

# Adaptive Reuse of Specialised Industrial Buildings and Structures

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Post-industrial era has brought new appeals in fields of culture and society, economy and environment. The industrial restructuring is proceeding from the sixties in countries of the developed world. Yet, many questions still remain unanswered and majority of the society has not accepted the complex change with its consequences.

The potential of industrial heritage is gaining special urgency in the context of economical crisis, search for cultural identity and favored principles of sustainable development. An important part of the sustainability is regarded as the quality of our environment.

The aim of this research is to fill one of the gaps in the knowledge about industrial heritage, to uncover difficulties and possibilities of new utilization of specialised industrial buildings.

Specialised industrial buildings are described as spatial structures, characterized by previous processes that ran in them. Space, structure and technological flow are key words for these objects or complexes. Thanks to these qualities, it is possible to classify and describe individual types of specialised industrial buildings, and perform the research based on a

recognition of the potential of each type. The objective of this attitude is to express under what conditions the conversion and subsequent integration would be successful. In a broader perspective, we can imagine that the research will not only uncover an image of potential, possibilities and limits of industrial heritage, but also a general knowledge transferable on another typological species and broader range of historical architecture.

Most of the special industrial buildings originates in the 19th or 20th century, a lot of them represents parts of infrastructure - objects that aren't commonly seen as monuments. Therefore, the topic also touches on issues difficult to define, such as breadth of cultural heritage protection, the value of heritage.

The strength of the testimony of specialised industrial buildings is often enhanced by unusual size and uncommon position in a city structure or landscape composition. Successful conversions of special industrial building proven that these elusive objects are important elements or even dominants in the urban structure and landscape and therefore often are bearers of the genius loci.

The unusual character of specialised industrial buildings, which often represent the dehumanizing machines, huge statues of unusual scales, enhances the power of the symbolism of the new use of industrial buildings. In connection with objects, whose conversion and regeneration is extremely difficult, moreover, the question arises whether it is possible, wise - and sustainable - again to return all in life? This reasoning opens up for us again the actual issues of refinement of resources, and sustainability of human (building) actions on the planet.

In this optics, it is important to perceive the industrial sites as potential initial areas for solving and mitigating environmental and social problems they had caused in the past. It seems appropriate to set sustainable principles of adaptive reuse of (special) industrial buildings, which will lead to integration of industrial sites to local socioeconomic and urban structure, so that projects of adapted - previously unused - industrial complexes would represent the flagships of sustainable building production.

## Adaptive reuse of specialised industrial buildings and structures

105th ACSA annual meeting: Brooklyn Sais Move to Detroit, Detroit, march 2017

**The research for solutions to redundant industrial heritage sites** forms an important part of the **concept of sustainability**. The purpose of this **interpretation** is to explore **typological factors** that may affect the **adaptability of specialised industrial buildings**. **The adaptability of (industrial) building** will be generally defined as an **ability of construction to undergo a change of use**.



industry

transport

urban infrastructure

**Specialized industrial buildings** are constructions, which have served **heavy industry, transportation or urban infrastructure**. Their form was shaped by the **movements of medias or machines, not by human uses** - their **scale is often huge**, their **typology and volumetry is often unusual**. **Their form follows the function...**

**The main challenge for adaptive reuse** projects of these structures is finding a way **how to design an adaptation to a new function** (mostly based on a human scale) **for a construction with inhuman characteristics**. In the process, it is necessary to **emphasise historical and social value** of the building / structure, its **architectural and industrial legacy**, while performing the project at a **reasonable cost** and in accordance with the **concept of sustainability** and **respect for the environment**.



**Work in the landscape**  
full - empty

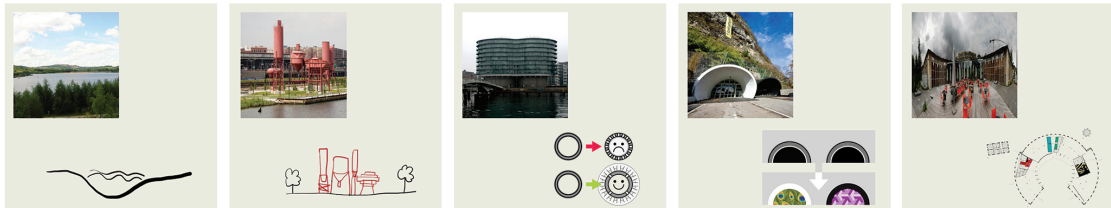
**Machinery**  
big - small

**Containers**  
silos - tanks - gasometres

**Excessive structures**  
linear - vertical

**Special volumes**  
form - size

The **analyse of selected case studies of projects realized in occidental world** is expressing relations between **typology - volumetry - adaptability** and **highlighting notable solutions** to their adaptation.



**Erholungsgebiet Oibersdorfer See**  
Zittau, Germany  
before: brown coal mines (1908)  
after: relaxation water area (2003)  
author / investor: ... / IBA

**Erholungsgebiet Oibersdorfer See**  
NY, USA  
before: concrete plant (1940)  
after: park (2009)  
author / investor: Field operation / ...

**Gemini**  
Copenhagen, Denmark  
before: grain silos (1908)  
after: housing (2003)  
author / investor: MVRDV / ...

**Trento tunnel**  
Trento, Italy  
before: highway tunnel (1960)  
after: gallery (2009)  
author / investor: Elisabetta Teragni

**Lokremise**  
St. Gallen, Switzerland  
before: locomotive depot (1901)  
after: cultural center (2008)  
author / investor: Strum & Wolf