The reuse of former industrial canal areas and the resultant regeneration of their waterfront implies investigating the ‘essence’ of the city and the distinctive character that these canal zones imparted to their city in the past.

The gradual abandonment of the factories resulted in the weakening of this character. Moreover, factories are being targeted for new developments, especially since they acquired a central position in the consolidated urban growth. As a good practice to relate the old to the new, the interpretation of transformation requires two goals: firstly, to create a link between design and industry in order to fully assess the potential of the materials’ engineering and possibility of reuse; secondly, to produce urban architecture integrating with the specificity of context and to highlight the values of the industrial heritage.

This was the aim of the Intensive program ELIR 2011, European Laboratory on Industrial Reuse, granted by the European Commission.

Professors and master students from various European Universities as well as from Turkey gathered at the Eindhoven University of Technology for two weeks. At the event they had the opportunity to analyze, discuss and formulate design proposals on the reuse of the former industrial canal zones of five Brabant cities, namely Eindhoven, Helmond, Tilburg, Breda and ’s-Hertogenbosch, located in the South of The Netherlands.

Therefore, this intensive program created an international platform of discussion on the different methods of reuse of industrial sites focusing on the strong relationship between education and profession, where the ‘making’ of architectural designs was the bridge between the two fields.

The Languages of Reuse includes a series of essays by the professors and experts participating in ELIR 2011 and also the design proposals elaborated during the international event. Hopefully, the book will be an inspiring source for designers on how to handle heritage values and people’s needs, while aiming at the same time at the preservation of the European cultural identity.
THE LANGUAGES OF REUSE
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Irene Curulli, Scientific Coordinator European Laboratory Industrial Reuse 2011
The theme of the Intensive program ELIR 2011, European Laboratory on Industrial Reuse, granted by the European Commission, concerned the knowledge of methods of architectural reuse in former industrial sites/buildings and their influence on the cultural heritage value. The international event aimed at strengthening adaptability/transformation of the built-up environment as the most sustainable and necessary strategy for our future through the comparison of the characteristics of industrial buildings, materials (concrete and brick) and methods of reuse in European countries. Moreover, the purpose was to acknowledge the heritage value of industrial buildings in Europe and to emphasize their architectural diversity and cultural significance within the European identity.

Professors and master students from various European Universities as well as from Turkey gathered at the Eindhoven University of Technology thanks to ELIR 2011 for two weeks. At the workshop they had the opportunity to analyse, discuss and formulate design proposals on the reuse of the former industrial canal zones of five Brabant cities, namely Eindhoven, Helmond, Tilburg, Breda and ’s-Hertogenbosch, located in the South of The Netherlands.

The reuse of former industrial canal areas and the resultant regeneration of their waterfront implies investigating the ‘essence’ of the city and the distinctive character that these canal zones imparted to their city in the past. The gradual abandonment of the factories resulted in the weakening of this character. Moreover, factories are being targeted for new developments, especially since they acquired a central position in the consolidated urban growth. As a good practice to relate the old to the new, the interpretation of transformation requires two goals: firstly, to create a link between design and industry in order to fully assess the potential of the materials’ engineering and possibility of reuse; secondly, to produce urban architecture integrating with the specificity of context and to highlight the values of the industrial heritage.

Therefore, ELIR started with the visit of the specific sites of intervention and the meeting of the representatives of the Municipality of each city. The Municipalities gave insights into the local problems and demands for the future of the canal areas. Practical experiments on materials were carried out in order to understand the technological characteristics and the potential in their reuse. Both activities formed the base for the work of the multicultural groups partaking in the workshop.

The issues involved in the topic of reuse are manifold. They range from historical (heritage) to cultural values, from the management of their activities to the relevant aesthetics (beauty of decay) of the industrial buildings, from their relationship with the water infrastructure (specifically, the canal zones) to the interpretation of their architectural details. The above-mentioned issues are strongly related to the theme of technological innovations on reuse as well as to the knowledge of materials. However, the exchange between the various fields is not as frequent as it should be; and this applies also to the multidisciplinary cooperation that the theme of reuse demands.

The research environment offered by Universities can contribute to this dialogue and address the subject from a different perspective, thus raising new and challenging matters on the design of reuse and the heritage values. The fundamentals of architecture, theory and practice, can therefore meet in the university.

At the ELIR workshop professors and students created an international platform of discussion on the different methods of reuse of industrial sites focussing on the strong relationship between education and profession, where the ‘making’ of architectural designs was the bridge between the two fields. By challenging theory with the demands and methods of the reuse practice, the Intensive Program established the foundations of both discussion and evaluation of opportunities as well as the discrepancies between education and practice.

Creative design proposals were formulated within the frame of this integrated approach. The teaching staff (16 professors and senior lecturers) and 66 students from different disciplines brought their expertise to the discussion, and benefited from working on
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The subject matter.

A theoretical and a practical one. In both sections, the topic of reuse as a sustainable strategy for the future of our cities is the subject matter.

The first part of the book aims at highlighting problems and possible solutions in the design of transformation of dismissed industrial sites. It includes a series of essays by the professors and experts participating in ELIR 2011. In the variety of design transformations presented, the participants critically analyzed the different meanings of reuse, pointing out the need of defining an appropriate philosophy (by Zbigniew Paszkowski).

The study cases included the canal branch in Glasgow by Dimitra Babalis, the reuse of the dismissed breweries in Belgium by Maria Leus, and the abandoned touristic infrastructures in the Alpine territory by Alexander Pfanzelt. Furthermore, the articles describe different planning methodologies for an adaptive reuse process of industrial heritage and also a teaching method (by Irene Curulli) aimed at raising awareness on the heritage value of industrial edifices.

This section also includes the lectures held during the one-afternoon seminar. The authors examined the effects of design interventions based on strict conservation strategies and dictated by the choice of the new functions. The study case in question concerned the reuse of two monumental textile factories in Finland (Anna-Maija Tuunanen) and the transformation of a periscope factory in The Netherlands (Remco Mulder). The understanding of the poetic of materials and their appropriate use in the bond between old and new were also core matters which questioned the success of projects of reuse. According to Dorette Eeiken (Heritage Brabant), the success of a project should be accompanied by the records of stories and memories of the factory workers. Accordingly, oral history plays a significant role in the conservation and reuse of the industrial heritage.

The second part illustrates the design proposals formulated during the workshop. The variety of ideas shows an outstanding level of critical appraisal of the theme of reuse through research and analysis. Moreover, the material expresses distinctive design approaches and high creativity in solving the complexities of the site/building. The projects do not only encompass architectural issues but also merge urban, historical and environmental ones with the people’s needs. Furthermore, the design proposals are indicative of the intellectual curiosity of the students towards the ‘adaptation’ of an existing context; and last but not least, they express the commitment and the character of each group.

This book consists of two interrelated parts: a theoretical and a practical one. In both sections, the topic of reuse as a sustainable strategy for the future of our cities is the subject matter.

The new strategic guidelines for the European Union and the Leipzig Charter on sustainable cities call for a proactive action both at the professional and educational level.
Therefore, the dissemination of these research results is an excellent opportunity to communicate and exchange new methods on the reuse of industrial sites and hopefully it will be an inspiring source for designers on how to handle heritage values and people’s needs, while aiming at the same time at the preservation of the European cultural identity.
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Cultural heritage and waterfront awareness

The industrial heritage is fully considered a phenomenon of great opportunity and complexity in terms of transformation and re-use of buildings and sites, which includes attitudes and values embedded in cultural approaches and processes that currently are taking a strong political, economic and social development.

In Scotland, the industrial landscape including former buildings and areas, brownfield sites, canal infrastructures and technological networks is subject of study that requires properly to be understood for future project approaches, cultural evaluation and environmental exploration. The renewed awareness for preservation and regeneration of sensitive and wide historic areas are now arising as a concrete debate in which local authorities together with planners, architects, developers and local people try to find appropriate choices for coordinated solutions of intervention.

Consequently, to revitalise the physical image of waterside buildings and sites, such as canalfronts, riverfronts, seafronts, with new policies intervention is the major goal that has long involved Scottish Government. In an attempt to regenerate those areas of rich historic and architecture values the majority of Scottish cities and towns are very much involved on developing visions, masterplans and projects.

Therefore, the development of new policies and strategies to protect and enhance the industrial heritage has to be considered mainly in well defined Conservation Areas in order to promote economic, social and environmental benefits. So, to increase and control the effects of this policy local authorities, where possible, adopt conservation areas as part of regeneration schemes to set priorities for preservation and reuse of industrial buildings and sites, already listed by Historic Scotland. In particular, such control is exercised in sensitive areas and within the planning process can determine quality of intervention. A specific phase of supervision to ensure quantitative and qualitative information to meet the needs of people is considered for re-development. Additionally, the main aim is to develop and implement a balanced design interventions possibly released by low environmental and energy impact.

It seems, therefore, important to underline that the Scottish planning and control system, even if it is based on the National Planning System, depends by the Scottish Executive and local planning; it is then managing by City Council. Local Plans are proposed with regard to urban land use while rules and design guidelines encourages coordination between public and private sector. In addition, conservation policies are essential to protect cultural heritage or appearance of which it is desirable to preserve or enhance. Planning authorities have a duty to publish proposals for the preservation or enhancement of chosen Conservation Areas.

The principles of selection are as follows:

- Areas of significant architectural or historic interest in terms of specific listed buildings and sites, of building groupings and open spaces;
- Areas with features of architectural or historic interest such as street pattern, planned towns and villages, waterfront sites and landscapes and other areas of distinctive architectural or historic character.

Canalside perspectives: The Glasgow Branch of the Forth and Clyde Canal

Canals, ways for transporting goods and people in the past, were also sites of industrial and commercial growth that due to competition with road and rail progressively declined and finally fell into disuse. Nowa-
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days, canals are recognised as heritage resources of great opportunities for regeneration, re-use and recreation. As post-industrial areas are characterised by urban and suburban fragmented elements of decline and so the design and enhancement of those areas should bring new perspective for urbanity. The most of the waterside areas are of special architectural and historic importance and of unique value within the wider context and present special condition for significant improvement. To determine architectural and historic values the regeneration strategies are aimed to improve urban and environmental quality and social integration.

Forth and Clyde Canal was one of Scotland’s most important industrial arteries and Glasgow’s international gateway. The Canal’s 35 miles were built in several stages from 1768 to 1793, with many locks and lock-gates. The Glasgow Branch of Forth and Clyde Canal of approximately 2.5 miles runs from Maryhill to Port Dundas. Thus, Forth and Clyde Canal has been for years a well-structured and efficient infrastructure system closely related to the shipping business for the transportation of goods across Central Scotland and into Edinburgh.

In 1840 the prosperity of the Canal continues with passenger transport until its gradual decline. With the construction of the Glasgow Branch in 1780, and the development of Port Dundas the entire area was developed several industrial activities such as mills, distilleries, sugar mills, foundries and other factories. Port Dundas has played in the second half of the Eighteenth Century a decisive role for commercial and transport and later on of local productivity. The recent history of decline begins in 1963 when the Canal is closed to transport.

Since the 1980s a Local Plan was prepared by the Glasgow City Council for regeneration along a number of sites of the Canal. The Plan for regeneration and re-opening of the Forth and Clyde Canal and the restoration of its locks set out the complexity of the context with solutions for restoring the old building and establishing “new rules” for the re-use of such buildings along Glasgow Branch. Part of the Glasgow Branch transformation was made possible by a Partnership of the British Waterways and the Local Authorities of Forth and Clyde Canal.

Certainly, the Forth and Clyde Local Plan, since from its adoption, identified the required actions for the full rehabilitation of the Canal, to be navigable and of great environmental significance. Accordingly, the Glasgow Branch was already re-opened and navigable while existing locks and lock-gates where replaced and new reconstructed bridges were built. This cultural heritage and landscape management added a new dimension for raising housing development, job opportunities, new commercial uses while evaluated and preserved its wider context. So the Glasgow Canal generated a waterside re-development with a consequent impact on the urban environment.

First-phase regeneration. The North Speirs Wharf

Conversion and restoration of the remaining canal-side stables and warehouses were considered a priority aim and appropriate new uses were decided. An important opportunity to improve the appearance together with the urban fabric to reinforce the character of North Speirs Wharf took place by preparing the planning guidelines on existing industrial buildings. However, one of the most important events of the whole waterfront project is the residential re-development of the listed Grade B and Grade A former Whisky Bond Warehouses, very close to the City Centre.

The North Speirs Wharf building group of ten Victorian listed buildings of distinctive character and variety of size are located on the left bank of the Glasgow Branch. Having the appearance of a single building, the first four buildings formed the main body of the industrial group built between 1851 and 1870, better known as the Grain Mills and Stores North Speirs Wharf.

It is seven-storey the Port Dundas Sugar Refinery, built in 1865, belonging to the last wing of the building group and has a neoclassical facade. The Sugar Mill is located adjacent to the Wheatsheaf Mills rebuilt in 1931 and developed into five-storey. The Georgian Canal House and Office Ticket, of great historical value, is located close to the Speirs Wharf’s building group. However, the entire group is introduced into a landscape
that recalls somewhat of the industrial architecture and is recognised in the category of warehouses with trends seen in the rationalisation of construction and decorative elements.

After the decline and before any proposed project for re-use, the first battle was to convince the Property and the Public Administration to save from demolition these buildings that had characterised the area for years. Recognised the historical value of the complex and listed as a category of buildings Grade A and Grade B, the recovery process was set up within a Local Plan, regenerating waterside spaces and revitalising old docks bringing urban vitality along the Canal. Following several proposals it was decided to facilitate the conversion into apartments, offices, shops and other facilities for community.

In 2006 a 300 m of the New Canal, and the New Basin and two lock structures are opened at Speirs Wharf in order to compete the fragment part of Glasgow Canal to Port Dundas, after 40 years of interruption. Work on the reconnection of the Glasgow Branch has been completed and the Council’s partnership with ISIS Waterside Regeneration stimulate further regeneration along the Canal Corridor. Furthermore, in April 2012 the former Whisky Bond is re-used into a creative factory as a place for artists and creative workspaces. This remarkable space can further join the growing Speirs Locks creative neighborhood, including National Theatre of Scotland, Royal Conservatoire of Scotland, Scottish Opera and the Glue Factory.

**Major sustainable regeneration actions:**

**Glasgow Canal Regeneration Project**

To present an overall impression of the conditions of some sensitive sites and to show how those particular places have to be developed and managed for the future the **Canal Environment Framework Tool (CEFT)**, is being developed to support managers, planners and developers. Further, for local people and to make them understand the undervalued resources of the Canal it includes information on Cultural Heritage, Habitats/Biodiversity, Open/Greenspace and Access, Landscape Character.

The **Glasgow Canal Regeneration Project** aims by the 2020 to create a strong Canalplace Community that can bring further benefits to the City. Sustainability principles are the widest sense of the projects for this European scale initiative. The Glasgow Canal Partnership Regeneration Area (a Joint Partnership between Glasgow City Council and ISIS Waterside Regeneration, supported by British Waterways Scotland) is formed since 2004. This area under regeneration runs from Port Dundas/Sighthill, close to the City Centre, to Maryhill Locks to the North of the City and out to Milton, Lambhill and Cadder.

A major re-development projects to regenerate communities were prepared by the Glasgow Canal Partnership Regeneration Area. **Maryhill Locks Masterplan** and Speirs Locks Masterplan have been approved and both have been named by the Scottish Government as part of the Scottish Sustainable Communities Initiative (SSCI) as ‘Exemplar’ projects, to promote and encourage sustainable communities. Both Canalside Masterplans are going to revitalise 1,000 acres of the Glasgow Branch bringing benefits to the local community while preserving cultural heritage.

**Masterplanning for a Creative Quarter.**

**Speirs Locks, Maryhill Locks and Port Dundas neighbourhoods**

A **Local Development Strategy (LDS)** for the Canal Corridor has been prepared identifying opportunities in specific areas for Ca-
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nalside development. The regeneration projects should bring real benefits in housing, business, leisure and tourism. The Scottish Government encouraged the Scottish Sustainable Communities Initiative (SSCI) to seek to achieve more sustainable forms and environmental standards of new housing-led developments and higher quality of built environment.

Speirs Locks Masterplan

In 2009 the Spiers Locks Masterplan has won the British Urban Regeneration Association (BURA) award for "Strategy and Masterplanning". The Masterplan is aimed to gradually change an industrial area into a creative neighbourhood where predominantly arts events can become an everyday attitude. Glasgow City Council worked with developers and existing community to create a coordinated and participatory Masterplan that covers a 14 hectare in the Glasgow North to create places to live and work. A range of opportunities with commercial leisure facilities and permanent and temporary artworks were developed.

In total the Plan proposes a mixed use (housing and commercial) in developing vacant sites alongside Glasgow Canal and a low-rise industrial estate. But the main aim of the framework was to create the cultural and creative hub within the refurbishment of existing buildings in the area and around the already existing spaces of Scottish Opera and GAMTA (Glasgow Academy of Musical Theatre Arts), including National Theatre of Scotland and the Royal Conservatoire.

The development at Spiers Locks represents an emerging transformation of the historic Spiers Locks Area into a well centered culture and performing arts neighbourhood, which can be more attractive at national and international significance. Additionally, the former Glue Factory is re-used to host exhibitions by Glasgow School of Art and Glasgow International. The ongoing regeneration along the Canal is highlighted for the high standard of sustainable design, offering new employment for local businesses and services whilst characterised by a collaboration of several organizations.

Maryhill Locks Masterplan

Maryhill Locks Masterplan offers an opportunity for a new canalside neighbourhoods' development creating an area of affordable housing, with a environmental quality of open spaces, shops and community uses. Infrastructure and heritage alongside the Canal well preserved are to becoming a contemporary Urban Village, including existing neighbourhoods. Bringing the historic core of Maryhill back to urbanity through active ground floor uses including community activities. A symbol of Maryhill's regeneration has to be seen the historic Whitehouse building, an opportunity for future local investment.

Port Dundas Vision

The closure in 2010 of the Port Dundas Distillery, owned by Diageo, is now becoming a great opportunity for new development and revitalization of the hill towns of Glasgow. An inspirational Masterplan is proposed as a great ambition for Glasgow City Council for a sustainable development in terms of environmental, social and economic dimension. The former Port Dundas area has the potential to be the new City Quarter along the 300 meters of the New Canal and the New Basin. The former Port Dundas indus-
trial site will become a mixed use development for Glasgow, and a crucial point of interest providing new homes and business. The main aim is to open up new links and connection to the surrounding existing residential areas through high quality initiatives.

In conclusion

*British Waterways Scotland* worked together with local authorities and other government agencies to protect and enhance the watersides along Glasgow Canal trying to generate investment for further sustainable regeneration. Consequently, *Glasgow Canal Project* had an enormous effect on the appearance and quality of the urban environment in the North of Glasgow. The impacts of these improvements have increased the activity of the re-opened canal and have introduced further placemaking. Meanwhile, the re-use of industrial buildings into residential activities have successfully improved the Canalside landscape, the preservation of cultural heritage including the engineering structures, such as locks and lock gates.

The good coordination between public and private sector brought not only environmental but economic benefits across the entire asset of the Canal. The appearance of the Canal today is the result of sustainable development that help to achievements of the past. The more recent integrative masterplanning of the watersides of the Canal will bring life but, still faces threats from new building development. Thereby, the Canal Corridor is now a contributor to the management of change and the Glasgow’s Canal regeneration has to be considered the link with the North Glasgow and countryside and of great potentiality for more change in the next future.
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BEYOND USE - ABANDONED BUILDINGS AS PART OF THE CONTEMPORARY LANDSCAPE

Alexander Pfanzelt / University of Innsbruck

In the 21st century we have built more environment than we actually need. Many reasons can be named for this situation. So we should open our discussion not only to the idea of reuse (recycling - very fashionable in an ecological argumentation) buildings, more relevant becomes the question in architecture how to deal with this waste-land (of abandoned, ruined buildings) in the future. To only discuss the options of reuse limits it to a mono view only on the functional purpose.

Within my dissertation “Beyond Use - Phenomena embedded in abandoned objects in the Alpine Territory between the Allgaeu Region and Lake Garda” abandoned objects were observed and an alternative solution how to deal with these leftovers as part of the landscape were established through a catalogue of typologies of the existing post-landscape situations. This leads to a new way of combining both landscape and buildings to a single instance – the environment.

This survey examines the open network of wastelands in the alpine territory, like touristic structures (hotels, ski-areas, skilifts), systems for energy production (mostly hydroelectric power stations), military (defence structures, roads, tracks and paths), industrial (factories, mining), agricultural and other formations – partly urban systems or landmarks. Most of them have been abandoned for years and reduced to almost nothing - “invisible” for residents and tourists.

The defunctionalized figures are studied on their relation between the surrounding nature and the object (mostly buildings). The focus of “Beyond Use” is on the phenomenon manifested in this specific, spatial situation between landscape and building. The analysis is based on a phenomenological approach, where categories and typologies are extracted out of the visual character on site. This research has to be seen as a critical and alternative approach for the development of future scenarios. This is a contribution for both fields the academic and the public discussion.

The situation is following; we are already in a post-landscape, where everything is continuously moving. As James Corner mentioned, "the revision of the very nature of landscape itself, rethinking what landscape actually is – or might yet become – as both idea and artefact."[1] The question we should ask ourselves should be more about our environment and how we construct territory today. In focussing on seeing and interpreting our surrounding environment in a critical manner we can create challenging contributions with manifold options.

Since the modern movement everything became landscape, if you refer to the countless terms (definitions) of it. This problem increases because of every individual, where every single instance has their own definition because of their own history. Originally the rural practices uses the existing realities on site and formed a local manifestation. This information is not
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there anymore because the ultimate wish (not only of architects) is to design and define everything as Malaparte answered to Rommel in 1942, “... the house had been there, but he had designed the landscape. Any work of architecture, before it is an object, is a transformation of the landscape.”[2]

The rural practices are completely ignored nowadays. Everything is observed from a pure functional perspective, which leads finally to the point where there is no demand they start a huge effort to do a renaturation. Leaving everything as it is will lead to Gilles Clément’s work about the “third landscape” were a new vegetation with a high biodiversity emerges. The “third landscape” is the nature of weed and counterpoint to urban planning and inversion of the occidental view.[3]

My forward-looking question for the future will be how to redesign reused buildings. To a certain point this will be still impossible, because the initial design comes from a specific demand, which still not exist for all these buildings anymore. This is a heterotopia situation. Therefore it is necessary to lift the discussion from a pure functional purpose for single buildings or small ensembles to that of our environment and see abandoned buildings not as an irritation, more as a part of our contemporary cultural landscape.

This research shows reality, how men dealt with the built environment and landscape in the past. To understand this post-landscape situation I have to quote Reyner Banham: “Oh! Well, I ... er ... stop the car and look at the scenery! Hm? I don’t think we have a category for that.”[4] So continue reusing buildings on the pure functional demands can be seen as the same failure as modernism tried to design according to Louis Sullivan’s “form follows function”.

Within this research we can state everything becomes landscape - the abandoned buildings too – and therefore we should think about the environment that surrounds us and our design initiatives should follow more the idea of “landscape urbanism”[5] and “landform buildings”[6] where landscape and nature become the driving forces. In using their creative potential will lead us to unexpected and exiting results.
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[5] the term landscape urbanism was initiated by Charles Waldheim in 1997. The tools of landscape design were adapted to urban design. See also aldheim, Charles (ed.): The landscape Urbanism Reader, Princeton Architectural Press, New York, 2006

"We should not live in a bright shining new future, any more than we should hide in a comfortable pastiche of the past. We must inhabit an ever-evolving present, motivated by the possibilities of change, restricted by the baggage of memory and experience" David Chipperfield [1].

1. Introduction

In the recent decades, reuse and revaluation of old industrial site are one of the most important issues many cities are confronted with. Due to the economic increase of scale, many industrial heritage buildings were torn down, even if they were listed as monuments. Despite their protected status some of these buildings were abandoned after the end of their industrial activities. Working with existing industrial buildings, repairing and restoring them for continued use has become a fascinating and creative challenge. But the conservation of industrial heritage sites can only be guaranteed by an appropriate reuse. The balance between minimal intervention in the historic relicts and maximal functionality for new uses is difficult and fragile. Therefore the following question arises: Does the industrial heritage site belong to a strange past or can we read and reuse this heritage in an innovative, intelligent way?

As Jane Jacobs stated that ‘new ideas must use old buildings’ [2], new functions for these vulnerable buildings have to revitalise the whole site and improve the quality of life of the host community by bringing new economic activities into the area. In addition, sustainability should be taken into account. All the environmental implications of demolition make reuse more attractive than rebuilding. Sherban Cantacuzino utters that not only are old buildings better at conserving energy, in terms of energy the actual work of repair and rehabilitation only costs a fraction of creating a new building [3].

2. Definition ‘adaptive reuse’

The definition for reuse from the American Heritage dictionary is “to use again, after a special treatment or processing”; to adapt is defined as “to make suitable to or fit for a specific use or situation” [4].

The aim of an adaptive reuse project is not only to analyse the current state of the art, but also to stipulate a strategy for the future. Transformation or/and modification can be used as methods to support a reuse strategy and process. Loss of the original function is the gateway for reuse of a building. The interventions are directed to reconvert and refurbish the building for a new function. The advantage of an adaptive reuse is that the characters and the atmosphere of the industrial buildings are preserved as well as the identity of the site.

However, reuse is a broad term that can be implemented in theory and in practice within different perspectives. Peter Nijhof distinguished different types of reuse. Reuse can address a different scale (an individual building or a site), duration (temporal or definitive), location (on site or in a museum) and style (minimum or maximum interventions) [5].

3. Adaptive reuse process

The reuse of industrial heritage is often focused on the heritage as an object but the implementation of an adaptive reuse process is even more important. The reuse of industrial heritage sites is a multi-factorial decision problem that must accommodate many criteria and values. History, culture, sociology, economy and technology, as well as sustainable aspects are the most important criteria.

This model shows the planning methodology for an adaptive reuse process of industrial heritage buildings. A framework for the different steps of the redesigning process.
represents the data, which can be influenced and reduces the complexity of the reuse problem by helping to understand the phenomena. A better understanding will lead to the best actions and gives the research a scientific essence. By describing the process of reuse, this model provides an insight into the factors that determine the success or failure of an adaptive reuse process.

The main question for the reuse strategy is: Which values and significances are so important that they must be implemented so that the values of this heritage are preserved for future generations? The assessment of heritage values is an essential part of an integrating conservation and revitalisation method for reuse projects [6]. The identification, evaluation and critical reflection on the values of industrial sites not only emphasize the importance of these sites for the host community but also justify the preservation of reuse and restoration strategies.

The eight so-called rhetorical characters or concepts as developed by Crimson Architectural Historians in their book Re-Arch, can act as a model for the designer’s point of view in a confrontation with historical heritage buildings [7]. For the intervention strategy, the approach by Cedric Price, an English architect, comprises the most important methods of transformation for existing buildings: reduction, addition, insertion, connection, demolition and expansion [8].

The multiple stream model introduced by John Kingdon gives an insight in the streams of development in which different stakeholders play an important role [9]. Stakeholders are key figures in the process of adaptive reuse. Stakeholders and their role in the realisation of the reuse project require understanding of the context in which these activities will take place.

The Riba plan of work is a very interesting framework that represents a logical sequence of actions and steps that have to be taken [10].

Brand outlines the difference of the construction process between a new building and a reuse project [11]. For the reuse project, the information level at the start of the process is significantly higher than the information that is available at the start of a new project. Within a reuse project this information concerns important heritage requirements, such as values and significances, which impose considerable restrictions. For example, the adaptations of the existing structure. The influence of the other building phases, on the final result remains relatively unchanged. This means that the solution area for the reuse project is much more limited than for a new project. This requires a strict goal oriented research into acceptable and feasible adaptations. The program and the conceptual and design phase have the most important influence on the quality of the final result.

4. Case studies two breweries in Belgium, Wiels and Lamot

The reuse of two breweries in Belgium illustrates the success of an adaptive reuse process. At first, both breweries were witnesses of unloved industrial heritage, after the reuse process these breweries act as motors for the revitalisation of the built environment. The economic, functional and physical lifespan of these buildings was considered in relation with the diversity of values, which led to a socially accepted reuse. Later on, the reuse was evaluated by means of models, which describe the process of reuse and give insights on factors, which determine the success or failure of the renewal. These reuse projects can act as examples when managing future renewal projects.

The brewery Wiels in Brussels, a modernistic building which is a listed monument, is reused as an international laboratory for the creation and the diffusion of contemporary art. The architects chose for a reuse strategy based on the less radical design that adopts the design philosophy of Mies van der Rohe, less is more, to strengthen the position of this building as a landmark. For Wiels a policy window was opened due to the interest and support of the famous international artist Luc Tuymans. This was the start for a revival of the building and its district. This supports the vision of Sharon Zukin, who pointed out the important pioneer role of artists and innovative entrepreneurs in the reuse of industrial heritage buildings [12].

The brewery Lamot in Mechelen, which is not protected as a monument is reused as a conference and heritage centre, a hybrid building with a mix of congress and cultural facilities. For the concept of the redesign the architects recapulate the design mentality of the original designers, the brewers. They added new interventions in a rational way, being as pragmatic as the former brewers had been; every new extension was stuck to the existing building. The construction parts, which were no longer sufficient, were demolished and replaced by new buildings. The oldest part with the brewing kettles, approximately one eighth of the former complex, was in a relatively good condition and
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4. Conclusions

Reuse of industrial buildings does not just intend to fill in an abandoned and empty building. It demands for a vision and concept for a new identity within a social perspective. An adequate adaptive reuse strategy not only searches for the meaning of these industrial buildings in the past but also tries to give an answer to the question towards the contemporary identity. The success of a reuse project for industrial heritage depends on different criteria and perspectives for the evaluation of industrial heritage. With advances in technology, everything is developing rapidly. This underlines the importance to decide which heritage we want to preserve as a valuable witnesses of the evolution of our social political and cultural life for future generations.
References


Fig. 4 (top) The old brewery Lamot
Fig. 5 (bottom) Lamot brewery reused as a conference and heritage (photo©Stadsarchief Mechelen)
The climatic circumstances have caused the need to build shelters in order to secure those human functions, which cannot be fulfilled in the outdoor situation. In many cases the natural caves have been reused for shelter purposes. Many times, in the history of the build environment, the structures have been demolished by natural forces or as result of conscious human actions. A lot of buildings underwent decay due to time and nature. Those buildings, which have been left from the past were lucky to survive and witness the history of our civilization. In most cases they deserve protection and care. The best care is possible with the appropriate reuse of the build structure. It is obvious, that unused buildings are much more pliant for the decay processes.

It is also necessary to remember, that natural disasters, epidemics and wars have killed through out the history, big parts of the population, leaving built structures with no current use or causing their eradication. All these cases have caused abandonment of the built structures. Due to those different reasons, abandoned or unused buildings, have always accompanied the urban development. Even now, in the time of relevant prosperity and peace, thousands of abandoned buildings and places (such as brown fields and blue fields) are present in the urban structures. Therefore the problem of reuse, in its variety, concerns not only the singular objects, but is also constitutes philosophical, cultural and political problems, which have to be seriously taken into account in the planning process of the urban development.

What is “the reuse”? Reuse - means to take again the built structures or the built land, which have already been used and have expired their functionality and to give them new functions by repair, conservation, transformation, addition of new elements and by functionally adapting to new technological or functional processes as well as contemporary or future needs.

Nowadays several approaches concerning the problem of unused built structures can be selected. The first one, based on economic calculation, tends to eradicate the unused built structures, in order to reclaim the land for new development and to construct new buildings according to the contemporary needs, not looking at all to the past but towards the future. This method is used in the cases, in which the built structures have minor values while the value of the land is of much more importance. This method was applied in the redevelopment of the HafenCity in Hamburg, where all the buildings in the planned development area have been moved away. Only the great storage building, was converted, and was transformed into the Philharmonics building (The project was done by the architecture office Herzog & de Meuron). This approach allows the radical transformation of the substance of the urbanized areas, the renewal of their image and the modernization of the infrastructure. The land with a profitable location will be reused at the urban continuity and the historical context will be erased.

The second approach is based on the reuse of the old built structures by adapting them to new uses.

The application of the philosophy of reuse is an important issue for the process of the improvement of cities. First of all, the reuse...
contributes to the overall sustainability, by reducing the resources, which are needed to destroy old structures and erect new ones. It gives a sense of continuity, which is needed in order to strengthen the identity of a place and its historical value.

There are many ways, in which the philosophy of reuse can be applied:

1. The new use is introduced into the existing structure, with very limited, or even no interventions. In this case, only the material substance or existing structures are used, mainly for temporary needs, with no major intervention to the structure or infrastructure. This approach proves some similarities to the parasite behaviour, by using structures, created by other bodies and created for different purposes.

2. There is a partial intervention into the existing structure. It can concern the hidden elements of the technical infrastructure or the static reinforcement in order to keep the functionality of the buildings. In this case the outlook of the building remains the same and the created interventions are hidden or blend in.

3. In some cases the reuse is limited to some elements of the building, while the rest of it is dismantled and removed. In many cases the whole structure of the internal part of the building is removed with the exception of the elevations, which are preserved and protected. This methodology is applied at the renovation process in several old European cities, like Vilnius, Malaga, Lisbon and many others.

4. The new use can be implemented also in the building, which is listed and protected by monumental conservation and protected by authority. It is obvious, that there is a strong demand for preservation of the cultural continuity in the built structures. Some of the historic buildings should be protected as witnesses of history and memorials of culture as well as important historic events. In this case the implementation of new function is strongly restricted. The new uses and the way in which they are implemented, are strongly controlled by the conservation authority. Reuse philosophy is in this case a necessary tool, but it has to be carefully examined in order to comply with the conservation rules.

Between the new and the reused structures of a building, interesting relations can be observed. Depending on the importance of the size and the value, the historic reused elements can play the dominant role but they can also play just the decorative one. New additions can build continuative elements, coping the old shapes and scales or by underlining the style and difference of time from the historic parts.

In many cases the parts of the reused building, despite their constructive role, play only the role of “tale speakers” and are used to enrich the new architecture with their historic perspective. The stories and legends, became easier to understand, when combined with the old built structures as they are enriching the perception of the buildings. Often those left-over structures are highlighted by the contrasting old – new relation or by effectively placed illumination, which highlights the most valuable and decorative elements of the structure.

Old structures and historic decorative elements applied in modern buildings play different roles than the ones they originally did. They are meant to be treated as “means of transmission for knowledge” instead of constructive or decorative elements. They transmit the “past” to the present times, and they can be seen as “archeological artefacts” in “in situ” museum. This transfers the significance of the historic elements in the new buildings: new meanings, new relations between old parts and the contemporary additions as well as spatial changes.

This over described “shift of significance” can be observed firstly in all objects, which have lost their sense of existence, becoming only witnesses of the life of the past. These are mostly structures like fortifications of all type, ancient palaces or temples and in recent times factories and port facilities of the industrial revolution. In these cases the main responsibility for the change lays in the technology, which was the driving force of the development of the industrial architecture. The demands, norms and technologies of this type of architecture have dramatically changed, leaving behind unused and often unusable structures. Some of those elements, like port cranes, now, have only the role of landscape artefacts as they are not able to be reused for any contemporary purpose. Fortunately, some technological objects built in the past can still be reused with great success. One of the examples are the Dutch industrial canals, which have been built in order to supply water to the textile factories. These deserted canals can easily be used now in the city planning as important feature of identification as well as cityscape component of great aesthetic and practical value.

Reuse has greater significance and not only monumental preservation. It gives consciousness of time-span and time-flow, it makes it possible to place us within the realm of culture and it enables the dialogue
The functional reuse of the buildings with historical significance means, in most cases, the reduction of the functional comfort. The reasons are, most of the time, the hard-adaptive schemes of the historic buildings, which randomly fulfil, in a wider sense, the demands of the investors, users as well as of the contemporary building laws. Therefore, the functional schemes of the reused buildings are mostly “exceptional”, innovative, different, evoking history, but often requiring extra permissions or releases from the building code.

It is also important to mention the problem of finding the right new function, to be implemented in the old building or on some extraordinary territory. Especially the sacral buildings (like churches, synagogues and mosque’s), places of religious or historic cult, as well as various types of cemeteries, have a special significance for the culture of the societies, nations and religious groups. Even if no longer in use or even destroyed, the sacral or cultural factor should dominate over the economic preferences. This aspect of reuse is worth mentioning especially in the Netherlands, where one can find many examples of reused churches with different public or private functions, regardless of the spiritual significance and once sacral purposes that the buildings served. This can harm the spiritual feelings of the more sensitive citizen. In certain religions, this type of reuse, is simply forbidden. The new function of the reused buildings should be appropriate and fair toward the old structures as well as the cultural, social and political role, which they have originally played in the structure of the urban environment.

In conclusion, it is important to say, that for architects the “psychology of reuse” is a way of contesting the philosophy of “the brand new”, be it ideas, forms or lifestyles, with absolutely no relevance to all which has created our material history. It often happens, that the brand new novelty becomes older, even quicker than everything else. Elements of reuse are already established in the social consciousness and most of the time they bring positive responses from the inhabitants as well as from the critics.

“Reuse” in a larger sense, means “energy-saving”, it means to sit back, relax, slow down, rethink and be happy with many of the things, that surround you, trying to make their existence useful and positive for your activity.
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Fig. 4 Shop in Cracow (Poland). Reuse of the old city palest for commercial purposes. Introduction of new structures inside the building and exposition of the authentic masonry wall. Photo by Z. Paszkowski
SEMINAR: REUSE, HERGEBRUIK, RIUSO,…
THE LANGUAGE OF REUSE. FROM PRACTICE TO THEORY.

The term ‘reuse’ is intimately linked to the word ‘design’: design that aims to discover, to make use of and safeguard our architectural past. The proliferation of projects and concrete interventions makes evident the variety of conceptual approaches in reuse: by adopting, integrating or rejecting the idioms of the existing building or sites designers or planners express their personal style. However, these projects display also the different cultural backgrounds of the countries were the projects are conceived: their different approach to history and memory, to technology, to descriptive or prescriptive rules, to influences by local or national procedures, to adaptation to building/technical requirements,…

Starting from projects already realised or about to be started, the seminar will provide a debate during which speakers from different European countries will engage a discussion on the different languages of reuse. How do cultural differences influence the approach to this theme? Can we talk of one common language? As educators of future designers or theorists, can we envision a platform of discussion that goes beyond ‘differences’?

Certainly the theme is complex and a few-hour seminar cannot comprehensively address all issues. Nevertheless, the discussion will offer the opportunity to schedule future meetings able to propose an unprecedented weaving among the languages of reuse.

Lectures:
Introduction of the topic by Irene Curulli, coordinator ELIR 2011
Case studies, explanations by the participants:
- ir.R. Mulder, diederendirrix architects: Nedinisco monument Venlo
- D.Eeken, Erfgoed Brabant: Stones & stories: the stories behind industrial heritage
- Prof.A.Tuunanen, Univ.Tampere: Finland: 2 textile factories-2 different approaches
- Discussion, moderator: ir.Erna van Holland, Brabant Academy
The reuse of industrial heritage is such an interesting subject because there are so many different ways to approach it. There is not one single way for any building, site or project. The way to find the path concerning your own project is by finding inspiration in the examples of others. Architecture inspires architecture. The seminar has chosen to give insight in three totally different projects and approaches.

Mr. R. Mulder (Diederendirrix) presented the new plans for the Nedinsco Monument in Venlo. For those who know the industrial heritage in Eindhoven, the building resembles the White Lady, the light bulb factory in the center of the city. In both projects not just the building is the starting point, but the mental site. There is a challenging relationship between urban spaces, the architecture and the people. The Nedinsco building was a secret subsidiary of Carl Zeiss (Jena, Germany), a leading manufacturer of high quality optical instruments. The building changed with the alternating functions, many additions were made and its’ history can be read on the facades. The choice that had to be made is: must we still read the history in the facades after the transformation. The architects diederendirrix chose for a different direction, the inside of the building will tell the history. The interior is kept natural and rough and the insulation is put on the outside of the facade.

A totally different approach towards industrial heritage is to find the stories behind the buildings and sites. For quite often the stones or buildings might have been partly or totally demolished. But heritage cannot only be found in the stones or physical remains. The stories of the people who have worked in these buildings bring the heritage to life. Mrs. D. Eeeken (Erfgoed Brabant) has made a project of finding these stories. Imagine putting a bench in front of a desolated industrial complex and inviting the old employees to come and reminisce. The stories will tell how the buildings and the site were used. The logistics of the factory will come clear and emotions are added to the physical remains. And stories are a beautiful way of keeping the memories alive.

Mrs. A.M. Tuunanen shows two different approaches for two textile factories in Finland. The Finlayson factory in Tampere was a huge site for manufacture and became a city within a city. The temporary use of the factory after the closure in the 1980’s proved that even behind walls it was a site that belonged to the city. The people of the city invaded the site, added new functions of which quite a few illegal ones. But with these activities the fundament was made for the later transformation of the buildings. The municipality was in the lead in the transformation of the other textile factory Verkatehdas. Quite a few of the same functions of the Finalyson factory found a new place here, but the approach was quite different. The architects chose for a big contrast between the old buildings and the new ones. The link with the historical use of the buildings was made by a textile structured metal skin facade.

The audience questioned the reuse of buildings in general. Should buildings always be reused? What are the arguments that make the architect chose for transformation and not demolition? Is it not true that transformation is not cheaper than a new building?

A lot of inspiration is found in the old buildings and its history. It gives the opportunity to give the building a unique character, no matter the choice of how the transformation will take place: either very delicate and respectful or more in contrast. You have an identity to start with; you do not have to start from scratch. Sustainability is an often used as an argument for transforming existing buildings. But opponents do not agree, as the use of energy to heat or cool will probably be much higher than for new buildings. The architects should be the party to investigate the possibilities of transformation. With the help of historians not only the buildings and the site can be documented, but also the use in time. Inspiration can be found either in the functions, the urban planning, the landscape, the buildings, the materials or the mental site. Then the possibilities of a gentle transformation or an approach of contrast can be made visible as well as the possibility of making an entire new building. It is then up to the architect to convince his investor which choice to make.

Why should all the research be necessary
if the architect knows that transformation is not the best option?

It is the responsibility of the owner to document the building or site as he is the last owner before demolition or transformation. But it is not only for the sake of history. Quite often the demolition or transformation is an emotional process for those who have worked or lived in these buildings. It can prove to be wise to give these people the time and opportunity to tell their stories and give space for their emotions. In the Netherlands a permit to demolish a building is published publicly and people have the opportunity to disapprove. If people have taken part in the research, they get used to the idea that things will change and will not disapprove the permit. And the stories can be of use for the investor, historian and architect as mrs. D. Eeken has explained.

I conclude that the architects have a very important role in the future to help the investors decide in which way industrial heritage can be reused. Research of the cultural and building history is the first step to be made. The second step is to show different scenarios, from restoration to different grades of reuse to the level of a whole new interpretation of history without reusing the buildings. The architects can make clear what is suitable for the project and which scenario will suit the new planned functions and meaning of the site and buildings for the city. Only by understanding the total of possibilities investors will be able to make good judgments and choices. And although economy will always be of outmost importance, one should not only look at costs but also at values. A new identity inspired by the past might just have a higher value; economically, socially and culturally. Would it not be nice if we were all to gain by reusing our industrial heritage?

What is the focus for transformation, which scale is the most important?

All speakers agree that the urban scale is the most important focus point for transformation. Quite often the focus afterwards seems to be on the scale of the building or even only the facades, but that is not how to start. Actually the mental scale could be mentioned as being the point of departure. What was the importance of the site to the community, the people who have lived and worked there or in its surroundings? What can the site mean in the future; what can the new functions do for the community? Then a logical place can be found in the urban structure, in the building and in the materials.

Is transformation not taking a path of a lot of boundaries?

Mr. R. Mulder said that reuse of industrial heritage is a choice for freedom, naturalness and imperfection. In a way if gives you more possibilities than building something completely new. You gain a quality that cannot be afforded nowadays in new buildings. The experience of space that high ceilings of old buildings give for instance. Mrs. A.M. Tuunanen likes the fact that the new additions and transformations make the old look so much nicer. The transformation is a good stepping stone for the conservation by expe-
What is the Dutch strategy towards a successful reuse? Reuse projects are paradoxical to an architect. There is a world of difference between making architecture from scratch and dealing with a building designed by another architect in another time and which has already settled in its surroundings.

With reuse becoming a more contemporary topic, there seems to be a subtle shift in strategies towards dealing with heritage. The specific approach of Dutch architects may have contributed to this shift. With a wide range of reuse projects in their portfolio, the typical approach of Diederendirrix Architects can be seen as exemplary. What is striking is that the concept for a successful and durable reuse project tends to come from designers instead of classical restorers more regularly. Where the restorer-architect focuses on the past, the designer-architect focuses on shaping the future in a creative and unorthodox way. This article reflects this approach in which the success comes from changing the focus in reuse projects from restorative en conservative to undogmatic and open-minded.

In order for reuse to be successful, it is of the utmost importance to get acquainted with the value of the building. Which quality makes it worthwhile? What are its strengths? Focusing on the strengths of the building offers new opportunities for interventions. These interventions can exploit the existing programmatic and spatial potential and ensure the building to measure up to present day energy and building regulation. Of importance to the end result is the way in which the old meets the new. This is different for every reuse project. Standard solutions are not relevant, since the context and the state of the existing in combination with the new function always leads to a unique project. Our approach is probably best put as improvising. The understanding that a less strict attitude can lead to surprising results is reflected in the more open-minded attitude of the authorities concerning cultural heritage.

Well-known examples of reuse projects by Diederendirrix are: the Nedinsco factory in Venlo, De Drie Hoejizers in Breda, De Witte Dame in Eindhoven, building Anton at Strijp S in Eindhoven, De Hangar in Meerhoven and the redevelopment of former Philips area Strijp R in Eindhoven. These projects will now be used to illustrate a range of typical reuse issues. Qualities of the cultural industrial heritage which will be addressed are the programmatic footprint, the appearance and functionality, the spatial surroundings, the social and historical meaning and finally the building technology of the existing building. Special attention will be paid to a recent project: the redevelopment of former periscope factory Nedinsco in Venlo.

**New Functions**

A building, once made for a specific function, can function well with a different program, although adjustments are often necessary. These adjustments usually concern lowering the energy consumption and improving comfort. Sometimes, these interventions are so effective and ingenious that the redeveloped building offers the new occupants more than a new building ever could.
Besides this, many existing buildings offer spatial qualities which could never be realized in new buildings as they would be considered uneconomical. High spaces and robust constructions were common and not so much a luxury in earlier days. Thanks to the absence of daylight regulations it is possible to realize floors with the span of a football field. At first, these spatial qualities are not evidently present though. Only by making optimal use of the possibilities and by breaking with existing conventions regarding use, they are exposed. The tension between the possibilities and the essentials often results in unconventional use of space which leads to inspiring environments.

Reuse does not exist without transformation. Transformation is a condition for vitality. In order to give an existing building a new, promising future, a transformation is necessary. Merely retaining and restoring a building is insufficient. The Department of the Built Environment of the Eindhoven University of Technology found a new home in the former chemistry building (Vertigo). The concrete construction has been uncovered and is left exposed. The façade has been replaced by a curtain wall system which finds a balance between massiveness and transparency. An atrium has been created connecting the top five floors of the building. The offices of the teachers – created by placing secondary floors - are positioned surrounding this atrium, resulting in this transformation offering not only an improvement on daylight income, but also a new collective space which enables new interaction between the occupants.

Functionality
The redevelopment of industrial heritage mainly concerns purely functionalistic buildings. At the opening of the new residential building New Orleans at the Wilhelminapier in Rotterdam, Alvaro Alto spoke: “It is beautiful, so it is functional”. Nowadays, beauty can be seen as a specific function of a modern building. In a reuse project – especially when concerning industrial heritage - exactly the opposite is the case: “If it is functional, it is beautiful”. Efficiency and expediency are properties which contribute to a natural and robust kind of beauty. An austere style and robust naturalness give old buildings an attractive and legible identity.

The Nedinsco building was built between 1921 and 1930 as a modern factory for high quality optical instruments such as binoculars, night vision binoculars, periscopes, telemeters and signal lamps. The functional and transparent building is a pure example of the ‘Nieuwe Bouwen’ in the Netherlands and is comparable to the Van Nelle Fabriek in Rotterdam. The construction of the Nedinsco building in concrete and steel, the use of glass and the modernistic architecture of the facades clearly refer to the ‘Nieuwe Zakelijkheid’ and the International Style.

Prominent is the 36 meter high tower protruding above the factory. The transparent
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The construction of the tower in reinforced concrete and glass served the focusing and adjusting of the assembled periscopes. This was done by calibrating the devises on the church towers of the surrounding villages. The tower is a historical and typological rarity in architecture and is a clear example of ‘form follows function’.

Surroundings
The added value of old buildings is firstly present in their historical significance. Some even have been granted the status of monument. They belong to the collective memory of the city, as they represent a specific period in time and give identity to their surroundings through that. These buildings, together with other traces from the past such as infrastructure, street plans and allotment, constitute a layer on which the city develops. Through honouring this layer, the city’s architecture retains its relevance. Old buildings are beacons and points of reference in people’s lives due to their long existence. They help make the past intelligible and provide familiarity and structure.

Diederendirrix is fascinated by a challenging relationship between urban space and architecture. A reuse project particularly involves the creation of a special relation between architecture and its surroundings. A prominent example is found in the redevelopment of former Philips factory the ‘Witte Dame’ in the city centre of Eindhoven. This building, built in 1926, is seen as important to the Dutch industrial heritage both in the architecture and urbanism. Based on the synergy of the public library, the Design Academy and Philips Design, the building has been redeveloped as a public urban phenomenon. One of the main interventions is the ‘central connective pattern’, which plays an important role in connecting the routing of the new functions with the new pedestrian route of the surrounding urban fabric. This pedestrian route will in the future connect the shopping area of the city centre with urban developments in the west part of the city, near the PSV stadium and the former Philips area Strijp S.

Social meaning
An existing building and potential new users do not necessarily match. Sentiments, iconic value and sense of place often play an important role in this. It suits the architect in these situations to adopt a modest attitude and to deal with the existing situation and the new programme meticulously. The task of the architect in reuse is not to restore the former lustre of the building, but to take the building into a next phase. To achieve this, conditions have to be created in which diverse users can make a building their own for either a long or short period of time. By reusing a building, the direct surroundings can experience a restart and a neighbourhood can get a new meaning.

The architecture of the Nedinsco factory is of international allure and the result of consciously aspired high quality combined with functionality. In 1930, shortly after the completion of the tower, the famous airship LZ127 Graf Zeppelin visited the city of Venlo. The image of the airship above the factory turned Nedinsco into an icon of tech-
nological advancement and the foreboding of a new era. Recognising the cultural-historical value by giving the factory the status of a listed building indicates the connection of a phenomenon to time and place. Following its current developments, the city of Venlo wants to create a distinct profile of itself with a central position in the region. Additionally, the city strives to grow into an attractive and versatile regional capital. In analogy with other successful reuse projects, such as in Eindhoven, Rotterdam and Winterswijk, the municipality looks upon the monument as a chance to put Venlo back on the map.

For the local inhabitants, the phenomenon of Nedinsco primarily has a social and economical meaning. Former employees derived a large part of their identity from the factory and its products. When reusing such a building, it is of great importance to find functions that match with this phenomenal meaning. Nedinsco still is a public icon of modern Venlo and so it will remain. Fitting the ambitions of the municipality of Venlo, Nedinsco will be refurbished into a media house for local and regional broadcasting companies, multifunctionally combined with dwellings and a part of the city council offices. These new social functions will reconnect the citizens and the building.

**Authenticity**
The listed building Nedinsco is located in the heart of the new city development Maaswaard. The urban plan for that area includes the reorganisation of the old, industrial southern part of Venlo on the edge of the inner city, giving it a completely new face towards river Maas. In this plan, it is vital to carefully integrate valuable cultural-historical elements.

In the course of time, the old main structure of the building has disappeared from view due to a great number of subsidiary additional buildings. We considered the original S-shape of the building as characteristic for the collection of ‘Bau’ parts as they developed between 1921 and 1930. Although only the parts called ‘Bau III’, ‘Bau IV’ and ‘Bau V’ were listed buildings, we wanted to bring the complete S-shape to its full expression, including the oldest parts ‘Bau I’ and ‘Bau II’. By tearing down the surrounding one-storey additional buildings, the characteristic building layout now starts again at the Molensingel and sways further backwards, ending at the prominent, transparent tower. The thus recovered building depth of only twelve meters brings the adage of light, air and space – an important feature of the ‘Nieuwe Bouwen’ – back to life.

**Social status versus constructional state**
How much the building had grown into an image in the minds of the inhabitants was discovered when demolition was raised as a possible option. While the building was only used for the storage of batteries for decades, the Christmas tree on top of the tower remained an annually recurring beacon in the city. While fixed in the collective memory as beautiful, in reality, the factory complex proved to be completely neglected. Lacking maintenance and, among other things, the leakage of battery acid, led to severe damage to large parts of the construction. Even if one realises the poor technical condition of the building, the present image of it is still misleading. The white paint appears to be a perfect concealment for the constructional degradation and although the facades seem to be made of concrete, many parts of it are constructed of masonry hidden under
several layers of plaster work. The severely damaged skin of the former factory is covered in scars. The diversity in materials and constructions throughout the complex is the result of war damage, changes in function, expansions — with building parts on top and next to each other — and many previous renovations.

Unorthodox measures turn out be necessary to restore the building in a sustainable way. Research revealed that moisture and temperature changes would damage the already decaying concrete construction even further. A rigorous but necessary solution was found in completely wrapping up the outer shell to prevent further damage.

Reuse of industrial heritage is a choice for imperfection as a lifestyle.

The ethics of restoration

Nedinsco has a fragmented layout with a complex history. Because of the different stages in time, the building does not reflect only one period, but many images of time, up to recent history. The question that is raised in result has to do with the issue of which image or state one strives for in repair.

In our opinion, it is more important to display growth and development — as part of the history of the building — rather than returning to a fixed period in time.

On the basis of extensive research into the history of the facades and the development of the factory complex, we were able to determine a new window layout, which we consider to do justice to the history of every (building) part or (façade) fragment. When references to the past became too desultory, the image of 1930 was decisive. If even that did not resolve issues, we looked for a contemporary solution.

The factory wing connected to the tower (Bau IV) was damaged during the Second World War. After 1945, this building part, as well as a part of Bau III, was fully restored and rebuilt.

Building engineering

After the development of a meticulous vision on architecture, a translation into building engineering follows. Although the functional architectural style of the Nieuwe Bouwen does not invite for anecdotalism, completely and quite rigorously wrapping a listed building does not turn out to be a sinecure. As mentioned above, the legibility of the history of the building is an important issue for us. In addition to the designed relief lines in the façade, different traces in the facades indicate the chronology and piling of successive building parts. To keep sight of these visible traces of history, a specific detailing is required; how are the new outer insulation and new plaster applied and how will elements such as water shocks remain visible? Preservation of the relief — whether designed or not — means among other things to keep the scars such as window sills that have fallen into disuse visible, even after insulation.

In addition to the skin, the eyes characterize the building. The high degree of transparency means a large number of window frames of generally enormous sizes. Since
many parapets in the complex were raised for functional reasons, most of the window frames found are — although often old and changed or repaired — far from original. Only the large metal multiple paned windows in the staircase of the tower can be restored into authentic window frames.

In contrast to the exterior, the interior proves to be of a reasonable constructional state. Important in the interior is, among other things, the authentic staircase. The stairs on the lower floors are made of concrete and turn into steel and cast iron higher up.

The, according to the people of Venlo, possibly too rigorous new ‘damaging’ of the exterior is opposed by the ultimate restoration of the interior. Because secondary walls and lowered ceilings are not in order, the authentic ceilings, panelling and specific details in steel, concrete or wood are not hidden from sight and the original interior is revived. Despite unconventional measures, we hope to reveal unexpected qualities of the monument and to give the building a new sustainable future.

Reuse of industrial and cultural heritage is a contemporary and challenging assignment. An assignment which is not provided with a universal or ready-made answer. Reuse demands a specific strategy and a meticulous approach that involves admiration and respect for historical qualities. The undogmatic approach of Diederendirrix shows that contemporary measures and materials do not have to be avoided. By making optimal use of both old and new in redesign, a new coherent structure is developed in which reliving monumental qualities is the first matter of importance. The challenging relationship between old and new enables history to continue in a sustainable way and allows changes in time to be experienced.
The role of stories in the conservation and reuse of industrial heritage.

When thinking of the industrial past we often picture buildings and machines. We see the old factories, chimney stacks and railway stations that remain in our cities. We admire ingenious machines and inventions that changed the history of manufacturing in museums. We can visualise the images of steam and grime in the industrial towns as seen in old photographs or paintings.

An aspect of industrial heritage that is less known is oral history. The stories about working in the factories, handling the machines or breathing the air of smoke and dust. Nowadays there are still quite a few living witnesses who can tell us about the often grim reality of working in and living near the old factories.

The ‘Buurtbank’ project

In 2011 Erfgoed Brabant started a project aimed at collecting these stories. This project was part of our ‘Brabantse Erfgoed Biënnale’ which focused on the theme ‘Industrial Heritage’. We invited the former employees of 18 industrial monuments in the province of Noord-Brabant to tell their stories on the so-called ‘Buurtbank’. Translated literally: a ‘storytelling bench’. The first part of the verb, ‘buurt’ also refers to the dialect verb ‘buurten’, which means ‘chatting’.

The Buurtbank consists of a bench and a computer fitted onto a wheelbarrow. A camera is disguised in an old-fashioned gramophone horn op top. The storyteller is seated on the bench and an interviewer asks a series of questions on the based on a photograph of the industrial monument that is displayed on the computer screen. This visual aid and the questions entice the storyteller to speak about his or her memories of the building.

Among the 18 monuments visited by the Buurtbank project were factories, railway stations and bridges, chimney-stacks, mills and water towers. The Buurtbank project attracted former employees, former and new owners of the buildings, and also people who used to live in the neighbourhood of the factories. The stories they told contain a lot of information about work in the factories: the manufacturing process and the working conditions. Of course there were many anecdotes about working in or living near these industrial buildings: funny, amazing and sometimes even very emotional stories. Oral history is always personal, therefore you have to take into consideration that they can be ‘coloured’ by time, memory and emotions.

The stories told on the Buurtbank are about both ‘big’ and ‘small’ topics. They refer to working conditions and dangers (a coal stoker tells us about how his socks and feet got burned all the time during work), work training (a tapestry designer at the Bergoss Tapestry factory in Oss remembers visiting the famous COBRA painter Karel Appel when he was a trainee), living in the neighbourhood of a factory (former Czech employees of the Bata shoe factory tell about growing up as a boy in Batadorp, the neighbourhood that was built for the Bata employees) and the thin line between work and private lives (the pigeons in the CHV cattle fodder factory often ended up in the company rat catcher’s dinner).

Why do we collect stories?

There are several reasons for collecting the stories behind monuments of industrial heritage. We can discern two types of stories in the context of industrial buildings: the ‘official’ architectural history written by historians and the personal memories of ‘common’ people, preserved by oral history projects. In the last few decades acknowledgement of the importance of oral history has increased and the interest in the memories of common people as a valuable addition to ‘history with a capital H’ is still growing. This development can be seen for example in the growing number of oral history projects.
Part of the meaning of architecture lies in the personal memories of the people who lived and worked in it. For many people who have grown up in the industrial age, the local factory is an icon, a point of recognition, symbolising a part of their personal past. Demolishing or drastically altering these buildings can even evoke strong emotional reactions, as is shown in this picture. The graffiti text on the wall of a former sugar factory in Halfweg (between Amsterdam and Haarlem) says ‘This was our sugar factory’, suggesting that the author has strong feelings for the building. Is it ‘just’ a sentiment or does it express how he or she thinks about its current transformation into a business centre with offices, outlet shops, hotel and restaurants?

Just like the graffiti text, the stories we collected on the Buurtbank express the significance industrial heritage has in our society. Without the stories behind them, the buildings become anonymous shells. There is a specific reason to collect the stories of former industrial employees at this moment in time. A lot of factories and other industrial buildings closed in the '80-s and '90-s of the twentieth century. Most of the people who worked there in the second half of last century still live to tell, but some of them are at an advanced age. The oldest person taking place on the Buurtbank was a former factory owner; he was 101 years old at the time of the interview.

Keeping the stories alive
Many initiatives to preserve industrial heritage are derived from personal involvement, of an individual or a group of individuals, with the location. And often personal memories form the basis of this local involvement. The province Noord-Brabant, therefore speaks of ‘conservation by memory’. In addition to restoration and reuse projects, its heritage policy is also aimed at preserving the stories (knowledge and personal memories) of the location.

The Buurtbank project is not the only oral history project that focuses on industrial heritage in Noord-Brabant. Building corporation Trudo in Eindhoven is currently collecting, in association with Bureau Erasmus, the stories of former employees of Philips who worked at the Strijp S location. This factory complex was the birth place of, for example, inventions like the radio and cd-player. In addition to developing the Strijp S location Trudo wants to preserve the stories of the workers that made this location famous. Another former Philips complex in Eindhoven also has its own oral history project. The stories and photographs of the television tube factory at Strijp R are collected and accessible via the website www.beeldbuisboek.nl.

Hopefully, in addition to the projects mentioned above, the collection of personal stories about the industrial past of Noord-Brabant will continue in the near future.

Oral history and architecture, a missing link?
The stories collected by oral history projects are informative and can be of value for the experience of heritage. The Buurtbank stories are accessed on the website: www.buurthbankbrabant.nl , that also contains stories on other cultural heritage objects in Noord-Brabant. A selection of stories behind industrial heritage is published in the book ‘Van Cannidassen, Kleppers en Halve Zolen, 18 x stones & stories van Brabants industrieel erfgoed’.

What is missing is the link between the actual buildings and the stories. Placing QR-tags on the actual buildings could be a solutions in case of the factories visited by the Buurtbank and other oral history projects related to historic buildings. But maybe there are different, more inventive ways to connect the stories to the stones. Could these stories even inspire architects in the process of reuse and design? Maybe for some of them the stories of how it once was can become new sources for creating meaningful spaces in old factories.
Industrial buildings, especially when located in city centres, are powerful players of the town landscape. The monumental size alone gives them a strong presence and this influences the identity of their surroundings. What does the character of industrial buildings endow to the reuse planning? With this paper I introduce two cases, two textile factories from Finland; Finlayson in Tampere and Verkatehdas in Hämeenlinna. Both of them are situated by the water, in the city centre. The factories share similarities in the background and also the early reuse functions are quite similar, but they differ when architectural approach is examined. After presenting these cases, I am still questioning how to catch more the potentiality of industrial areas and find still another approach?

FINLAYSON

Finlayson, like industrial areas in the city centres usually are, was closed from outsiders. This feature creates an interesting tension towards the factory, even more so when Finlayson grew and became the core of the city. James Finlayson, a Scottish engineer, found a suitable place for the factory; the height difference of 18 m between two lakes and a rapid between provided waterpower. This advantage of the natural landscape led into the foundation of the city and gradually Tampere grew into one of the main industrial cities in Finland. Finlayson was and still is in the heart of the city centre. James Finlayson grounded the first factory in 1820’s and 1850’s Finlayson started working as a cotton mill. With time the red brick factories spread all along the rapid and today it is an industrial heritage area, one of the national landscapes of Finland. One paperboard factory is still working.

The Finlayson factory, closed by the gates and the huge brick walls, grew into a City within a City. Besides the huge buildings for manufacture, there was a school, a church, a hospital and the police. The company provided flats for the workers. There were two villas for the owners and they had their own money.

So 25 years ago, when the gates were opened, after the manufacture was moved away, a big change in the city landscape took place.

A competition was arranged for the future of the area in the end of 1980’s. By the time the city plan was finished mid 1990’s the economy crisis affected the implementation of the plans and the 8 studio architects, who won the competition, received no commissions. The project was later delivered by different local architects.[1]

But this in-between time from the end 80’till the end of 90’s was an interesting time of events and occupation. Empty spaces were taken over. Owners lent the raw space affordable to small offices, artists, students, architects. There were workshops for the craftsmen, some parts of the depart-
ment of architecture were there, new functions came up: art exhibitions, illegal bars and happenings. Activities occupied the places in the rough premises.

The permanent reuse planning changed the users of the buildings, the first ones; small firms, artisans, artists etc. left. The spaces were designed for the offices of big companies, museums, restaurants, a movie theatre and schools. Some of the old structure was replaced by new buildings, like a private hospital and some new housing was built in also.

Today Finlayson is a rather lively part of the city. The location is a key factor as well as the attraction of some of the public buildings, like the biggest movie theatre in Tampere. This seems to be the power of the area. The new developments in architecture though are not able to create an interesting dialogue between the old and the new. The strong enough attitude in the new interventions, to meet the impressive character of the existing factories, seems to be missing.

In the oldest building, Kuusvooninkinen, Lasse Kosunen architects has succeeded keeping the raw space character of the factory halls alive. With a nice touch of materiality and with minimal operations, the new walls, the new openings seem to belong harmoniously to the old building. This works well with protected parts. But a clear idea, strong concepts in the new additions are absent.

The overall attitude is grounded basically in the preservation or in the cautious, timid interventions. But why to conserve industrial buildings, to solidify the development? Is it not against their nature to do so?

VERKATEHDAS

The other textile factory, Verkatehdas has similar backgrounds as Finlayson. After the production ceased, the cultural institutions and activities found their way into the area. The city arranged a competition 2003 including the reuse planning of the two existing buildings and new buildings for a music-congress hall and a film centre. The other functions in program were schools, offices, atelier spaces and restaurants.

In Verkatehdas case the city was more determined with the implementation of the reuse plans. The work was executed by the JKMM architects, who won the competition.

The old and the new buildings overlap each other and the previous cultural activities, the first layer of reusers have found their premises also in the area. The intertwining of the old and the new parts have been made interestingly, like fabrics on top of each other and between the parts.

Entering the area, the strong materiality is the first thing, which catches the observation; the contrast between the heavier old red brick facades and the light corten steel structure around the new addition strikes the senses. The 5 mm. laser cut cor-ten steel covers the technical spaces around the concert hall like under a transparent coat. The Finnish word verka means the fabric from which clothes like coats used be made of.[2]

Besides the beautiful materiality in Verkatehdas the spatial character of the alleys between buildings continues inside the new parts. Inside and outside, old and new parts are connected. The main lobby with the glass roof extends into the surroundings. The scarce material palette comes from the neighbourhood, but it has its own fresh application. The strong character of materiality with a context to the textile industry creates a dialogue between the existing and the new parts.

After the beauty of materiality in Verkatehdas I am still questioning what the character of the emptying industrial spaces could
mean and offer for the reuse in the city landscape? A sudden change occurs, which usually launch new energy and activity, when these huge empty areas are opening in the more specified city structure. The quality of these easy to change industrial spaces resembles more like an open landscape, a pasture, a fresh soil from which new actions, events, situations can emerge. The idea of a sudden opening, a changing landscape, in an organized system leads me to thinking the concepts like the smooth and the striated space introduced by Deleuze and Guattari. Smooth space, like a desert or a sea, is a nomad-kind of space, which provides freedom for people themselves to find their functions and create own spaces. Striated space is more programmed, fixed and organized. But both of them are needed and the dialogue between these two is what keeps the process changing and alive. [3] Flexible industrial halls have this character, the possibility of a change from smooth to striated. So how could architecture support this dialogue?

Another helping idea comes from Bernard Tschumi who defines his thinking little differently in the essay Six Concepts. He writes about the cross programming of spaces and events. He emphasizes the influence of events in spaces. The last concept he presents is events as turning points. Turning points are the moments of change, not an end but a beginning of an ongoing process. [4] Maybe we can add light and energy to these turning points. So should we withdraw from designing spaces as completed but in that way to let events more freely to appear? Could we think our approach more like building an atmosphere to create favourable conditions for these living processes?

References
INTRODUCTION

The reuse of the ever-growing amount of abandoned industrial areas in contemporary cities has received much attention in the last decades. The task of re-integrating these lands into their surroundings is particularly challenging because it requires repairing drastically altered landscapes and, at the same time, generating new activities. Furthermore, their enigmatic emptiness signals great potential.

In the past, industrial terrains were located in the outskirts of the city or in a self-isolating location; nowadays, the urban growth has absorbed them, determining a new strategic position in the settled city for these sites.

In our case, dismissed terrains are the B5 canal zones, namely the five Dutch cities of Eindhoven, Helmond, ’s-Hertogenbosch, Tilburg and Breda, located in the southern region of the country named Brabant, from which B5 derives (B5-Ruimtelijk Ordening, 2007). A former industrial canal area characterizes each city and is waiting to be transformed. These canals, dug at the end
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of 1800 and highly active until 1960s, are connected to each other by a large system of navigable canals (Willehminakanaal, Zuid-Willemsvaartkanaal, Eindhovenkanaal). They physically connect the 5 cities and small towns and cross unique urban agglomerations and man-made landscapes, thus forming a transport circuit with a high potential.

The following text will illustrate why, as architects and educators, we should focus our interest on dismissed industrial area and educate the new generation of architects not only in enhancing heritage values but also to disseminate the knowledge of sustainable design in their professional field. Furthermore, it will show the design approach that I pursued with the students that crosses the notions of sensitivity and creativity in both interpretation and intervention in dismissed industrial sites.

1.1 The need of action

In terms of urban sustainability, the rehabilitation of dismissed industrial areas fulfills two needs: ‘necessity’ and ‘resource’. ‘Necessity’ refers to the reclamation of polluted lands, which represent a contamination threat against the surrounding areas. The threat is often due to the central location of these sites and their vicinity to densely inhabited areas. This is basically an engineering approach to the site. ‘Resource’ is referred to the potential benefit, both environmental and social, that a well-advised reuse of such large portions of territory can be for the macro and micro scale of the city. It refers to design strategies able to suggest a different idea of urbanity that will arise from an unexpected and complex network of old and new with a mixture of large and small scale. See the case of Bovisa area in Milan, Italy or the Finlayson project in Tampere, Finland. In other words, these sites can be sources of wealth for their very cities.

What about the heritage value of abandoned industrial sites? They are usually considered empty areas, smelly, valueless and ordinary locations: ‘terrein vagues’ (I.de Sola-Morales, 1996) outside of the urban dynamics and forgotten in the ‘mental map’ of a city. The change of this negative perception is the first step to undertake when starting a project of transformation.

On the contrary and according to the definition of industrial heritage by The Nizhny Tagil Charter of 2003 (TICCIH, July 17, 2003), dismissed industrial sites are “the evidence of activities which had and continue to have profound historical consequences”; their remains record historical and social events, technological and architectural experimentation, whose investigation would contribute to the understanding of our industrial past and present. This definition is true and applies ‘easily’ to those historic ruins that embody the deep state of dereliction. But how can people (in
our case students) be made aware of the heritage values of these more ‘contemporary’ ruins/sites if these sites have not yet officially declared ‘locations to safeguard’?

This is the case of the canal zones of B5, that are in-between a state of decay and whose dismissed industrial buildings are less than 100 years old (therefore, they are not listed monuments).

In the past, Brabant was the main industrial area of the country and economically able to provide one of the main sources of income. The industrial activity was mainly related to textile manufactures and the production of peat: goods were transported out through the large net of canals present in the area. Therefore, the water was the main infrastructure of transportation. Valuable buildings of different scale and architectural styles stand along the canals and they are witnesses of the industrial past and expression of the local identity.

After the abandonment, none of the five municipalities has a defined strategy on how to tackle this issue and there is a general tendency of fragmenting these vast areas into smaller pieces, in order to maximize profit due to market demand. Nonetheless, all of them have the means to undertake a sustainable approach to the city’s growth: providing room for expansion inside the city itself. Furthermore, the transformation of these waterfronts can have a huge impact on their urban image.

2 THE FRAMEWORK FOR TEACHING, LEARNING AND RESEARCHING

2.1 Theme

The approaches and questions concerning the enhancement of the historical value of the canal zones are very important in the transformation of these dismissed sites. In this respect, the initiatives I have undertaken with the students made it as a target.

In educational terms, the goal was to increase the students’ sensitivity in revealing the characteristics and values of industrial buildings/areas as well as the environmental awareness about their role as a source of local identity.

In practical terms, the active involvement in the learning process by local authorities and heritage institutions aimed at strengthening students design proposals through professional experts’ criticism, while disseminating the knowledge of sustainable design in the students’ professional field.

The activities developed in these three years experience consisted of parallel architectural design studios, workshops and seminars. The theme they embraced is part of a long-term research program I am developing at TU/e and that regards the transformation of former industrial waterfronts. The research involves several European partner universities.

How can we assess the value of industrial heritage on canal waterfronts? Beside the ‘standard rules’ of evaluation, can other aspects influence the choice of keeping them? Memory and identity is attached to these industrial sites: how can the past be revealed rather than covered? what should we keep of the existing heritage? Today the spectacular size of the factories has been glorified: how can we detect and present to others those innovative construction details? For years industrial sites have been ‘forbidden terrains’: how to disclose them to the public? And what about appropriateness of program?

These were some of the questions and themes discussed during the various courses. Certainly, they appear difficult and complex questions. Nevertheless, students acquired a relevant knowledge on industrial heritage and searched for the fine line between the ‘too little’-‘too much’ design intervention when transforming a dismissed industrial site/building.

2.2 Methodology

Sensing is the quality of perceiving, conceiving and understanding an existing environment. From this perspective making sense is based on the engagement of a dialogue
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Design is the direct result of it (Vassilis, 2011). When transforming dismissed industrial sites into new uses the notions of sensitivity and creativity play a key role in both interpretation and intervention. Both sensing a particular historical context and projecting an appropriate intervention in it should be equally considered as deliberate actions. The former is expressed through the particular setting of the context of intervention (analysis); the latter is done by fitting our design intervention into that context (synthesis).

This is the research method I followed with the students of the International design Studios that focused on the transformation of the five canal areas of Brabant and of which I will illustrate the learning process. The courses consisted of one-semester project each, and involved local master students that worked together with foreign ones (Erasmus students), both in terms of nationality and to the Dutch context. In this respect even if foreigners seemed to be privileged for not being affected by any previous knowledge, team-working with local students created the ideal conditions to sensing the existing context in the most appropriate way. Moreover, the higher the number of students’ nationalities and cultural background, the wider was the spectrum of perception and understanding. Thus, broadening and enriching the designs both in term of quality and creativity.

2.3 Structure

Each course was organised in four interrelated phases and I adopted this structure for all five canals, introducing additions and adjustment during the process so as to comply with the needs and differences among the canals.

The first phase was a research work, or better the first point of entry to the understanding of industrial heritage. Students carried out literature research on the state of the art in industrial heritage, then researched into listed topics related to transformation of former industrial sites. Then it followed the sensing of the specific canal zone through impression analysis and model of the area that stimulated open-end questions while addressing problems on the existing heritage. Thirdly, it was making sense through a design strategy for the canal area that couch the values of the heritage they detected. Representatives of the municipalities participated with individual review of students or group presentations during the design development. Lastly, it was ‘testing’ the design strategy through the development of a selected portion of it at the architectural level; students could therefore express their personal design attitude towards industrial heritage via details and use of materials and their way of communicating its value to others.

Between stages three and four, students were always involved in public activities related to industrial heritage that took place outside the university. Two goals motivated these participations: the first was to let students express their knowledge on industrial heritage to the public and show how they can take responsibility for the future; the second was to make people aware of the need of safeguarding our past and give appropriate feedback to them through questions and answers to students.

The investigation of the industrial heritage of the canal zones of B5 definitely included the canal in itself. Its role and meaning was explored beyond its current function of dismissed infrastructure: students analysed and interpreted the canals as a carrier of collective memories but also of innovative ideas that attempt to give a new, integral sense to water into the urban landscape.
As for the industrial heritage along the canals, students studied the notable variety from city to city: it regarded the architectural footprints of former industries, length of the canals, their relationship with the urban and landscape context and the amount of cultural resources still existing on site.

3 CONCLUSION

The intention of these three years’ experience with the students was to make them aware that it is not enough to observe and analyze historic buildings but that students can play an active role, rather than being spectators in the interpretation, use and the safeguard of our heritage. During this period, students acquired a personal awareness of the existing heritage and learnt how to work with others so as to develop and disseminate awareness. The results achieved are based on the firm belief of a co-existence with the past and with the need to adopt sustainable solutions. Students learnt that there are not standard solutions, but only appropriated ones, which relate to the specificity of the context. Students learnt how to detect these characteristics and to work with them so as to enhance heritage values.

And finally, students realized that understanding, interpreting and intervening are unified moments, which belong to the same process of cognition and are in dialogue with the site.

Sensing a specific context and making sense of an architectural intervention into it is a working method that goes beyond personal empathy and individual analytical skills.

It is not my intention to enter the endless debate on the scientific consideration of this method, but I would like to remind that the notion of ‘sensitivity’ is the key element in both interpreting the historic urban landscape and in intervening in it. This is clearly stated in the Vienna Memorandum (2005). This document calls for (…) ‘a culturally and sensitive approach’ to the historic urban landscape, that (…) ‘should avoid all forms of pseudo-historical design’ and ‘demand for high-quality design and execution, sensitive to the cultural context (…)’. Therefore, ‘sensitivity’ binds analysis to creative design.

As an educator in the field of architecture, I am left with the unsolved issue on how to systematically communicate this theoretical knowledge to our students. I think that the experience developed in these three years has been a successful attempt to achieve it by adopting this theory. The selected topic of industrial heritage is not exclusive of this work method, although the issues related to former industrial areas add to the work one more pregnant question: the need of ‘extra sensitivity’ so as to overcome the negative perception, which is generally associated to abandoned industrial sites.

From the dialogue with the students the Members of municipalities, province and guest advisors found a challenging explora-
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The enthusiasm fired by the collaboration between University and official Institutions has inspired it. This action is to come and will be the conclusion of the work on the industrial heritage of the canal zones of Brabant.

I would like to conclude with a quote from a student of mine when he ‘(...) entered for the first time the unknown world of architectural heritage in the industrial landscape. (...) through the difficulties of our project, I learned that sensitivity is not an abstract term but an instrument to assess values of a particular context; and the are not bad ideas but the lack of architectural dialogue’ [2].

This proves to me that our most important objective is to encourage young people (like students of architecture, as in my case) to take conceptual and creative ownership of cultural resources. Such active approach will evolve from knowledge into responsibility, which is needed to safeguard our heritage.

Fig.13. (top) ‘Traversing the limits’, Canal zone Breda (detail)

Fig.14. ‘(bottom) Sensitivity of Roughness’, Canal zone Eindhoven (detail)
[1] ‘The beauty of decay’ was a 5-day program that involved students and professionals. Through projects and lectures was discussed the aesthetic of decay (see http://ddw-workshop-tue.blogspot.com/). The activities were open to the public and related to the yearly event of the Dutch Design Week, which attracts a huge amount of visitors to the city of Eindhoven, where our university is located.

‘Inspiratiedag industrieel erfgoed Brabant’ (Inspiration day on industrial Heritage Brabant) was a public seminar organized as conclusion of a one-year activities focused on industrial heritage and undertaken by Herfgoed Brabant. Students presented their research on industrial heritage to the public. (see http://www.erfgoedbrabant.nl/nc/nl/watdoen-wij/projecten/beb/inspiratiedag)


References


BACKGROUND INFORMATION

CONTEXT

Helmond, ’s-Hertogenbosch, Eindhoven, Tilburg and Breda are the main cities of the southern area of The Netherlands, named Brabant. They form the so called BrabantStad or B5. In the past, Brabant was the leading industrial area of the country and economically able to provide one of the main sources of income. The industrial activity was primarily related to textile manufactures and the production of peat; goods were transported out through the large net of canals present in the area. Their construction started at the beginning of 1800 and canals were efficiently used and implemented until the 60’s. At the end of this period, the decline of the area started. Large companies moved to new industrial areas that offered more facilities, such as larger harbours and better connections with railway and road infrastructures. Nowadays, these cities strongly cooperate with each other; and infrastructures, cultural activities, design and innovations are some of the elements that promote the network among them.

From the urban and architectural point of view, these 5 cities are connected to each other by two systems of canal: an outer one, a ring-like canal, that connects the five cities, while cutting through the open landscape formed by numerous heritage villages; an inner one, dead-end waterways, formed by dismissed canals characterized by notable buildings (some of them are listed monuments) on a different scale and architectural style. These dead-end canals were originally located at the edge of the historical urban structure, but nowadays have an internal location into the city fabric since the new urban development has absorbed them.

ELIR project focused on specific areas and buildings located along these five canals.

’s-Hertogenbosch: The Zuid-Willemsvaart and the Mengfabriek de Heus Brokking Koudijs

The canal zone is on the western side of the historical city centre of s’Hertogenbosch, birthplace and home of one of the greatest painters of the northern renaissance, Hieronymus Bosch (1450-1516). As brief history, s’Hertogenbosch was founded in the twelfth century as fortified city and much of this heritage remains (city walls and ramparts) is still visible; two rivers, the Dommel and Aa, flow together in the city and continue as Dieze into the river Mouse. Of particular interest is the network of canals (originally long 22 Km) named Binnendieze, hidden under the old city.

The ‘kanaalzone’ of s’Hertogenbosch forms the north-head of the Zuid-Willemsvaart, which was dug between 1816-1825 under the wish of King Willem I. A variety of buildings, built in different time period, characterize the canal. On the area most close to the old city (named het zand) are located industrial buildings from the 19th century (as the sigarenfabriek Willem II en de Verkadefabriek, respectively for the production of cigars and chocolate) and remnants of railway line used for the domestic transport of goods. Progressing towards outside of the city, we encounter an historical sluice (listed monument) and buildings from the early 40’s to the 90’s and many large parking lots; and lastly a former industrial area characterized by a variety of buildings that differ in sizes and materials. In the late 60’s was built a flyover road on the canal, dividing it visually in two distinct zones. According to future plans, this road will be moved in an underwater tunnel. In ‘het zand’ area is located the Mengfabriek de Heus Brokking Koudijs. Dated 1909, it was a mill designed in Crafts style by the arch. FC de Beer. Since 1948 the factory became part of the company Koudijs and the mill was used as plant for processing food for animals. The new owner greatly expanded the company over time. After the closure of the activities, the mill and the storage area were transformed into office spaces. The old core of the plant consists of a U-shaped building with a water tank and a staircase that protrudes above the roof. Only at later time a new laboratory area was added, giving to the building a square
shape. Architecturally, the building is 5-storey high and it is in bricks; the silo, located on the north side, is in concrete. One concrete tunnel (originally three) connects the silo to the main building. Structurally, the east and south wings have wooden floors supported by steel beams carried by circular cast iron columns. Nowadays, this building is listed monument.

**Helmond: The Noordijk canal and the Vlisco North-Building**

The canal zone of Helmond is a portion of the well-known Zuid-Willemsvaart canal (dated 1800) that physically connects the city of ‘s Hertogenbosch to Maastricht, until Liege in Belgium. Three sluices located along the Zuid-Willemsvaart are actually listed monuments.

The canal zone of Helmond is the south ‘head’ of the Zuid-Willemsvaart canal. Here is located a variety of industrial heritage buildings among which are the large footprints of two important industrial sites: 1. The Vlisco’s factory, dated 1846, which was a textile company (still active) involved in the production and exportation of wax-prints to the Dutch East Indies (the actual Indonesia); 2. the Nedschroef factory, internationally known as supplier in the automotive sector, which is from 1894 and its original company activity was the production of rivets for the ship-building industry. The mix of historical edifices (one of them is the first concrete building in The Netherlands) and modern one characterizes the architecture of both locations.

Beside these two large industrial areas, all along the water are located other small former industrial buildings that form with the new edifices an articulated mix of old and new. In 1966 was built a main flyover road on the canal, dividing it in two distinct areas. The Vlisco’s Noord-gebouw is of our interest. It is dated 1955 and it is a four-storey building in bricks. Its short side faces the canal, while its long one determines a clear edge between the ‘island’ of Vlisco terrain and the public park of Helmond, which is built around the old castle. In fact, the ‘Gebouw Noord’ is built within the plan of extension of Vlisco’s factory that was set up after the WWII and that acquired new land from the existing park area.

**Eindhoven: The Eindhoven canal and the Campina factory**

Known as ‘de Kade’, the canal zone along the Eindhovenesch canal, is on the western side of the city. Similarly to a pin, the canal deeply punctures the urban fabric and at the same time connects the old centre to the close highway and open landscape. Nowadays, more than 100 enterprises are located along the canal and DAF (truck-factory) and Campina (milk-factory) are the main catalysts. The canal zone includes a variety of companies that range from production to dealerships, from offices to tails. The whole forms the western corridor of Eindhoven.

In the past, the workers used to live in the nearby areas and the edge with the industrial area was a lively zone; nowadays, it represents a drastic cutting line.

In morphological terms, the regular and large footprints of industries contrast with the fine grain of the surrounding houses.

Historically, the canal was built between 1843-46 in order to connect the city of Eindhoven to the Zuid-Willemsvaart canal that was running from ‘s Hertogenbosch (south-Holland) to Liege, in Belgium.

The purpose was to support the navigation of boats for industrial transportation of goods such as machines, coal, wool and wooden rafts for making matches and cigar boxes. Philips’ factories used the canal intensively for transporting glass and bulbs in-and-out.

At the beginning, the industrial area was located outside the city of Eindhoven, at the intersection with the Dommel river and the North-South water route; later, it grew towards the urban centre, around the head of the canal. Between 1929 and 1934 the canal was widened and modernized. The construction of industrial buildings around it increased exponentially until the 70’s, especially after the realization of the ring road in 1962. ‘de Kade’ became the biggest industrial area of the city.

Only in 1974 the canal was closed to navigation and since then it has only had a recreational use (rowing and fishing).

At the crossing point between the canal and the ring road is located the Campina’s factory, central dairy and milk-products. The company is still active and its headquarter is in Friesland (north-Holland). The industrial area along the canal was realized in 1958 and it consisted of two buildings: a main building, for the production and cooling of milk-milk products; and two additional constructions that were located towards the corner of the area. One building hosted the administration offices and the canteen for the workers; the other one was a large shed used as stable for horses and carts. The latter is of special attention due to its vaulted roof. This edifice has trapezoidal shape and modular concrete structure (it repeats 11 times) ‘filled’ by brickwork. The building is
still architecturally intact but is mainly empty; a small portion of it is used as storage of milk boxes and of tools for maintenance. From the highway, the Campina factory is recognizable for its shiny metallic milk-silos that were placed on site during the process of technological modernization of the factory. The machines of Campina’s factory still use the water from the canal for their cooling.

Tilburg: The Plushaven and the ‘Oude Ijzergieterij’ (the Old Foundry)

Namely Plushaven, this industrial area was opened in 1923 with the goal of improving transportation to the industries of Tilburg, mainly textile factories.

The construction of the Canal Zone had a great influence on the development of the manufactures: new industrial buildings on different scale and architectural style were built. In the 20’s and 30’s a large amount of goods went through the canal-zone; freight ships delivered goods to Dordrecht, Utrecht and Amsterdam on a daily basis. In the 60’s the closure started. This was not related to the crisis of the textile industry, but to the changing economic structure of Tilburg. Furthermore, large companies moved to new industrial areas that offered more facilities, such as larger harbours and better connections with railway and road infrastructures. In 1983 the southern part of Plushaven was demolished (new houses were built on it), putting the meaning and identity of the remaining area at risk. Luckily, the initiatives of local people stopped the demolition plan and new ideas were promoted. The objective was to turn such location ‘the new harbour’ into the core of Tilburg.

Nowadays, the municipality is dealing with different sections of the area and it is willing to convert the industrial structures that strongly characterize Plushaven to new uses.

Of particular interest is the brick building located almost at the crossing point between the canal and the flyover ring road. Built in 1932 as Catholic Church, this building was a foundry for iron, copper and other metals. The activity lasted until 1907 and the building closed as factory in 1920. The factory was damaged twice by fire; after the second restoration, and due to the decreasing amount of believers, it lost its original use. Since the ‘80s, various functions were hosted inside the building, like the ‘Jumbo’ food supermarket that is still active. To a close distance from the church is the pastor’s house that contains the info center of Plushaven.

Breda: The Havenkwartier and Ketelmakerij NV Machinefabriek Breda Backer en Rueb

The canal zone of Breda is an appendix of the Mark river. Namely ‘Havenkwartier’, this industrial area is characterized by a large variety of industrial buildings of different sizes and qualities; they are mainly empty or temporarily used by artists or as storage space by different factories. Havenkwartier is closely located to the train station area that by 2025 will become a key infrastructural node in the development of the high-speed line connecting Amsterdam to Paris (see www.viabreda.nl).

The Havenkwartier will meet the influence of this change. Historically, the area of Havenkwartier was a polder until 1918 and only in 1924 started the digging of the canal. The first plans of construction in the area are dated 1927: the Belcrum district, in 30s style, is the first and most representative urban development. Designed by hr. Sheep, the urban structure of the housing district is leaning on Speelhusislaan, an historical allée leading to a royal park, outside of the city center of Breda.

Lately, this street was extended to the harbour area and became the main axis along which notable industrial buildings were realized. The main activity of these factories was related to the processing and auction of fruit and vegetables; but also trading companies of hardware or iron-products.

In the 70s started the decline of the canal and in 1976 was officially closed for industrial use. Nowadays boathouses are mooring along the quays.

The Ketelmakerij NV Machinefabriek Breda by Backer and Rueb is one of the oldest industrial buildings existing in the area. Dated 1927, the factory produced large boilers, heavy steam engines and steam locomotives. At that time, the crane and crane tracks utilized to dig the canal were still on site: the new industry took advantage of them for its production.

During the big depression of the 30s, the manufacture switched to new products such as bridges, elevators, escalators and high-efficiency boilers. The large, high and lightweight construction that distinguishes the architecture of this factory allowed in 1937 its extension. One year later was realized a new edifice characterized by saw-toothed roof and gantry beams.

Since 1997, the first building is used as storage of paper; the second one houses artists and garages of many kinds.
Second Scene:
(The scene takes place in the lecture hall of the new ArchInvador Architecture School in s’Hertogenbosch, a University Institute of TU Eindhoven, founded in 2011. ArchInvador Architecture School is located in a historic industrial brick building, on the shore of the Zuid Willemsvaart canal. Approximately one hundred guests are about to take their seats, looking forward to a lecture from Mrs. Arch, a distinguished professor)

A voice from off-stage: “2013, den Bosch, In the ArchInvader"

Professor Arch: “Good afternoon Ladies and Gentlemen, welcome to our open lecture and discussion series. For those of you who are here for the first time, let me start with a short summary: The ArchInvador Architectural school was founded as integral part of the urban redevelopment of the canal zone area ‘Het Zand’, in the heart of which we are assembled today. ‘Het Zand’ is a former industrial area just west of the city centre, outside its former ramparts. The area is characterized by remnants of railway tracks and industrial buildings from the turn of the century. Please note the sigarenfabriek Willem II or the Verkadefabriek for chocolat outside window. Enclosed by waterways on the east and north side and railway lines in the west, the site has in the past been a transitory area and not attractive for people to live or spend time in. One exception is the old Verkaadefabriek which has long been transformed into a cultural spot for theatre, dance, film and music. However, a number of small community projects have most recently been initiated. Looking out of the window to the right, you will see a initiative of neighbours, who are planting trees for a new recreation area.”

(A young man gets up)

Neigbour: “Yes and we need more people that join and support us. I am living just across the street and I have to say: Our initial scepticism towards Archlnvador and the redevelopement plans for ‘Het Zand’ has given way to a great curiosity and motivation to participate in this innovative project idea. It is really possible to instigate change here. This is great!

Professor Arch: “Thank you for this contribution. The architecture school ‘Archlnvador’ has in fact been established as a catalyst for urban development of the Mengfabriek area and beyond. Archlnvador aims to re-connect the site to the wider city and make it attractive to its inhabitants. As practice-based institute of TU Eindhoven, it is a “University of the neighbourhoods” developing and implementing participatory planning methods for the urban context of tomorrow. At this point I want to hand over to two students to present some of their ideas for the area.

(Two students are nervously installing screen slides of their concepts, drawings and visualisation)

1. **Student:** Besides being a catalyst for the development process, Archlnvador’s special interest lies in the reuse of existing structures and materials in the area. With the slogan “No Waste leaves the Island” materials such as railway tracks, silos, fences, pavements, steel panels, bricks and roof tops shall be recycled and included into the redevelopment process.

2. **Student:** “The building of the ArchInvader School itself is the best example: Appreciating the old brick-structure of the Mengfabriek warehouse, the building is organised around a concept of mixed use. At the heart of the building lie laboratories and ateliers for working and experimentation with reclaimed material of the surrounding development area. Ancillary social space such as cafeteria, lecture rooms, shops, offices, library, and a restaurant help establishing the school as a new social centre and focus for the community, for exchange and communication, a social integrator and provider of skills for everyone.”

(Student 1 is impatient to present their ambitious ideas)

1. **Student:** “This is a rough timeline of how this project could develop: Within the next five years, we would start to recycle materials for new constructions. The structure for the port is left at sight. The silos will be reused and a pedestrian crossing of the canal will be built – connecting to the Northern side. During the next 10 -15 years, the empty lots will be occupied with new buildings and continue to grow and develop with new proposals. The site will continue to be
an experimental site. And the ideas are all coming from us students and the community…”

Prof. Arch: “Well, we are very happy to have this school with a direct link to practice partners. The project ideas developed here are in fact very helpful. But it will be most important to establish intense collaborations with a number of different actors involved: investors, industry, neighbours, students, developers etc. An urban laboratory to explore new ways of sustainable development.”

(An Investor stands up and takes the microphone)

Investor: May I ask a question from a market driven point of view: In hard economic times, development calls for innovation, creativity and participation, which seem to be given here. But what makes the project especially worthwhile investing it?

Prof. Arch: The ‘ArchInvader-project’ will initiate and catalyse the development of the area by a variety of small scale “surgeries” organized from within. The Architectural School is organizing workshops and disseminates the approach to the people interested in getting involved. The area hereby uses its own human and material resources while striving to connect to the wider public and surroundings. This integrative process produces on the one hand a high acceptance amongst the people. It allows on the other hand a soft and controlled long term process.

(The young and dynamic Mayor of ’s-Hertogenbosch takes the microphone and speaks with a big and convincing smile)

Mayor: “If I may at this point add an official viewpoint - as the Mayor from ’s-Hertogenbosch. I understand the transformation of ‘Het Zand’ as a long-term process, lasting far beyond the time-frames of most urban planning frameworks that are all too often bound to short-term election periods. As it was stated before, the transformation of the site should be based on participatory elements that benefit the people on the long run: such as joint planting of trees, joint workshops to develop ideas, etc.”

Prof. Arch (takes over again with a determined voice): “ArchInvador will manage the development process on different levels: It will communicate to different actors involved. I see the biggest potential of the project in the focussed co-ordination of all aspects of all interests involved.

Two years ago, it was already decided to build a new harbour basin under the existing structure of the storage hall, which is connected to the canal on the north of the site. The area is currently being transformed into a public space integrating different sectors of society and a variety of actors acting upon the built environment to be a sustainable model for urban appropriation. Let us now discuss some further proposals.

Students (start to read out a list):
- connect the open spaces and create a pedestrian path along the water leading from the city centre to the green spaces beyond.
- integrate the culturally important waterscape to provide an attractive outdoor meeting spot for activities of the communities.
- revitalise the traditional waterways for leisure activities.
- create attractive view lines from the main transport routes (car) and from the railway.
- be an innovative start-up business for urban material …

(While the students read out their proposals, discussion starts again. The spoken word is disappearing in a general murmur, fading with the closing curtains.)

Third Scene: ……..
III. DESIGN

Is that a swimming pool?
No! It's a silo!!

Is a tree sustainable?
Yes! Is ARCHinvasion!

GROW UP
The selected site is on the Western side of the historical City Centre of 's-Hertogenbosch, and it forms the North-head of the Zuid-Willemsvaart Canal, which was dug between 1816-1825.

On the area named ‘Het Zand’ are located many industrial buildings of great architectural significance. The Mengfabriek de Heus Brokking Koudijs, subject of the design proposal, is among them. Dated 1909, it was a mill designed in Crafts style by the Arch. FC de Beer. Since 1948 the Factory became part of the company Koudijs and the mill was used as plant for processing food for animals. Architecturally, the Factory is a composed by a solid square building and by several silos that are connected to it by bridges.

Two elements characterize the Canal Area of the Zuid-Willemsvaart: one historical sluice, which is nowadays listed monument, and a fly-over road on the canal built in the late ’60s. The last one visually divides the Canal in two distinct zones, so as that the ‘Het Zand’ area remains a distant place to reach from the city centre. According to future plans, this road will be moved into an underwater tunnel.

The team for this project brought together urban design and architecture students from Poland, Finland, Holland and Germany. A site visit included a walk through the area and of the specific building to intervene. This visit revealed very interesting hidden qualities. Initial analysis of the site focused on the SWOT Analysis (Strengths, Weakness, Opportunities and Threats) in order to better understand the site and its potentiality for re-development.

**Advantage**
- *Culture Center on the site*
- *Waterfront/Landscape*
- *Monument Landmark*
- *Location 5min Train Station 10min Market Square*

**Disadvantage**
- *Isolation by Canal and Railway*
- *Accessibility of the Canal Front*
- *Acoustic Problems*
- *Waterfront receives limited sunshine*

**Opportunity**
- *Surrounding buildings used by artists*
- *“Green Canal” Plan*
- *Reconstruction*

The results of this investigation were mapped onto the site plan. Furthermore, it was carried out an analysis of the historical evolution of the site within the urban transformation of the city as well as an analysis on the existing infrastructural and blue/green system, while looking to a possible integration of green spaces within the built environment.

**Vitality, Identity and Sustainability** were the key words adopted for the Master planning process. **Vitality** is in the meaning of a ‘dynamic area’ generated by the introduction of new activities in the existing factory. **Identity** is meant as recognition of the historical memory of the canal and of the industrial area. And this makes it a high valuable resource and potential infrastructural system for the future of the site. **Sustainability** is in the meaning of meeting the needs of the present by using the existing qualities/resources of the site and without compromising the future.

Therefore, the proposal aimed at the reinterpretation of the features and other opportunities existing on the site. The team recognized that the industrial area is disconnected from the old town and identified the site as an opportunity for these two conditions to meet. However, good design proposals should make the most of the opportunities available and they should consider not only the mere sum of the parts. Consequently, a Master plan was proposed, based in a grid, respecting the existing elements, making the most of the orientation of the streets and celebrating the focal point views of the site. Mainly, the plan provided exploring significant linkages and connectivity for pedestrian (vehicles and boats) and clear spaces between buildings for stimulating activities, while proposing new functions for people to live, work, walk, sit and enjoy. Moreover, the Master plan proposed a ‘green canal’ regeneration that envisioned the development of a cycling and pedestrian bridge and the reuse of most of the existing buildings composing the factory. New additional creative spaces were proposed so as to maximize the potentiality of the place and to overview the re-development process.

So, the design is focused on the program for the area and on the Mengfabriek. It suggested new mixed-use functions that foster a
greater diversity and sociability among people and are able to convey interest into the “old” city landmark – “Monument Building”. Additional value to this building was given by proposing two distinct functions: commercial at the ground floor and offices at the middle floors. A panoramic restaurant that overlooks the city was proposed at the top floor. In the building close to the old core of the factory were proposed residences and it was located a library and an exhibition space. The design also proposed the reuse of a connecting bridge between the two buildings, allowing the integration of activities and users. According to the design proposal, the existing silo was transformed in a hotel and it was introduced a store-greenhouse with leisure facilities.
Historical evolution and Urban transformation

- Development of the city in a triangular shape inside the fortification wall by the canal. The triangular city center square and the north-east part of the city still under the waterfront.

- New development in the west of the city, the industrial area in the north is being developed as well.

- City still surrounded by canals. The further development of the trapeze will go from north to south in the eastern part of the city.

- Tram line north to south. Separation of the western development from the old city structure. Further mostly housing development in the surrounding areas.

Infrastructure System

SWOT analysis

Green/Blue system

De heus former industrial site
Canals as identity, as resources as infrastructure

Masterplanning for Reusing
The proposal essentially near the industrial area, aims to reinterpret other features, other opportunities for linking the city with the old town with canals but also because there is a problem of connection. Now, the creation of a pedestrian bridge and cycling and reuse of the buildings for most functions that allow a greater diversity and sociability among people determines the "old" city and mark - monument building. This building has two distinct functions: the ground floor is commercial and the middle floor and offices on the top floor the panoramic restaurant that overlooks the city and this floor is the reuse of a "bridge" to integrate one another associated with residential building and, more specifically, exhibition space and library. As for the other industrial buildings - the silo is hotel and store greenhouse is with leisure facilities.
We wanted to bring life, to attract people to the canal side. The city administration wishes young people to stay and live in Helmond. At the moment the canal side, well accessible from both sides of the city, offers no activities for citizens, but the location has a great potential. We took the future hopes of the city as our lead for the proposal and created a series of urban activities to trigger new life along the water crossing the city.

The Urban Playground consists of 4 interventions along the canal side: the floating gardens, the green tower, the outdoor gym and the Vlisco textile factory. The floating gardens are small islands for citizens to grow own vegetables or flowers. The green tower, vertical park, functions as an oasis for recreation. It is an island, which you enter by small boats. The outdoor gym is located near the park and it is easy to access.

The Vlisco textile factory is still willing to continue its manufacture, but the company does not need all the spaces. We wanted to take part of the Vlisco for temporary use and connect this way the factory as part of the urban activities chain.

We took over spaces for sport activities, people’s kitchen, cinema and chill out places. On the top floor big space, with a pool it is possible to lie on the hammocks made by Vlisco’s beautiful African style fabrics and enjoy the view over the city. In front of Vlisco we took part of the canal away, and put a new outside pool in the canal.

All these projects create a red promenade line, activating the waterfront and creating a connection to the new green park in the north. The idea is that these developments, interventions change and become more as the industry later on is moving away…
III. DESIGN

HELMOND

FEEL THE CANAL

Forgotten - Missing?

Empty - Unsafe

Boring

Ridiculous - Grey

Lonely

Romantic Relax

Ugly - Closed

Huge - Unfriendly

Coming Together

Getting Separated

Getting Back Together

The Canals

The City

The Urban Area

City and the Canals

Abandoned Canal

Shipping Canal
III. DESIGN

IMPRESSIONS AND ANALYSIS

Helmond is like a ...

Canal is split into three main areas:
1. Vlisco: which the roof falls like a tectile
2. The Center which it is smooth
3. Industry area which is sharp

CONCEPTS AND MASTER PLAN

Canal is split into three main areas:
1. Vlisco: which the roof falls like a tectile
2. The Center which it is smooth
3. Industry area which is sharp

GIVING LUSTRE TO THE RUST

ELIR 2011
European Laboratory for Industrial Reform

GROUP 3

TU e

Green Map

FUNCTIONS OF THE CANAL

Ininity Rough

ZONING OF THE CANAL
VLISCO = FACTORY OF FUN

The factory is split into three main areas: 1. VLISCO, which has a smooth finish; 2. Industry area, which is sharp; 3. Canal, which is split into three main areas: 1. VLISCO, which has a rough finish; 2. The Center, which is smooth; 3. Industry area, which is sharp.

View to Skatepark

Summer

Winter

View to Playground | Chillout | Pool

With hammocks from the textiles of VLISCO

SECTION a-a

Scale:

Floor Plan - Ground Level Scale:

Floor Plan - First Floor Scale:

Floor Plan - Second Floor Scale:

Floor Plan - Fourth Floor Scale:

III. DESIGN
The area of the well-known textile factory VLISCO in Helmond has been a subject of the project consideration – what should happen with this industrial area, if one day the factory will be closed? Many examples from other places and countries encouraged to rise this question. This question is not so simple, as it might occur. First of all the appropriate approach to the industrial heritage has to be established. Is the industry an heritage? If yes, should it be preserved? In which extend? Are we able to choose the strategy of conservation of industrial heritage? Or – maybe the land is more valuable for the future investments than the rests of the abandoned factory? Is the reuse of factory buildings the right way to proceed with the industrial left-over? Many questions had to be answered in the short period of the workshop.

The VLISCO industrial area is located in the close vicinity to the city of Helmond and its marvellous castle. The urban situation and connection of this area with the rest of the city by the industrial canal, encouraged the group to undertake some goal-oriented intervention plans. After long discussions three possible scenarios has been developed:

1. The VLISCO factory remains working – only some minimal interventions in the canal zone are possible to be introduced;

2. The production at the factory expires - the buildings remain and new functions for them can be introduced;

3. The factory is totally dissolved and dismantled. Only traces of the factory remember about its presence. New residential and mix-use functions are introduced on this attractive area.

The Group 04 decided to develop the second scenario as a leading one. The concept of VLISCO CITY emerges and becomes the new future concept for the factory. It’s core is the transformation of the area with preservation of both the buildings and specific atmosphere between arts and production. The new functions proposed are connected to the previous ones: arts & design campus as a “brain-port” – this is the proposed solution for the reuse of the factory area and buildings. The urban idea is to integrate the VLISCO area with the city, to open the walls, which are disconnecting the industrial area with the park and city structure in the neighbourhood, to introduce green inside the factory area and to transform the industrial courtyards into the public spaces integrated with the city structure. Some more architectural proposal has been done. The most important intervention has been taken at the main production buildings. The idea of the H.U.B. [Helmond Urban Brain-port] has been developed, with the function of open multifunctional space with auditorium, artistic workshops, exhibition spaces and education rooms and facilities. The architectural idea is to carve in the structure of the existing building, achieving spaces to house new functions planned. Integration, transformation, modernization, openness, brain-storming innovative education – these themes became leading ones in the planned process of VLISCO factory reuse. Wishing the factory long life and good income, we all are aware of economic changes, which influence our cities and the industrial sector. For the case of factory closing – we have an option described above. In our opinion it is the right way: “to anticipate” future development and not just wait for decay and try to save industrial heritage when it is already too late, what happens too often in many cases leading to unwilling decay of industrial heritage.
III. DESIGN

FRAGMENTATION HELMOND

SCENARIOS

EDAM
HOUSING
MAIN STREET/ COMMERCIAL
PARK/GREEN AREA
VLISCO FACTORY

SCENARIO I - VLISCO FACTORY

SCENARIO II - FACTORY BUILDINGS STAY/NEW FUNKTION

SCENARIO III - JUST ONE BUILDING STAYS

CONCEPT HELMOND

VLISCOCITY

PRIVATE - PUBLIC SPACE

HUB

HELMOND URBAN BRAINPORT

EDAM MUSEUM
CANAL
HOUSING
CITY CENTER
CABLE
VLISCO FACTORY
NEW PUBLIC HOSPITAL

DESIGN CAMPUS
STUDENT RESIDENCES
WORKSHOP ROOMS
ENGINEERING
LIBRARY
CAMPUS
MAIN RESTAURANT
FORUM
OFFICES
GAME ACADEMY
ADDITIONAL LIBRARY
III. DESIGN

HUB: URBAN BRAINPORT

The new hub building is a space where a city of DESIGN meets VILISCO, opening new areas for a diverse (VILISCO)-

Based on the theme "VILISCO," new BEEF is created. This is an ideal starting point for the transformation of the old building into a hub for creative activity.

PATTERN: BRICKS

VILISCO

The new building is designed to foster collaboration and innovation, bringing together young and established designers.

Despite the external and interior changes, the building remains a core element of the project.
Does architecture need a context?

The first reaction to this question is probably of perplexity, since among architects there is a general agreement that architecture responds to context and in many cases emerges from the particularities of it. However the question addresses an important discussion because there are various possible interpretations of what is context. The fact that it is dynamic and continuously transformed makes context hard to discuss.

How can context be perceived when holding multiple layers of transformation?

Perception opens another realm of discussion, since it is desirable, when possible, to make a deeper research about the perception of context. Through research, different contexts become readable as each particular site changes throughout time. So does its perception of it at least, this was the starting point of our team at the workshop European Laboratory Industrial Reuse - ELIR

To analyse an industrial site and understand its context, a methodology was carried out. First we listed a sequence of interventions that took place and that influenced the built environment. By researching historical material and ancient maps it become possible to read the site. The edition of the material constructs a narrative of time that expands the perception of the present situation. Hidden stories are revealed and the site is perceived in depth, like and x-ray of the site. Secondly we looked at overlapped interventions on the territory that leave fragments next to each other. Together they construct, or what is commonly understood by the context.

The possibility to identify fragments opened a new understanding of the context’s complexity. While searching for industrial reuse, it becomes essential to interpret industrial fragments. The information provided at the beginning of the workshop aimed to introduce international participants to the local situation. Site visits and lectures allowed the group to understand local values, identify the industrial character of the sites and be familiar with their identity.

Starting from this knowledge, faculty and students at our group, holding participants from different countries were able to contribute with their own perceptions. In general each had contemporary approaches and carried a local culture, diverse from the Netherlands.

The combination between realistic and creative visions characterized ELIR 2011. The idea to produce design proposals was brought by the formulation of one specific proposal.

Our location had very specific qualities and constrains. The possibility to work at three different scales allowed an intimacy that reveals how materiality, architecture and urban design are brought together. Through the methodology adopted, each scale contributed to the construction of the concept.

The materiality explains the texture, the metal is smooth and sharp while the brick presents a hard and ruff surface, together they give character to the industrial site. Concrete and brick summarize the identity of the built environment.

Buildings along the canal hold a particular cultural significance, their architecture reflects different ambitions and how communities invested throughout generations. Housing, commercial and industrial have different needs, but each relates to the canal. The factory presents an exquisite constructive system that filters the light in an efficient way. Industrial buildings offer a strong motto for the site, where the elaborate construction structure gives the sense of floating spaces.

The urban design along the canal is set at a certain level, higher than the centre of Eindhoven. Such condition is not unusual to the Netherlands; however canals placed next to each other running at different water levels emphasize the artificiality of the land, the control of tides and flows. At present, the canal faces the precarious balance of artificial land, holding an elaborate futuristic question regarding the strength of climate change. Where water levels, are threatened by natural forces and may create catastrophes when out of control. The canal delicate system faces global warming threats and
the consequent unpredictable storms and floods are giving the evidence that solutions are needed in a near future.

The city urban spaces are sensed between this dialogue of land and water. Land artificially built and water running in canals carrying boats that float at different levels. Land, water and levels inspired the solution developed in our group. We search for patterns as an interpretation of context, starting with the observation of how water molecules pack together. Water, has a very strong contextual input. It is usually perceived in three different states liquid, solid and steam. The molecule of water however does not change. The design proposal adopted the structure of the molecule observed at a "chemical" scale, as it seemed to serve our science-inspired optimism in the pursuit of an urban shape for Eindhoven Canal. Merging local social, industrial and cultural programs, but also urgencies of global environmental and economic challenges.

The structural solution adopts a belief in a constructive premise of space conception (pure geometric association). We register that large urban structures may grow by associating small elements (minimum units), based on intelligible rules while establishing a parallel that may be found in the packing system of water molecules. The use of the “Y” shaped units (what we called molecular connectors), to replicate these modules as a design process, we focused on the procedures of architectural influence on the expansion of the built environment. Thus, allowing the emergence of urban entities and patterns as part of unpredicted experiments. The experiments featured different connectivity conditions based on more empirical urban and programmatic rules.

The proposal presents a system that convenes an extended timeframe period. Since, from our perspective urban design cannot be anticipated, but only driven and crossed with the students design intentions and sensibilities. We believe that similar processes of research used during this workshop can be implemented in Eindhoven city planning practice.

The intention is to consider basic elements that must be integrated when imagining industrial reuse. The visual representation of the system of urban growth is provocative. The system integrates the same principles faced by industrialization and control of floods with contemporary strategies. It addresses the present challenges of sea level raise, unpredictability of natural forces and future structural possibilities. For the design of new urban tissue we merge disciplines that are often separated – architecture and public space – to challenge the current convention that public open spaces are located between buildings, here public space stands below functions working above and inside the building structure.
UKY AND WEI TERRITORIES

The Canal Zone of Eirathoven was developed as the city's second industrial zone, according to Figure 5, which originally was Philips developed. The Canal was used for transport for the factories, before transport, while the factories remain, transport is no longer by the canal but rather by road.

The canal, together with its strong buildings, acts as a barrier between two residential neighborhoods. From our analysis we noticed that the Canal Zone and its surrounding areas act as linear parks separated by strong edges, barriers which desire pedestrian movement from zone to zone.

Our design solution is set upon the idea that a dialogue with nature will provide more sustainable and up to date design while dry territories become the theme to investigate.

Topographic variations.

The molecule of the water sets the pattern for the new urban fabric. The geometry of the pattern is organized in space and time.

Artificial landscapes that lead to ideas of continuous urban growth.

The evolution in times should produce concentration and extend the pattern higher thus creating a urban system that evoke a MOUNTAIN.
Urban regeneration is a key focus for public policy throughout Europe. This launch marks an examination of social sustainability through the analysis of its meaning and significance. The authors and academics offer a comprehensive European perspective to identify sustainable urban regeneration and discuss current policy and the future of the EU Urban Agenda. The scope of ELIR - European Laboratory Industrial Reuse is defined within the framework of these recent discussions. The theme is to focus on the reuse of former industrial canal zones and consequent regeneration of their waterfront. Thus, it aims to revive the identity of old industrial cities and to enhance the distinctive character that these canal zones gave to their city in the past. The objectives are put forward to develop an international platform to discuss the methods of reuse of the urban industrial heritage and enhance the use of new technology in terms of materiality and design of the old sites and buildings.

The studio group Canalscape worked in Tilburg which is the second largest city of Noord-Brabant, and the sixth city of the Netherlands. Like Eindhoven Helmond, 's-Hertogenbosch, and Breda it is one of the five cities of the southern area of The Netherlands, named Brabant. They form the so called BrabantStad or B5. In the past being located in the leading industrial area of the country, Tilburg has physical and social connections with the other industrial cities by a canal. Besides its geographical connections Tilburg has also cultural and historical bonds as a part of a significant industrial heritage.

Methodological Approach of the Studio

The methodological approach of the experimental studio being presented is founded over focusing the new, different and non conventional design methods and tools. These methods and tools are chosen from interdisciplinary fields. Digital media and software enable these methods and tools to be associated to all the phases of design process not only to the final architectural design product. In that sense, experimental design studio enhances the creativity of students, and the design exercises of developed formal expressions benefited from the adopted approach.

In our group we promoted the artistic creativity of our students in the studio as well as their architectural knowledge on space and landscape. We took all the advantages of our students' skills in 2D and 3D CAD software. We promoted and motivated the use of all digital media to develop our design concepts and approaches, but it was not a paperless design studio or a virtual design studio, or a digital one. We at the same time supported all kind of paper work also hands on productions but it was never a conventional masters and apprentices design studio. We rather prefer to call our studio a multilayered, multidimensional experimental studio. We focused on the existing virtues of the area. We examined the urban landscape...
together with the natural and artificial landscape of the city and especially focused on the canal area. We did solid void mapping of the area, surface construction and material survey, search for a pattern language and programming of the urban land. We operated through a wide range of media such as paper sketches, photography and collage, movie making, digital drawing, CAD etc. as a way to add dimensions to the design.

We developed our own critical reflections, cultural decisions and choices in order to bring the old industrial site; the canal area in Tilburg to the laboratory of industrial reuse. We tried to develop a new and an unconventional urban landscape. That’s why we called our group as Group Canalscape.

Conceptual Approach of the Studio

The group first started to explore the urban quality and the significance of the canal zone within its historical context. We tried to decipher the historical urban structure which is started to be erased by the new urban developments. The existing urban fabric gave some major hints to be followed. The discussions focused on the existing sites of industrial heritage. The old factories around the canal zone were the key buildings of the industrial site. Some of them were abandoned, some were re-functioned. The group discovered the traces of old routes that have an internal location in the city fabric.

The spatial layout of the old industrial buildings around the canal zone indicate the urban pattern and also the social dimensions of production in that region. For a proper re-conceptualization the group aimed to reveal the social meaning of the site that is hidden in the public memory of the society. The old industrial buildings are the urban artefacts of the “living history” like a “living museum”. To decipher the social meaning recorded in the old buildings of the industrial heritage the group focused on a specific area on the canal zone.

The major industrial artefact in the site near the canal is an old church which is converted to a supermarket today. Although the building is being densely used in the neighbourhood, it is not a part of organized social activities and recreational facilities. The structural layout of the building indicates the former function of the building as a warehouse. Through years the industrial function is converted to a religious use and then to a commercial use. The steel structure of the supermarket indicates its former functions as a warehouse and also as a church.

In our conceptual approach the context is redefined with the collective memory of the site and the changing public life in the city. Whether defined under the concept of place, location, site, environment, region territory and geography or history, culture, politics and social issues context is always related with the daily life of the citizens. It is either seen as concrete material forms to be mapped, analyzed, and explained; or mental constructs, ideas about and representations of space and its social significance.

For a proper re-conceptualization potentials of the site and daily life were analyzed. There is an unused potential in terms of physical and social qualities of the canal zone. The natural landscape as well as the historical landscape provides a significant potential in terms of recreational and cultural use of the site. The canal has a significant potential and spatial quality in connecting the two sides of the canal area and also the continuity of the public life in the city. In that laboratory of industrial reuse we searched for a new concept to develop a new and an unconventional urban landscape. In that

Fig. 2 Proposal plan of the Plushaven harbour
sense, re-conceptualization of the canal in terms of its spatiality, functional quality and social significance formed the design concept of the studio.

The Unconventional Urban Landscape

We used this unconventional definition as canalscape because it is a project focusing on the revitalization of the canal area where traces of industrial archeology and the city, nature and architecture, history and environment, individual space and social space meet. To enhance the connection between land and canal, we decided to concentrate on smoothing the demarcation between land and water, and blurring the edge. In that sense, urban porosity, flexibility, ambiguity, fusion, mutual permeation were our keywords in developing this conceptual approach.

The concept of “blurring edges” in terms of “floating decks” is developed as a strategy to question the relation between city and nature and to suggest an ecological relation as a system to connect future development of public spaces with the existing public spaces along the canal area. The concept integrates nature with an artificial landscape to create a new form of ecologically balanced living environment and to create a new physical formation like a flowing landscape. This idea of flowing landscape will also enhance the connection of the city with the country. It is also expected to host outdoor spaces for recreation and for relaxation. In that sense, floating decks are designed to provide platforms for several public activities in various scale and function. Since they have a potential of connecting each other and changing dimension and form, they have a multi-use character. Some parts will offer collective spaces such as theatrical venues and sport facilities. All kinds of public open spaces and facilities which may offer service to the entire city are included in the programming of the “floating decks” and the size, scale and intensity can be decided in accordance.

The concept of blurring edges and urban porosity gave us new ideas on interpreting the existing industrial heritage on the site. Concentrating on the physical remains of the former church, today’s supermarket we decided to recover the collective memory of the town. But collective memory will also help the construction of the new public memory in the site. In that sense, social and cultural programming of the church was important in terms of developing new urban landscape and new public culture in the city. So, by proposing “blurring edges for the church” by removing the walls but keeping the steel construction, we aimed to create new forms of landscape, new spatial relationships with new programs.

The steel construction carries a symbolic meaning in reminding its former industrial and religious functions in the canal area. It enhances both the historical values of the site and also new technological approach of the design. It encourages the continuity of the public use of the building with new cultural and social facilities. It was an enquiry into the origins of the industrial heritage and the impact of public memory. It is a search for re-conceptualization of everyday life, the spatial and social practices of the citizens.

The unconventional urban landscape provides a new network in the continuity of public life in the canal area. The residential, commercial and recreational functions are proposed due to the concepts developed by re-conceptualization of spatial, functional and social qualities of the site. It also aims to promote the network among other industrial cities in that region, in terms of the continuity of the historical urban structure and the physical qualities of the canalscape. In that sense, historical values are conserved and the continuity of cultural activities is enhanced.

Finally we may say that our proposal does not create the destruction of any legacy of the past. In recognition of the past and present, it adds a new type of landscape as a layer on the city’s history. In between two layers, where the old and the new are superimposed, it might cast an image of a city that we hope will yield a new form of urbanism.
III. DESIGN
The RE-group
From a post-it analysis to a concept of reactivation.

The English architect Cedric Price (2003), a prominent architecture critic, pleaded during the Eighties for more tolerance with respect to urban regeneration. He describes six design methods that comprise the major approaches towards transformation of existing buildings: reduction, addition, insertion, connection, demolition and expansion.

With this background and a field trip to Breda where the site was located the students were forced to summarize their first ideas into one common concept. Instead of an initial discussion, which would lead too far into detail the task was to sketch first impressions on post-its. According to Cedric Price’s idea of urban regeneration the combination of the ideas were used as the common analysis – adaptable, space for interpretation and readjustment to the specific purpose.

As my teaching concept of guiding not leading students in many controversial discussions the ideas were formed into a strategy and individual solutions for the given site. Finally they came up with the idea of strengthening the existing location through implementing additional purposes for this zone based on the "love boat" which was towed at the pier in the side-canal.

The combination of two workshops, one on material, the other on a site specific project, generated an active and vivid working atmosphere. Individuals became part of their groups and worked enthusiastically on their tasks.
III. DESIGN

1.0 rethink
The first step of our project was visiting Breda to get an impression of the canal area. The area, which was already made a Water-Plan, is very loud with too many cars. This is a common problem in Breda, because of the traffic, it is hard to find a place where you can rest and enjoy the view of the canal. The Plan was actually never realised and was abandoned years ago.

Some interesting and attractive again.

Bring back life to the canal area

2.0 reANALYSE

This place can be a new attraction for the canal zone. This place can be a new attraction for the canal zone. This place can be a new attraction for the canal zone.

Think about changing the area into a green area.

3.0 reMOVE

Think about changing the area into a green area.

The area is already planned and can be an attraction for the canal zone.

Bring some green into the area. Combine art with nature and green.

4.0 reBORN

Bring some green into the area. Combine art with nature and green.

Empty space with a great variety of shapes. Give the area some life and "soul" and add a change. People from the other side of the canal will be the audience.

GIVING LUSTRE TO THE RUST
III. DESIGN

rePROGRAMMING

Breda
III. DESIGN

5.0 reMIND
Keeping the structure and the materials
The classical structures of the bricks and steel bars is a vital aspect in designing new landscapes, buildings and spaces.

6.0 reUSE
Using the same space for different uses.
Keeping the structures and materials of the old buildings for different uses.

7.0 rePLAY
Reusing the old to create something new.
III. DESIGN

8/ SPARK

Prof. Maarten Willems and tutor Hajo Schilperoort.
Students: Hanneke Godfroij, Natalia Paszkowska, Ferdinand Schwitzer, Gözde Yıldız, Kati Kivela, Farah Abu Alia, Parisa Khademagha

Have a spark!

We visited, analysed and discussed the site and the empty buildings in Breda, and the general idea and urge was to bring back life to the site, that we considered to be both boring and dead.

The question then of course is how? We studied and discussed gentrification, where typically the low real estate prices after decay of an area first attracts artists, then hip galleries and restaurants, then yuppies, and so forth, until at the end of the cycle the gentrified area is considered to be highly attractive, and real estate prices are substantially higher than at the start. Sometimes, like at the heritage site Strijp-S in Eindhoven, there is a (highly effective!) development plan, that not only contains investments in ‘stones and trees’, but also takes on programming of the area with concerts, festivals, expo fairs, etc.

Finally, the architecture has the purpose of marketing. The students focused on signing/designing the entrance roads, creating unusual artefacts that say “There’s something going on here, you need to see this!” It is not even that important what kind of architecture it is exactly, what is important that is gets our attention and tickles our curiosity.

The combined proposal to program a trade fair and design architectural invitations, is what we call “Have a spark!”. The idea is to ignite a process that has an impact on the wider area for the benefit of Breda.

We tried to look for other options than to create yet another place for skaters and artists, because there is limited stock of these. We have been looking for a way to revitalize the place with another kind of program. Also other – less “human” and less “nice” - functions have been investigated, such as agriculture, logistics, military, residences for senior citizens. At the end we made the decision to develop a plan where the old buildings can be used for large trade/commercial and general audience fairs, including logistics, pedestrian routes and water taxi’s between the city centre and the fair site, floating hotels, and attractive public space.

The intense project formula is too short to investigate in depth the feasibility of this plan (is there room for an extra fair location in Brabant or The Netherlands, besides Brahanthallen in Den Bosch, Jaarbeurs in Utrecht, RAI in Amsterdam, and others?), but if it is feasible, it is an interesting idea that brings a lot of people and economic activity to the site. And it has a strong positive impact on the wider environment, especially the zone between the projected fair and the train station. And the latter is a stop in the European High Speed Rail Network (between Brussels and Amsterdam). This offers an extra possibility for Breda to play a role at a level above the regional and national scale.
III. DESIGN

Analysis and problems

Breda is a city in the South of the Netherlands. The city is crossed by a small river, called “The Mark”. The big picture in the middle shows the transport system and the functional spreading of the city, but the site is the red dot. The strengths of the city are the banks of the river and the close distance to the city centre.

But the city has problems too. The original factories have left the area in the past decades. The old industrial sites near the city centre were redeveloped, but because of the economic crisis the plans were abandoned. This leaves a gap in the city. This area does not have a connection with the city centre.

Also the city of Breda has some problems: the city lacks identity. It is average in every imaginable way, and does not have an event, a building or anything alike it is known for. This also makes the city a bit dull.

Karim Abu Ali
Izennneh Godfrey
Rosia Kudramagha
Eelke Koetsi
Natalie Janiakova
Veronda Schilkeer
Gero de Vries
III. DESIGN

Concept and design

This section discusses the conceptual and design aspects of the project, focusing on the layout and functional components of the building. The designs are illustrated with various diagrams and photographs, highlighting the integration of architectural elements and their intended impact on the user experience. The text elaborates on the design choices made to ensure functionality, aesthetics, and sustainability. The diagrams include floor plans, elevations, and sections that detail the structural and spatial arrangements intended to define the building's character and purpose.
Urban design

The area acts as a link between the industry and the city centre. The area can act as a focus for the industries as well as the city centre. The connection is made stronger by the city centre and the area. Also, a bridge connects the two banks of the canal, on one side is the city centre and on the other side is the canal and the stop for the boat. The final way in which the connection between the canal and the surroundings is made, is with the hotel. The hotel is located on the canal. The rooms are actually boats that can sail away, if desired.
MATERIAL LAB 2: CONCRETE
PARTICIPANTS:

The Host
Technical University of Eindhoven, the Netherlands

The TU/e Organisation
dr. ir. Irene Curulli, scientific coordinator Elir 2011
Jan Schevers, co-organiser
Tom Veeger, co-organiser

Participating Universities
Universita’degli Studi di Firenze,Facolta’di Ingegneria, Italy
Gazi University Ankara, Turkey
Lusofona University of Humanity and Technology Lisbon, Portugal
Hafen City Universität Hamburg, Germany
Zachodniopomorski Uniwersytet Technologiczny Wszczecinie, Poland
University of Technology Tampere, Finland
Universität Innsbruck, Austria

Professors
Friederike Schröder,
professor - HCU|HafenCity Universität Hamburg, Germany
Korinna Thielen,
professor from the HCU|HafenCity Universität Hamburg, Germany
Timothy Pape,
professor from HCU|HafenCity Universität Hamburg, Germany
Dimitra Babalis,
professor from the Universita’degli Studi di Firenze,Facolta’di Ingegneria, Italy
Matteo Crociani,
tutor from the Universita’degli Studi di Firenze,Facolta’di Ingegneria, Italy
Anna-Maija Tuunanen,
senior lecturer -Tampere University of Technology Department of Architecture in Tampere, Finland
Zbigniew Paszkowski,
professor from the ZUT /West Pommeranian University of Technology in Szczecin, Poland
Adam Zволiński,
Dr. from the ZUT/West Pommeranian University of Technology in Szczecin, Poland
Pedro Ressano Garcia,
professor from the Universidade Lusofona de Humanidades e Technologias in Lisbon, Portugal
Filipe Afonso,
professor from the Universidade Lusofona de Humanidades e Technologias in Lisbon, Portugal
Zeynep Uludağ,
professor from the Gazi University, Faculty of Architecture in Ankara, Turkey
Hakan Saglam,
professor from the Gazi University, Faculty of Architecture in Ankara, Turkey
Alexander Pfanzelt,
professor from the University of Innsbruck, Faculty of Architecture in Innsbruck, Austria
Maarten Willems,
ir. from the Eindhoven University of Technology, Department of Built Environment, The Netherlands
Hajo Schilperoor,
ir. from the Eindhoven University of Technology, Department of Built Environment, The Netherlands

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