues, long time periods and different phases of the engagement process through the life of the project. Clear terms of reference should be agreed along with desired outcomes, coupled with a realistic budget based

on prediction rather than a percentage. This process should be aligned to the other professional services being used to develop the site, such as engineers, architects etc., and trained, experienced practitioners should be used to manage the process. As with these services, a project plan, a clear brief and strategy and a project management approach should be taken, to integrate the process with all the other work that will be taking place.

Although they may seem high, costs incurred will be a small proportion of overall development costs. By investing in a well planned and executed stakeholder engagement process, the overall cost of a development could be reduced in the long term through identifying and reducing the risk of problems that could otherwise arise later. The value of a development can also be increased by engendering good relations with stakeholders. If done well, the process can aid in decision-making, building trust, improving image, building community cohesion, and lead to economic benefits to investors and other stakeholders.

However, if done badly, there is a risk that the desired outcomes will not be met, and the project may not be achieved as visualised by the development teams. Poor engagement with stakeholders can create an actively negative response in stakeholders, leading to refusal or delays of planning permission, legal liabilities, vandalism, raised insurance premiums, lack of patronage, anger and resentment, which can drive away developers and investors. The costs of this can be far-reaching in terms of time delays, increased bureaucracy and financial investment.



Public meeting – Medway

### Recommendations and Conclusions:

1. 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.
2. 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.
3. 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.
4. 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!
5. 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.



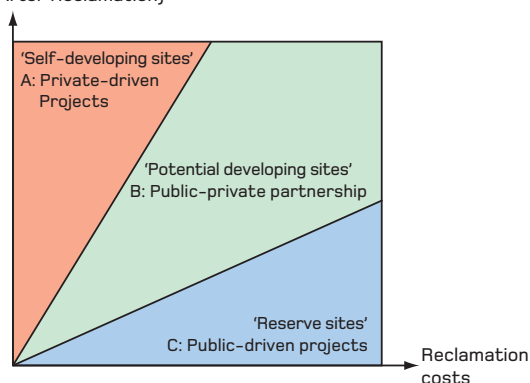
# Financing Techniques

Despite the fact that brownfield revitalisation offers great opportunities for structural economic change, in most cases redevelopment does not take place spontaneously.

The main reasons for reluctance to redevelop brownfield sites are:

- the possible risks associated with brownfields sites,
- the lack of knowledge concerning the way these risks (and the redevelopment at large) can be handled financially.

Land Value  
(After Reclamation)



The ABC Graph developed by CABERNET ([www.cabernet.org.uk](http://www.cabernet.org.uk)) shows 3 distinct arenas where the private and public sectors operate.



"Speculate" :  
a role play game developed by REVIT on PPP

Within this model the following key issues should be considered:

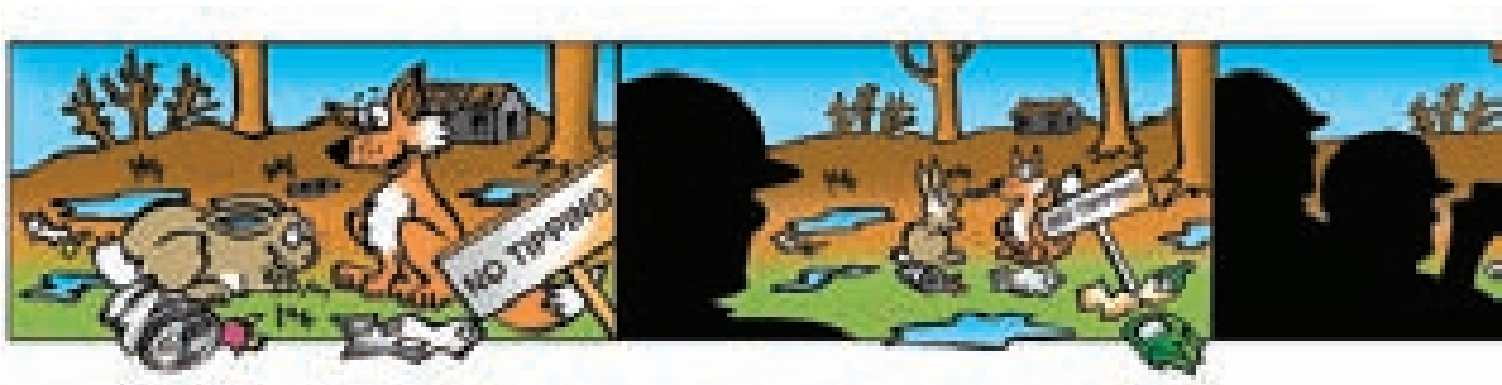
- The costs and benefits associated with brownfield redevelopment from the perspective of the public and private sectors have to be carefully considered.
- An analysis of the barriers to investment to the potential positive economic returns that brownfields represent has to be undertaken and supported.  
**Developers tend to have a narrow perception of the benefits of brownfield redevelopment as they focus solely on their own financial interests. Private investors often fail to consider collective benefits such as environmental benefits, improved neighborhoods, preserved wetlands, protected greenfields and improved public health. Moreover, on the societal level, increased brownfield remediation eventually results in cheaper remediation (as volume increases, economies of scale result from more widely adopted specialist remediation techniques). It is unlikely that individual developers will be interested in contributing towards these wider positive impacts.**
- Various models of public-private co-operation in brownfield regeneration need to be evaluated, with the most appropriate selected.
- Specific (financial) incentives by the public sector may enhance the attractiveness for the private sector of participating in a regeneration project.  
**These incentives can be used separately, but may also be part of more complicated financial arrangements.**
- Opportunities and obstacles in EU legislation and regulations pertinent to financing brownfield redevelopment need to be taken into account.



There are many different types of **Public Private Partnerships** [PPPs]. For example, if the private sector is involved in the operation of the infrastructure this can be done on a concession basis. Concession fees (paid by government to the concessionaire) can be based on the availability and/or use of infrastructure, during the concession period (i.e. an availability fee, user fee or a mixture). In some cases with Private Financing Initiatives [PFIs], the use of infrastructure is used to determine the level of return payments made to the government, thus assigning part of the long-term project risk to the private financier.

The table opposite gives an overview of different scenarios. Four models are distinguished:

- I. Mere private development
- II. Mere public development
- III. Procurement and Concession  
This type of development is publicly driven, but there is significant involvement of the private sector in the project by means of procurement of at least one of the phases of the redevelopment. Private involvement can extend over almost all phases of the process, from design to build and/or operation. In the latter case, a concession system can be used based on the life cycle of the project (15-25 years). If all phases are incorporated the arrangements are called integrated contracts.
- IV. Alliance  
With procurement and concession, private sector involvement can be a large proportion of the partnership, but the private sector remains the contractor. On the other hand, "Alliances" provide a share of risk and profit between the parties, either equally or at a pre-agreed proportion.



Stage	Model	I. Private development	II. Public development	III. Procurement and concession PPP	IV. PPP Alliance
Initiative		Private	Public	Public	Private, public
Planning		Private, with public assistance	Public	Possibly private	Private, public
Financial		Private, with public financial assistance	Public	Possibly private	Private, public
Site Development		Private	Public	Possibly private	Private, public
Building		Private	Public	Possibly private	Private, public
Operating and maintenance (commercial facilities)		Private	Private, Public	Possibly private	Private, public
Maintenance of public facilities		Public	Public	Public	Private, public

These four models are, of course, archetypical. In practice, features of two or more models may be combined, demonstrated by the “live” sites of the REVIT partner sites. For instance, within a public development, the planning and financing may be a co-operation between the public and private sectors, with the site development being taken care of by government, and building activities being contracted to the private sector. Alternatively, within an alliance model, site development may be procured from a specialist remediation contractor on a shared risk basis. A further complication is that in some cases semi-public (or public-private) bodies take overall charge of major brownfield site redevelopments. In the REVIT projects, as in most brownfield redevelopment projects, elements of the Alliance model are clearly present.



Negotiating a deal



## Success Factors

To assist developers and the public sector new to brownfield redevelopment, a list of critical success factors and a checklist have been developed as part of the REVIT project. These provide a process to assist decision-making related to the financial aspects of the redevelopment. The checklist deals with choices to be made on development and co-operation issues, and on financial incentives and techniques, including EU regulations on state aid and procurement.

### Ten critical success factors for Procurement and Concession PPP and PPP Alliance project structures

Practical experience with PPP models (especially Procurement and Concession PPP, and PPP Alliance) for infrastructure and local (re)development projects in a number of EU countries, notably the Netherlands, has resulted in a number of do's and don'ts. The ten critical success factors for PPP presented below are partly based on NABU & Norton Rose (2004), and have been adapted and rephrased where necessary, including insights from Ernst & Young Consulting (2000), Nijkamp, Rodenburg & Wagtendonk (2002), and Lange & McNeill (2004).

**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 extent to which public-private co-operation 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 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.

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



**Critical Success Factor 6** – Involvement of neighbouring citizens and businesses is important, but requires specific arrangements rather than including them as “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 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.

**Critical Success Factor 8** – 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.

**Critical Success Factor 9** - The scope of a PPP project should be sufficiently substantial financially to justify the upfront investments in terms of transaction and management costs.

**Critical Success Factor 10** - The composition of and the culture within the teams involved in a project are a crucial factor for the successful completion of the project.

### Recommendations and Conclusions:

1. 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.
2. 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.
3. Transparency in co-operation and communication throughout the whole project period is essential.
4. Private partners should be selected in an open, transparent tendering procedure via a “competitive dialogue”.
5. 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.
6. 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.



# Marketing

Additional effort is needed to market brownfield sites. They don't "sell on their own". It is important, therefore, to log the key attributes of a site and use this profile to develop the unique selling points of the site. This is because there is no such thing as a typical brownfield site. Brownfields are inherently varied in character, in terms of:

- location (influences pressures for redevelopment, spatial design constraints, property market values, etc.)
- physical condition (derelict buildings, protected historic buildings, contamination, ground stability, etc.)
- other factors, such as accessibility of the site, fragmentation of the site, etc.)

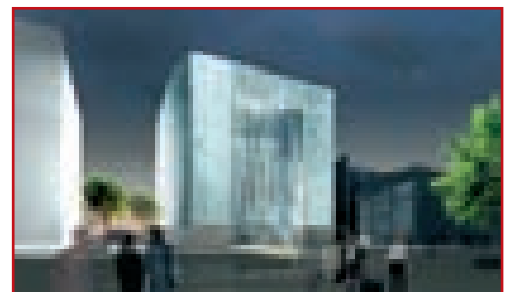
(CABERNET, 2005, [www.cabernet.org.uk](http://www.cabernet.org.uk))

There is a growing need to redevelop brownfield sites across Europe. The main reason for this is to prevent excessive urban sprawl and to protect the natural environment and scarce natural assets. In addition, the pressure of increased demands related to transport, with the resulting negative impacts, creates further pressure on urban areas and greenfield sites. Furthermore, older inner cities areas often have sizable areas that are in need of regeneration.

Developers, on the whole, are averse to taking part in the redevelopment of brownfield sites, due to the high inherent risks and potentially uncertain returns on investment. This is particularly the case when developers have the choice between greenfield and brownfield sites: they will often be more attracted to the former.

The REVIT partners have worked on three key aspects to "sell" their brownfield sites:

- improve the image of the brownfield site
- set up and implement a positive marketing strategy
- improve communication between relevant stakeholders



Visualisation of a former industrial hall turned into a solicitor's house in Nantes

© Forma 6



## Improving the Image

In most cases brownfield sites have a negative image. This is not without foundation as sites often become derelict, are not accessible and are blighted by contamination; as well as having legacies of their former use that wish to be forgotten, such as mining and heavy industry. These views can also be evident within local and national government, who also need to

be convinced of the merits of certain brownfield sites. A key issue, therefore, is to ensure that the public sector itself has a positive and optimistic view of sites that require revitalisation.

The City of Stuttgart, for example, organised a workshop with members of the City Council, investors, citizens and its own employees to discuss and share a vision for the future of their site, **Güterbahnhof**. Apart from practical planning aspects, people were asked to bring forward their aspirations and “dreams” for the site. The key message and vision that was created from this workshop provided a positive result changing from “living behind the railway station” to “sustainable living on the Neckar River”.

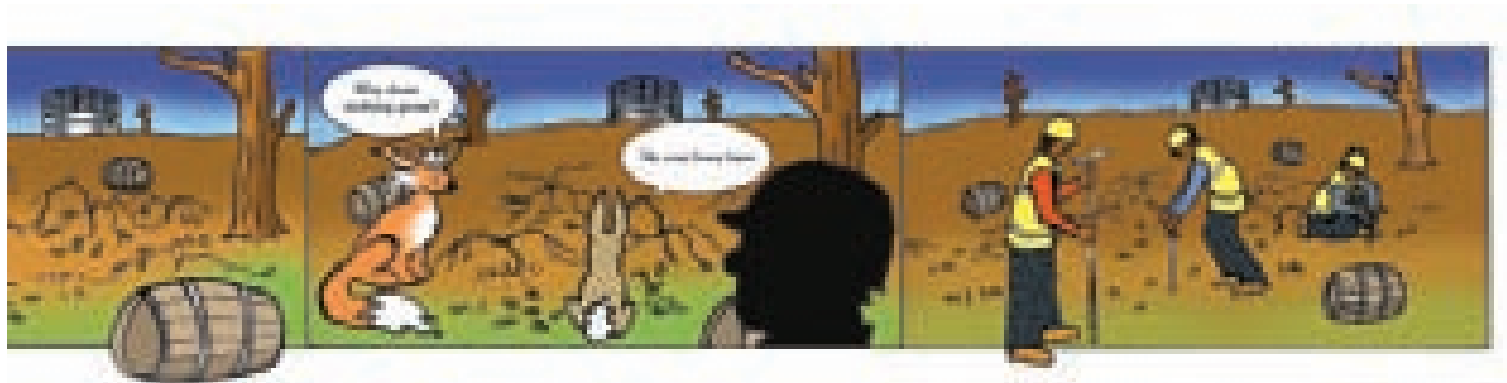
Torfaen County Borough Council has developed a Brownfield Sites Asset Register on a GIS platform to prioritise potential sites for redevelopment and to be able to respond to developer interest in investing in this part of South Wales. The GIS register of sites is the “fabric” that makes up an important part of the regeneration strategy for Torfaen. This register provides a baseline for potential investors to know what is available.

Medway Renaissance’s key message focuses on the positive aspects of the past maritime area, hence the creation of **Chatham Maritime** as its new brand. The regeneration areas are being “sold” on their creative use of the waterfront and estuarine environments, reflecting on their rich and colourful maritime history with the future vision of the area being an attractive place for people to live, work and play; with a high standard of education and sustainable living and with all the benefits of city life. Architectural competitions have reinforced these positive messages with images that forge a common vision for the future with each new major development.



Winning entry for design competition:  
Creek Bridges at Rochester Riverside

© Birds Portchmouth Russum Architects





Hengelo made an early commitment to use the industrial heritage as a unique selling point, under the motto "giving the closed industrial area of 50 ha back to the city and the community". This vision has been carried forward through the restoration of buildings and the sympathetic use of old buildings in the new plan for the site. The past industrial atmosphere has not been lost in the new plans, where scale and pattern of development reflect the legacy of the Stork dynasty.

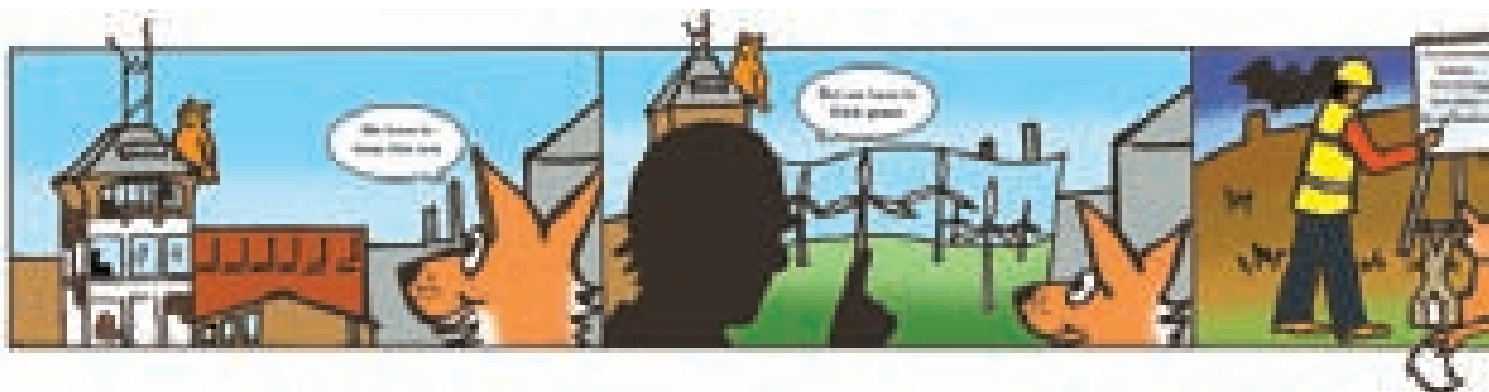
In Nantes, international conferences, conventions, and cultural events contribute greatly to the vitality and reputation of the city. Professional events take place regularly, be they national or international, for example, the European Brownfield Marketing event was organised with the REVIT partnership in February 2006. A large variety of cultural and tourist events are hosted in Nantes: The "2007 Estuaire" contemporary art event will be launched in June 2007 from the Île de Nantes, former shipyard site, where the Big Elephant will take people on its back; the recently-restored Brittany Chateau des Ducs was re-opened to the public in February 2007 and the festival "Île était une fois" ("once upon an island") is hosted every year on the island. Welcoming and promoting cultural activities and events which enhance heritage is one of the ways that Nantes fosters and develops its local identity and international image. Rather than perceived obstacles, brownfields can become assets for marketing a place.

Masterplans have been developed to provide a long-term vision and perspective for each of the REVIT sites. These plans were either developed as an interactive process with stakeholders and inhabitants or by the city/regional administrations. In both cases the development of these masterplans has played a significant role in presenting the sites with a positive outlook, "reinventing" the sites, and transforming the negative images into positive ones.



© Stéphane Bellanger

Local television channels settled in Alstom former industrial halls in Nantes



## Communication Tools

Revitalisation projects are based on many decision-making processes, which require up-to-date and relevant information. Quick access to information and good communication and co-operation is essential between the interested parties, particularly as they often come from different professional backgrounds and interest groups. Information needed by potential

investors to decide whether an area is of interest or not can be provided by web - available databases. It is essential to design such a database so that it is easy to navigate and provides clear and concise information. Regular maintenance is crucial as information can quickly become outdated. Well structured databases provide information in at least three categories:

- a) Basic Information required
- b) "Nice to have" information
- c) Supporting information

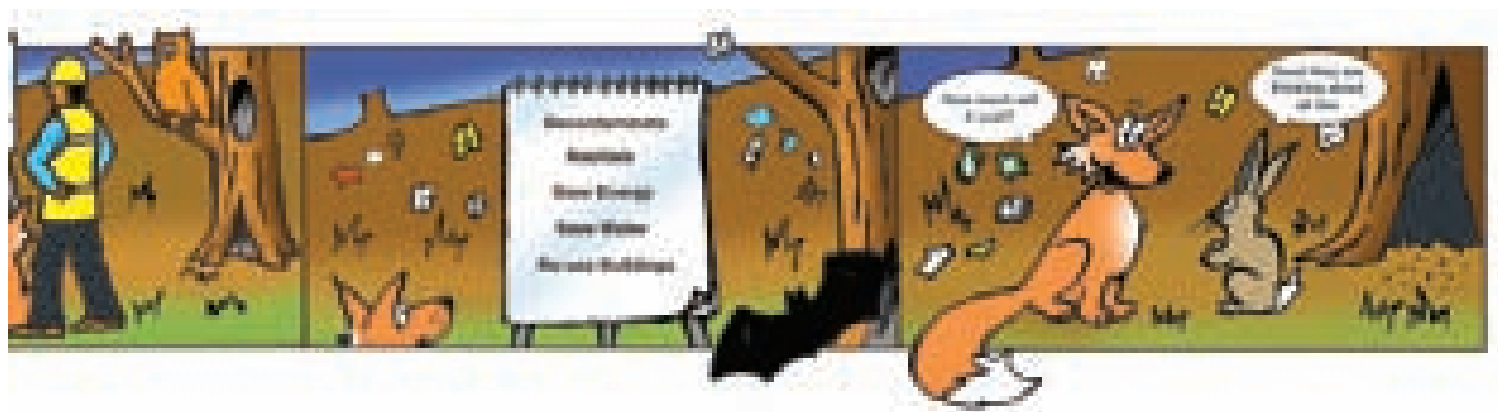
Best practice can be viewed on [www.stuttgart-baueaechen.de](http://www.stuttgart-baueaechen.de)

Information which is, in traditional real estate business, provided in marketing folders and property details is much more complex in brownfield cases. The "Brownfields START-UP" tool supports the parties involved in brownfield projects in the preparation of development concepts and describes the interplay between the planning, economic, social and ecological aspects of brownfield revitalisation. The START-UP guidance 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. It simplifies communication and team work between the participants; strives towards a collective development vision; avoids details; and therefore serves as a powerful marketing tool. It has been successfully tested in Hengelo and Stuttgart.



Multi-media promotion

© Stéphane Bellanger



## Marketing Strategy

A key step in improving the image of brownfield sites is to develop a marketing strategy. This should be aimed at different target groups:

- developers, investors, contractors and other institutional bodies, to interest them in taking an active role in the development of the sites
- end-users for the new offices, houses etc., who will live, work and play on the new sites

There are of course other stakeholders, such as the present tenants, the inhabitants and other statutory partners, who need to be considered and engaged as they can be key allies in promoting and “selling” regeneration areas.

In the early stages of development, marketing is not always visible. In these phases, lobbying is an important instrument to “prepare” governments and others for their ongoing support and commitment, particularly with funding and political stability.

The marketing strategy must also deliver the new image for the site through visualisations and plans. Models of the site and sub-areas are a common way of doing this. In addition this can be supported by information centres, as in the case of Hengelo and Nantes. Events provide the opportunity to underline the new image and should not be underestimated as a regeneration and marketing tool.

Websites and more conventional means of publicity are still important. The strategy should allow for flexibility as brownfield sites take time to develop, details change over time, and marketing must be able to respond to changes in the market and needs of stakeholders.

### Recommendations and Conclusions:

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

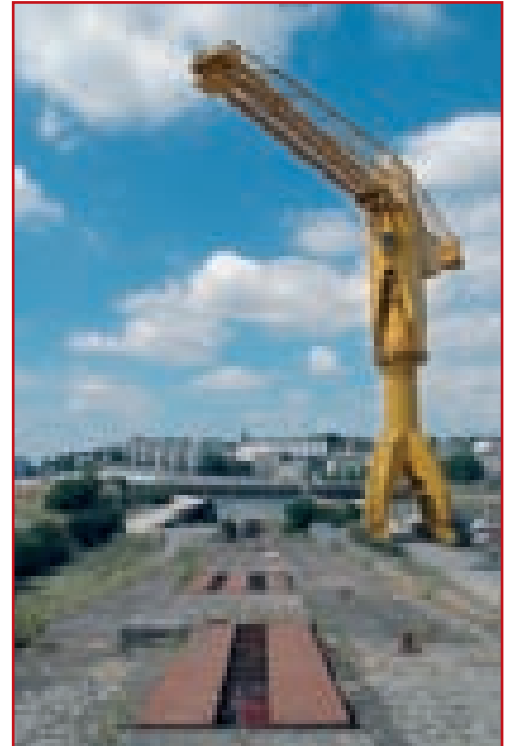


# Industrial Heritage

The REVIT project has shown that, through careful management and policy, the legacy of the past can play an important role in stimulating economic regeneration of brownfield sites. Brownfield sites often portray negative connotations of past industrial activity and its negative impact on an area. This same industrial activity, carefully managed, can provide local distinctiveness, adding value through the creation of positive images and through the restoration, promotion and interpretation of the past history of a site.

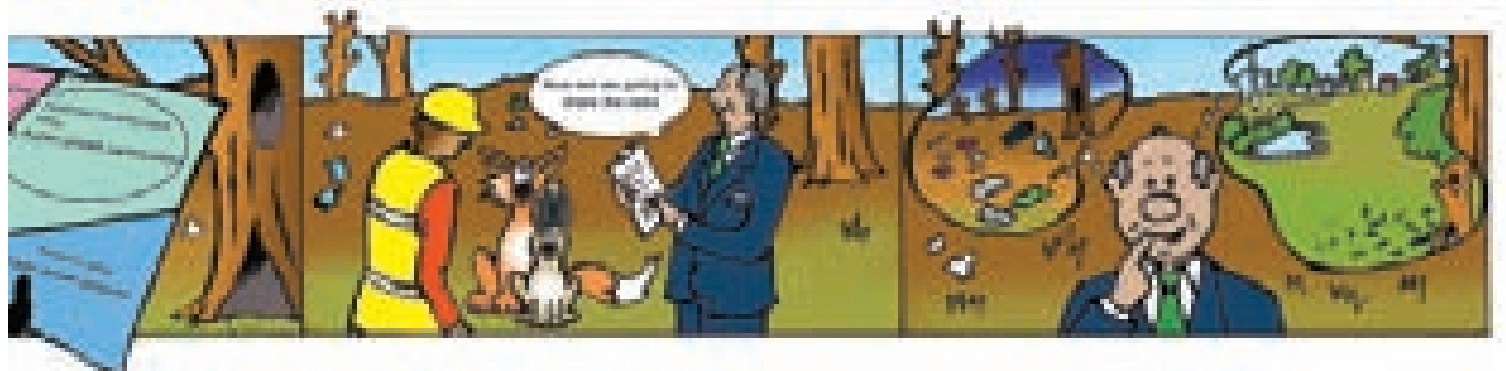
In the REVIT project, industrial heritage legacies have provided the opportunity to create a positive identity for areas under redevelopment. In Stuttgart, for example, a former railway logistic building, saved from demolition by the city, is an icon of its former use, as well as providing a gateway into the new development area where virtually all the warehouse buildings will be demolished. In the former shipyards of the Île de Nantes, part of the maritime and industrial heritage has been maintained and preserved on site, such as the Titan cranes, slipway and former industrial halls. These will be included in new urban developments and notably in the new Shipyards contemporary urban park. Beyond this concern for preservation, the aim is to give new urban functions to these historic symbolic places, and to make them visible to the general public. In the Île de Nantes a range of cultural and artistic initiatives is being hosted and developed, be they long-term leisure infrastructures or temporary performances and events. This shows how brownfield heritage is being used to embody the cultural identity of the people who have lived and worked on the site.

Buildings, artefacts and symbols that are not protected by law are also important as they make up the matrix that creates the uniqueness of a site, as can be shown in Hengelo, where all the important relics of the past industrial activity of the Stork dynasty were recorded, collated and now form the mainstay of the regeneration of this sector of the city. An important feature of a developed brownfield site is the atmosphere that it can evoke, by sensitively incorporating historic structures and reflecting their shapes and scale in new development, together with hosting festivals to celebrate and remember past history.



**Yellow Titan Crane and slipway on the former Nantes Shipyards site, Île de Nantes**

© Samoa - Vincent Jacques



## Methodologies

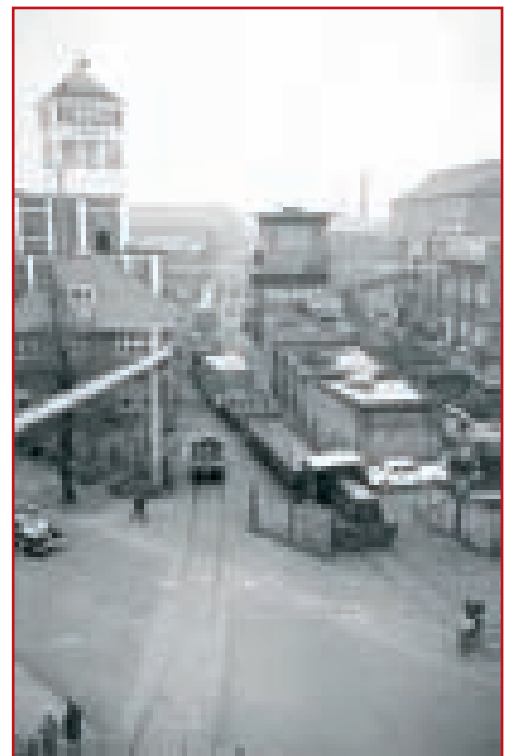
The REVIT project has developed common approaches to two aspects of industrial heritage: preservation (safe-guarding) and raising awareness.

In safeguarding the industrial heritage, examples of a common approach can be cited from the City of Hengelo and Medway Council. In both cases the first step was to research and document buildings and artefacts related to the past industrial and maritime history. A key element of this process included an assessment of the costs and potential benefits of retaining or demolishing buildings and infrastructure. Once this work was completed the results were published and shared amongst professionals in the field. In the case of Hengelo, a book containing all the historical buildings was produced and this was then used at a strategic level to prioritise the importance and conservation status of these buildings. Some were deemed so important that they have to be kept and woven into the new masterplan, whereas with others, the city has provided guidance, and is more flexible regarding their end use or indeed deciding whether or not they should remain.

In a similar process Medway Council has listed all its maritime buildings, structures and artefacts, undertaken option appraisals and reviewed costs and benefits, resulting in the Council approving the proposal to bid for World Heritage Status. The City of Hengelo, similarly, has an agreed covenant that has provided the framework for its regeneration plans based on safeguarding the industrial heritage of the former Stork engineering works.

In both cases a management plan ensures that there is a constant review of the heritage status of the two areas and this includes continuous interaction with the many key stakeholders involved in regeneration, as well as those championing conservation.

The second aspect - raising awareness and creating the opportunity for wider involvement - saw some innovative approaches undertaken by the REVIT partners. In the former shipyards of the Île de Nantes, historic and industrial heritage plays a major role. For instance, the "Island machines workshops" will soon move to the former Dubigeon's industrial halls, converted into a "workshop gallery". There, new attractions in the form of wonderful worlds, and creatures and beings made up of wood and steel will be exhibited to the public (the "Birds Tree", the "Submarine World"), or will



Former model-making factory - Hengelo



New Fire Station:  
formerly a model-making factory - Hengelo



fulfill their roles, such as the “Big Elephant” which will walk around the Shipyards park and take people on its back. These initiatives reflect, through a creative approach, the skills and history of Nantes when it was active in the ship building industry. They will also become a key element of Nantes’ local identity and international image. Another example is Torfaen, where, at a REVIT Industrial Heritage Workshop held in 2006, participants were given different popular magazines and asked to define their readers and then promote an industrial area to these readers as somewhere to live, work and play.

During the REVIT project, partner staff were given the opportunity to visit the Ruhr region to learn from its experience of using industrial heritage to save costs of large scale demolition, remediation and redevelopment; to witness the developing role of industrial heritage tourism; and to appreciate the sensitivity that is sometimes needed when past memories have formed scars which block immediate regeneration and redevelopment. Site visits were also undertaken on the REVIT sites of Medway, Torfaen and Hengelo. In the last two areas respectively, an interactive two-day workshop and a two-day conference were held, as other ways of promoting industrial heritage as a driver for regeneration. Experts on different features of industrial heritage participated at these workshops, informing practitioners, government officials and local stakeholders. Finally, a photographic competition and exhibition was held to provide the opportunity for local people to reflect on their perceptions of the importance of industrial heritage and as a way of gaining wider participation in the debate.

The REVIT partnership can show that industrial heritage plays an important part in creating a unique identity for an area and contributes to local distinctiveness by linking a place with its industrial past. This has led to providing a sense of pride of place whilst still allowing new developments to fit in with the icons of the past. There have been tangible benefits in the approaches taken by the participating partners. This can be shown in the case of Hengelo, which has based its regeneration proposals on a platform of respecting past industrial history. In some cases renovating buildings and finding new uses for them has been less expensive than demolishing, decontaminating and rebuilding. The partnership has developed new and innovative opportunities to engage a wider audience in the debate and decision making related to the safeguarding and promotion of industrial heritage, through highly participatory workshops, sites visits, competitions and debates.



Visualisation of the future  
Foundries’ Exotic Garden – Île de Nantes

© Samoa - Atelier Doazan Hirschberger

### Recommendations and Conclusions:

1. 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.
2. 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.
3. 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.
4. Industrial heritage should be used as a key driver for regeneration and investment.

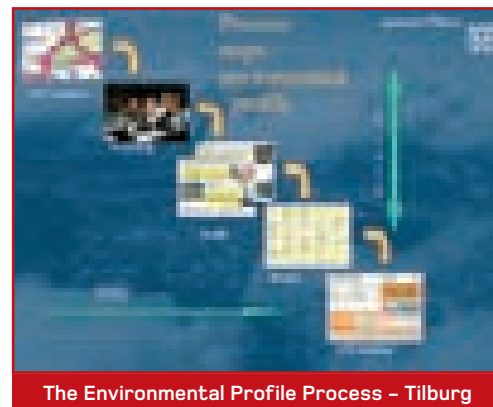


# Sustainability

With the implementation of European legislation on Strategic Environmental Assessment [SEA] and Environmental Impact Assessment [EIA] the sustainable development agenda is growing in importance in respect of brownfield site redevelopment. In the UK it has become mandatory to undertake strategic environmental assessments for new developments. In the other partner countries there is recognition that inner urban development must be based on sustainable development principles.

During the early stages of the REVIT project there was an aspiration to have a common set of sustainable indicators and targets for use on all partner sites. Research was undertaken to examine the different legislative requirements for conducting sustainable development appraisals and how such indicators and their targets are used within each partner country. The REVIT project found, however, that there are a vast array of indicators, targets and ways of assessing and measuring sustainable development and that a common set would not be a useful tool for the assessment and redevelopment of brownfield sites. The partnership agreed that it is important to use appropriate indicators, through a process of involving key stakeholders and to work through an agreed framework of continual assessment, coupled with a management plan, in order to apply sustainable development principals on brownfield site development.

This participatory approach, which has been based on the Sustainable Assessment Tool from the RESCUE (FP5) project ([www.rescue.europe.com](http://www.rescue.europe.com)), has had additional benefits: it has raised the awareness of sustainable issues amongst professionals, politicians, government employees, investors and the general public. In Medway, the publication of the Green Charter, a statement to raise environmental standards for new buildings, has had wide publicity and it now forms central policy for brownfield development in the Medway area.



The Environmental Profile Process - Tilburg



Sea transportation of sand: reducing environmental impact - Medway



During the REVIT project, different approaches have been developed to actively manage sustainable development elements on partner brownfield sites.

1. The first of these includes a sustainable assessment model for large scale remodelling of a site, based on the Rochester Riverside development. This project involved over 800,000 tons of fill to be transported to the site. An options appraisal was conducted, reviewing the feasibility for road or sea transportation of the sand to provide the required fill. The costs and benefits of both options were considered as well as the environmental and social impacts. A decision was made to use sea transport, based on costs but also showing wider sustainable advantages, such as saving lorry journeys that would have contributed to noise, pollution and congestion. Once this method was agreed, a management plan was developed and this formed part of the agreement with the Environment Agency and the Local Authority in terms of gaining legislative consent and planning permission, respectively.

2. Medway Renaissance has developed a Green Charter, as part of the REVIT project, to set targets and promote its sustainable development agenda. An important part of this process was the completion of the South-East England Development Agency [SEEDA] sustainability checklist: a pre-requirement for funding and a method of assessing the many aspects of sustainable development. The Green Charter was developed by agreeing a set of sustainable targets to be met in respect of new buildings on the Rochester Riverside site. These targets are higher than the national sustainable building standards known as the **B**uilding **R**esearch **E**stablishment **E**nvironmental **A**ssessment **M**ethod [BREEAM]. The aims of the Charter are to integrate, promote and ensure that a higher than average standard is achieved for this and other brownfield sites in respect of building standards. This was possible since the Council is in control of the site and has therefore had the opportunity to be innovative and aspirational. This Charter is now a requirement for developers, who will be supported with information on new technologies to reduce water, energy waste and materials in the planning and building on these sites. To assist with this information flow, Medway, like Stuttgart, is testing a tool developed by the Tilburg Partner.

3. Tilburg has developed three different tools that integrate environmental themes into spatial plans. These are: The Environmental Profile Process; the sustainable building tool (GPR); and the Industrial Estate Atlas. They are fully described in the Tilburg Area Report.

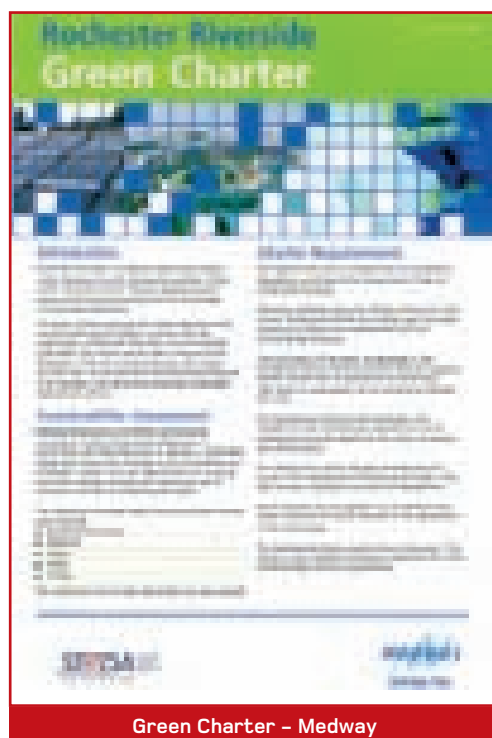
4. In Stuttgart, a Planning Workshop was used as a tool for public discussion and for the identification of site-specific objectives and indicators for sustainable development. This formed a part of the stakeholder engagement processes of urban development on the REVIT site. It was important to obtain political backing for the goals and contents of the workshop before it was carried out. Well-advanced development proposals were formulated before the workshop and local



Sustainable design



Sustainable building



Green Charter – Medway



council staff were involved in the engagement process to ensure that they would take the results of the workshop into account when refining their masterplan proposals. Three main phases have to be taken into consideration when undertaking this type of workshop: the preparation phase, the workshop phase itself and the follow-up phase.

- During the preparation phase in Stuttgart, an organisation team was set up. One of the preparatory meetings was used to compile objectives and indicators implied or explicitly stated in existing plans.
- The workshop itself was opened by keynote presentations, which described existing development goals; the project's importance and opportunities for urban development; the cornerstones for the development; and the functions and opportunities relating to objectives and indicators. Different working groups were then given time to discuss, modify and prioritise the objectives and indicators previously identified by the preparation team.
- The REVIT Planning Workshop was documented in detailed minutes. The administration is committed to take account of the workshop results in planning for the future development of the site. A policy paper on "modules for sustainable development" may be adopted by the local council to serve as a basis for urban-development and purchase contracts.

Apart from these specific approaches, the REVIT partnership has produced a sustainable development evaluation toolkit and process for brownfield site applications. This is based on the principle that redeveloping brownfield sites is an ever-changing process and the methodology needs to take account of this. The process is based on agreeing indicators and targets on three scales of development; for example, on the area plan level e.g. 1:10,000, or a masterplan level, e.g. 1:2,500, or for individual buildings e.g. 1:500. This allows for each site to be evaluated within its own context. Thus, indicators and targets are developed on a site-by-site basis taking into account local legislation requirements and local regeneration and sustainable development strategies. It is recognised that it is not possible to have a balanced sustainable development strategy on each site. Some sites may have an economic bias, others social and others may lean more towards the natural environment. The REVIT project has also determined that stakeholders should be involved when making decisions regarding the level of importance of different sustainable targets and issues and that this should be backed up with ensuring institutional support for the decision making process.



One of the ways of making brownfield sites more attractive to developers and end-users is to provide assurance that they provide a safe and good living and working environment. Working with sustainable development principals is a key way of achieving this. Setting higher environmental performance standards gives added value to a site and can contribute to the remediation costs where high land values are realised.

The REVIT project has shown that it is necessary to gain consensus on sustainable development issues, including indicators and targets, and that this is best achieved on a site-by-site basis. This process in itself increases public, professional and political awareness of sustainable and environmental issues related to brownfield sites. It has been found that these issues should be part of the first stages of a project, as key environmental, economic or social issues missed in the early stages of planning can cause delays, add costs and create poor perceptions of the new uses for brownfield sites.

Investors, developers and end-users need to have assurances on brownfield sites: better sustainable planning and management can provide this. In addition, sustainable targets and indicators allow for the long term monitoring of a site. All these aspects require clear consensus and responsibility for their planning, implementation and management.

#### **Recommendations and Conclusions:**

1. Environmental legislation at both the EU and local levels is a key consideration for sustainable development during the planning and redevelopment of brownfield sites.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.

# Remediation Techniques

Many contaminated brownfield sites sit idle and unused for decades, because the cost of cleaning them to safe standards is more than the land would be worth after redevelopment. Contamination of soil and groundwater is thus a key issue in brownfield revitalisation. The underground legacy of the industrial past often bears uncertainties and potential high risks related to the cost and time needed for remediation processes. This dulls the image of brownfield sites as potential development areas. However, this negative perception is influenced by a small number of seriously contaminated sites. Research shows that in the majority of redevelopment projects, the costs related to clean-up are less than 5% of the total development costs.

Among the REVIT partners, Medway and Stuttgart initiated in-depth activities and knowledge exchange related to cost-effective site characterisation and innovative remediation technologies. Two transnational workshops in Stuttgart including internal and external experts dealt with:

- “Sustainable technologies for soil and groundwater contamination” (October 2004)
- “Analysis of Basic Conditions for the Application of Innovative Remediation Technologies in Brownfield Redevelopment Projects” (January 2007)

Local activities in Medway led to the case study “Rochester Riverside”, exploring practical application of remediation approaches based on large-scale bio-remediation and a pilot test of carbonation of soil contamination. Accelerated carbonation technology is based on the precipitation of calcium carbonate [ $\text{CaCO}_3$ ] after adding carbon dioxide [ $\text{CO}_2$ ] under controlled conditions to a moist reactive binder, such as contaminated soil. Precipitated carbonates stabilise or cement contaminated soil, which also improves the geotechnical condition of the product.

Stuttgart applied the newly developed **I**ntegrated **C**oncept for **G**roundwater **R**emediation [INCORE] approach for site characterisation. This strategic approach is based on an integral groundwater investigation for identification and delineation of contaminant plumes in the groundwater and the identification of related contaminant sources. Remediation activities combine “dig and dump” with a pilot test of the innovative **O**n-site **S**eparation and **B**iological **O**xidation [OSBO] technology: an on-site remediation technology based on the combination of mechanical and biological soil and groundwater treatment.



Bio-remediation – Rochester Riverside, Medway

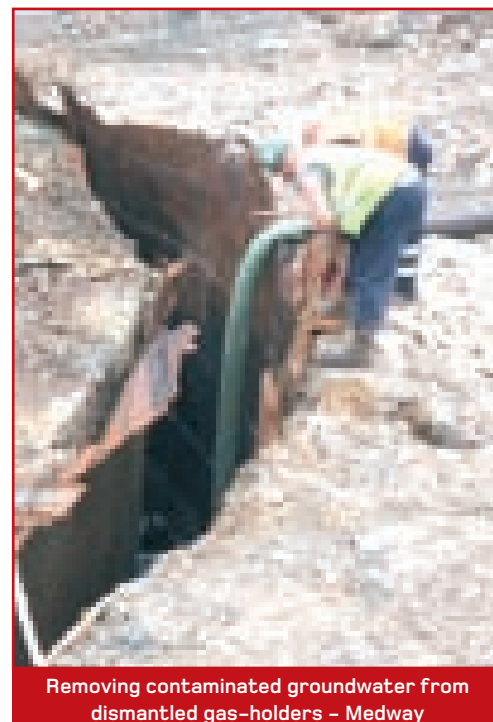


Ground assessment – Stuttgart



The findings of the two workshops can be summarised as follows:

- Classical approaches for site characterisation are expensive if applied to large sites. The integral groundwater investigation approach proved to be effective. More advanced proven site characterisation technologies and approaches are needed in order to achieve reliable site characterisation on a large scale in a cost effective way.
- Principle remediation options are still “dig and dump” and “pump and treat”. Waste legislation and related costs for landfilling are the key drivers for a shift to alternative, more sustainable, on-site and in-situ technologies.
- There is a need for pilot applications to demonstrate the applicability of alternative technologies in different framework conditions (e.g. geology, contaminants, time, and space). Such pilots should already be part of technological development and should be considered in the site-specific technology selection process.
- Local situations and the complexity of brownfield revitalisation requires that a robust appraisal of the environmental impact of each remediation technology be considered in the decision making process. Life cycle assessment of the technologies should be an essential step in all remedial planning.
- Technology demonstration, verification and updated, independently reviewed information are cornerstones of a strategy supporting the implementation of alternative technologies. Bodies like **Contaminated Land: Applications In Real Environments [CL:AIRE]** in UK, and the Netherlands Centre for Soil Quality Management and Knowledge Transfer [SKB], provide essential information and reference systems for sound decision making on the application of innovative and alternative remediation technologies to reflect specific site conditions.



Changes in legislation and increasing requirements for environmental quality lead to stronger efforts to find more sustainable solutions with regard to soil and water decontamination. Conventional tools, such as life cycle assessment and cost benefit analysis, support the quest to improve the sustainability of brownfield remediation techniques. Successful implementation of alternative remediation technologies requires pilot and demonstration projects to facilitate and secure wider acceptability.

#### **Recommendations and Conclusions:**

1. 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.
2. 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.
3. Pilot tests should use site-specific technological solutions.
4. Successful new remediation technologies must be supported by a strong marketing and demonstration campaign in order to gain wider user acceptability.

# Natural Assets

Brownfield sites that have been derelict for long periods and/or have extensive land and buildings often develop unique habitats for wildlife. In addition, endangered or unique species may have survived or even prospered when sites were in use and remain important elements of a local ecosystem. The Habitats Directive (EEC of 21/05/1992) relating to nature conservation protects threatened species and related biotopes. Legal frameworks in each country afford additional protection for plants and animals.

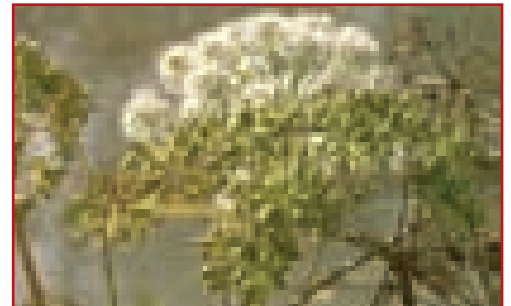
During the feasibility phase of redeveloping brownfield sites it is vitally important to survey, bearing in mind the seasons, the natural species that inhabit a site. Masterplanning, cost estimating, potential mitigation issues, environmental management and stakeholder interests are all linked to a good understanding of the ecology of an area or a site.

The Estuary Angelica (*Angelica heterocarpa* Lloyd), for example, is an endemic species of France, which exists only in the Loire, Charente, Gironde, Adour and Nive estuaries. For the Loire Estuary, most of the Estuary Angelica sites (nearly 80%) are on the banks and shores of the Loire in the region of the Nantes conurbation and a reduction in its area of propagation has been noted for some time. France's responsibility for the survival of this plant is based on legal protective measures at national and international level: i.e. it is registered in the Habitats Directive and the Bern Convention and it is regarded as a vulnerable species by the "Red Book of the Threatened Flora of France".

Consequently, due consideration of this protected and vulnerable species in the Île de Nantes/Loire Bank development project, currently in hand, is essential in order to ensure its protection and its survival.

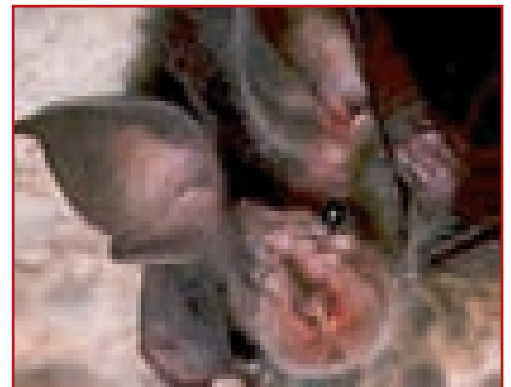
Another example is taken from Torfaen, where a previously used building, St. Peter's Church School, is being refurbished to provide an imaginative stand-alone attraction for visitors. St. Peter's Church School comprises two listed buildings situated on the southwest edge of Blaenavon. The site has been disused for the last twenty-five years and a complete renovation is proposed that would return the building to public use.

Roosts of two species of bats, namely lesser horseshoe bats (*Rhinolophus hipposideros*) and pipistrelles (*Pipistrellus* sp.) have been recorded in the buildings and there is some evidence that a third species, the brown long-eared bat (*Plecotus auritus*), roosts here too. All species of bat in Britain and their roost sites are protected by the Wildlife and Countryside Act 1981 (WCA), and by the Conservation (Natural Habitats, etc.) Regulations 1994.



**Estuary Angelica** (*Angelica heterocarpa* Lloyd)

© Nantes Métropole



**Lesser Horseshoe bat**

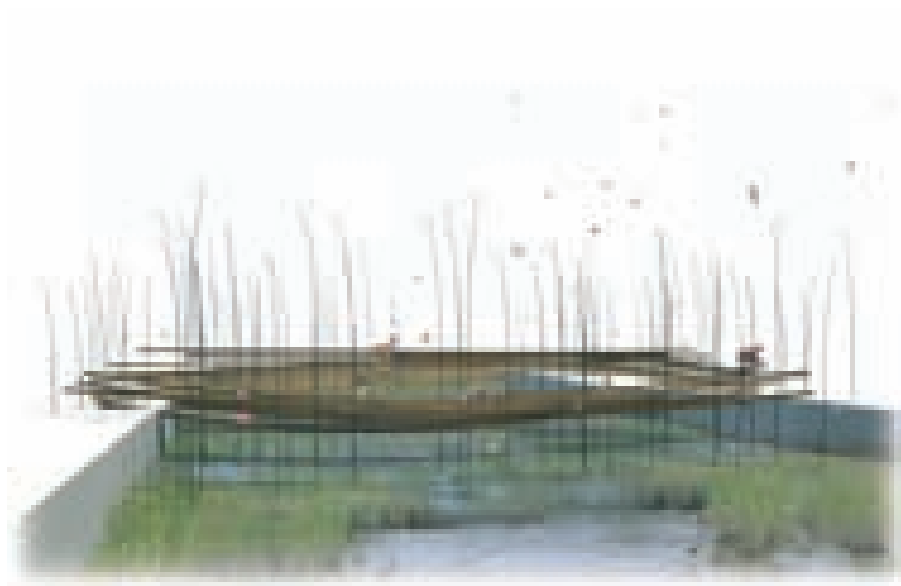
The buildings lend themselves well to provision of alternative roosts upon the completion of the development. The proposed scheme gives bats access into the basement room adjacent to the boiler room of the upper building and from there into the cellar below the porch. Both rooms will be reserved solely for use by bats. These modifications will allow access by bats and will provide a range of conditions, from a cool cellar to a warm roof.

In Tilburg, a particular species of frog that has luminescent legs is to be found on the Volt industrial estate. Plans for the redevelopment of the industrial estate have taken into account the need to protect the natural habitat for this frog.

These illustrations show how new developments can work with nature for the benefit of the natural environment without detriment to building renovations or land regeneration. Today, planning permission for developments on brownfield sites are dependent on full surveys of wildlife and agreement of measures to protect fragile ecosystems or endangered species.

### **Recommendations and Conclusions:**

1. 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.
2. 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.
3. 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.
4. 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.
5. Brownfield sites that have remained undeveloped for long periods of time often develop unique ecosystems that may then have to be protected.



**Blue Boar Creek Bridges at Rochester Riverside**

© Birds Portchmouth Russum Architects

# Water Management

Fluvial and sea flood defences can be crucial to waterside brownfield sites. The REVIT partnership has provided the opportunity for Nantes and Medway, both water front developments, to widen their knowledge and share different designs for flood protection and water management.

One of the difficult issues tackled in respect of achieving high water management standards has been the need to balance demands related to the multi-functional use of space, including natural habitat retention and creation, terracing for flood defences, providing open space and protecting natural assets. A constructive aspect of the use of water is its positive identity with leisure activities, living space and working environments. Particularly on sites with a maritime past, maintaining or creating links with water reinforces the cultural image of the area. In the Rochester Riverside project, habitat creation and public access to the waterfront have been key components in preserving and enhancing the identity of the new development with its maritime past.

**Sustainable Drainage Systems**, (SUDS) are part of the detailed plans for the redevelopment of Rochester Riverside, together with the use of grey water and setting high standards for reducing the use of water during the construction and end-use phases. These water conservation techniques are embedded in the standards and targets set in the Green Charter, which requires developers to attain higher than national targets for water management and consumption in the Rochester Riverside and other Medway brownfield site developments. The options appraisal documentation that is detailed in the Medway case study makes detailed reference to these techniques.

The Île de Nantes project aims to enhance the natural asset that constitutes the Loire waterfront for the Nantes conurbation. Thus, one of the objectives of the Loire riverbanks' re-conversion is to reconnect urban areas to the river. This involves both restoring the river and maritime environment (quays, shores, natural areas), and developing connections to the river, such as pontoons and walkways. When devising new housing programmes, special attention is given to the views offered by new dwellings to the river. The general spatial organisation of the project as a whole (networks of streets, transport, redeveloped neighbourhoods or industrial sites, etc.) takes the river into account. Finally, activities linked to the river are being redeveloped: tourism, cruising, and urban public transport such as the "Navibus" river shuttle.



Quai F. Mitterrand on the Loire riverbanks in Nantes

© Vincent Jacques

## Recommendations and Conclusions:

1. 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.
2. There are many new techniques and technologies to reduce water consumption. These should be fully considered throughout the life cycle of a brownfield redevelopment.
3. 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.
4. 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.



# City of Stuttgart Area Report

## Freight Depot Stuttgart-Bad Cannstatt

### Stuttgart, Capital of Baden-Württemberg

Stuttgart is a metropolis with approximately 590,000 inhabitants, and forms the hub of a region with a population of 2.6 million. Having one of the highest growth rates in Germany, the region is under permanent pressure to open up new areas for settlement. To do justice to its image as a “green city”, which is one of its key characteristics, Stuttgart's 2010 development plan focuses on the development of areas within the city itself. The current emphasis on urban development is to encourage major as well as minor projects that will contribute towards structural change within the city limits. There are many sites with great potential for redevelopment. The three largest urban projects currently being developed within the city comprise “Former Freight Depot Bad Cannstatt” (the REVIT local project site), “Stuttgart 21”, and “City Prague”.



'Schloßplatz' in Stuttgart city centre

### The history, location and utilisation concept

The railway freight depot at Bad Cannstatt was developed over one hundred years ago. It was increasingly utilised and, as the railway network grew, the freight depot continued to expand. In the late 1980s Deutsche Bahn, the state railway company, stopped using the area as a freight depot and the land was leased to a variety of companies. The area, which comprises approximately twenty-two hectares, forms the largest single brownfield site within the City of Stuttgart. The city acquired the site in 2001, identifying its potential for substantial development in the area, which is situated in a central location and has a number of leisure facilities and public venues nearby. Large sports and leisure centres, such as the Gottlieb Daimler Stadium, the Hanns-Martin-Schleyer Auditorium, and the Cannstatter Wasen, as well as the recently-built Porsche Arena and the Mercedes Benz Museum, are located in the immediate vicinity of the freight depot. In addition, the historic town centre of Bad Cannstatt with its mineral springs and baths, and the Rosenstein Park, are to be found within a radius of two kilometres. The area is used by twenty major tenants, who generate significant traffic as many of these are logistic companies, occupying and requiring large areas within which to operate. The objective for this site is to rearrange the area in the most sustainable way, giving due consideration to the users in the vicinity, as well as to the adjacent “Veielbrunnen” residential area. These proposals form part of the REVIT project plan and complement the adjacent urban-renewal area “Veielbrunnen” in the north. With ERDF funding of approximately €2.2m, the REVIT project will contribute to the sustainable urban development of the whole area. The city benefits from further development of the REVIT local demonstration project “Former Freight Depot Bad Cannstatt”, as the EU funding contributes towards planning services, demolition operations, analysis and remediation of contamination, and marketing. This acts as an important catalyst for the redevelopment of the area.



Aerial view of the Former Freight Depot Bad Cannstatt - Stuttgart

## The Mercedesstraße Masterplan

In mid-2004 the concept of a masterplan for the former freight depot and its environs was developed. This “Mercedesstraße Masterplan” forms a unified concept, integrating the redevelopment of the freight depot with the numerous facilities surrounding it. The masterplan was adopted by the City Council in June 2005 to form the basis for further action, focusing on a distinct area for commercial and residential use adjacent to the existing “Veielbrunnen” residential area. The planning and developing dynamism of the quarter is particularly high, and has attracted a great deal of political attention. Overarching goals include rearranging the quarter; designing new urban co-ordinates; developing alternative utilisation concepts; and generating an efficient traffic network. In this context, the Stuttgarter Straßenbahnen AG (SSB) is considering the construction of a rail link to improve the public transport provision.

### First development concept – revision of the masterplan

A tentative concept for the first construction phase was developed, based on the masterplan. The concept was integrated into the masterplan by the planning department of the City of Stuttgart. In its updated form, the masterplan will serve as a basis for various future development concepts.

### Economic feasibility study – a key step in the planning process

Once the results of an economic feasibility study to optimise the market-related features of the entire planning concept have become available, redevelopment plans and their implementation may be updated and established by a council decision. In the first construction phase, the western segment of the freight depot area will be developed in early 2008.

### Revitalisation has begun – relocations and demolition activities

The mayor in charge of construction launched the demolition activities on September 6th, 2004. The project is supported by the REVIT team, which comprises an interdisciplinary project group (IPG) in which all municipal departments involved are represented.

Four hundred and sixty-one people worked in the freight depot area, most of them in the industrial sector. Numerous negotiations have been conducted with resident companies, of which some hold long-term leases that extend until 2016/2017. Although it has proved difficult to procure alternative properties, particularly for recycling operators, most of the companies have been relocated to other districts of Stuttgart. The masonry of existing buildings, much of which is contaminated by pollutants such as asbestos, tar, and wood preservatives, has to be analysed before the start of demolition activities which, in turn, have to be observed closely by experts.



Excerpt from the Mercedesstraße Masterplan



First development concept – sectional view of “Neue Benzstraße”



First development concept – mixed use alternative



Amended version of the masterplan

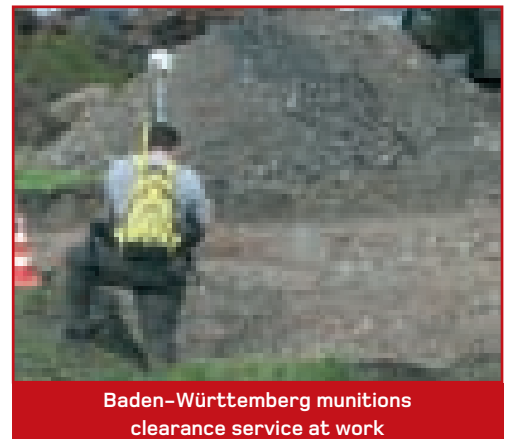
## Analysis and rehabilitation of inherited contamination

As the project is situated at the core of the medicinal-spring conservation areas of Stuttgart-Bad Cannstatt and Stuttgart-Berg, its underground water is protected by stringent regulations. On the basis of a historical study, the environmental protection office systematically examined forty two sites in the area that were suspected of inherited pollution. Mineral oil pollution was detected in the soil of the entire area, together with the localised presence of heavy metals, chlorinated hydrocarbons (solvents), and herbicides (in the area formerly covered by rails). The only groundwater pollution requiring remediation, however, was found in the location of a former breaker's yard. Here, a contiguous area of about 6,000m<sup>2</sup> is polluted by mineral oil, down to the top level of the underground water table, with the oil floating on top. Rehabilitation options for the unsaturated layer of soil include excavation or encapsulation. For the saturated soil layer, it is intended to use the newly-developed "On-site Separation and Biological Oxidation" [OSBO] process in a pilot project to decontaminate the soil and improve the sustainability of its remediation. In the OSBO process, pollutants are separated by the application of mechanical energy so that they can be identified and treated biologically.

## Munitions clearance

The area of the former freight depot at Bad Cannstatt was subjected to particularly heavy bombardment by the Allied forces in the Second World War, as it was used for logistical purposes and situated next to a motor-vehicle factory (now Daimler-Chrysler). Previously, munitions have always been cleared on a case-by-case basis, by removing the upper soil layers and extracting any munitions found. This is the only way of ensuring their complete removal. However, this process is impractical for large, particularly polluted, areas, where the added cost and labour of disposing of the contaminated soil and providing replacement material is high. As a result, contamination by munitions constitutes an enormous monetary problem for revitalisation. If an area is not cleared, however, it will continue to be suspected of munitions contamination, an incalculable risk for both investors and the marketing of the site.

For the revitalisation of the "Former Freight Depot Bad Cannstatt" area, an innovative process has been developed, with co-operation from the Baden-Württemberg munitions clearance service. The first stage of the operation was to measure out a number of 10m<sup>2</sup> plots, to test the practicality of different geophysical measuring methods. These test plots are distributed evenly across the entire area to ensure representative results. Next, appropriate munitions clearance methods for each particular plot will be identified. Following the interpretation and evaluation of the results, the technical process to be applied to each plot will be described, and the associated costs calculated. This serves to ensure both the efficiency of munitions clearance and the security necessary for planning. Plots will then be processed one at a time, in conformance with the priority schedule defined by the City of Stuttgart.



## Market Plan

### Image development and integration in the “Neckarpark” plan

The economic feasibility study suggested approaches to change the image of the area and to enhance its attractiveness; this will be complemented by a clear marketing strategy. The REVIT project will develop target group oriented marketing strategies and recommendations. These will outline the steps needed to counteract the risk of the social structure becoming adversely distorted. The future marketing plan will be harmonised with the final development plan, to address specific target groups. The plan will be embedded into the overall marketing of the adjacent “Neckarpark”. There is no area within Stuttgart where building activity has been as intense in recent years as in the “Neckarpark”, although the joint appearance of the local institutions still needs some refining. The Mercedes Benz Museum, the Hanns-Martin-Schleyer Auditorium, the Porsche Arena, the Carl Benz Centre and the VFB Stuttgart Football Club plan to join forces with promoters, restauranteurs, and hotels. The whole project is to be marketed nationally and internationally by Stuttgart Marketing. The first step was taken last year, when a parking guidance system covering the entire area was set up. On July 22nd 2007, the “Neckarpark Festival” will take place. In addition, there are plans to set up a joint database to improve activity harmonisation, and to launch a loyalty card conferring various benefits to users.

### Start-up plan – objectives and added value

The “Brownfields START-UP” tool was developed by an interdisciplinary working group, in collaboration with the United States of America Environmental Protection Agency funded by the German Federal Ministry of Education and Research. The tool provides structured formats to support urban developers in the preparation of start-up plans. Such plans, in turn, furnish investors and promoters of brownfield projects with a quick overview of all relevant information, including a transparent evaluation of the opportunities and risks. The tool helps to identify development deficits and to formulate clear action requirements. Such a start-up plan has been generated for the “Former Freight Depot Bad Cannstatt”. Relevant target groups include potential investors, financiers, the public administration, local-government bodies, stakeholders, citizens, and diverse contractors, who may wish to use the start-up plan as a database for future development considerations.

## Sustainability

### The workshop "Guidelines and Targets for Sustainable Development"

In October 2005 more than one hundred people attended a planning workshop entitled "Guidelines and Targets for Sustainable Development". This took place in an historic building, the future city archive of Stuttgart, in the immediate neighbourhood of the former freight depot area. The purpose of the workshop was to work in co-operation with political decision-makers, stakeholders, and interested parties, to evaluate existing concepts for the proposed development of the area, and to agree site-specific sustainable development targets and indicators, based on a set of key sustainability indicators. Whilst the targets were defined in rather general terms (e.g. "conservation of fossil energies"), the indicators (e.g. "30% below the regulatory energy-conservation standard") provided a way of setting, measuring, monitoring and controlling these sustainable development targets.

The public workshop was attended by town planners, architects, investors, housing contractors, project developers, business and civil-organisation representatives, district and town councillors, administrators, and interested citizens. The result was a first draft of "Ten Key Principles for Sustainable Development" (see "Final results") in the REVIT area. This paper now forms the basis for further policy discussions and is likely to be adopted by the local council for urban development and purchase contracts. It will also provide the foundation for further engagement in the ongoing planning process. The event was a success for the municipality, since sustainable development issues are now part of the dialogue and development of the complex "Former Freight Depot Bad Cannstatt" area. In addition there is an increasing awareness of sustainability issues amongst politicians, the public and experts from within the planning process, since they were involved in prioritising the sustainable development targets and indicators during the workshop.

The results of this pilot workshop are recorded and described in a handbook, available within the REVIT Compendium (see back cover). The resultant experiences and recommendations are expected to assist REVIT partners of the project in the Netherlands, Great Britain, and France, when holding their own public events on the subject in their respective municipalities. It is understood that, in replicating these experiences and recommendations, the need for adapting them to prevailing administrative, political, and planning framework conditions must be considered.



Plenary session at the workshop "Guidelines and Targets for Sustainable Development" – Stuttgart



Discussions at the workshop "Guidelines and Targets for Sustainable Development"

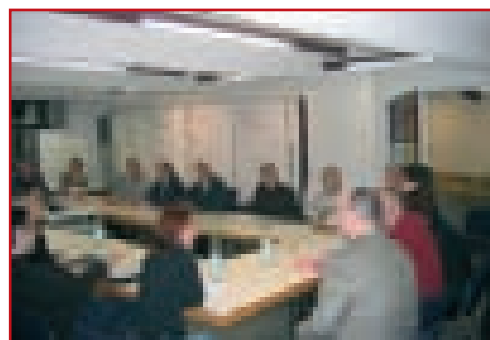
## The workshop round-table on "Bad Cannstatt – Quality Characteristics for Sustainable Development"

In a workshop held in January 2007, experts from the Stuttgart administration, the building industry, and politicians were introduced to a new set of processes and tools aimed at improving environmental sustainable development targets. These processes and tools were developed for new buildings by Tilburg, one of the REVIT project partners (further details can be found in the City of Tilburg report). Tilburg has developed a tool called the "GPR Gebouw" and has used this method successfully since 1996: it now forms an integral part of its environmental policy standards. One of the advantages of this approach is that buildings can be awarded an "eco-rating" following certification, which assists with improving their marketing potential, based on quality and levels of sustainability. Following this workshop and demonstration of the process, Stuttgart will use a German version of the Dutch "GPR Gebouw" during the development of the freight depot. In addition the "GPR Gebouw" tool may be used to support the processes of communication and harmonisation between municipal departments and other public agencies in zoning processes. The workshop round-table served to break the ground for this potential approach.

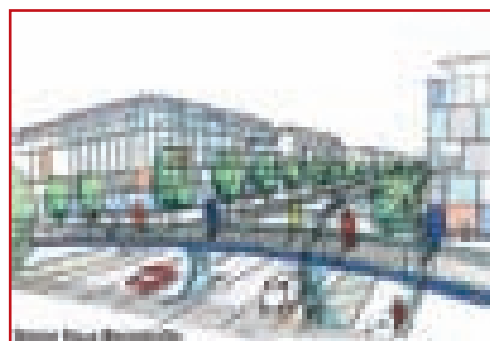
### Final results

The development potential of the "Former Freight Depot Bad Cannstatt" area is significant, as it will substantially contribute to the creation of new buildings, including living areas, in the heart of Stuttgart. The overall project is ahead of schedule, as key areas have been revitalised ahead of time. Roughly half of the area, approximately ten hectares, will be vacated by the time the first construction phase begins in 2008. Also, during the works scheduled for 2007, areas will be cleared of munitions. A mutually compatible mix of service providers, residential uses, and industrial enterprises will be created. These, in turn, will aim to harmonise with the adjacent sports facilities and public venues. "Ten Key Principles for Sustainable Development" were developed for the "Former Freight Depot Bad Cannstatt" area; these will form the basis of further stakeholder engagement during the planning process and policy development.

A new city quarter with up to four hundred residents is planned, as shown. Existing proposals will be developed further to optimise economic and commercial opportunities. The City of Stuttgart is currently investigating if part of the project site is appropriate for a museum of football history, following calls from the German Football Association who has invited proposals for a 4,500 m<sup>2</sup> useable surface.



Round-table talks at the workshop on "Quality Characteristics for Sustainable Development"



Drawing of "Neue Benzstraße"

### Ten Key Principles for Sustainable Development:

the REVIT area, Stuttgart

1. Provide urban mixture of multi-functional uses
2. Provide well-balanced social mixture
3. Strengthen residential functions
4. Strengthen functions of economical affairs
5. Provide high quality design standards for buildings and the surrounding area
6. Provide attractive green spaces
7. Provide sustainable mobility
8. Reduce noise pollution
9. Reduce energy and water consumption / use renewable energy and rainwater management
10. Continue to engage stakeholders



# Nantes Métropole Area Report

## Île de Nantes

### The Île de Nantes: an ambitious urban revitalisation project for a European metropolis

**Nantes Métropole**, located near the Atlantic coast, is the 5th largest urban centre in France, with 550,000 inhabitants. Watered by the upper Loire river, the city forms, along with Saint-Nazaire, the Atlantic Metropolis (population: 850,000 inhabitants).

Next door to Nantes historic city centre, the **Île de Nantes (Nantes' Island)** incorporates numerous brownfield urban sites, bearing witness to the city's industrial and naval history.

The Île de Nantes is a unique opportunity for development and urban renewal in France and in Europe. The Nantes Communauté Urbaine (urban conurbation) decided to seize this potential to endow the conurbation with an urban centre of international dimension, in the very heart of the Nantes Saint-Nazaire Metropolis, whilst respecting the principles of sustainable development and territorial balance.



Nantes Pointe Ouest - Île de Nantes



## Today:

- 337 hectares in the centre of the Nantes conurbation
- An urban area adjacent to the River Loire, 5km long and 1 km wide
- 13,000 residents; 15,000 jobs

## Tomorrow:

- A metropolitan centre offering all urban facilities: diversified housing, enterprise, research and higher education facilities, social, cultural and leisure infrastructures
- Over 800,000 m<sup>2</sup> of land potentially available for construction, with a balanced spread between housing, business and key infrastructures
- 6,500 housing units, 250,000 m<sup>2</sup> for economic activity and 140,000 m<sup>2</sup> for extra facilities

## Key Dates

- |           |  |
|-----------|--|
| 1987      | Dubigeon shipbuilders closed down on the island.   |
| 1989      | The new team at the town hall, led by Jean-Marc Ayrault, took the key decision to preserve and rehabilitate the shipyard's main building.  |
| 1995-1997 | Project 2005 was adopted, placing the River Loire at the centre of regional development strategy. A detailed diagnostic analysis of the Île de Nantes was made available.                |
| 1996      | The project's precursor: the Law Courts, designed by Jean Nouvel, was erected on the Île de Nantes.  |
| 1998-1999 | Nantes municipality consulted three multidisciplinary teams seeking concepts for an urban project for the Île de Nantes. Local associations and residents were brought into the process. |
| 2000      | The team of architects and landscape designers Alexandre Chemetoff - Jean-Louis Berthomieu was selected.   |
| 2002      | The first phase was launched. The elected representatives of the Communauté Urbaine de Nantes approved an investment programme totalling 120 million Euros for the years 2002-2007.      |
| 2003      | Formation of a mixed public-private entity dedicated to the Île de Nantes development: SAMOA, Société d'aménagement de la métropole ouest atlantique.                                    |
| 2003-2008 | Completion of the first phase.   |

## Developing an attractive area at the centre of the metropolis

The “Plan Guide” of the Île de Nantes is the reference frame for the project development. Constantly evolving, this guide is used as a working tool, giving a picture of the project as it moves forward.

Made up by uniting a dozen islands in the Loire River, the Île de Nantes is a constantly evolving composite area: a district along the historic North-South axis; to the west, an area where industry and maritime activities had developed since the middle of the 19th century; to the east, a district developed in the 1970s, where tertiary public sector activity predominates.

The de-localisation of industrial, port and road transport activities in the 1980's led to the formation of large brownfields. This raised the issue of the future of the site, linked with the overall transformation of the city. The 350 hectares of island include residential areas, which need upgrading, nearly 90 hectares of brownfield, and public spaces that are often inadequate and dilapidated. There is therefore a need to improve the everyday quality-of-life of the island's 13,000 inhabitants and to encourage new inhabitants and new businesses with new planning development.

## Promote multifunctional usages, enhance heritage and encourage local participation

Closely allied to the composite nature of the site, the agglomeration has taken up the challenge of a new development trend based on a **multifunctional diversity that respects heritage**:

- balancing residential and urban economic functions and an attractive living environment
- drawing inspiration from historic heritage and the sites' memories

Thus, the Île de Nantes urban project will be careful to avoid demolition wherever reuse or reconversion seems possible.

The Île de Nantes project team attaches great importance to local stakeholders, who must contribute actively to the project development.

A **dialogue-driven approach** is used, encouraging contributions from all relevant individuals (local residents, people working in the area), public and private agencies.

## Create new public spaces, restore and transform existing ones

**Public space development is the vital key** that drives the transformation of the island, supports its conversion and lays the groundwork for balanced and sustainable changes to its functions:

- creating new enjoyable living places
- re-connecting the city with the river
- improving public spaces by promoting alternative modes of transport (public footpaths, cycle tracks) and implementing a major public transport axis (tram, bus)
- creating new routes to meet the needs of an urban centre open to all
- refurbishing the river banks and quaysides and enhancing natural assets

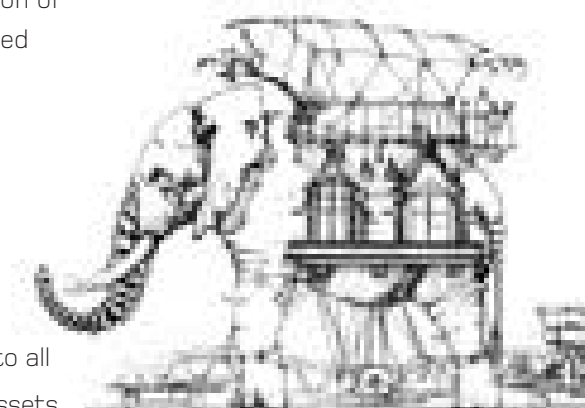


The “Plan Guide” of the Île de Nantes



Promoting heritage and culture - the Île de Nantes Machines: “Big Elephant”

© Patrick Garçon



### **Develop residential appeal, maintain housing diversity**

The Île de Nantes project must provide a **significant number of housing units** whilst assuring the diversity and quality of dwellings. A large proportion of housing is being created in areas along the banks of the Loire, or offering views onto the river. Housing developments include a large proportion of social housing (at least 20%) and a diverse range of homes, from city houses to flats.

### **Contribute to the overall economic development and create a centre of excellence**

When compatible with the balanced and multifunctional redevelopment of the area, economic activities are maintained: wholesale market, Beghin Say sugar factory, etc. The continued presence of the Alstom industrial site and its urban integration has resulted in a redefinition of land. The aim is both **to support the development of existing activities and to promote the settlement of new economic activities**, particularly high-quality services.

### **Welcome and promote cultural activities and events to create a new attractive centre for all**

With its historical and industrial heritage background, the Île de Nantes project is the place where an abounding range of cultural and artistic initiatives are hosted and developed, be they long-term leisure infrastructures and places, or temporary performances and events.

For instance, the **“Island machines workshop”** will soon move into the former Dubigeon’s industrial halls on the Shipyards site.

There, wonderful worlds, creatures and beings made up of wood and steel will be exhibited to the public (the “Birds Tree”, the “Submarine World”), or will fulfil their roles, such as the “Big Elephant”, which will walk around the Shipyards contemporary urban park and take people on its back. These initiatives reflect, through a creative approach, the **skills and history from when Nantes was active in the ship building industry**. They will also become a key element of **Nantes’ local identity and international image**.



Future 'Nef Dubigeon' on the Île de Nantes Shipyards site



Future "Nef Dubigeon" under construction

### **The REVIT project provides leverage for the Île de Nantes project**

**Preliminary studies** for regeneration processes have been undertaken: market research, diagnostic and feasibility studies, definition of an organisational and operational concept for future Public Private Partnerships. **Investments** under the REVIT project will encourage the preservation of the existing fabric of buildings and heritage in addition to the development of new uses.

The transnational REVIT project provides an opportunity for Nantes to benefit from the experience of its European partners facing similar issues on their brownfield sites. It is also the opportunity to promote the implementation of high quality regeneration projects, and to test innovative practices on the ground.

### **REVIT: joint thematic workshops, to improve in "the field" practices for urban brownfield revitalisation**

#### **Developing local participation and involvement**

Actions to encourage local engagement are conducted in each of the projects' operations in Nantes. An exhibition facility - Hangar 32 - has been made available to provide public information and ensure public discussion on the project. Many debates with the local population have been organised at neighbourhood level.

#### **Promote public and private co-operation for brownfield urban regeneration**

In February 2006 Nantes held the "European Brownfield Marketing Event"; a public and private sector forum for actors and business encounters, focused on adding urban and property value to brownfield sites.

## Multifunctional development, preservation and intelligent reuse of local heritage

The Île de Nantes project encourages reuse of the industrial, port and maritime heritage and adds value to these resources in a multifunctional context. It therefore ensures a diverse and balanced development between various economic activities, housing, equipments, public services and leisure activities.

### REVIT exchanges of experiences: sharing knowledge, know-how and practices

#### Study visits

A two-way exchange of experience was organised between Medway and Nantes, in order to identify and transfer best practices in sustainable regeneration. Among others, methods and tools were discussed to:

- reconnect brownfields to the river (Medway and Loire rivers)
- develop new public spaces facilitating access to former shipyard sites (Medway Chatham Dockyards and Nantes former Shipyards)
- ensure integrated development
- develop activities such as cultural events that promote the attractiveness of the area

Social dimension elements of sustainable urban development were also given a special attention: How to ensure the “social acceptability” of large urban projects? How to manage social projects in neighbourhoods adjacent to brownfield areas under redevelopment? How to organise the participation of hard-to-reach groups, such as foreign inhabitants, and make sure they “have a voice”?

Following the visit to Medway in September 2006, Medway came to Nantes in March 2007.

#### European co-operation: triggering local action

“I think urban issues, urban fabric renewal and development, are major challenges for Europe.” “The REVIT project allows cities who have similar problems with brownfield sites to accelerate their renewal projects by sharing ideas and to build a common know how. [...] The value of this consortium allows us, via these exchanges, to look at questions which may not have been actually thought about yet and to put forward solutions.”

Patrick Rimbart, Vice-Président Nantes Métropole



Following the visit to Medway in Sept. 2006, Medway came to Nantes in March 2007 – outside the future “Nef Dubigeon”



Medway study visit to Nantes in March 2007 – tour of Malakoff district

© Nantes Métropole

## PROJECT 1 – THE ALSTOM SITE

**The site** - The Alstom site on the Île de Nantes comprised industrial workshops, warehouses and areas of land. In 2002, Nantes urban authority purchased part of the land (6 hectares).

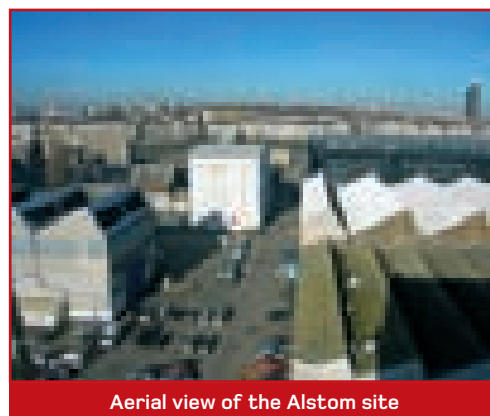
**The project** - The redevelopment of the site will make it possible to maintain existing industrial activities (Alstom industrial machine shop) whilst also welcoming new activities. Facilities such as the Law Centre, the biotechnology start-up park and temporary accommodation for developing activities (media, communication, service firms) and cultural activities (artists' workshops, cultural events, exhibitions, etc.).

**REVIT value-added** - An urban regeneration that is protective of the existing industrial heritage and that puts this long-standing industrial site to new uses, whilst at the same time guaranteeing both the preservation of, and a higher profile for, the historical heritage, along with the continuation of some of its former functions.

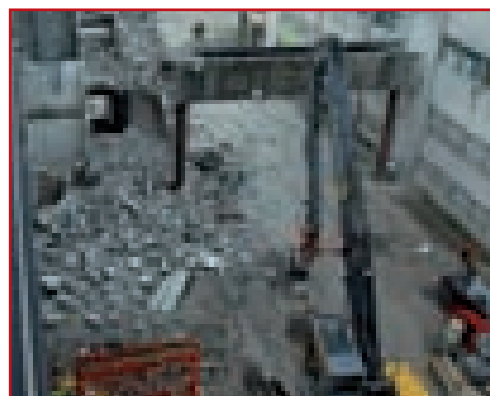
**Timetable** - Engineering studies: Launch 2003 / Preliminary town planning project: 2004.

**Launch of project works:** 2005 / New roads and restored halls: 2006-2007.

**ESTIMATED INVESTMENT BUDGET AS PART OF REVIT: 2,328,000 EUROS**



Aerial view of the Alstom site



Demolition of industrial halls on the Alstom site

## PROJECT 2 – INDUSTRIAL BUILDINGS: THE NANTES FOUNDRIES SITE

**The site** - Famous since the 1920s for the manufacture of propellers for cruisers, liners and merchant navy ships.

**The project** - The building of housing on nearly 15,000 m<sup>2</sup> of land and the restructuring of public areas, whilst preserving part of the industrial fabric.

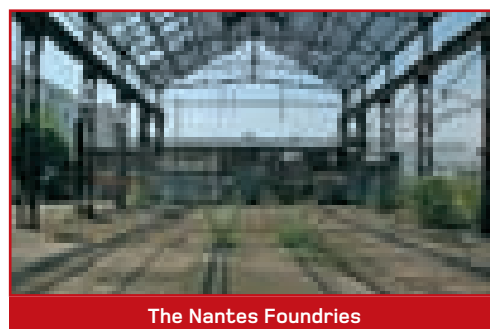
**REVIT value-added** - Work to restore the old ovens and the creation of a garden under the industrial buildings to be preserved.

**Timetable** - Engineering studies: 2003-2004 / Preliminary town planning project: 2004.

**Selection of property development companies:** 2004 / Building permission: 2005.

**Launch of construction work,** conversion of public areas and the restoration of buildings: 2006.

**ESTIMATED INVESTMENT BUDGET AS PART OF REVIT: 885,000 EUROS**



The Nantes Foundries



The future Foundries' Exotic Garden

### PROJECT 3 - INDUSTRIAL AND PORT HERITAGE

**The site** - The closing of the Île de Nantes' Shipyards in 1987 is a key date in the history of the island. Their relocation to Saint-Nazaire opened up a number of brownfield sites in the centre of Nantes. The transfer left booms, cranes and other port infrastructures at the Quai des Antilles and the former shipyards.

**The project** - The former shipyards redevelopment project aims at restoring this location to a special place in the heart of Nantes, and confirming its status of public space open to all and part of the network of public areas, whilst reaffirming its link with the Loire. A major contemporary urban park for long-term or temporary activities, public gatherings and events, such as the "2007 Estuaire" event, the first edition of the Biennale of contemporary art in June 2007.

**REVIT value-added** - Works to restore slipways and infrastructures, and preserve industrial buildings. Development of services that will link the site to other urban facilities, maintenance works to adapt the port buildings to allow them to accommodate restoration activities and musical and artistic events.

**Timetable** - Engineering studies: 2003-2004  
Preliminary town planning project: 2004-2005.

**Commencement of works:** 2006.

**ESTIMATED INVESTMENT BUDGET AS PART OF REVIT: 935,000 EUROS**

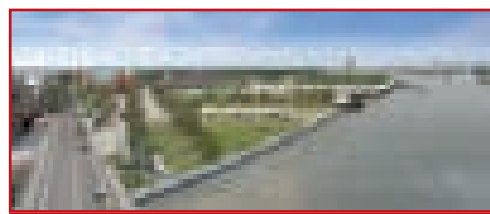
#### Project partners

Initiated by Nantes Métropole and Nantes municipality, the transformation of the Île de Nantes is intended as an open project that is not set in stone; a shared project capable of accommodating a diverse range of initiatives. The process of change is the product of political determination and ambition, of discussion with public-sector partners, urban development professionals and local residents.

It is constructed step by step through consultation, negotiation and debate between all those concerned. SAMOA (Société d'Aménagement de la Métropole Ouest Atlantique) is the entity charged with the task of guiding the overall project and its operational management. Alexandre Chemetoff and Atelier l'Île de Nantes are the main urban contractors.

The implementation of the REVIT project for the Île de Nantes is founded on local co-operation between:

- Nantes Métropole, the Communauté Urbaine, as the political promoters of the local REVIT project
- SAMOA, for project operations
- Nantes municipality, for local consultation arrangements
- The Caisse des Dépôts.

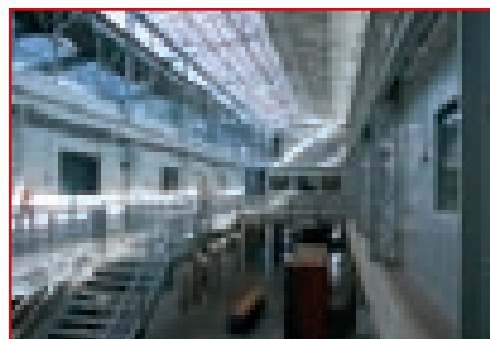


The future Shipyards' urban park



The Grey Titan Crane on the former Nantes Shipyards site - Île de Nantes

© Samoa - Vincent Jacques



The start-up park in a former Alstom industrial hall

# City of Tilburg Area Report

The **City of Tilburg** is situated in the southern part of the Netherlands. With more than 200,000 inhabitants, it is the sixth largest city in the Netherlands. Tilburg was dominated by the textile industry until the 1960s, but it has now developed into a modern (industrial) city with the accompanying cultural and educational facilities. People of approximately 125 different nationalities live and work together in the city and two of its surrounding villages (Berkel-Enschot and Udenhout). Tilburg has an important economic influence on the region with almost 8,000 (international) businesses, 1,100 hectares of industrial land and 460,000 square metres of office space. Tilburg is still growing: population growth between 1997 and 2005 was 8.8% (average growth in the Netherlands is 4%).

Tilburg chose to use two relatively small brownfield sites to test and demonstrate good practice methodologies developed through the REVIT project: one of the sites is Volt/Phoenix, which is located near the city centre; the other is Dirigentenlaan, located in the North of Tilburg. Despite their relatively small sizes (together approximately 15 hectares), a complex set of social, economic and environmental factors make them interesting sites that are ideal for developing and testing new processes and techniques. Tilburg is committed to the three main topics of REVIT: namely stakeholder engagement, Public Private Partnerships (PPP), and sustainable brownfield regeneration. However, the demonstration projects focus particularly on PPPs and sustainability. Stakeholder engagement processes are well-developed in this city and are already incorporated into Tilburg's administration functions, being widely expected for new development proposals.





## Stakeholder Engagement

In Tilburg, an area-specific working strategy is used to manage stakeholder engagement. This is based on four departments being responsible for their own, different, parts of the city. Staff within these teams deal with the aspirations and needs of the community, organisations and companies. This is undertaken within the boundaries of city policy. Professional staff actively seek joint solutions in the development and supervision of their respective areas. The advantage of this working method is that staff have ongoing stakeholder networks, from which "up to date" information is used to support compatible development proposals.

In addition, Tilburg has a special public participation regulation. This regulation states that the public concerned have the right to participate in every area of municipal policy. When new (spatial) plans are being developed, the mayor and aldermen decide which members of the public are likely to be affected and may therefore be invited to participate. On this basis, stakeholders are invited to participate if they will, or are likely to be affected by the proposed development, or if they have an interest in it. Where stakeholders are represented by organisations, the mayor and aldermen take an active role to work with these organisations to agree the most appropriate engagement procedures and processes.

The mayor and aldermen must provide information to invited stakeholders in such a way that they are able to understand the proposals and the procedures for engagement. The stakeholders concerned are given the opportunity to formulate supplementary issues, which are then considered for inclusion. A communication plan is developed and agreed for the planning of larger brownfield regeneration projects. This plan details how communication should take place throughout the project. At least every three months the communication plan is reviewed and, depending on the project plan, may be revised to take account of new issues. This plan defines the different target groups, the communication strategy, the internal and external communication clients and the different ways of communicating. The communication plan also provides a detailed agenda about when, where and with whom the communication should take place. This communication plan is supplementary to the official public participation regulation.

## Sustainable Brownfield Redevelopment

### The Environmental Profile Process and GPR Tool

It is essential to make an integrated approach towards achieving a desired quality for the living and built environment. Tilburg has developed three different tools that integrate environmental themes into spatial plans. These are: The Environmental Profile Process; the sustainable building tool (GPR); and the Industrial Estate Atlas.

The Environmental Profile Process brings together site-specific information, different disciplines, local challenges and six environmental themes (water, energy, material-use, waste, health, and living quality). Each time a site is to be evaluated for development, a workshop is set up to agree generic sustainable development targets for the area and to agree specific environmental



themes for the new buildings. Through this process evaluators are guided to describe the present state of environmental resources and to seek to inspire improved sustainable construction techniques. Pictures and quoted examples of good practice are used to trigger the imagination and stimulate planners, designers and architects to go beyond standard solutions. The six themes are included in a matrix to offer a dynamic overview to the project leader.

The sustainable building tool (GPR) is a software package that provides information, following data input from past examples, on the potential levels of sustainable attainment against the six environmental themes, based on the design and construction of new buildings.

These two tools enable planners, developers and designers to plan development of site-specific areas, as well as specific buildings, with an informed approach to environmental sustainability.



The five steps to this process are:-

- **Step 1** GIS-based analysis: all digitally available (environmental) data is collected
- **Step 2** Workshop: Different disciplines join in a workshop to discuss data, challenges and set priorities
- **Step 3** Based on a top-three priority, three themes are extensively described and illustrated in the profile
- **Step 4** A matrix is developed to provide an overview of indicators, ambitions, actions needed and relevant links to the sustainable building tool (GPR)
- **Step 5** GPR tool: Building-specific targets are verified using a digital tool against the themes of water, energy, material-use, waste, health, and living quality

In the case of the Volt/Phoenix area, the environmental profile process resulted in evaluators focusing on energy efficiency, noise reduction measures, and smart working and living combinations. As a result, specifications for new buildings have been required to have higher GPR scores; i.e. higher environmental targets for energy and water use.

### Industrial Estate Atlas

In 2006 Tilburg decided to update the information pertaining to twenty nine major brownfield areas in and around the city. New environmental information about these brownfields was also added. In order to obtain this information and undertake the updates, Tilburg developed a three-way strategy:

- obtain printed information and create a booklet
- obtain digitally accessible information and convert this to a pdf-file format, accompanied by maps and pictures
- obtain and provide information, via the geographic information system (GIS), on Tilburg's intranet and on the Internet

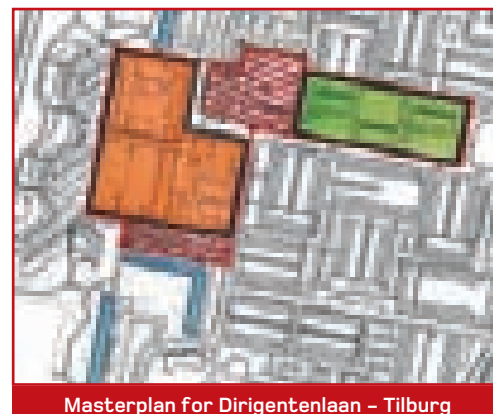
Tilburg has detailed the different sites on its GIS in order to provide up-to-date information to prospective clients on all its brownfield sites. The GIS map now includes brownfield-relevant information that has links to additional pdf-based information. This system also includes the outline of buildings, names them and describes their function. It allows for cross-referencing, thus providing a window into brownfield-relevant information even when this is not originally sought.

## Dirigentenlaan – Using the Neighbourhood Development Company

The brownfield Dirigentenlaan is situated in the Stokhasselt district, which is located in the north of Tilburg. This is part of a so-called “priority area”, given special attention as a result of below-average living conditions and employment. The revitalisation concept for Dirigentenlaan includes developments such as a new school that will also function, outside school hours, as a general facility for children. In addition, following the demolition of redundant business units, the plans for the site cater for new housing, integrated with appropriate small-scale business enterprises. The revitalisation of Dirigentenlaan is not a project in itself; it is part of an overall redevelopment programme for the Stokhasselt neighbourhood. This programme is based on a strategy, running from 2001 -2005, based on an action plan that lasts to 2015. The focus for the neighbourhood is to create better social, economic and environmental conditions for its inhabitants. Important measures of the plan are, for example, to introduce new and more expensive housing concepts; build a school that includes other functions; and create a better and safer public area for the inhabitants. This has been supported by social events that have been planned with, and by, local people. Stakeholder engagement, as stated earlier, has been essential during this part of the planning process.

The building corporation “Wonen Breburg” is an important stakeholder in the area. The corporation owns 90% of the rented houses in Stokhasselt. Without the commitment of the corporation, the redevelopment programme would be likely to fail. Because of this key role, “Wonen Breburg” has been directly involved, from the beginning, in formulating the action plan. During the planning process, all participants agreed to develop a new form of Public Private Partnership (PPP), and in 2005 the Neighbourhood Development Company (NDC) was founded, based on the partnership between The City of Tilburg and “Wonen Breburg”. Both parties signed a letter of intent to implement the first phase of the action plan for the redevelopment of Stokhasselt during the REVIT Annual Conference in Tilburg in 2005. The agreement and action plan provides for the spreading of the financial risks and benefits for parties (total funding 5.6 million Euros during Phase 1). This was the result of a negotiating process that lasted virtually two years.

The NDC is proving to be a useful instrument to solve financial issues and stimulate redevelopment. In addition, the inhabitants have been engaged in the action plan following the financial support provided by the partnership. In return, the NDC has shown commitment and consistency. The development of this new form of PPP, and use of the NDC, has proved to be an effective financial mechanism for the City of Tilburg. The REVIT programme, together with “Wonen Breburg” as a committed partner, has provided Tilburg with the opportunity to experiment with this mechanism. Based on this first positive experience in Stokhasselt, the City Council has committed to research the feasibility of developing NDC’s in neighbourhoods with similar circumstances.



Masterplan for Dirigentenlaan – Tilburg

## The Volt/Phoenix complex – PPP in practice

The Volt/Phoenix site is approximately 11 hectares and, although established by Philips, it remained unused for 10 years. Today the site has a diversity of functions, from private working areas, storage companies and small shops, to a go-kart centre. The site is generally of a poor quality, except the front building, which makes up part of Tilburg's industrial heritage. After Philips left the area, the former Academy of Journalism occupied the building; now it is in use as a facility for start-up enterprises.

Redevelopment of the site is urgently required. This is needed to save the industrial heritage on the site and to upgrade the area, replacing the run-down business units with new housing and innovative working areas. The site is unusual in that it has been classified a brownfield site whilst still functioning. One of the first improvements has been to the former monastery at the north of the site, which has been transformed into a residential building with an attractive garden. The site is very interesting from a social point of view, as it is situated in the middle of an old Tilburg neighbourhood called Broekhoven. All the actions and measures on the site will thus directly influence the surrounding neighbourhood.

The City of Tilburg planned to buy the Volt/Phoenix complex, but this was not successfully negotiated. On January 4th 2002, KDO Vastgoedontwikkeling, a private investor, became the owner of the Volt/Phoenix complex. Initially there was no intention that KDO Vastgoedontwikkeling would participate as partner in the REVIT consortium. The City of Tilburg and KDO Vastgoedontwikkeling have an agreement that, after redevelopment, parts of the Volt/Phoenix site owned by KDO Vastgoedontwikkeling would become public areas and be transferred to the City of Tilburg.

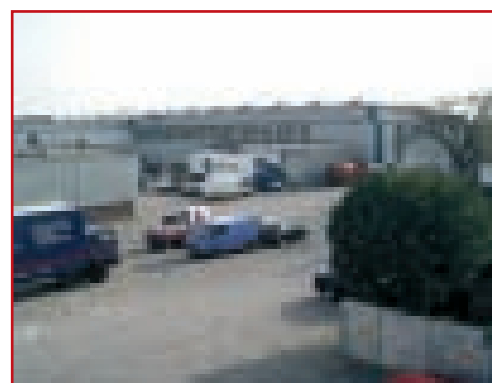
Due to changing circumstances, the partners foresaw that the completion of the site redevelopment by KDO Vastgoedontwikkeling would be delayed, including the transition of the remaining parts of the site to the City of Tilburg. To secure the investment and ambitions, KDO Vastgoedontwikkeling became a member of the REVIT consortium. In this new arrangement the private sector made a larger investment than originally planned. This model was based on that of SAMOA, the PPP that was established for redevelopment of the REVIT site in Nantes.

This injection of investment has resulted in the ground-remediation work being virtually complete. A contract partner has completed a technical feasibility study for the renovation of the former Academy of Journalism and this has led to the start of the first phase of the renovation of the industrial heritage site. Demolition of former industrial buildings on the Phoenix site has been completed. In addition, new housing, infrastructure and underground parking facilities on the Phoenix site have been implemented. The total investment to date has been approximately 4,5 million Euros. Thus the transformation has begun.

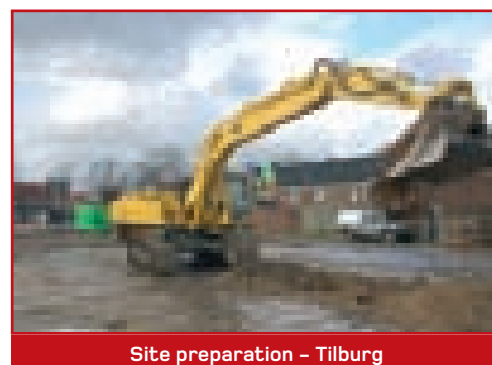
The PPP model used for Volt/Phoenix is different from Dirigentenlaan and just as effective. Although the City of Tilburg does not own the redevelopment area, partnership with a private party has helped to transform the brownfield Volt/Phoenix into a new and attractive area. Special demands from the City of Tilburg in terms of preserving the industrial heritage and integrating the site into the neighbourhood have been partly fulfilled. The financial contribution from the REVIT project has played an important role in overcoming key financial risks, and knowledge and experience from other REVIT partners have influenced the positive regeneration of this area.



The Volt/Phoenix complex – Tilburg



The Volt/Phoenix complex – Tilburg



Site preparation – Tilburg

# Municipality of Hengelo Area Report

## Hart van Zuid

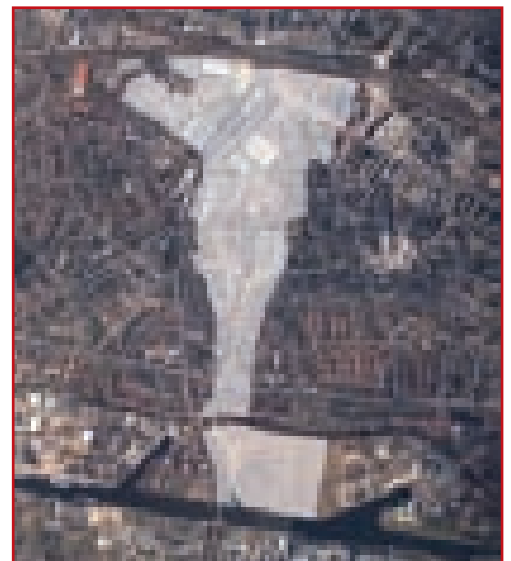
The Municipality of Hengelo (NL) lies in the eastern part of the Netherlands, near the German border. Hengelo is situated between the A1 and the A35 motorways and the Twente Canal.

Hengelo / Twente is part of the west–east gateway from de Randstad to Berlin. Amsterdam, Berlin, Copenhagen, Warsaw and Moscow are directly accessible from Hengelo’s international rail links. The city covers an area of 6,187 hectares and has 81,312 inhabitants. Hengelo has an appealing heritage, acquiring the name of “Metal City” from as early as the nineteenth century due to the achievements of companies like Stork and Dijkers. Hengelo remains the hub of the high-tech metallurgical industry. Existing buildings have lost their original function and vital parts of the industrial estate are no longer being utilised to their full potential. One of the constraints on redevelopment has been the transport of chlorine by rail from the chemical company Akzo, based in Hengelo. As a result it has not been possible to develop dwellings, a community college or leisure facilities in the area. The transport of chlorine by rail has been a problem for all municipalities on the railway routes, because of the hazards to the population in the event of an accident. Relocating the chlorine factory to Delfzijl has been the solution to this problem, since transport by ship is now possible. This was agreed at a national level and supported by the European Commission. On the 1st of January 2006, the chlorine factory started operations in Delfzijl.

**Hart van Zuid** is the revitalisation project of the former Stork-Dijkers complex. This project incorporates approximately 50 hectares of former industrial ground, adjacent to the town centre. It is one of the largest inner urban revitalisation projects of the Netherlands. The area is situated between the main railway station and the Twente Canal. In this area there will be space for new houses, offices, a community college, leisure facilities, a World Trade Centre office with hotel and congress facilities, a House for Europe, and other development proposals. This will be mixed with compatible industrial activities. The vision is for an area where people are able to live, work and play. New infrastructure, such as the Laan Hart van Zuid, is under development to improve accessibility to the area and to the central railway station.



Hengelo location



Aerial view of the Hart van Zuid area

## Industrial Heritage

### On Trails of the Past

Industrial heritage is a key aspect of Hart van Zuid. The research into the existing industrial heritage of the Hart van Zuid area was undertaken by civil historians, who analysed the existing buildings, including the structure of the entire area, and examined the historical, cultural and architectonic aspects. Studies showed that the Stork–Dijkers complex is of national significance. This implies that every effort should be made to maintain the essence of the complex and, where possible, to retain aspects of its physical form. This research led to the publication of the book “On Trails of the Past”, which is now used as a guide for redeveloping industrial heritage in the Hart van Zuid project: for instance, the former Foundry Hall, the “Weverij”, and “the Buigerij.”

### Covenant Industrial Heritage

All parties involved in redeveloping the Stork area signed a covenant to preserve the characteristics of this area. It was signed by the Netherlands department of conservation; the project supervising team; delegates of the local committee of monuments, Oversticht; the Municipality of Hengelo; and Van Wijnen Groep N.V. In this agreement there are eight characteristics which form the main points for preservation agreed by these parties:

1. Structure and pattern of former railroads and streets
2. Large interrelated factory buildings
3. Orientation of factory buildings
4. Relationships between objects and space
5. Inner space of some large factory buildings
6. Utility in architecture
7. Contrast between factories and houses
8. Borders of the former industrial area

The supervising team of Hart van Zuid (well-known architects and urban planners) will ensure that this agreement is enforced. Within this agreement the working group “Industrial Heritage Hart van Zuid”, have the flexibility to make choices in respect of the renovation of the interiors of existing buildings. This team consists of staff from the local authorities, the local committee for monuments, and two members of the supervising team.

### Community College

On 17th May 2006 the official start of building the community college was celebrated, preceding the Industrial Heritage Conference in Hart van Zuid. Demolition activities on the old Foundry Hall were completed and all that was left of the building was its foundation and steel carcass. In the period of 2006–2008 a community college will be built, accommodating approximately 6,000 students. The old Foundry Hall will function as the central hall for this college and will be open to the public during the day, so that people can appreciate the architecture of this building, not only from the outside, but from the inside as well.



Former Stork–Dijkers foundry building



Former Stork–Dijkers foundry undergoing renovation – Hengelo



Vision of new community college

## 't Heim / ERIH

The Twente technical museum, 't Heim, is located in the middle of the redevelopment area. It is accommodated in the former Wilhelminaschool, which was founded by Stork himself and used to be the company school. The building has been fully restored and was officially opened to the public on 17th November 2006. A new **European Route of Industrial Heritage** [ERIH] is being developed in the east of the Netherlands as part of the ERIH project: Hart van Zuid will be part of that route, and the museum is an official anchor point for it. Two industrial heritage routes have already been developed by the Bureau for Tourism in Twente. With this new ERIH route, an important milestone has been achieved for Hengelo in the REVIT programme.



## Financing

Inner urban transformation projects, such as Hart van Zuid, face extensive costs when compared to greenfield developments. The increased costs of regeneration are due to decontamination of oil and groundwater, demolition costs, and removal of existing underground and other infrastructure.

Hart van Zuid has the advantage that it is situated next to the city centre, which makes it more profitable to develop than other brownfield sites.

In line with the description of the ABC Model in the Chapter "Common Co-operation Results, Financing Techniques", Hart van Zuid can be defined as a typical C-site. The masterplan showed a deficit of approximately 40 million Euros. Without financial contributions from the government, the redevelopment would not have been possible.



In cases where regeneration costs are in excess of returns on investments, Public Private Partnerships (PPP) are inevitable. In the case of Hart van Zuid: a 50/50 split was established between Hengelo Municipality and the Van Wijnen Group. When defined in terms of the general description of PPPs, Hart van Zuid is a PPP Alliance, i.e. a Joint Venture. Hengelo and Van Wijnen jointly design the future of this brownfield site, and jointly initiate proposals. Risks and benefits related to land redevelopment, when they occur, are equally shared. Hengelo and Van Wijnen have agreed not to start any sub-area development if costs and revenues cannot be balanced. Currently both parties have been able to balance the first two sub-areas of Hart van Zuid. Cost reductions and additional funding from the municipality, the province and the national government, have helped to achieve a balanced redevelopment budget.





To date, the combination of the Hengelo Municipality and Van Wijnen has been successful. In many projects it is difficult to have a steady relationship in all phases of the process, from design to completion. For example: state aid and procurement regulations of the EU can interfere with stable working relationships, where time has been spent to build up trust, by the partnership having to accept new contractors based purely on cost advantages. This can be an impediment to private partners who participate in brownfield redevelopment projects.

The long duration of the transformation process also brings uncertainties in terms of political support. New local and national governments may alter their policies, which, in turn, might endanger the progress of the project; and/or may change or stop committed public funds.

It is very important to build continuously on mutual confidence and trust in these types of urban development projects, which often take 15-20 years to implement.

### **Sustainability**

Hengelo views sustainable development principals as a key issue in the redevelopment of its brownfield sites.

### **Heating Network**

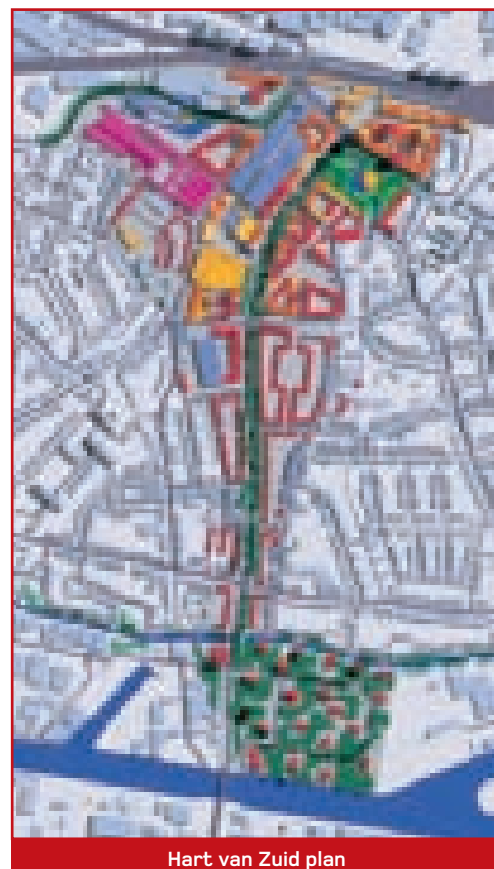
Several years ago the Municipality of Hengelo decided to develop an active policy towards the limitation of energy-use and reduction of carbon dioxide [CO<sub>2</sub>] emissions, having subscribed to the principals and targets of the Kyoto Agreement. To achieve these targets, Hengelo is planning a heating network, using heat from Twente: a waste processing plant. In the Hart van Zuid area, the new community college will be heated by this system.

### **Water management**

The Hart van Zuid area and the Berflo Es area both have extensive groundwater problems. The groundwater is too high and, in times of heavy rain, the streets are unable to cope with overflows. To solve these problems, new retention areas will be created (such as the pond in front of the ROC building). In addition, a special foundation for the roads, which can retain water, will be applied; coupled with re-using and reconnecting the small stream, the "Berflobeek", to take the run-off of excess water.

### **Stakeholder Engagement**

For the quality and the benefit of the project, the choice was made by the Hengelo Council to stimulate inhabitants to participate in the planning and execution process of the Hart van Zuid project. In addition to the regular national and local legal guidelines for participation, an addition effort has been made to build up open but structured engagement with stakeholders at early stages of the redevelopment process. The co-operation has proven to be fruitful over the years. An open channel for information sharing has added to the mutual understanding and quality of the plans, although some issues remain to be solved through formal participation procedures. The "Inhabitants' Foundation" has produced a plan for social structures in future residential areas, which are being used as input for detailed plans.



Hart van Zuid plan



## Final results Hart van Zuid

When the project Hart van Zuid is completed in 2018, 75,000 m<sup>2</sup> of offices, 2,000 new houses, and a community college of approximately 55,000 m<sup>2</sup>, will all have been created. There will be space for cultural activities of 20,000 m<sup>2</sup>, leisure 20,000 m<sup>2</sup>, retail 6,000 m<sup>2</sup>, social services 2,500 m<sup>2</sup>, and the catering industry will occupy 10,000 m<sup>2</sup>.

These proposals will be developed in 6 different areas: "Lansinkveld" is the first area to be developed: construction of this area has already started with the community college. In addition to the college, leisure, parking and residential facilities will be built.

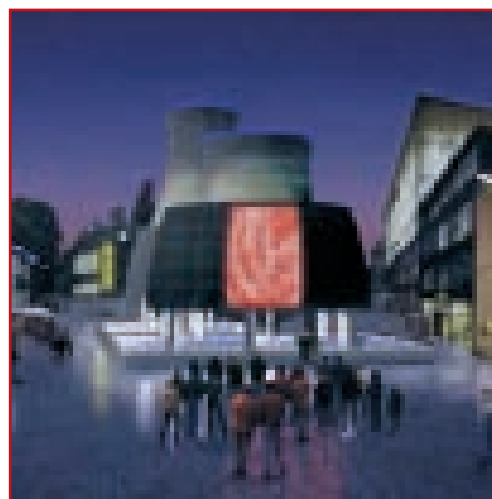
In the "Stationsgebied" area there is space for offices such as the World Trade Centre (WTC), Twente Metropool (a centre for music), congress facilities, a hotel, and a parking garage. The entrance on this side of the railway station will be upgraded from 4 metres to 12 metres wide, so that the two sides of the railway station will be better connected.

In the area "New Stork City", Stork will continue their existing activities on approximately 9 hectares, focusing on high-quality metal and electrical engineering products. The area "Craft, Culture and Industry" is destined for cultural development. In the same area, the technique museum 't Heim, Bengeltjesdorp (a play centre for children) and an art centre have been established, and there is space for laboratories, work-shops and exhibitions. Around these cultural facilities, catering and small retail shops will be developed.

"Woonstad" will be a residential area. Much of the new housing will be developed in this area, in three different categories.

"Stad aan het water" will be the last area to be developed. It is being planned for high-quality living, with a range of waterfront-related facilities. This area is also earmarked for industrial activity as a result of its good infrastructure.

The redevelopment of Hart van Zuid is a challenge, and presents an opportunity for the City of Hengelo to show how the REVITalising of brownfields contributes to the quality of the city.



Cooling towers integrated into new development  
- Hart van Zuid

# Medway Council Area Report

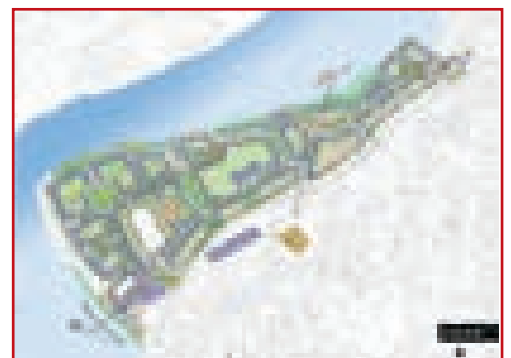
**Medway Council (UK)** covers a total area of about 268 km<sup>2</sup>, just 30 miles from the centre of London and 90 minutes from the Continent. Medway is one of the biggest and most significant urban areas in the south east outside London. It is also located in the Thames Gateway, the largest development project in Europe. Much of this land is owned or overseen by the South-East England Development Agency [SEEDA], which supports regeneration activities in the form of funding, expertise, and political support.

Although **Medway** is not a predominantly industrialised area, brownfields cover around 4.7% of the city's total surface area and are mainly located along the riverside. The "Medway Waterfront" includes priority brownfield sites that have been promoted for more than five years. The most important management issues on "Medway Waterfront" brownfield sites require ground remediation, flood protection and new infrastructure to facilitate a mixed use scheme and better integration. In addition, special design measures are required to maximise the waterside location and existing businesses need to be relocated.

The overall aim of Medway Council's regeneration policy is to create sustainable, integrated communities in high quality environments, utilising waterside locations and existing urban areas. To this end Medway created Medway Renaissance, a team within the Council, which is dedicated to this purpose. As a consequence, the REVIT investment project work focused on the revitalisation of Medway Waterfront sites, which have required an integrated remediation or flood protection activities and have included a high level of public/community involvement.



Rochester Riverside brownfield site – Medway



Masterplan for Rochester Riverside

The REVIT project has provided Medway with the opportunity to adopt a new model approach to stakeholder engagement in respect of integrating the new Medway Waterfront development proposals with existing and emerging communities. In addition, new sustainable approaches to flood defence have been implemented; as well also, remediation of contaminated land has been tackled through an integrated and innovative approach, using a suite of the most appropriate methods including processing soil on site.

Rochester Riverside is a flagship brownfield regeneration project in Medway, which forms part of the Thames Gateway growth area. The site comprises 30 hectares of land wholly owned by Medway Council and SEEDA. The site occupies a spur of reclaimed land on the southern bank of the River Medway and is bordered by the London to Dover railway line, which physically separates the site from the historic core of Rochester town centre. The site was previously industrial and included large-scale industrial structures: three large gas-holders (formerly the town gas works) and various other industrial buildings. Results of the chemical testing of the site indicated the presence of elevated levels of potentially hazardous substances such as metal, hydrocarbons and ground gases within the made ground, and to an extent the ground water, across parts of the site and especially in the area of the gas works.

### Identification of Appropriate Remediation Methods

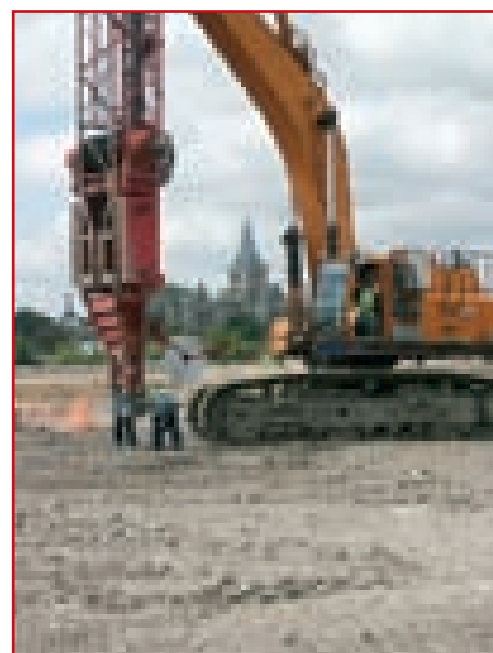
The landscape of Rochester Riverside has changed dramatically since the start of the REVIT project with the demolition of the three gas-holders. The treatment for decontaminating the former gas-land soil at the northern end of the site works was undertaken by introducing nutrients to heaps of soil. The treatment system is known as the “Ex-Situ Biopile Process”. This process involves installing a waterproof surface where the soil is deposited, and an air extraction system to ensure optimal treatment conditions in the soil pile (Biopile). The nutrients encourage the growth of micro-organisms within the heavily contaminated soil to break down the hydrocarbons left behind by the site’s industrial past. Bio-remediation solutions are typically at the lower end of cost for land remediation approaches and significantly lower than landfill prices for hazardous waste.

A water reservoir was also present to accumulate and manage process water. 100,000 cu m of soil in total was retained and treated on site. The re-use of soil has meant a reduced need for clean imported material. This process was approved and actively encouraged by the Environment Agency, as it avoided the removal of contaminated soil from the site and had the benefit of avoiding hundreds of lorry movements through Medway.

The “pump and treat” method for contaminated ground water remediation involved the extraction of ground water, cleansing via a staged process of carbon filters and chemical treatments and then returning the water to the ground. Approximately 600,000 cu m of water was treated using this process.



Settlement ponds: land remediation - Rochester Riverside



Rig installing band drains

## Flood Defence Models

The REVIT project has supported the review of methodologies, best practice and innovative solutions when designing flood defences, as well as the review of practical alternatives in respect of sites within the Medway Waterfront. The approach to dealing with potential flooding has included raising the land and building walls.

A vessel operated by Nuttall's joint venture partner Van Oord started the dredging process in April 2006 with a total of 400,000 cu m of sand being dredged from two locations in the Thames Estuary's Princes Channel. Every 2,000 cu m of dredged material contained some 8,000 cu m of water, taking about four hours to drain off. The sand, which was brought by boat to Rochester Riverside, was then discharged into a reception pit to allow water to drain off before being excavated from the pit and used to raise the land. Van Oord installed over 700,000 9-metre long vertical "band drains" made of a geotextile material, inserted vertically into the ground across the site, penetrating into the alluvium below the land-raised ground. These band drains allowed water to be removed more effectively from the alluvium, allowing the alluvium to naturally compress. This process helped to accelerate the settlement of the ground below the newly placed land-raise material and to ensure that the ground remains firm and even when development commences.

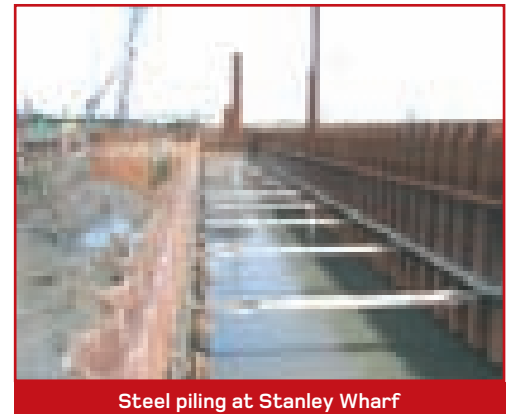
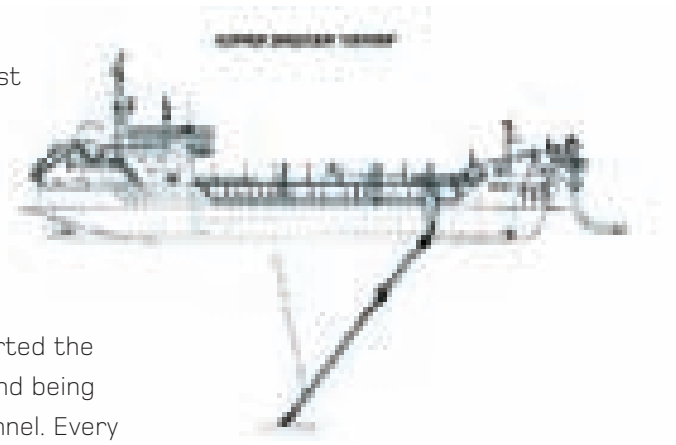
The land-raise is now complete from Doust Way to Blue Boar Creek and is settling in readiness for development. In addition the construction of the new 2.5km river wall as part of the Rochester Riverside's flood defences includes more than 1.5km of sheet piling and a concrete capping beam at the river's edge.

## Habitat Creation

The stretch of the River Medway adjacent to the site presented one of very few opportunities for saltmarsh to develop, due to extensive use of vertical flood defences. The existing creeks on the site were very constrained due to previous filling activities. It was thus proposed to widen these and make them a feature of the development, both ecologically and aesthetically.

Previous studies for saltmarsh and mudflat creation schemes found that the provision of creek systems stabilises the whole of inter-tidal systems. Providing brackish water habitats and saltmarsh, in conjunction with mudflats, accommodates the needs of locally important species such as spawning fish, roosting wading birds and a range of invertebrates that use the River Medway as a feeding habitat and movement corridor.

A saltmarsh terrace system is considered an important part of the flood defences. It allows for a more sensitive treatment than steel piling and results in no net loss of inter-tidal habitat. This approach has set a precedent for further "graduated" flood defences elsewhere along the Medway, which could have a long term cumulative improvement in the



ecological functioning of the Medway Estuary in more urban locations. The habitat creation works involved planting appropriate species that will colonise the newly created inter-tidal area.

In 2006 a competition was held in collaboration with the Kent Architecture Centre for the design of the creek bridges on the site. The exciting winning design by Birds Portchmouth Russum Architects will be built at Blue Boar Creek in the first development phase.

### Stakeholder Engagement

During the development and implementation of work to Rochester Riverside, Medway Council and developers have involved the local community; through engagement activities, sharing detailed proposals, and providing regular information on ongoing works through newsletters.

Stakeholders have visited exemplar projects and sites. Schools have been involved along with other key sectors of the community to ensure integration and develop ideas for how the community infrastructure works.

Architecture week saw the end of a schools project, which had been organised with six local schools. Young people had a chance to find out more about Rochester Riverside and work on projects related to it.

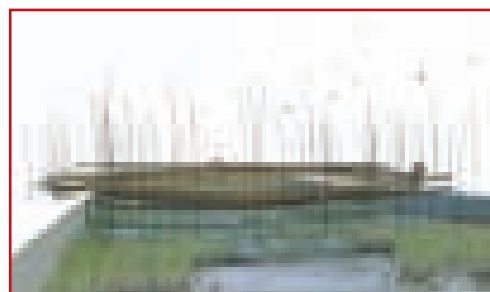
An audit took place of community facilities in and around the regeneration sites in Medway and this has enabled existing community infrastructure to be maximised and adequate new provision to be planned on site.

In addition, Medway has worked with the Medway Youth Parliament and secondary schools to engage young people in the redevelopment of the area. A small group of young people was also given the task of directing and producing a video as part of the REVIT programme, about how local people have got involved in regeneration. Both of these projects have enabled Medway Renaissance to build much needed relationships with the future generation of Medway.

Medway Renaissance's Social Regeneration Team, working together with colleagues from South East Planning Aid, who have provided training, have engaged with local communities in some areas surrounding the Medway Waterfront sites. The purpose is to ensure that these stakeholders are having their say and also benefiting from what is happening around them.

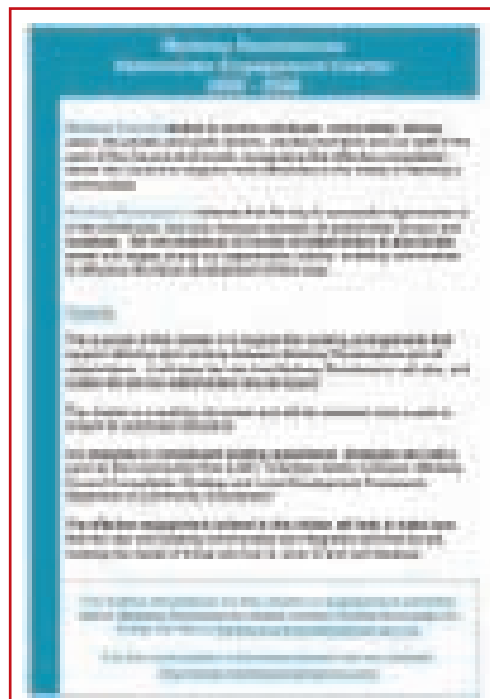
The Regeneration Framework for Medway and the Project Programme will make provision for community projects within a three-year forward plan. Medway Renaissance will also work alongside SEEDA in the distribution of grants under the devolved single pot (Area Investment Framework).

Medway Renaissance introduced its Stakeholder Engagement Charter, which outlines how the team will work with all stakeholders over the next year. This is the first of its kind in the Thames Gateway and will be monitored on the website.



Blue Boar Creek Bridges at Rochester Riverside

© Birds Portchmouth Russum Architects



Stakeholder Engagement Charter - Medway

## Sustainable Standards

In order to ensure that Rochester Riverside exceeds the latest Government regulations on sustainability, a Green Charter setting standards for the new development has been published. Developers will have to meet minimum requirements covering water usage, carbon dioxide emissions, sustainable building materials, timber sources, recycling and waste management. For example, the average daily water consumption in Britain is 155 litres per person. Under the Green Charter the future community at Rochester Riverside will aim to cut water consumption by up to a third per person. The Charter aims to beat Government targets on emissions from carbon dioxide, a key greenhouse gas, for buildings on the Rochester Riverside by an average of 12 per cent.

## River Economy Study

A study has been commissioned to investigate existing and future economic activity on the river and associated waterfront areas. This is being carried out in conjunction with SEEDA, who are actively supporting the Marine Sector in the South East. This study will enable a comprehensive picture of future needs for wharfage and river facilities to be developed, as well as an understanding of the integration of commercial, leisure and residential uses in the waterfront sites.



Remediation works – Rochester Riverside



Aerial vision for Rochester Riverside new development



Rochester Riverside undergoing reclamation

# Torfaen County Borough Council Area Report

**Torfaen County Borough Council (UK)** lies in the Eastern Valley of the former South Wales coal fields, covering an area of 12,546 hectares and supported by a population of over 91,000. Rural settlements mix with a range of urban conurbations, including former mining communities such as Blaenavon (Industrial Landscape World Heritage Site), the market town of Pontypool, and the New Town of Cwmbran.

Torfaen falls within the Objective 1 Area of the European Union. It has embarked on a substantial programme of regeneration: seeking potential large scale development opportunities, founded on previously used land, in order to improve the socio-economic prosperity of the area. Torfaen has identified an important need to collate information on all brownfield sites in order to assess the opportunities to regenerate these areas for commercial, recreational or housing use.

## **Brownfield Sites Asset Register**

Prior to the REVIT project, no detailed work had been undertaken to map, collate and analyse information regarding the extent of brownfield sites in the area, and their related issues or opportunities. The REVIT project has supported the development of a GIS tool, together with staff training to operate it. This now contains information on all issues related to existing brownfield sites in the area ("Brownfield Sites Asset Register"). The asset register has substantially assisted with developing proposals and development/regeneration decisions and now provides well-founded information to those applying for funds or attracting potential investors to the sites.

Torfaen staff from both the GIS unit and Environmental Protection visited Medway Council and the City of Stuttgart in the early stages of the project to view their brownfield GIS systems and incorporate good practice into the development of the Torfaen system. A full-time GIS officer has been employed by the project to record information on all the brownfield sites in Torfaen: now numbering over 1,800.

The datasets that have contributed to the mapping of brownfield sites include historical maps, habitat surveys and information on land ownership and contamination.

Working in partnership with Torfaen's Contaminated Land Officer has helped to verify the data recorded and to add further information in relation to key sites on issues such as the extent of contamination, likely receptors etc. Work is also continuing to record datasets on registered common land that may have had previous industrial uses, of which 50 have been fully verified and mapped.



"Brownfield Sites Asset Register" GIS - Torfaen



Distribution of brownfield sites - Torfaen



A new GIS layer has been developed for REVIT showing all the brownfield sites using “MapInfo” software, which is an industry standard GIS system. Tests of this system were undertaken on a large brownfield site in Torfaen, known as “The British”. This test shows various epochs of development on the site, set in layers, so that it is possible to map its history. This will assist with future development proposals for the site.

Key sites are being investigated in detail and additional information is being compiled on an on-going basis. This information is being used to inform the development of the new planning policy framework for Torfaen, known as the Local Development Plan, which will provide a strategic policy planning framework for the next fifteen years.

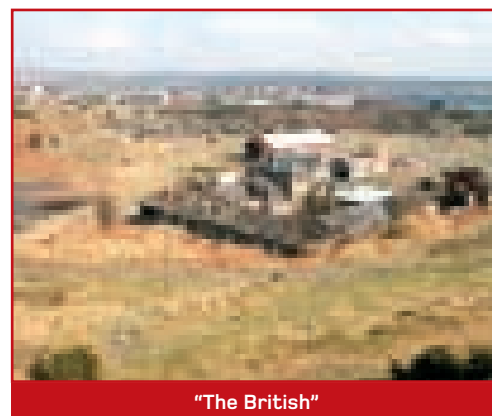
Torfaen is now the leading authority in Wales in respect of having detailed all its brownfield sites and collated the information on its GIS system.

In order for this information to be made more widely available to staff, the REVIT Project has purchased “GDC Planweb” software to hold and display the data collated. This has been made accessible to sections that will directly benefit from being able to view the emerging brownfield register and technical information contained within the register. The sections include Torfaen’s Planning Section (responsible for the formulation of the statutory Local Development Plan), Countryside and Ecology Section and Environmental Health Team. The Urban Regeneration Team, who have responsibility for developing and marketing key brownfield sites within the Borough for regeneration, are also able to access the software. The GIS officer has delivered one-to-one training to all officers with access to “GDC Planweb”.

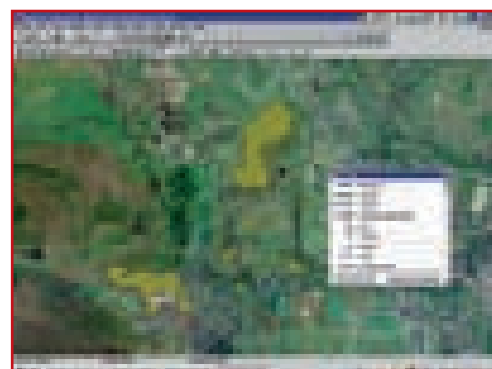
**“Clarence Corner” – A site ready for development**

The additional call for funding provided Torfaen with the opportunity to test the development and application of the REVIT methods on a brownfield redevelopment site that is part of a degraded sector of Pontypool Town Centre. Part of the area is on a disused gas depot where methods will have to be sought to remediate potential contamination. In the early stages of the development of the REVIT Stakeholder Engagement Toolkit, the “Clarence Corner” project provided a “live” project to test and consequently refine it during the first phase of stakeholder involvement. In addition, lessons learned from the Heritage Workshop have been integrated into the approach to preserving and promoting the local heritage. More substantially, REVIT has funded wildlife surveys on the site, including a bat, otter and fresh-water crayfish study, detailing the mitigation and other issues that will need to be addressed to protect these species when new development takes place.

This project is a partnership between the private and public sectors. The private sector took an active part in participating in the REVIT-developed gaming tool, “Speculate”. This tool gives participants training and information on the wide range of issues that have to be tackled when developing these complex partnerships. It was crucial to have representatives from the private sector actively participate in order to make the exercise “real”.



“The British”



Sample from Torfaen’s “Brownfield Sites Asset Register”



“Clarence Corner” Masterplan



A masterplan for the site has consequently been developed, together with a promotional audiovisual aid to market the site; and a full report has been completed, citing both good and poor practice in relation to the stakeholder engagement that has taken place to date.

### St Peter's School – Promoting Torfaen's Industrial Heritage

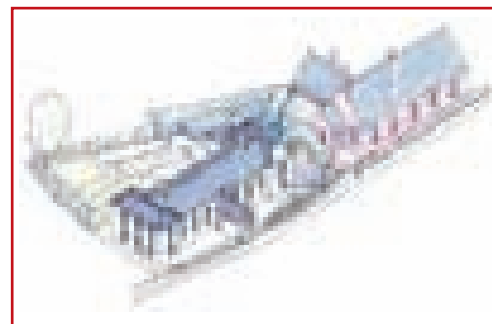
St Peter's School, a previously derelict building in the heart of the Blaenavon Industrial Landscape World Heritage Site, is being restored to become the "Blaenavon World Heritage Centre". The new centre will become the focal point of reference for the World Heritage Site, helping to orientate people both physically and intellectually. Interpretation at the World Heritage Centre will utilise technology to the full in explaining the background to the designation of Blaenavon as a World Heritage Site.

This project has been used as an exemplar project within the context of the REVIT project to show how redundant buildings can be revitalised, as well as showing how to promote the industrial heritage of a region and work in concert with the **European Route of Industrial Heritage** [ERIH] (Interreg) Project.

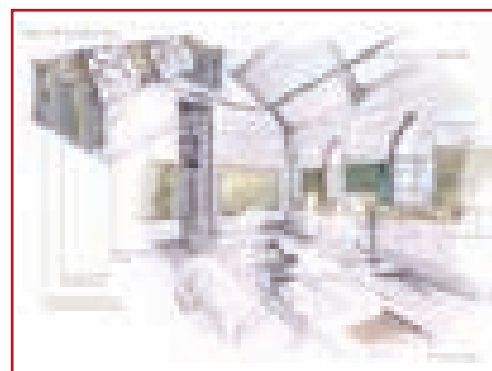
The centre will follow the broad theme of showing the significance of other World Heritage Sites in Britain, Europe and around the World, and the contribution that South Wales made to the industrial revolution. Various methods of interpretation and depths of information will be available for the different types of visitors who come to the site. Although there will be significant use of high quality traditional interpretation, e.g. display panels and printed information sheets, the interpretation at the centre will incorporate a high level of information technology. Multi-media presentations and interactive programmes will be used to maximise the opportunity to communicate the breadth and depth of available information about this unique and important World Heritage Site. The World Heritage Centre will offer a new and exciting education and life-long learning facility. It will also provide a range of learning opportunities related to the National Curriculum to formal education groups.

The use of practical hands-on sessions with educational groups will increase understanding and provide a "fun" element which also facilitates the learning process. It is anticipated that the Centre will inspire interest in the heritage and environment of the area among a wide section of the community, through promoting the centre's facilities and encouraging its use for a variety of cultural activities such as art exhibitions and re-enactments.

One of the key ecological issues encountered in the refurbishment of St Peter's School has been to accommodate local wildlife. After initial inspection by a bat ecologist, early signs of bat activity were confirmed. On closer investigation, signs of the Leisler's bat were found, in addition to three other species. This is the first record of this species in Wales (apart from a single record of a storm-blown Irish animal on Holyhead) and is therefore of considerable significance. A full bat survey was completed on the site and necessary mitigation measures have been put in place to accommodate two varieties of bat species that are known to roost there.



St Peter's School, Blaenavon



Blaenavon World Heritage Centre

## “The British” – Testing Stakeholder Engagement Tools

“The British” is one of the largest brownfield sites in South Wales, occupying over 500 hectares of land near Talywain, north of Pontypool. It has been subject to over 200 years of despoliation by heavy industry including several collieries, an ironworks and landfill operations. The site also comprises a significant “rural” hinterland made up of semi-natural vegetation, including some important habitats.

In 2006, Harmoni Development Ltd. (the developer), Torfaen County Borough Council (as the regeneration agency) and the Welsh Development Agency (as the reclamation agency) worked in partnership to secure the reclamation and redevelopment of the site. The Council wanted to ensure committed and meaningful engagement with the local community and other key stakeholders. To this end the engagement strategy followed the newly developed REVIT framework to build on best practice in terms of stakeholder engagement, information dissemination and a flexible approach to stakeholder engagement.

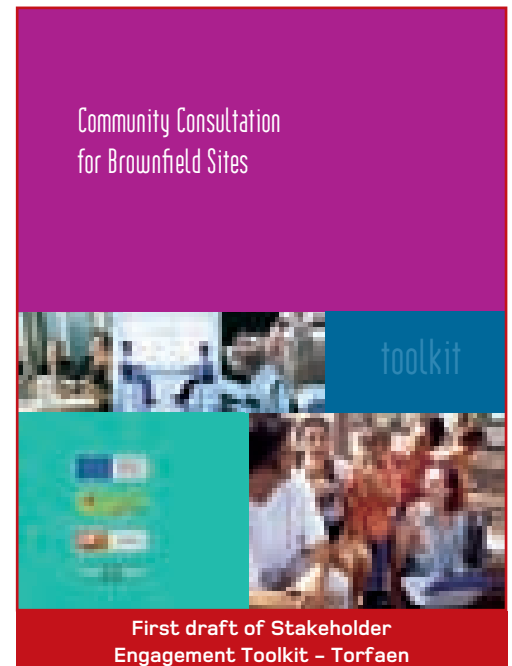
The briefing events involved a three stage process:

- A series of briefing workshops with stakeholders (landowners, local community representatives and statutory authorities)
- A co-ordinated series of workshops with the same groups to highlight the options for the reclamation and redevelopment of the site and their impacts and benefits
- A public exhibition and presentations to the general public illustrating the preferred development strategy

An Engagement Strategy and event plan were produced prior to the events. These documents were prepared through an iterative process. This documented approach was presented to the developer and the lead consultant early in the planning stages. The Engagement Strategy was made available for information to the parties involved in delivering the first stage engagement events. Personnel involved in the events discussed the purpose, scope and context of the events at meetings and a briefing workshop beforehand. They were clearly understood by the personnel leading and facilitating the events.

The events comprised three separate briefing workshops at different venues over a two-day period, at which key audience groups were presented with information and were asked for their feedback. This method was chosen to enable informed discussions to take place at venues convenient for each audience and provide opportunity for feedback in manageable-sized groups. The lead consultant acted as facilitator, supported by a mixed team of staff. An introductory presentation was given by the lead consultant with support from a senior representative Council officer. Discussions took place in break-out groups of 5-8, with each group supported by a facilitator to stimulate topics and record issues. Issues arising were then fed back to the lead facilitator, collated and briefly summarised back to the audience. Appraisal of the feedback forms suggests that this method was effective.

Appraisal of the stakeholder engagement feedback questionnaire forms indicates that a very large majority of the stakeholders either understood, or mostly understood, the information that was presented and discussed.



# Recommendations and Conclusions

The overall goal of REVIT is to generate a significant contribution to the increase of “efficiency” and “wider sustainability” of applied brownfield regeneration policies through transnational co-operation.

Brownfield revitalisation is often long-term, complex, and involves a wide range of professional disciplines, requiring active political support and an interface with different stakeholders throughout the lifetime of a project. A strong demand for newly developed space is a pre-requisite to starting the revitalisation process. However, the demand itself does not guarantee success. Brownfield sites generally have a negative image. In many cases they are linked to the decline of enterprises and associated jobs; in addition they can be related to declining social standards. Proposed changes of use may therefore be a strongly emotive issue. Single-site approaches tend to fail due to their location within deprived city quarters, which therefore require large scale, strategic approaches.



## Recommendations

A thorough analysis of the recommendations and conclusions drawn from the different project activities leads to two overarching key success factors. These are:

**1. Develop an effective communication strategy: include a plan for early and ongoing stakeholder engagement, a clear marketing strategy, and a strategy to gain political support.**

Targeted activities are needed to ensure early stakeholder and community support. This develops trust, provides information and will sustain the project through its long and sometimes difficult lifetime.

Accompanying activities should be undertaken to facilitate a process that gives a site a positive image and leads to the re-branding of an area. Such activities strongly link aspects of stakeholder engagement and marketing, which potentially stimulate each other if they are planned and executed professionally in a co-ordinated process. The project plan must have a clear communication strategy, linking technical issues and physical works on the sites with stakeholder engagement and marketing, in order to stimulate open dialogue and new ideas.

**2. Facilitate ongoing operational processes related to planning and development and ensure that this is co-ordinated and communicated at all levels.**

Communication is key to the often long-term operational and technical elements of a project. Co-operation and co-ordination of the various technical aspects and disciplines of the revitalisation process is inevitable. Well-structured informal planning processes enable an ongoing dialogue between technical experts, administrative staff, investors and developers in all phases of project development. Continuously planning activities and physical works on the site should be carefully examined regarding their potential benefits for marketing or community involvement and these should be fed back through a strategic communication process for consideration.

Transparency in co-operation and communication throughout the project is fundamental to building trust amongst the partners involved.

Lets get started!





Fields of activity at strategic and operational levels

## Conclusions

Specific conclusions can be drawn from the experience gathered through the project’s methodological and technical exercises:

**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. Sufficient budget and resources should be allocated. It is vital to obtain Institutional Buy-in to secure a sustainable engagement process and project development. The “REVIT Stakeholder Engagement Toolkit” provides guidance on how best to plan, manage, implement and evaluate stakeholder engagement.

**Marketing** brownfields needs a unique selling point [USP] and a positive image as a first step towards a focused marketing approach.

**Financing:** Public Private Partnerships [PPPs] should be considered as a financing model to bring about long term economic and sustainable land use for marginal brownfield sites. PPPs must have advantages for both partners, such as risk sharing and bringing together mutual expertise. Both parties must have a clear view beforehand of their expectations. Private partners should be selected in an open tendering procedure via a “competitive dialogue”. Trust, transparency and experience are key ingredients for projects to succeed.



**Industrial heritage** can be used as a key driver for regeneration and investment. It 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. It is essential to undertake a full assessment of the inventory and the specific conservation needs. Potential costs, special skills and resources for effective and sustainable restoration should be detailed at the beginning of a project to achieve consensus to future actions and uses of historic features, without compromising the integrity and cultural history of the site.

**Sustainable development** issues can be more challenging to deal with on brownfield sites than on standard urban development sites. A sustainable development assessment should be undertaken, followed by a management plan supported by processes for monitoring, reviewing and auditing. An environmental profile process, and related tools developed by Tilburg, present an example of good practice. High quality sustainable regeneration targets and processes should be used to maximise the marketing potential of redevelopment sites.

**Natural assets** can be important for local identity and raising awareness of environmental issues. Local legal frameworks may require a habitat management plan and monitoring of habitats to ensure their conservation and protection. This may require careful timing and specialist expertise, as well as sufficient budget to cover the cost of mitigation. This topic should be included in the development process from the beginning to ensure that it will not cause barriers in an advanced project phase.

**Remediation techniques:** Advanced site characterisation technologies and approaches are needed in order to achieve reliable site characterisation for large scale contaminated sites in a cost effective way. Life cycle assessment of the technologies is an essential step in every remedial planning process. Pilot tests should be considered in the site-specific technology selection.

Further conclusions reflect the experiences of the working groups at transnational level:

**Transnational partnership** is vital, as it provides mutual benefits for practitioners and enables people to learn from the differences in other countries. The added value from transnational co-operation is significant, since it enables benchmarking and the development of innovative practices, inspired from European partners' approaches. However, understanding the differences in political and cultural backgrounds of participants is essential for a successful exchange of knowledge in the field of administrative procedures, project management and project implementation/technology. There is no single "European approach/tool" which fits all; we have to learn from each other and share our experiences as widely as possible. Co-operation allows partners who face similar issues to accelerate their local projects by sharing ideas and building on common knowledge. Transnational networks allow local practitioners and decision makers to question issues which may not have been fully explored, allowing for potentially better solutions to be developed.



# REVIT Self-Guiding Trail

Information flow and continuous learning is crucial for any project's success. The outputs from the REVIT project are as manifold and complex as the revitalisation process of a brownfield site itself. REVIT has developed an innovative way to share the information gained from this project, to guide others through this complex network of information in a way that is easy to follow, but one that illustrates that the key REVIT issues are all inter-connected and should not be considered out of context of the whole.

The Internet-based "REVIT Self-Guiding Trail" is designed to provide experts, practitioners and students with a guided route to access information from the experiences, recommendations, new findings and innovative methodologies of the REVIT project. The information has been structured in such a way as to allow each visitor to find the appropriate detail of information they are looking for: through a tiered system of categorised information and links to documents, starting with simple recommendations and leading to more detailed documentation should the visitor wish to know more.

The "REVIT Self-Guiding Trail" starts with the recommendations that were developed for each specific key topic regarding brownfield redevelopment. From these core recommendations, the trail leads to the key facts on which the recommendations were built; developed through the methodological and technical exercises of the project. Thus, the visitor will understand the background as to why the recommendations were made. If more detailed information is needed, each key fact links through to original detailed reports or studies.

In addition to this guided route, short-cuts are also possible at each level. For example, from the main starting page there is a direct link to the detailed reports, by-passing the recommendations and key facts.

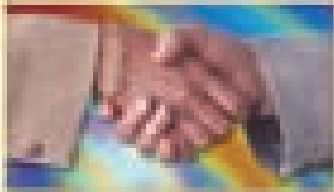
The trail can be accessed without time-consuming searches with keywords, and avoids the unintended participation that can occur through an interactive learning course, where often too much detail can result in a loss of sight for the essential facts.

The "REVIT Self-Guiding Trail" will be opened in autumn 2007, when all the project outputs will be available in electronic format and accessible free of charge via the Internet.

Contained in this will be:

- background studies
- reports on assessment of transnational formal/legal differences
- written presentations of best practice examples
- articles and lessons learnt from joint pilot projects
- checklists and toolkits

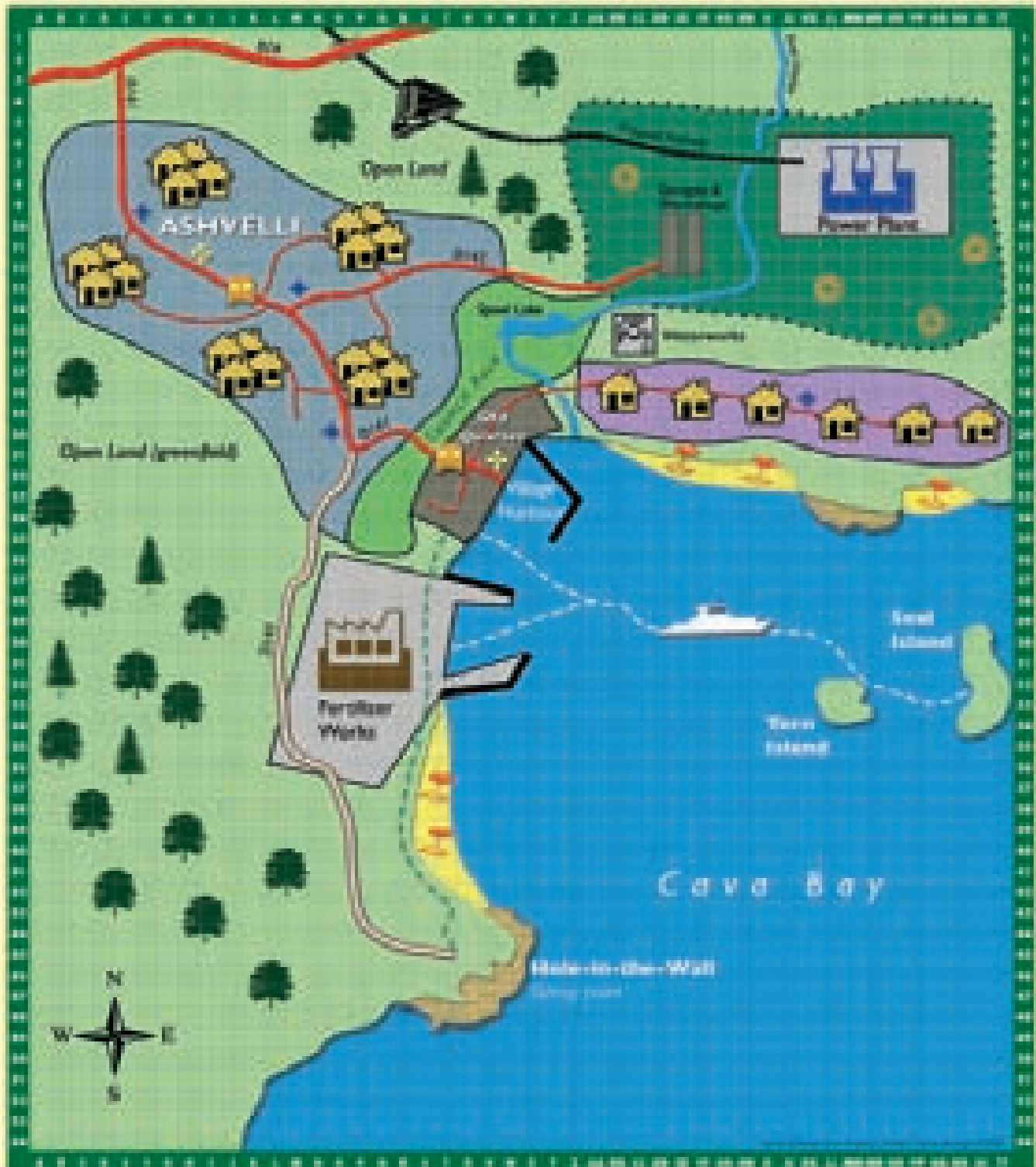
The main starting page will be at: [www.revit-nweurope.org/selfguidingtrail](http://www.revit-nweurope.org/selfguidingtrail)



# 'SPECULATE'

REVIT

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- |                           |                  |                                |
|---------------------------|------------------|--------------------------------|
| Main Roads                | Sandy Beach      | Council Park                   |
| Dirt Road                 | Rocky Headland   | Shipping Route                 |
| Low Income Housing        | Coastal Footpath | Bus Stop                       |
| Middle Income Housing     | Railway          | Corner Street/Compass Industry |
| Council Industrial Estate | Old Quarter      | Public House/Bar               |







*"The essential read, packed full of top tips and examples, if you are involved in brownfield redevelopment!"*

**The Brownfield Regeneration Magazine**

*"REVIT is one of the largest transnational projects funded by North West Europe's Interreg IIIB programme - brownfield site revitalisation is one of the largest urban development issues that have to be tackled by the EU!"*

**Thomas Zuegel – Stuttgart – Lead Partner (D)**

*"Brownfield redevelopment is a form of recycling at the high end of the spectrum; i.e. it is re-use, and is thus essential for the protection of greenfield sites - a major contributor to sustainable development, supporting the Lisbon Agenda!"*

**Dr Thomas Ertel (D)**

*"Public Private Partnerships are the key to unlocking potential brownfield sites for redevelopment - trust and transparency are essential ingredients for this to work."*

**ERA<sup>21</sup> Ltd. (UK)**

*"We must pay attention to initiatives from the field, be they public or private, and welcome them; most interesting opportunities and developments can spring from an open dialogue between stakeholders."*

**Laurent Théry, Director of SAMOA – Nantes (F)**

*"It essential to engage with the wide range of stakeholders as early as possible - they can be the best allies for brownfield redevelopment, as well as its worst enemy."*

**Erwin Lichtenberg – Tilburg (NL)**

*"Heritage and unique wildlife are nuggets to positively market brownfield sites."*

**Gerrard Jilleba – Hengelo (NL)**

*"Choose your team well - they will need to be there for the long haul and they will need to be able to deal with a variety of complex issues - some decisions will not be easy."*

**Wendy Mesher – Medway Renaissance (UK)**

*"International investment requires us to know the national differences in legislation, administration and cultural diversity - REVIT has given key insights to these."*

**Torfaen – Wales (UK)**

Further information can be found on the REVIT website: [www.revit-nweurope.org](http://www.revit-nweurope.org)  
and the REVIT Compendium, available from the Lead Partner:

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