FIG WORKING WEEK 2025
AND Locate25 THE NATIONAL GEOSPATIAL CONFERENCE
Collaboration, Innovation and Resilience: Championing a Digital Generation
FIG Geospatial Council of Australia
Brisbane, Australia 6–10 April

Conservation and adaptive reuse of the Romanian industrial heritage as circular architecture solutions

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Picture: Silo "decorated" with graffiti- Timișoara within the European Cultural Capital 2023
(Source: own elaboration)

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OUTLINE

- Aim and objectives
- Deindustrialization versus industrial heritage
- Industrial heritage conservation in the perspective of circular economy
- Methodology
- Adaptive reuse of the Romanian industrial heritage as circular architecture solutions
- Conclusions

AIM AND OBJECTIVES

-to analyze the dynamics of adaptive reuses of industrial heritage assets located in two large cities of Romania from the perspective of integrated urban planning

Q1: to highlight functional conversions of Romanian industrial heritage carried out in a sustainable way: a selection of relevant case studies

Q2: raising awareness of the role of circular solutions both for the limitation of waste in constructions, as well as for the adaptive reuse of industrial monuments among policy-makers and entrepreneurs

DEINDUSTRIALIZATION VERSUS INDUSTRIAL HERITAGE

- major economic restructuring of 1960-1970 decade (in Western European countries): changes in economic, social and cultural terms
- former redundant industrial sites were abandoned → industrial heritage has come to the attention of specialists due to its patrimonial values (historical, architectural, technological)
- the patrimonialisation of industrial sites began in the second half of 20th century, especially those of monumental character
- second stage of deindustrialization in European countries of the former Communist Bloc after the '90s
- large number of abandoned industrial heritage assets imposes the urgency of assigning them new functions
- the awareness of the key role that industrial heritage can play in urban regeneration process for sustainable development

Circular economy versus adaptive reuse of industrial heritage

- Industrial heritage has a series of characteristics that individualize it as a special category of cultural heritage: complexity, uniqueness, authenticity and integrity + multiple associated valences (historical, architectural, technological, cultural, aesthetic)

→ **specific management aimed at adaptive reuse that would ehhance the patrimonial valences**

→ **a minimal impact on the interior configuration of industrial monuments**

Adaptive reuses - a tool through which the role of the industrial heritage in the process of sustainable territorial development, responding to environmental, economic, socio-cultural challenges: **circular solutions in the fields of constructions and industrial heritage**:

adaptive reuse projects of abandoned or underutilized buildings as an alternative to demolition
limiting land consumption

preservation of heritage values

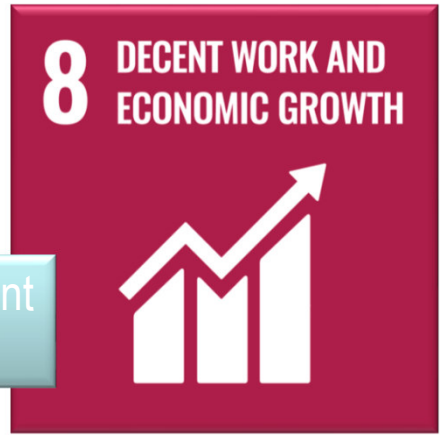
extension of heritage buildings life cycle of industrial monuments

revitalization of cities through new creative/productive activities and new socio-economic actors
sense of belonging; increased appreciation of local culture

The most relevant SDGs related to the presentation and theme of this session

1st relevant SDG

2nd relevant SDG



3rd relevant SDG

SUSTAINABLE DEVELOPMENT GOALS

International Federation of Surveyors supports the Sustainable Development Goals

THE THREE MOST RELEVANT SDGs

8 DECENT WORK AND ECONOMIC GROWTH

11 SUSTAINABLE CITIES AND COMMUNITIES

17 PARTNERSHIPS FOR THE GOALS

A great potential of industrial monuments for various ways of adaptive reuse (large surface, location in pericentral urban areas)
New jobs

Industrial heritage conversion - an important role in future development that can provide a balance between economic development, community needs and a sustainable future

large number of stakeholders involved in adaptve reuse projects (owners, decision-makers, investors, population) based on the interaction and negotiation

Social benefits: industrial buildings conversion: social or cultural activities for the benefit of the community

Methodology

- documentation (heritage importance, typology of industrial monuments, models of good practices in terms of sustainable development / adaptive reuse)
- field trips (inventory, observation of state of conservation, data collection)
- case study method: creation of a larger sample of industrial monuments in Bucharest and selection of relevant case studies: representative industrial monuments for the electricity and milling industry at the national level due to their historical and architectural values
- Cartographic method: GIS

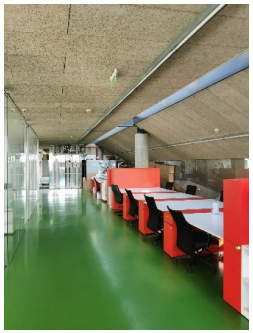
Adaptive reuse of the Romanian industrial heritage as circular architecture solutions: municipality of Bucharest

Fig. 1 The building of the former Commodity Exchange represented in a postcard (end of the nineteenth century). Source [The Ark,14]

Fig. 2 The building of the former Commodity Exchange – a positive model of restoration and adaptive reuse of industrial heritage. Source: the authors (2022)

- the former Commodity Exchange designed in 1894 by the Italian architect and art critic Giulio Magni, as part of the Bucharest Customs-Warehouses complex;
- March 1990 the building was affected by a fire and was abandoned for 16 years. The former industrial complex has passed, segmented, into private ownership

2006: regeneration project took about 8 months, and its construction took 2 years; currently famous "The Ark", houses exhibition spaces (Fig. 3a) and offices for companies in the field of advertising, architecture, other creative industries (Fig. 3 b,c).



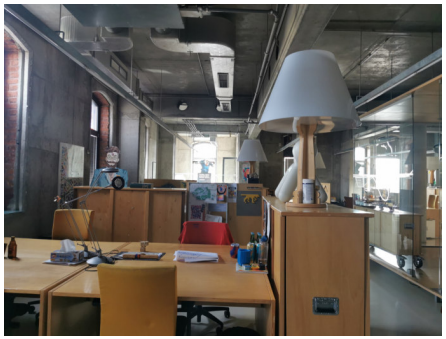


Fig. 3 Reuse of the building of the former Commodity Exchange – a, b: exhibition spaces, c: creative industries office buildings. Source: the authors (2022)

Adaptive reuse of the Romanian industrial heritage as circular architecture solutions: municipality of Bucharest

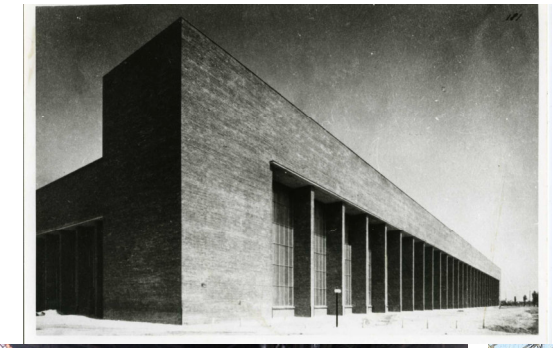


Fig. 4: Malaxa Plant during interwar period

Source: https://arhitectura-1906.ro/2018/10/arhitectura-uzinelor-malaxa/

Fig. 5: Laminor (Rolling Mill) Hall before restoration. Source: the authors (December 2017)

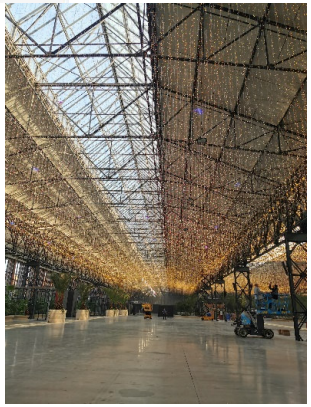
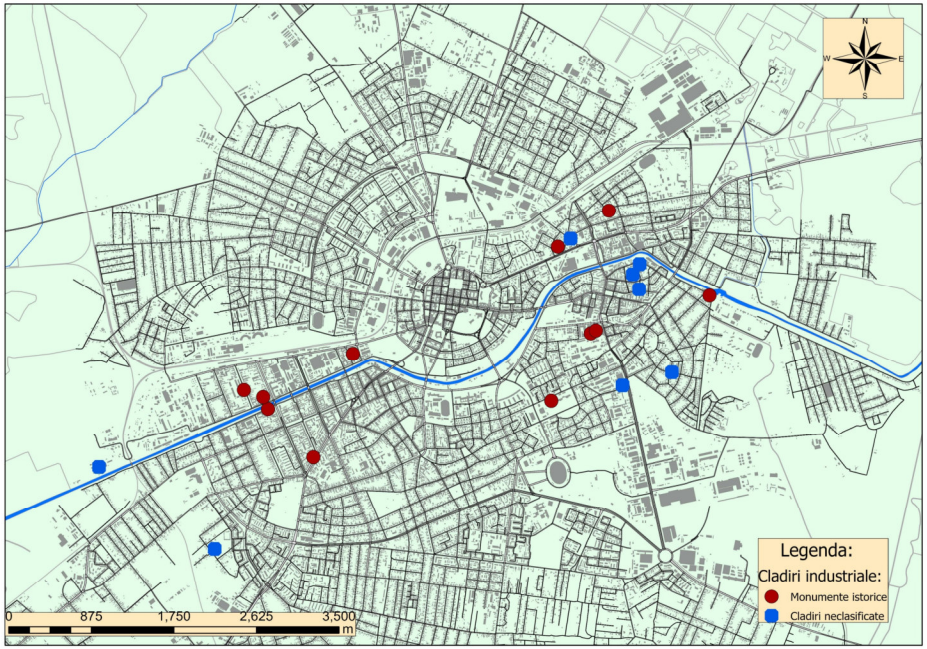


Fig. 6 a, b: The Laminor Hall after restoration: the original elements (the metal structure and the skylight) have been preserved. Source: Merciu C. (November 2024)

- The Laminor Hall was part of the Malaxa Plant built at the initiative of the industrialist Nicolae Malaxa in the interwar period (1938);
- a considerable architectural value : long length of the fronts treated in the same architectural manner with exposed brick facing, giving the hall monumentality and a special aesthetic.
- impressive dimensions were imposed by technological constraints, the factory hall has a metal structure
- the Laminor Hall was bought by the City Hall of Sector 3 and recently the process of conservation and adaptive reuse : cultural and commercial events (concerts, Christmas Fair, Food Fair)

Adaptive reuse of the Romanian industrial heritage as circular architecture solutions: municipality of Timișoara

10 industrial heritage buildings and 4 industrial buildings with potential to be classified as historical monuments



- "Little Vienna" : several historical monuments whose construction was inspired by the Baroque style, widely used in Vienna
- The third largest city **(2022)** at national level, stands out for a large and varied number of industrial heritage buildings, as a result of the fact that the evolution of the city has long been linked to that of industry
- Timisoara **was European Capital of Culture** in 2023*: several projects of adaptive reuse of industrial monuments
- *together with Elefsina (Greece) and Vesprem (Hungary)

Adaptive reuse of the Romanian industrial heritage as circular architecture solutions: municipality of Timişoara

The former tram repair workshops in Timişoara: Technical Museum (2007): arranged with the aim of preserving and rehabilitating historic trams and studying public transport

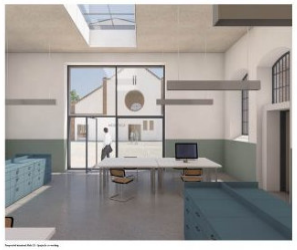
The museum's collection includes trams for the transport of passengers: the horse-drawn carriage, the „Twine" double-command carriages

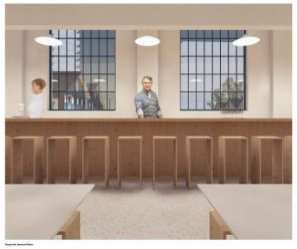
- Trolleybuses and buses are also preserved

Adaptive reuse of the Romanian industrial heritage as circular architecture solutions: municipality of Timisoara

The former tram repair workshops before restoration

The regeneration project (in the urban planning approval stage)



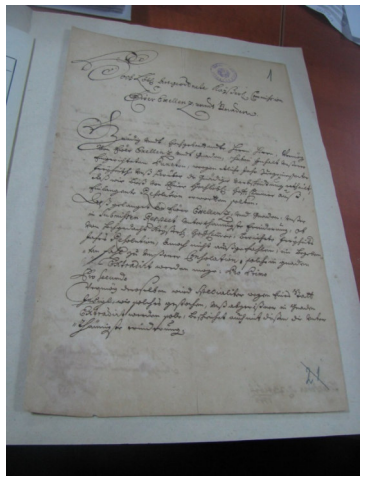


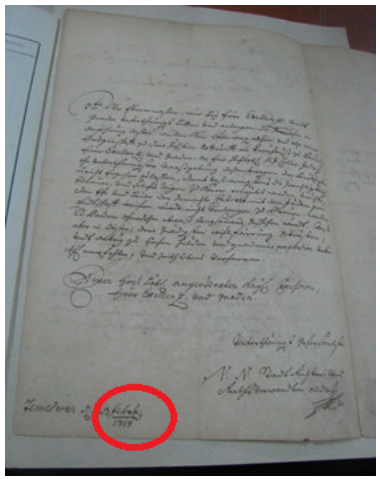
Source: https://oar.archi/concursuri/oar/centrul-pentru-arta-tehnologie-si-experiment-multiplexity-timisoara/galerie-proiecte/50-fr2122-b-i-a-serban-i-daniel-lucian/

- **Unconventional space for contemporary art MultipleXity – Center for Art, Technology and Experiment** – a competition for design solutions organized by the Romanian Order of Architects: 28 project proposals

the winning project: specific detail of industrial heritage and preserving the characteristics of the yard, with the sharp but so fluid intersections of the tram tracks on the land that it is abundant in vegetation → the media library, the expo spaces, conference / workshop / children's program spaces (the old archive space) exhibition / installations / mobile heritage (the southern sector of the large hall, the richer in old industrial machinery).

Adaptive reuse of the Romanian industrial heritage as circular architecture solutions: municipality of Timișoara





The founding act of Timișoreana brewery on the order of the Prince Eugene of Savoy

Source: Archive of Timiș county, industry collection

Timişoreana brewery

Source: the authors

The Timișoreana Brewery – a representative industrial building for the municipality of Timișoara both from an architectural point of view and in terms of historical value (it is the oldest brewery in Romania; a first brewery was attested since 1718)

One of the buildings was set up as a museum where there are exhibits that refer to the age of the beer brewing process in the capital of the Romanian Banat

Adaptive reuse of the Romanian industrial heritage as circular architecture solutions: municipality of Timișoara

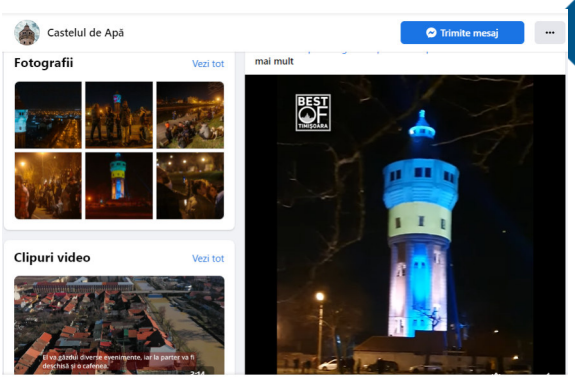
Fabric and Josephine water towers
Source: the authors

Fabric and Josephine water towers - important visual landmarks in the city

-they were part of the drinking water distribution network; role of reservoires to supply households for 3-4 hours in case of unforseen events;

-there were built of the begining of the 20th century

-the Josephine water tower included in 2020 in an extensive project - its conversion it into a permanent cultural center (RO Culture program)



Promoting the Josephine Water Castle through a sound and light show

Source: https://www.facebook.com/casteluldeapaTM

Conclusions

The issue of industrial heritage sites and buildings is of current importance in the context marked by the accelerated economic changes within the cities registered against the background of urban dynamics (deindustrialization, tertiarization)

The importance of the study is reflected by the analysis of a category of cultural heritage that is currently in a shadow cone in Romania.

Bucharest and Timisoara are two large urban centers that have registered a dynamic of reuses of industrial monuments under the impact of urban development factors (accelerated dynamics of services, new residential projects).

The industrial monuments selected as case studies represent models of good practices of adaptive reuse, constituting themselves as landmarks of circular architecture solutions at national level.

THANK YOU FOR YOUR ATTENTION!