

TICCIH



THE INTERNATIONAL
COMMITTEE FOR THE
CONSERVATION OF THE
INDUSTRIAL HERITAGE

NATIONAL REPORTS

2019 - 2022

EDITED BY JAMES DOUET



XVIII CONGRESS – Montreal, Canada

TICCIH National Reports

2019 - 2022

National Reports on Industrial Heritage

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Edited by James Douet

THE INTERNATIONAL COMMITTEE FOR THE CONSERVATION OF THE INDUSTRIAL HERITAGE

The International Committee for the Conservation of the Industrial Heritage is the world organization for industrial heritage. Its goals are to promote international cooperation in preserving, conserving, investigating, documenting, researching, interpreting, and advancing education of the industrial heritage.

<https://ticcih.org/>

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FOREWORD

Dag Avango, Professor of History, Luleå University of Technology, Sweden

It was with great interest that I took on the task of writing a foreword to this volume of national reports, authored by representatives of TICCIH around the world and submitted for publication and presentation at the 2022 TICCIH congress in Montreal, Quebec, in Canada. The volume contains no less than 34 national reports, together with a report from ERIH – the European Route of Industrial Heritage. As a member of TICCIH for more than two decades and several years on its Board of trustees, reading the reports makes me proud and full of confidence for the future of TICCIH.

The national reports give evidence of the important work that the national sections of TICCIH are doing, and of the wide variety of efforts to promote research and the preservation of Industrial Heritage (IH) that a variety of actors in the heritage sphere are undertaking nationally, regionally, and locally. It is important that TICCIH as an international organization recognizes and supports their activities. Over many years, the TICCIH Board has discussed ways to strengthen the role of national representatives, and to generate more value from their experiences and expertise. Several steps have been taken to achieve this. One is the effort to digitize national report publications from previous TICCIH congresses and to make them available online, creating thereby the possibility to map and analyze changes in the work of the national TICCIH sections and the field of industrial heritage as a whole over time, and to identify trends. The reports are also a resource for taking stock of TICCIH's national sections achievements over the decades since the organization was founded. They are motivation for continuing to develop the field of IH.

Another way of strengthening the role of the national TICCIH groups has been to establish a more prominent role for the national representative meetings at the TICCIH congresses. From having been short events with loosely-defined agendas, the national representatives' meetings now span across multiple time-slots and are becoming an arena where developments and issues of importance for IH in their countries and internationally can be aired. What these will be at the congress in Montreal, we cannot know yet, but the reports in this volume gives a hint.

It is possible to discern some trends through the collected texts. One most encouraging development in the period 2018-2021 is the expansion of TICCIH to a much wider range of countries than before, one that has been under way for years, but which clearly has gained momentum. Notable examples are in the Middle East, where national TICCIH sections in Jordan and Egypt have submitted reports, or Asia where India, China, Taiwan, Japan and others are now accompanied by TICCIH Indonesia. In Latin America TICCIH sections have been active for years, but they have strengthened their role and now interact on a continental scale. In other words, what we see is TICCIH growing, particularly in the global south. This creates new possibilities to widen the perspectives and focus areas of TICCIH, beyond the Europe-North America centered outlook which was prominent for decades.

Another tendency that seems to stand out is a decreasing interest for industrial heritage in the sphere of state-led cultural heritage management, education and research, in countries where TICCIH has been around since the 1970's. European countries such as France and Sweden are examples. This might not, however, necessarily represent a real decline in interest and or a threat. Heritage authorities are nowadays often including IH under broader conceptual umbrellas such as the heritage of modern society, while university departments make industrial heritage part of growing research fields such as environmental history. We should ask ourselves if such changes are possibilities rather than threats? At the same time, in countries with more recently established TICCIH groups working in industrial heritage, the interest of state authorities tasked with heritage

FOREWORD

protection and research are increasingly interested in Industrial heritage, from China to Croatia. What can we learn from this? We should look more deeply into the question of what the drivers of interest in IH are in the 21st century.

The national reports also suggest that some things haven't changed in TICCIH. Despite the often-mentioned multidisciplinary character of the field, the narratives in the national reports tend to be about buildings and architecture, many of the narratives formulated by scholars of architecture. I see few archaeologists, historians, geographers, cultural anthropologists and ethnographers, all scholarly fields that have contributed immensely to building IH, whom we will need also in the future. How can we support a continued strong multidisciplinary in TICCIH?

Another phenomenon is a tendency for TICCIH to focus on official heritage, i.e. the industrial cultural heritage that state agencies have defined, based on assessments of heritage scholars, and protected through listing and legislation. The national reports largely describe official heritage – big IH projects, sites preserved with heavy investments and substantial publicity. Industrial heritage sites that have made it to the status of world heritage are reported under a separate headline. Official heritage is important indeed. The increasing amount of IH sites that are protected today, including world heritage sites, is a remarkable achievement for a segment of heritage that received little interest four decades ago.

Nevertheless, the emphasis on official heritage tends to blur the fact that much Industrial Heritage protection is what some heritage scholars has termed unofficial heritage – heritage not defined by heritage experts, that are neither listed nor protected by legislation, but preserved nevertheless through the efforts of local enthusiasts and voluntary work. Some of the national reports describe the massive efforts made by local heritage societies to preserve, research and show industrial heritage and recognize its importance. There is reason to believe that more is going on in the field of unofficial industrial heritage protection than we know from reading these reports. What we do know is that the work of voluntary heritage societies can represent the bulk of IH efforts in some countries, and that their efforts often pave the way for later listing and legal protection. There are good reasons for TICCIH to pay more attention to the actors in the vast field of unofficial industrial heritage, increase our interaction with them and join forces so we can develop our field in closer collaboration in the future.

Finally, a most promising trend is the critical perspectives voiced in quite a few of the national reports in this volume. There are calls for action to counter threats to IH from climate change, government policies, strong economic interests and conflicting perspectives on how deal with the historical legacies of environmental impacts from industry. The latter seem to become a growing field of interest in the TICCIH community which also include attention to difficult histories of colonialism, imperialism and abuse of human rights. With critical perspectives, Industrial heritage can become even more relevant not only for celebrating the history and heritage of industrial society, but also for dealing with its environmental and societal impacts.

EDITOR'S INTRODUCTION

Welcome to this collection of national reports which have been prepared for TICCIH's eighteenth international congress, at the Université du Québec à Montréal. Because the congress had to be postponed for a year due to the Covid travel restrictions, this edition of the national reports covers an extended period of four years rather than the usual three which traditionally separate our conferences.

The collection is not only for a longer time period, but also includes a greater geographical range than previous editions have done. Of the seventy countries in which TICCIH has had members in recent years, colleagues from 34 countries kindly agreed to contribute to this collection for the Montreal congress. For the first time, news of the development of the valorisation, conservation and interpretation of the industrial heritage is also presented from Egypt, Jordan, Indonesia, North Macedonia and Turkey. The current Secretary General of TICCIH, Marion Steiner, has made it a priority to increase and extend our membership and the success of this effort can be read in these pages.

There is also a report from the trans-European association that encourages industrial heritage tourism, ERIH, one of several sister organisations with which the TICCIH President, Miles Oglethorpe, has signed memoranda of understanding in recent years to provide mutual assistance and cooperation.

Previous collected reports can be downloaded and read from the web site along with our other publications, notably the thematic reports on the heritage of particular industrial sectors, and the collected editions of the TICCIH Bulletin going back to 1996.

There are now nine thematic reports, of which four have appeared since our last congress in Chile in 2018. This reflects a priority of TICCIH and its last Secretary, Stephen Hughes, as well as the needs of our partner organisations ICOMOS and UNESCO for contextual information to help evaluate possible World Heritage sites. The new studies are of the heritage of textile mills, slate quarries, the water industry and of petroleum production. TICCIH remains receptive to ideas for further such research projects.

Finally, everything published in our Bulletin since 1998 has been catalogued and can now be consulted in an on-line [index](#). There are over a 1,000 articles, news items, conference reports, book reviews, obituaries, and op-ed pieces, indexed by date, author, title, subject and by country, ranging from Albania through to Venezuela.

For a small association with only the support of its members for sustenance, this extended body of research and knowledge can be a source of confidence. I am grateful to all the authors, contributors, researchers and colleagues, and notably to Daniel Schneider who has laid out some 20 issues of the Bulletin as well as this volume, for generously sharing their experience and understanding of our evolving field.

James Douet

AUSTRIA



Achensee mixed rack railway, 2021.
(Gunter Mackinger)

Silvia Mariani, Roland Tusch, Hubert Schnedl, Markus Landerer and Günter Dinhobl

INTRODUCTION

The share of classified industrial heritage decreased slightly from 6.4% in 2018 to 6.0% in 2021. In around 50 cases of industrial heritage sites the monument protection was removed, mainly due to urban development areas.

Many of the important preserved heritage sites in Austria are either in museal condition or already converted for functions and purposes. However, some of the most remarkable examples were lost during the last decades.

The former large railway stations in Vienna, all six exceptional technical buildings, were demolished during and after the second half of the last century and are today almost forgotten in public. With the help of digitisation technologies they have been digitally reconstructed and used not only for visual documentation but also as interactive environments for exhibitions, cultural and museal approaches in context of the popular metaverse strategies. The former Nordbahnhof (Northern Railway Station) in Vienna was selected as the first heritage site for a preferably exact

digital reconstruction of this lost railway station. Subsequently the 3D models will be transferred into an interactive environment and will be adapted as virtual space for exhibitions and museum use. Further prominent demolished industrial sites will follow, bringing these exceptional technical monuments back to life in a digital manner.

The Old Foundry Hall in Donawitz became a (rare) example of successful re-use of a listed industrial building in Austria (see TICCIH Bulletin #85). This Hall was integrated into a steel plant and renovated to accommodate the new use as an innovative metallurgy technical center.

Enikő Zöllner completed an internship at TICCIH Austria from March 1 to June 18, 2021 as part of her studies at the Bauhaus University Leipzig. She dealt with the preservation and management of the industrial heritage in Vienna, making it possible to assess selected industrial sites in the Viennese districts and to collect and process basic information for a future industrial heritage database of TICCIH Austria. In addition, she dealt with fundamentals of monument preservation using the example of industrial heritage (see TICCIH Bulletin #95).

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A digital reconstruction view of the station concourse of the former Northern Railway Station in Vienna, 2021. (Hubert Schnedl)

WORLD HERITAGE

In 2021 Austria shared responsibility for two additional trans-border UNESCO Heritage Sites, **The Great Spa Towns of Europe** and **Frontiers of the Roman Empire – The Danube Limes (Western Segment)**. There are now twelve World Heritage sites in Austria and nearly all of them feature elements of industrial heritage. The only industrial World Heritage site in Austria is still the Semmering Railway (since 1998). **Austria's World Heritage tentative list** includes also some sites of industrial heritage, like the Iron Trail with Erzberg and the old town of Steyr, **Großglockner High Alpine Road** or Hall in Tyrol – The Mint; for the Großglockner High Alpine Road the nomination was done, but at the moment an extensive comparative study is in progress.

MUSEUMS

Most of the countless collections of Austria's technical heritage are in the hand of initiatives and non-profit associations. A typical example for this type of industrial museums is the roll engraving manufacturing plant in Guntramsdorf, showing a unique example of a fully conserved production machinery of the early 1900s (<http://www.walzengravieranstalt.at/>) or the digital museum of tower clocks, documenting exceptional examples of chronometry over the last centuries. (<https://www.turmuhrenaustria.at/>)

Fortunately, there are no difficulties of existing museums regarding liquidation or loss of museum exhibits, even though the pandemic led to long closure times and economic deficit. Generally, the majority of collections are only survivable with the support of voluntary efforts.

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Not every plan, establishing permanent and financially independent cultural initiatives emerging out of an industrial heritage site turned out to be successful. Considering the aspect of heritage protection, the blast furnaces in Hüttenberg should be under further observation. One of the biggest ironworks in Europe during the 19th century, the industrial structures were extensively renovated and revitalized as a museum by the well-known Austrian architect Günther Domenig for the federal state exhibition in 1995. Several reuse scenarios failed, some of the buildings are already in state of decay and the whole area remains still unused today.

EDUCATION

There is no explicit study programme on industrial heritage in Austria. At the **Faculty of Architecture and Planning at Vienna University of Technology** seminar courses and lectures on building conservation, including industrial heritage issues, are organised and held on a regular basis by the Institute of Art History, Building Archaeology and Restoration.

At the Faculty of Architecture at Graz University of Technology the **Institute of Design in Consisting Structure and Architectural Heritage Protection** does research and offers teaching in the fields of documentation of cultural heritage, building research, damage analysis and conservation of monuments.

At the Faculty of Architecture at University of Innsbruck the **Institute of Architectural Theory and History of Building** offers several courses on architectural history, building surveys, construction history and the conservation of historical buildings and monuments.

The Danube University at Krems hosts at the Department for Building and Environment at **Center for Architectural Heritage**

and **Infrastructure** and a Centre for Cultural Property Protection. Courses in building refurbishment and re-use are included in the Architecture Studies curricula.

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Silvia Mariani (architect), Roland Tusch (architect), Hubert Schnedl (engineer, PLM expert), Markus Landerer (architect & art historian), Dinhobl Günter (mechanical engineer, physicist & historian).

BELGIUM



The Museum of Industry in Ghent is Flanders' all-round industrial museum, with a clear focus on textiles and printing (Museum of Industry)

Competence for heritage within Belgium is shared by the three federal entities, Flanders, Wallonia and Brussels.

FLANDERS

Dr Joeri Januarius, coordinator of ETWIE

Flanders' oldest volunteer organization for industrial heritage is the Vlaamse Vereniging voor Industriële Archeologie (VVIA, www.industrieelerfgoed.be). Founded in 1978, the association still protects and preserves industrial heritage, with a clear focus on monuments and buildings. Since 2012 ETWIE (www.etwie.be) has had Flemish-government recognition as the Center for Industrial Heritage, with the focus on movable and intangible aspects of this heritage. ETWIE is a part of the Museum of Industry in Ghent, one of Flanders' most important industrial heritage museums.

MUSEUMS

In 2022 the ETWIE database contained 274 technical and industrial museums. These are private initiatives as well as grant-aided museums with Flemish-government recognition. The museum landscape is fairly diverse and tends to reflect the specificity and locality of the industry. The Museum of Industry in Ghent is Flanders' all-round industrial museum, and has a clear focus on textiles and printing.

EDUCATION

An extensive overview by Patrick Viaene and Joeri Januarius shows a rapid decline in the number of industrial heritage courses on offer at universities. At the University of Antwerp, a master's course 'Heritage: buildings', gives a concise introduction to industrial heritage in Flanders. In 2021 the VVIA be-

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gan to offer its 'Introduction to industrial archaeology' course online, through digital lectures.

POLICY

The new vision statements on digital heritage (2017) and intangible heritage (2022) in the Cultural Heritage Decree broaden the interpretation of what industrial heritage could and should be.

PROTECTION AND SAFEGUARDING

Industrial heritage protection is not a priority for the current heritage administration. In recent years, only a few industrial heritage sites have received protected-monument or valuable maritime-heritage status. A few interesting examples are the De Beukelaer liquor distillery (2019) in Antwerp, the Timmermans brewery (2019) near Brussels, the West Hinder III lightship (2021) and the Nostalgie n° 116 shrimp trawler (2022).

In 2021, industrial heritage organizations saw an unsettling rise in the number of public inquiries to investigate options for withdrawing protected status from industrial heritage (e.g. the harbor crane at the Boel shipyard in Temse and the chimney for a former brick factory in Ramskapelle). Other non-protected industrial heritage, such as Kortrijk railway station and the Ninove brick factory, is also at risk. Industrial techniques have yet to find their way onto the Flemish inventory of intangible heritage. In 2021 the Museum of Industry's method for safeguarding old printing techniques was recorded in the Register of Good Safeguarding Practices.

RESTORATION AND REUSE

The previous Belgian national report mentioned the local heritage organization campaign to safeguard and reuse the coal-washing plant site in Beringen. In September 2021 the owner announced that two parts of the impressive building will be reused with a view to RE-NATURE (returning to nature), but it is not clear what this will mean for the building or the machinery in the plant.

In the province of Antwerp, the old Lauwers brickworks and current EMABB museum site in Boom has undergone a major transformation. The kiln, carpentry and chimney have been restored to provide additional space on-site for exhibitions and events. EMABB is to be renamed as BrickBoom. On the Tondelier site in the city of Ghent, three of the five gas holders were demolished between 1943 and 1970 and the remaining two are the only remnants of public gas production for urban lighting supplies. Restored and fully integrated in the park, they are now open to the public.



The coal-washing plant of Beringen (Flanders) is the subject of a 'renaturing' proposal. (Bart Vanacker)

SAFEGUARDING OF KNOWLEDGE

In 2018 the Flemish government began investing in 'scholarships' for masters and students. This grant system is designed to safeguard intangible heritage. In the field of industrial heritage, interesting experiments have been set up to transfer technical knowledge on things such as operating machines.

PUBLICATIONS

The 'Industrial archaeology and industrial heritage bibliography' is available in the digital knowledge platform on the ETWIE website (www.etwie.be/kennisbank). It presently lists about 8,700 titles on industrial heritage in Belgium. The Dutch-Flemish journal entitled *Erfgoed van Industrie en Techniek* is the only remaining journal dedicated to industrial heritage. In 2020, ETWIE published *Onderzoeksbalans Industrieel Erfgoed* which gives an insight into the current history and heritage research options in 36 Flemish industries.

WALLONIA

Jean-Louis Delaet, Chair of Patrimoine industriel Wallonie-Bruxelles (PIWB)

Since 2017, the territorial development Code (CoDT) has governed the relevant legislation, supplemented in 2019 by a specific Heritage Code (CoPat). Movable heritage comes under the jurisdiction of the *Fédération Wallonie-Bruxelles* (FWB) which manages people-related areas such as culture and museums.

Wallonia's proper position was recognised in 2012 by the addition to the World Heritage list of its four major mining sites,

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Guido Vanderhulst, very well-known within TICCIH and as one of the organisers of its Brussels conference in 1990, died in 2019.

following that of the hydraulic lifts of the Canal du Centre. The lack of any conscious regional policy, and more fundamentally of a true industrial culture, remains a handicap. In general, any achievements in this area come from initiatives by local people, supported by the towns and provinces, and assisted by the Wallonia Region, mainly through European Structural Funds. Many of these sites, although publicly-owned, are privately managed by non-profit associations, as a more flexible option than direct management by public authorities.

The *Agence wallonne du patrimoine* (AWaP) provides the tools for coordination in this area. This is the hope of our Patrimoine industriel Wallonie-Bruxelles (PIWVB) organisation, which unites the industrial archaeology sites. PIWVB was pleased with the statement issued regarding the need for a complete inventory of the industrial heritage in the Regional policy declaration (2019-2024). PIWVB is developing a website (www.patrimoineindustriel.be), sounding warnings when heritage sites are threatened, and also publishes its annual, themed review, *Factories and people*. Claude Gaier, our founding chairman (1984-1994), died in 2021.

Charleroi and Liège steel industry heritage. In 2020, the Wallonia Region decided to begin a regeneration process to acquire, cleanse and redevelop the disused steel-working areas. The Carsid site (Duferco Group) covers an area of 104 ha, while the ArcelorMittal sites

have a potential area of 282 ha. This process led to the appointment of two contractors, given the task of translating these visions into reality through masterplans: the Studio Paola Vigano + SWECO at Charleroi, and the Agence TER in Liège. PIWVB was approached as part of the consultation of economic, social and cultural participants.

At Charleroi in 2014, PIWVB started a citizens' committee to protect the last of the blast furnaces, the HF4 at Marcinelle. In 2017, the owner obtained permission for its partial demolition. Sadly, the request for listed status was rejected in 2020. In Liège, PIWVB has supported the steps taken by the *Maison de la métallurgie et de l'industrie liégeoise* (MMIL) to protect a bottle car, effective from 2022. A not-for-profit association *Des racines et des ailes...d'acier* [Roots and wings of steel] has just been formed to take over the last Liège blast furnace, the HFB at Ougrée. The Region first needs to acquire the abandoned sites. Negotiations are continuing to determine the sums involved, based on decontamination operations, together with the industrial operations the present owners are currently funding. PIWVB will remain alert, alongside the citizens' committees sharing the same aims.

NEW SITES

The last steam-powered brewery in the world, at Leuze-en-Hainaut, listed in 2020. Founded in 1785 at Pipaix, reopened in 1984

BELGIUM

preserving the expertise involving in steam-brewing, along with several craft beers still on the market. The original fermentation room is still there, along with the crusher, probably unique of its kind, dating from before 1894.

The former Allard-Minne spinning plant. In 2020, a citizens' committee undertook to protect this threatened building. PIWB supported the request for its inclusion on the Wallonia heritage protection list, emphasising the notable aspects. A petition gathered over 1000 signatures and the by-pass project was revised to take account of the preservation of the spinning works.

Headframes for Shaft N° 25 at Couillet. A protection committee was formed in 2020 to preserve two of the headframes. PIWB's press release was supported by the ACOM (Association européenne des communes minières) and the Flemish VVIA association. The Wallonia region finally refused permission for them to be demolished.

Housing at Cheratte. The Hasard colliery, known for its neo-mediaeval style buildings (1907), is being cleansed by the SPI (Société provinciale d'industrialisation) and the property developer Matexi. The site will accommodate 115 dwellings. PIWB has been involved in protecting the movable heritage and in the digitisation process of the site. The Malakoff tower, which will incorporate a memorial space, the machine room and the lamp room, is being redeveloped for living spaces.

An industrial archaeology hub at Le Solvent, Verviers. The former Belgian Le Solvent factory, dating from 1899, with its exceptional collection of American steam engines, was bought by the town of Verviers and the Wallonia Region in 2017. This purchase also ensures the future of the collection of 130 old textile machines stored since 2003 and cared for by the Verviers Comité scientifique d'histoire. Its volunteers have managed to bring the five steam engines back into working order. In 2018, the site also accepted two former urban tramways (1929 and 1937), which these volunteers are presently restoring. In 2021, the Wallonia Region also placed a collection of 140 old printing machines there.

La Vieille-Montagne, a museum and heritage association. A new museum was opened in 2018 at La Calamine, a place inseparably linked to the centuries-old zinc industry operated there. The self-guided tour is located in the management building dominating the mining site. An international not-for-profit organisation Vieille-Montagne Heritage, is responsible for promoting the heritage of the Vieille.

BRUSSELS

BruxellesFabriques Asbl

The Brussels industrial and social heritage has lost its greatest protector: Guido Vanderhulst passed away on 15 November 2019. Through his dedicated work, and unfailing convictions, he contributed to the rescue of numerous valuable industrial sites including Tour & Taxis, the Wielemans-Ceuppens brewery and many others. A group of organisations has proposed giving his name to a mobile pedestrian-cyclist bridge crossing the Brussels-Charleroi canal at Molenbeek, in recognition of his lifelong role as a 'knowledge broker'.

One current struggle is the preservation of the historic paved Avenue du Port. This major industrial route, a true witness on its own to the industrial development of Brussels, has for many years been the target of numerous plans by the Bruxelles-Capital Region which would irrevocably disfigure it. BruxellesFabriques has been involved with Inter-Environnement and the Atelier de recherche et d'actions urbaines (ARAU) in a legal battle with the Région.

BruxellesFabriques has also helped producing inventory sheets covering fourteen important sites. These go beyond architectural aspects to include the economic and social history of the site, and they are richly illustrated. They can be found on our website <https://bruxellesfabriques.be/>

The fortunes of these key sites of the industrial heritage have been varied. While the former *Maison du Peuple* in Anderlecht should be the subject of a major renovation project over the next few years, the fate of the *Familistère Godin* in Laeken, the younger brother of the famous *Familistère de Guise* [cooperative centre] should be mentioned. This building, clearly of major heritage value, belonged to the local authorities, but was sold to a private developer who is presently building residential units for affluent customers, a project called, without irony, Utopia. We may, nonetheless, observe that other redevelopments of industrial sites have been more welcome, the renovation of the Gare Maritime at the Tour & Taxis site receiving a Europa Nostra prize in the Conservation category in 2021.

BRAZIL

Eduardo Romero de Oliveira

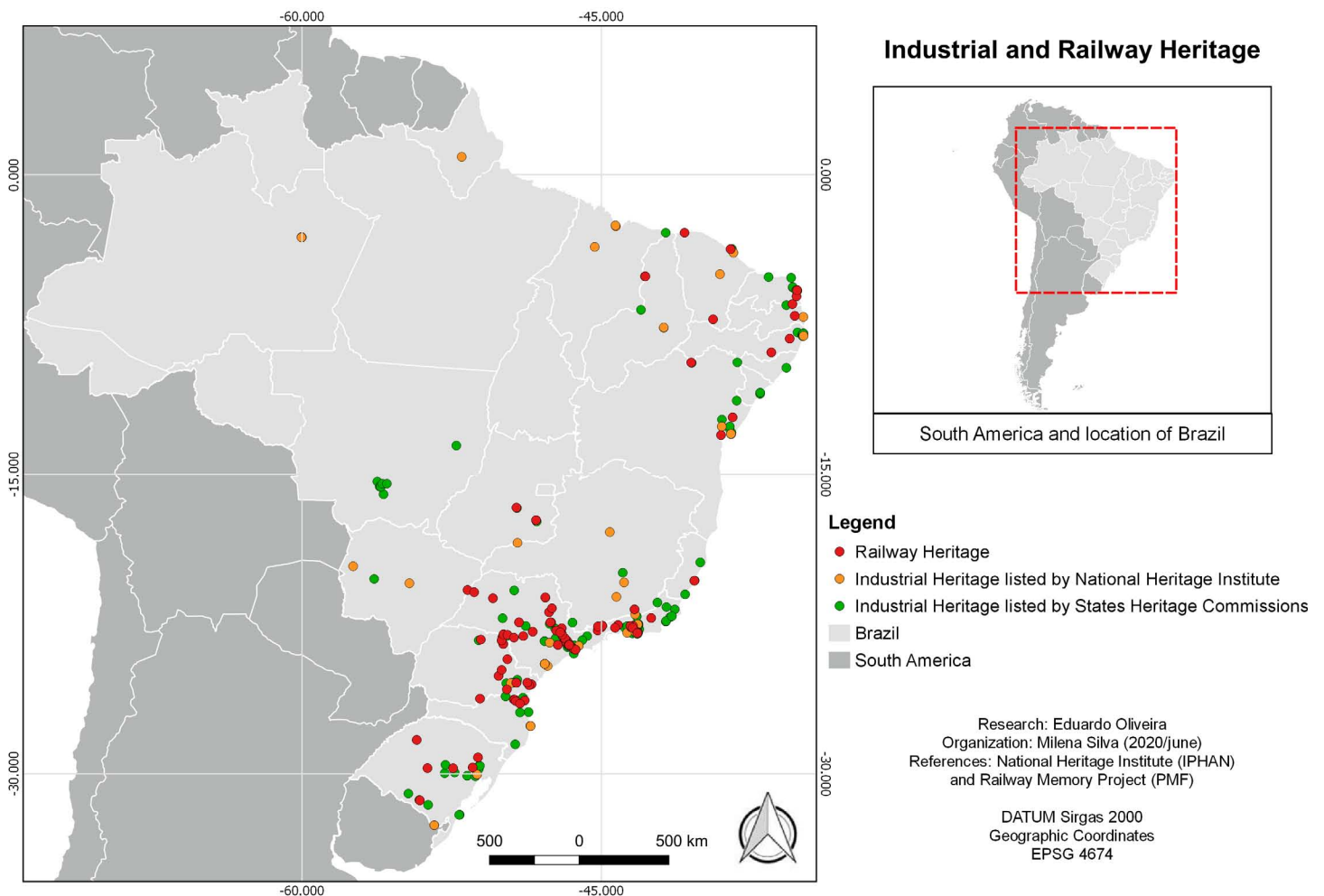
INTRODUCTION

The Brazilian TICCIH representation was created in 2004 and recognised in 2018. By 2021 it had almost one hundred members. As part of the initiatives of this national representation, the management action has promoted dissemination actions on industrial heritage. Since 2019, the entity publishes a series of e-books *Novas Investigações* (collection of academic studies) in partnership with Sao Paulo State University Press Foundation. Five have been published so far.

Several other international, national and regional events have been held in the last four years to promote conferences with conservation specialists, debates with experts and presentation of academic

papers: four regional meetings (2019); V International Congress on Railway History and Heritage (linked to the TICCIH Thematic Section - Railways, with support from ICOMOS-BR and Association Internationale pour l'Histoire des Chemins de Fer (AIHF), in 2020; National Industrial Heritage Congress (2021); Industrial Heritage Forum 2021 (with four thematic meetings on museums, architectural heritage, visual representations of industry and railway heritage thematic); Young Researchers Meeting in Railway History and Heritage (2022) and Brazilian Modern Industrial Heritage Forum 2022 (held by DOCOMOMO-Brazil and TICCIH-Brazil).

The Brazilian representation also launched this year the TICCIH-Brazil Academic Study Award 2022 to select and publish a thesis on Brazilian industrial heritage. The entity has also welcomed and supported social manifestations for the protection of industrial



Brazilian Industrial heritage protected at a state level.

BRAZIL



Restoration of Luz Station Building, São Paulo (SP). (Thais Bassichetto, 2019).

heritage in some states; besides advising requests for recognition to regional protection bodies.

We found 50 industrial assets in Brazil protected by national preservation bureau (IPHAN) and also 276 industrial assets in several Brazilian states protected up to 2016. Since then, few assets have been listed.

MUSEUMS

We highlight the mobilization and organization efforts of representatives of Coletivo de Museus Ferroviário, of Brazilian industrial museums, under the coordination of the director of the Museu do Trem railway museum in São Leopoldo. The Museu do Trem, throughout 2020 and 2021, carried out several webinars and debates on industrial collections guidelines and the difficulties of maintenance of the industrial museum in Brazil.

One of the main protected industrial sites nationwide, the railway station of Luz (São Paulo), which had been partially damaged by fire in December 2015, was recovered and reopened in July 2021. In the basement, subways and metropolitan transport lines operate. On the upper floors, where the administration of the São Paulo Railway used to be, is now the Museu da Língua Portuguesa dedicated to the cultural diversity of languages among the countries of the Community of Portuguese Speaking Countries.

EDUCATION

Heritage education actions involving schools are recurrent in Brazil, as educational policies favour school visits in natural and cultural environments as training activities. Even historic buildings are reconverted into schools. An outstanding example is the buildings of the former Companhia Têxtil Brazil Industrial (site protected by the Rio de Janeiro preservation agency), in Paracambi (Rio de Janeiro). This was an important textile industry in the 19th century, which celebrated 150 years of its foundation in 2021. Today it is the Federal Institute of Education, Science and Technology, an important educational centre in the Sul Fluminense region, with 6,000 students; primary schools, high school, technical training college and university education are installed there. In 2017 a project for the memory of industry workers (Memory Centre) was created, to gather and conserve oral and documentary material, coordinated by teachers of the Institute and carried out together with students of the Institute. These actions to preserve the memory of the industry are aimed at schools in the municipality, trade associations and residents, with support from the municipality and companies ([see video](#)).

PUBLIC POLICIES

In recent years, there have been some serious changes in public protection policies, which also affect the protected heritage. We

BRAZIL



Campinas Railway Complex, Campinas (SP). In 2022, legal protection was waived to allow a real estate project. (Thais Bassichetto, 2019).

highlight the paralysis, dismantling or distortion of the main public policies to support culture, practiced by agents of the Brazilian public power. This situation has materialized in the last three years through legally questionable acts, such as: omission, limitation or inadequacy in the application of legislation on financing cultural production; alteration in the composition of civil representation of the National Commission for Cultural Incentives, the main federal organ for the analysis and selection of cultural projects to be financed; disrespect for the filling of positions in public organs of cultural preservation as a result of the repeated nomination of people with no professional profile or compatible professional training; omission of legal protection of actions to audiovisual production; illegal and persecutory acts of the President of Palmares Foundation (entity promoting and preserving black and afro-Brazilian culture), through actions of exclusion of biographical information of personalities of African descent; vilification to

the memory and culture of the black race in Brazil; acts similar to censorship. This situation has been **denounced** by several professional and civil associations, non-governmental organizations, scientific entities and forum of preservation entities - among them national representations of ICOMOS, DOCOMOMO and ICOM. Such attitudes of the current Brazilian government affront fundamental precepts of freedom of expression, human dignity and full access to culture, which includes the promotion and protection of local culture.

Such conduct has had repercussions at regional and municipal levels, mainly by the repetition of equivalent examples by agents or in local preservation bodies. From nominations of directors of regional or municipal bodies with no professional profile or experience in conservation of cultural assets, to revisions in declarations of protection of industrial assets (with reduction, division

BRAZIL

or cancellation of protected areas), without clear technical or legal grounds. This was the case of the Campinas railway complex, which is one of the first railway lines opened in Brazil and which has the first railway workshop in Brazil designed to operate entirely by electricity (1904) along the lines of the Pullman rolling stock factory. The area was declared protected by municipal and state protection agency, although degraded, with few interventions or recovery projects, the archaeological site was intact. However, in the year 2022, the declaration of protection of a protected railway area in the city of Campinas (São Paulo) was revised, allowing the construction of a real estate project in the old railroad yard, with consequent fragmentation, destruction and illegibility of the industrial complex.

PUBLICATIONS

The Brazilian representation of TICCIH has published collections on industrial heritage, both to disseminate research and to update the debate on conservation of industrial heritage.

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- Oliveira, E. R. de (Org.). (2020). *Memória ferroviária e cultura do trabalho: Balanços teóricos e metodologias de registro de bens ferroviários numa perspectiva multidisciplinar - vol. II [Railway Memory and Work Culture: Theoretical Assessments and Methodologies for Recording Railway Assets from a Multidisciplinary Perspective - vol. II]*. São Paulo, Cultura Acadêmica.



AUTHOR

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QUEBEC (CANADA)



Les Cèdres. Aerial view of the Little Power in its site (Pierre Lahoud, 2015)

The Association québécoise pour le patrimoine industriel (AQPI) is a national heritage organisation whose mission is to promote the study, knowledge, conservation, integration, and development of industrial heritage in Quebec.

Alain Gelly

INTRODUCTION

At the Canadian level, there is no federal heritage legislation, although a bill is currently under consideration to protect and promote it. The Federal government may commemorate a site, an event, or a historical figure, but its action is limited to a gesture of recognition, except in the case of sites that it has owned, or currently owns and manages, as illustrated by the specific programs adopted for heritage railway stations and heritage lighthouses. Industrial heritage remains marginal in all other federal designations, with some 50 sites across the country, including the Rideau Canal National Historic Site, Canada's only industrial World Heritage Site. The Arvida National Historic Site, designated in 2012, is among the last of the industrial heritage sites commemorated by the Canadian government. With the exception of the Signal Hill

National Historic Site, designated in 1951, there are no industrial or technological sites on Canada's Tentative List for World Heritage Sites, which is the responsibility of Environment and Climate Change Canada and is administered by the Parks Canada Agency. Among the tools and approaches that the Agency has in place is the Cultural Resource Management Policy. As of 2021, the Treasury Board Directive on Management of Real Property, which includes requirements related to heritage conservation, is being implemented by the Agency.

Of the 971 national historic sites designated to date by the Canadian government, 134 meet the definition of the Nizhny Tagil Charter for the Industrial Heritage. Of the 174 sites administered by Parks Canada across the country, 21 are related to industrial heritage.

The legal protection and promotion of heritage in Canada is a provincial and territorial responsibility, which is reflected in the profile of associations such as the *Association québécoise pour le patrimoine industriel*, since there is no national or pan-Canadian organisation. In Quebec, the Cultural Heritage Act is the main law that frames government intervention in the field, either by the Quebec government or by the municipalities. Industrial heritage

QUEBEC (CANADA)



The former Molson Brewery industrial complex, Montréal, has a section in operation from 1786 to 2021, the one in Canada with the longest in situ period of manufacturing activity. (Robert Lussier, 2019)

is represented, among other things, by 113 buildings or complexes protected by classification status and some 30 others protected by municipalities; one of the 13 sites with the highest status of heritage recognition in Quebec and the last to be granted this status also belongs to industrial heritage, which has captured an increasing share of the interest accorded by the provincial and municipal governments to heritage.

ACTIVITIES

Except for 2020 and 2021, due to the pandemic, the *Association québécoise pour le patrimoine industriel* held an annual conference. In this respect, the 2018 conference was particularly significant,

as it highlighted the progress made over the past three decades in terms of industrial heritage in Quebec.

With a strategic plan adopted in 2016, the AQPI decided to prioritize the industrial tourism field by launching Discovering Industrial Quebec while adopting a regional approach. The former industrial metropolis of Canada, Montreal, was chosen as the pilot region. Launched in 2017, the Introduction to Industrial Montreal project has created a network of partners committed to promoting Montreal's industrial heritage. To date, four urban exploration routes linking industrial heritage sites have been completed: pedestrian routes in the Saint-Henri (2018), Mile-End (2019), and Old Montreal and surrounding neighborhoods (2022).

QUEBEC (CANADA)



The pot rooms of Arvida company town. Classified according to the Cultural Heritage Act to support local involvement in heritage, the site demonstrates the collaboration between the municipality and the MCCQ and efforts of local authorities and population in preserving this industrial heritage. (Marylin Tremblay, Ville de Saguenay/studio processing Alain Bolduc)

Finally, a bicycle circuit that starts in Saint-Henri, passes through Old Montreal via the Lachine Canal and ends in the Centre-Sud district was launched in May 2022.

Quebec also has two other organisations concerned with industrial heritage. These are the *Corporation des gestionnaires de phares de l'estuaire et du golfe Saint-Laurent* (Corporation of lighthouse managers of the St. Lawrence Estuary and Gulf); and the *Association des moulins du Québec* (Association of Quebec mills, or AMQ), which has been promoting the preservation, knowledge, appreciation, and enhancement of water mills and windmills since 2008.

PUBLIC POLICIES

Several demolitions in recent years have sparked a public debate on the shortcomings of the Cultural Heritage Act, which were high-

lighted in 2020 by the Auditor General of Quebec (AGQ). In April 2021, an overhaul of the Cultural Heritage Act was passed, requiring municipalities to conduct a comprehensive heritage inventory of all buildings on their territory dating from before 1940 (including many industrial sites).

In addition to built heritage, industrial heritage is also implicitly included in the concepts of cultural landscapes and intangible heritage that have been put forward since 2012 in the Cultural Heritage Act. No specific elements, however, have been identified or designated under these categories.

In Montreal, the municipality began its inventory and characterization of industrial complexes of interest and in 2021, the city invited the population to a public consultation on the conservation and development of industrial complexes of heritage interest.

QUEBEC (CANADA)

LEGAL PROTECTION

In a 2020 report on the management of immovable heritage by the MCCQ, the Auditor General mentioned two industrial heritage sites: the former des Cèdres hydroelectric plant, owned by the Ministère des Transports du Québec (MTQ), which exemplifies the fate of classified buildings that are not maintained in good condition, and the du Gouffre mill in Baie-Saint-Paul, illustrating 'demolition by abandonment.'

PROJECTS

Over the past five years, the Canadian government has invested more than \$255 million to protect and preserve the five historic canals in Quebec for which it is the administrator, through the Parks Canada Agency. This work has not only restored the infrastructure of the Lachine and Chambly canals (including a number of kilometres of their respective walls), but also extended their durability and better ensured their commemorative integrity. Of particular note is the policy on cultural resource management and respect for commemorative integrity.

In 2021, the RCM of Vaudreuil-Soulanges signed an agreement with the MTQ to establish the *Parc régional du canal de Soulanges*.

Since 2021, the municipal government of Quebec City has undertaken, at a cost of some \$20 million, a second restoration of one of the last eloquent examples of industrial architecture in this city dating from the early 20th century. Once restored, the F.X.-Drolet building is slated to house the municipal court and a new district postal station in 2023.

An exceptional example of the management of Montreal's water and sewer system, the Craig Pumping Station will be preventively deconstructed in 2022 in order to be rebuilt once it has been detached from the Ville-Marie Expressway.

Recognized in 2005 by Montreal for its exceptional heritage value, the Molson Brewery industrial complex is made up of a heterogeneous group of buildings reflecting the different periods of its construction. In July 2017, Molson Coors announced the closure of its brewery facilities located on rue Notre-Dame in order to relocate them to another sector of the metropolitan area. The abandonment of this emblematic site, combined with the urban requalification underway in the area, prompted Montreal to mandate its public consultation office to take the pulse of the population, and then to develop a Special Urban Planning Program to frame the subsequent transformations. Acquired by a private group, the project is to be a live-work-play project, with office, commercial, and recreational spaces, while also accommodating community needs (e.g., a school) and social housing. In

2022, the private consortium announced that three quarters of the buildings on the first urban block, the Voltigeurs, would be redeveloped and the rest demolished.

Decommissioned since 1994, Silo No.5, another iconic Montreal industrial complex, has witnessed many announcements of rehabilitation. In 2019, the Canada Lands Company, a federal Crown corporation and owner of the site, commissioned a new developer to redevelop both this complex (half a kilometre long) and the Pointe-du-Moulin lands.

Outside of Montreal, the company town site of Arvida, declared a heritage site by the Quebec government in 2017, was the subject of a transfer of responsibility agreement in 2021 that now establishes the City of Saguenay as the single window for citizen requests, particularly with respect to the restoration of the approximately 800 workers houses built there.

MUSEUMS

Between 2018 and 2022, several museums have managed, in spite of public health regulations, not only to maintain their activities, but often to experience a renewal. For example, in Montreal, the *Écomusée du fier monde*, where the AQPI's offices have been located since its founding, has set aside a significant space in its programming for the history of the industries in its neighbourhood.

In Trois-Rivières, since 2010, Boréal is has presented a collection of material objects of the paper and forestry industry as well as the memorial heritage of its actors, in the form of testimonies. This self-proclaimed museum of human, paper, and industrial stories located in a former industrial site in Trois-Rivières, has featured temporary exhibitions on the social, economic, and environmental fabric of these industries in Quebec, including *Women of Paper* (2019) and *Restoring Balance* (2022).

Completely reinvented in 2016, the *Musée de l'ingéniosité J.Armand Bombardier* (Valcourt, Eastern Townships) offers visitors a thread that focuses on the ingenuity of an inventor who transformed transportation on snow. In addition to the presentation of an impressive collection of artifacts and objects related to this mode of transportation, multimedia experiences (including theatre and show) and interactivity are part of the museum experience.

In Valleyfield, MUSO, *Musée de société des deux rives*, which received MCCQ accreditation as a museum institution in 2019, focuses on the conservation and dissemination of industrial heritage, particularly textiles, in the lineage of the Montreal Cotton company.

The *Centre d'histoire Arvida* (Arvida Heritage Centre) was created in September 2018 and accredited as a museum institution by the

QUEBEC (CANADA)

MCCQ, with the mission of highlighting and disseminating the heritage of Arvida, in order to ensure its renown, outreach, and adoption. In addition to the presentation of the genesis of the Arvidian project from the 1920s to its golden age in the 1960s, there are various virtual exhibitions, including one on the city of aluminum, and digital tours.

In Thetford Mines, the *Centre historique de la mine King/KB3* (King/KB3 Mine Historical Centre), in the heart of restored mining buildings (including the headframe), offers an immersive visit of the mining reality related to asbestos extraction. In 2021, this centre inaugurated the Renaud Fournier underground exhibition gallery, which allows visitors to discover the evolution of mining techniques, work equipment, and safety standards.

Hydro-Québec has opened 15 sites to the public, including 11 interpretation centres, to provide access to its industrial and technological heritage.

EDUCATION

Starting in the fall of 2022, the Faculty of Planning at Université de Montréal will offer a new program in built heritage conservation. In 2020, the DePOT international partnership, Deindustrialization and the Politics of our Time, based at Concordia University in Montreal, received Social Sciences and Humanities Research Council of Canada accreditation and major funding for seven years.

Athabasca University offers an on-line course on industrial heritage conservation as part of its [Heritage Resources Management](#)

(HERM) program, this unique course now in its fifth year.

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AUTHOR

Dr. Alain Gelly is President of the AQPI and a historian with Parks Canada. After a long career in applied history, where he produced publications on urban, scientific, and heritage history, he began his career at Parks Canada in 1995. During his time at Parks Canada, he has developed an expertise in industrial and cultural heritage while producing reports on economic, military, scientific, and social history. [Contact](#)

CHILE

Jaime Migone Rettig

The activities of the Chilean Committee for the Conservation of the Industrial Heritage of Chile/TICCIH Chile from 2019 to 2021 have been developed in various areas and with various initiatives ranging from studies on issues related to industrial heritage, to specific projects, generally multidisciplinary on this matter. The Covid 19 pandemic limited, as in all parts of the world, the life and social public initiatives that our committee normally develops. Therefore, our activities focused more strongly on studies and projects, which are summarized in the following activities.

Master Plan and Management Model for the Chuquicamata Camp. A former mining camp in the Andes mountains, part of the state company CODELCO, it was uninhabited in 2007 for productive and sanitary reasons. This camp, at the initiative of its former inhabitants and with the objective of heritage conservation, requested the declaration as a Historical Monument to the Council of Monuments, being granted its definitive legal protection in 2015. From 2019 to mid-2022, we developed a multidisciplinary work for this institution, consisting of the preparation of a management plan for its preventive conservation, in the first place. But also its heritage tourism management, as a site of high mining interest with more than 120 years of history in the development of copper mining, as its central axis. This work culminated in a proposal for a 10-year development plan for its implementation, where the ultimate goal is its financial autonomy from CODELCO, through cultural management and heritage conservation of the property. In addition, around 12 emergency projects were defined, to be implemented immediately, in order to stop the deterioration of the site due to its lack of use and unresolved destination.

Facade Painting Project Within the Chuquicamata camp, the legal conservation of more than 1,100 homes and buildings in an area of 40 hectares was defined. Within this immense territory, a pilot plan was defined for the conservation of the facades of 96 homes and buildings in the historic center of the protected site. A complete survey of the facades of these buildings was prepared, as well as their state of conservation. A stratigraphy was also carried out to determine the colors of each relevant element of each facade of each house or building. The criterion that was later defined, to determine the colors of the paintings in the restoration, was to maintain the originals, at the time of the declaration of Historical Monument and Typical Zone, by the Council of Monuments, in 2015. This should be completed by the end of 2022.

Pala Mundial Conservative Restoration. Among the significant heritage elements that were protected in the declaration of Chuquicamata as a heritage site by the Monuments Council of Chile in 2015 is the so-called Pala Mundial declared in the category of Historical Monument.



The Pala Mundial BUCYRUS ERIE MODEL 550 B SHOVEL (1949 – 1971), USA, in situ. Photo: Jaime Migone

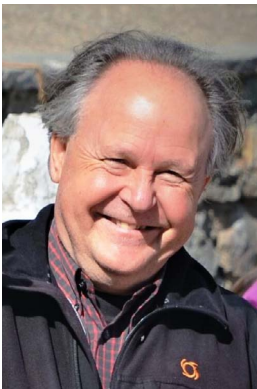
When observing in situ during a field visit carried in July 2021, it was possible to verify the existence of various damages on the surfaces and on the outside of the machine. These are fundamentally due to the use of the machine during its useful life, to the lack of maintenance and to interventions carried out after its installation in the current location. In addition, it was found that the 'World Shovel' is obviously not operational nor is it possible, under current conditions, to make it work according to its technical performance for loading and extracting material.

The intervention criteria established for the Pala Mundial obey the central objective of its conservation as a mass production machine. The intervention criterion is considered then, according to a museum object, produced industrially. It is an example of a type of machine, of which apparently eight existed in the past. It is unknown if there are other similar ones in other parts of the world or the state of conservation and if other shovels are operational. The objective is its present and future conservation, controlling and minimizing its deterioration as an object. With this conceptual framework and defined objective, the proposed intervention criterion is that of minimum intervention and the passage of time.

CHILE

In this specific case, a structural consolidation project was developed for three chimneys at a site in the Atacama desert where this reverberatory foundry operated until approximately 1875. The three chimneys were built around 1850 and have not had any maintenance or structural protection to this day. And we can consider them as a structural wonder executed with brick masonry and iron tensors with around 18 meters high. The seismic resistance capacity, given the telluric characteristics of Chile, is unparalleled.

As an intervention, in order to maintain its original characteristics, external reinforcements were proposed, by means of scaffolding, such as orthopedics. In order to deliver more resistances, give the damage accumulation for more than 180 years of life.



AUTHOR

Dr. Arq. Jaime Migone Rettig, Presidente TICCIH Chile and Member of the TICCIH BOARD.



The Dust Gallery transformed from the silos of the former Shanghai Powerplant.

Boying Liu and Yiping Dong

INTRODUCTION

From 2019 to 2022, China's urban development phase changed from rapid expansion to urban renewal. The conservation of industrial heritage and the reuse of industrial resources have attracted much social attention as public awareness of industrial heritage improves continuously. The transformation and reuse of existing buildings, especially industrial facilities, and buildings have become the focus of urban revitalization. In most megacities, industrial heritage conservation has been included in the heritage protection system and urban master plan.

With the demands and research interests increasing, there are several new developments in the governmental approaches to the industrial heritage. Further, more diversified academic research, publications, and events gradually construct a wider social appreciation and conservation interest in Industrial Heritage in China, particularly through the SUSAS 2019 in Shanghai and the 2022 Winter Olympics in Beijing.

PUBLIC POLICY

Several measures from the central government level emphasize industrial heritage research and conservation. The systematic designation of the national industrial heritage is one vital step to initiating the National Industrial Heritage Inventory. However, with multiple agents related to the industrial heritage research and conservation in China, several lists are published which reflect the various assessment criteria from the different stakeholders.

From 2017 to 2021, the Chinese Ministry of Industry and Information Technology promulgated the National Industrial Heritage Inventory. With the annual nomination and evaluation process, the total number reached 194 items so far. Interim Measures for the Administration of National Industrial Heritage was formulated in 2018.

From 2018 to 2019, the China Association for Innovation Strategy Research Institute and Urban Planning Society of China jointly announced the China Industrial Heritage List, 200 industrial enterprises were selected.

CHINA

In 2020, the National Development and Reform Commission, the Ministry of Industry and Information Technology, the State Administration of Cultural Relics, and the National Development Bank jointly issued the Implementation Measures for Promoting the Protection and Utilization of Industrial Heritage in Old Industrial Cities, exploring new paths for the transformation and development of old industrial cities, and promoting the overall prosperity of old industrial cities through the conservation and utilization of industrial heritage.

The State-owned Assets Supervision and Administration Commission (SASAC) has published 82 items of the industrial, cultural heritage list of central enterprises, involving five industries, including unclear, iron and steel, oil, information, and machinery.

RESEARCH

The research interests in industrial heritage and the related academic communities were growing over the previous years and reflect the cross-disciplinary approach. From the beginning at the architectural level, research activities have expanded to the broader built environment, the Cultural Relics, and the History of Technology.

1. Industrial Architectural Heritage Academic Committee of ASC (2010).
2. Industrial Heritage Academic Department of Industrial Heritage Academic Department of Chinese Historical and Cultural City Council (2013).
3. The Industrial Heritage Committee of CRAC (2014)
4. Committee for the Conservation of the Industrial Heritage, China Association for Preservation Technology of Cultural Relics (2020)

With scholars in the related organization, the 11th Chinese Industrial Heritage Conservation Academic Conference was held successfully in Hohhot, Inner Mongolia, in 2021. More than 300 delegates joined the conference, and 40 scholars gave speeches and presentations. There are four academic organizations in industrial heritage conservation in China.

RESEARCH TOPICS

Examining the research conferences and funded research projects, we can identify the following topics in recent years. There are survey studies at the regional level, and critical heritage re-



Boutique Hotel in Beijing Winter Olympics converted from a former Transfer Station in Shougang Steel Plant.

search was introduced to the industrial heritage topic with the broader schemes in different industries.

1. The value of Chinese industrial heritage in the world UNESCO framework and identification of industrial heritage.
2. The technology transfer of industry and technology from a global perspective. Especially the aid from the United States, Germany, Britain, France, and Italy to the former Soviet Union during the 1920s-1930's and the former Soviet Union's aid to China in 1950s.
3. Application of scientific and technological archaeological methods in the research and protection of industrial heritage.
4. New technologies and new materials for the conservation of industrial heritage.
5. The thematic studies on the particular industry, including salt and oil heritage internationally and the domestic railway heritage study.
6. The dark and the difficult heritage in the industrial heritage.
7. The secret underground bunker study as special industrial heritage.
8. Oral History collection about the industrial past.

CHINA



Interior space of Chongqing Industrial Museum.

PUBLICATIONS

- A series of publications on industrial history and heritage studies are going to the mass audience and the academic world.
- 14 popular science books of The Chinese Industrial Heritage Story Series published by Nanjing Press in 2019 and 2020.
- Beijing, Hubei, Liaoning Volumes of The Chinese Industrial Heritage Historical Record Series, which is organized by provinces, was published in 2021. The other 22 volumes will be planned for publication continually.

- Ten proceedings on Investigation, Research and Protection of Industrial Heritage in China have been published from 2011-2021. The last 11 annual meetings have received 870 papers, 624 were selected to be published, and 401 researchers and practitioners gave speeches.

EDUCATION

There are postgraduate courses on industrial heritage in Tsinghua University, University of Science & Technology Beijing, and many other universities. Many urban planning and architecture design workshops were held in the field of urban regeneration and industrial heritage conservation.

CHINA

EVENTS

As a serial event co-hosted by Shanghai Urban Planning and Natural Resources Bureau, Shanghai Municipal Administration of Culture and Tourism, and the people's government, Shanghai Urban Space Art Season (SUSAS) is intended to create an EXPO that never closes, adhering to the EXPO spirit of Better City, Better Life, the concept of Culture Enriches City, Art Enlightens Space and the aim of City of Art, Art of Life.

The 15.5km of Yangpu Waterfront along the Huangpu River, with its abundance of industrial heritages, is a century-long record of the development of Shanghai as an industrial city. The plants and warehouses along the southern part of Yangpu Waterfront (5.5km in length) have been removed. In the Construction Plan Along the Banks of Huangpu River (2018-2035), the Yangpu Waterfront, designated for technology and innovations, was one of the key transforming areas after Shanghai entered the stage of urban renewal. Yangpu Waterfront has offered the public spaces and historical buildings to collaborate with SUSAS in 2019 to invigorate this area with the charms of art.

The SUSAS 2019 Main Exhibition venue was the historical site of the Shanghai Shipyard, including the dock and a former linen and wool warehouse, while the outdoors site-specific artworks were arranged along the waterfront public space. Several industrial heritages were successively renovated, some of which were restored to their historical appearances.

The 2019 chief curator was Fram Kitagawa, an internationally renowned artist. Around twenty permanent installations were the work of international artists concerning local history, character and vision. SUSAS 2019 has initiated an international call-for-work for five slots of public art, and the outstanding pieces have the opportunity to be permanent installations at the Yangpu Waterfront.

The Jiangsu International Horticultural Exposition, sponsored by local government, has been successfully held since 1999. The 11th was in 2021 with thirteen urban gardens in Jiangsu Province. The

industrial remains of the cement plant were preserved and ten silos were transformed into bookstores.

For the 2022 Beijing Winter Olympic Games, Shougang's main plant area achieved urban regeneration. Six silos and bunkers became the office space of the Organizing Committee of the Winter Olympic Games. N° 3 blast furnaces and its hot air stove and dust collector were transformed into iron and steel museum. Four industrial buildings, including blast furnace air compressor station, coke return bin, low-voltage distribution room and N3-18 transfer station, were transformed into a characteristic boutique hotel.

MUSEUMS

Chongqing Industrial Museum opened in 2019. More than 16,000 exhibits, including machinery and equipment, production products, literature, audio-visual materials, patent technology materials, production technology, trademark advertising, production of household appliances, etc., which interpreted Chongqing's industrial development history for more than 120 years. The 8000 HP two-cylinder horizontal steam engine produced by Sheffield Company in 1905 is the most valuable exhibit.

TANK Shanghai is a non-profit institution, also a pioneering and multifunctional art center. Through contemporary art exhibitions and events, the public was invited to closely experience art, architecture, the city, nature and the exceptional Huangpu river view. It consists of exhibition spaces, a parkland, gardens, a plaza, a bookstore, an education center and a café located in the West Bank Art Center of Xuhui Riverside, it is transformed from five thick steel plate structural aviation oil tanks of Shanghai Longhua Airport, designed by Open Architects, and opened in 2019.

Tank 1 is a two-story live house with a drum shaped inner liner to enclose a place with acoustic performance suitable for performance. Tank 2 may be designed as Alibaba's first AI restaurant in the world, with a circular courtyard inside and a platform with a river view on the roof.

AUTHORS

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The reactivation of the iron works in Sisak is currently a hot topic in the media.

Zrinka Barišić Marenić

INTRODUCTION

Croatia is the youngest member of the European Union. It developed within the influences of Central Europe in the north, and Southern Europe along the Adriatic coast. Croatia's industrialization started in the 19th century, and gradually continued from the west to the east of the country as it spread across southeast of Europe.

At the end of the 20th century, the deindustrialization process was very strong. It affected the entire country due to the conversion from socialism to capitalism, the loss of the former regional markets and the Homeland War in the 1990s. Many industrial

complexes were abandoned and left with no future, and numerous people were made unemployed. Historical and modern industrial complexes present significant landmarks in the cities and peripheral areas. Although the strongest industrial plants remained active, many complexes were abandoned and left to decay, or were demolished.

As a reaction, many activities within the field of industrial archaeology were started. Various stakeholders are now actively focusing on industrial archaeology. Architects, conservators, artists, curators, protagonists of the sub-cultural scene and university professors, art historians and historians, private investors and city and state authorities and institutions all contribute greatly to the preservation and the reuse of industrial heritage.

CROATIA

PROTECTION

The first Map of Industrial Heritage within Croatia was published in Sisak, a town which was formerly one of the strongest industrial centres, but which experienced significant deindustrialization.

The second Map of Industrial Heritage was dedicated to Rijeka. In 2003, the citizens of this strongly industrialized port, inspired by the 150th anniversary of the invention of the torpedo by Croatian captain Ivan Blaž Lupis Vukić, established Pro Torpedo, Association for the Protection and Promotion of the Industrial Heritage of Rijeka, the first NGO devoted to the industrial heritage in Croatia. Since then, numerous Pro Torpedo scientific conferences have been organised biannually. In addition, valuable research and affirmation of industrial heritage resulted in the selection of Rijeka as the 2020 European Capital of Culture.

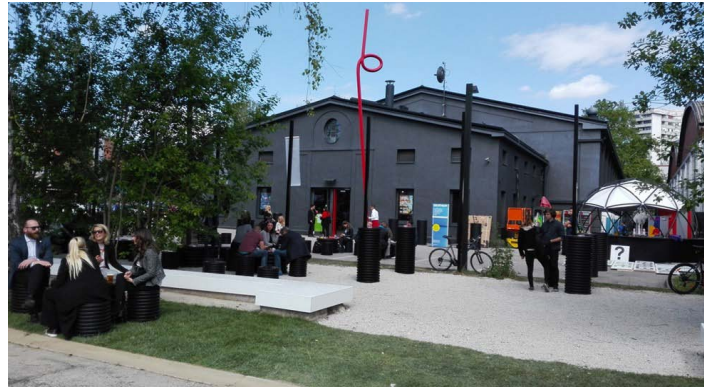
MUSEUMS

The industrial heritage of Zagreb was the focus of the exhibitions of the Museum of the City of Zagreb. Thanks to the rich industrial heritage of the town and the awareness of its importance, the former grain warehouse in Sisak was revitalised and transformed into the Industrial Heritage Interpretation Centre, designed by Lidija Grebenar. The center, also known as the Dutch House, was realised with EU funds, and was dedicated to the significant industrial activities and heritage in Sisak. Sisak was one of the biggest industrial centres of Croatia, and the town which experienced one of the strongest processes of deindustrialisation, as well as the rise of unemployment.

The 2016 Zagreb Architecture Days, organised by the Zagreb Society of Architects, were dedicated to the potentials of the industrial heritage. In addition, Zagreb is the city where university lectures in Croatia on industrial archaeology were first introduced. They have been held at the Faculty of Architecture of the University of Zagreb since 2000. Since then, students in Rijeka, Split and Osijek have also been taught the subject. Students of architecture and civil engineering focus some of their projects on the revitalisation of industrial heritage. Moreover, art history and architecture students focus their research on industrial heritage, as do postgraduate students, affirming this neglected heritage.

RE-USE

There is a wide spectrum of results and activities in the field of the revitalisation as well as the destruction of industrial heritage. Due to their high quality, the revitalisation projects of abandoned industrial sites won some of the most prestigious Croatian awards in the field. But although there are positive achievements in the field, demolition is taking place on many sites. The recent earthquakes in Zagreb and



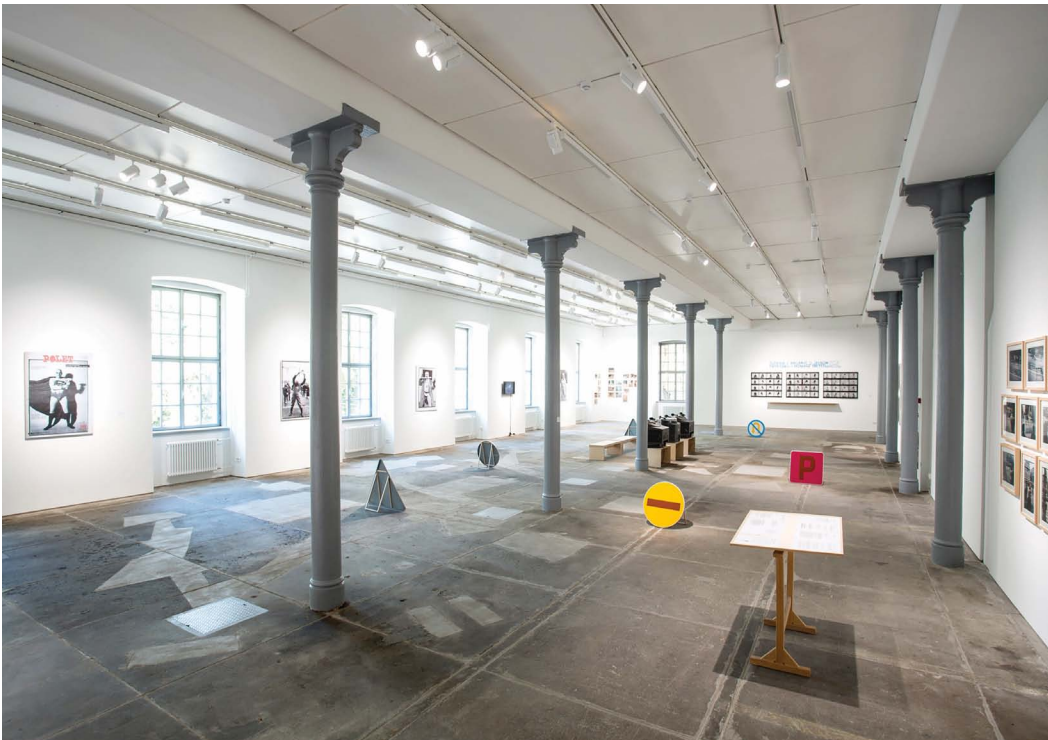
Lauba, a House for People and Art in the abandoned riding hall, later a textile warehouse, Zagreb.

Sisak resulted in further destruction of historical structures.

The foundry building in Zagreb was renovated, but it contains no elements related to the original production facility. The former riding hall, which was later transformed into a warehouse of Tekstilni kombinat Zagreb, was reconstructed and revitalised and has been the home of the gallery and office space Lauba – a House for People and Art. Its reconstruction and revitalisation were done based on an invited architectural competition. The initiative of art collector and private investor Tomislav Kličko resulted in an innovative project by Alenka Gačić, Branka Petković, Ana Krstulović with Morana Vlahović. In 2011, the project received the Bernardo Bernardi Award for best achievement in design and interior design. The fact that the building was protected as a listed building contributed to its conversion, which enriched the former industrial area of the city. In recent years, many industrial complexes have been declared listed buildings. This can be attributed to the recent more prominent focus of researchers on industrial heritage, as well as to the activities of institutional authorities, i.e., City Institutes for Cultural and Natural Heritage Conservation.

After the closure of the mining activities in Pozzo Littoro in Labin, the shaft and mining complex have been actively used by the town's sub-cultural scene and the Labin Art Express association since the 1990s. This started an interesting and productive cooperation with government institutions, which resulted in a well-conceived architectural competition for the revitalization of the mining complex for the purposes of becoming a cultural centre of the region. A young team of architects (Damir Gamulin, Margita Grubiša, Marin Jelčić, Zvonimir Kralj, Igor Presečan and Ivana Žalac) won the first prize. The library – the first phase of the realisation of the project - has received some of the most prestigious architectural awards in Croatia (the Bernardo Bernardi

CROATIA



Museum of Modern and Contemporary Art in the former Rikard Benčić factory, Rijeka.

Award of the Croatian Architects' Association and the Vladimir Nazor Award for architecture, awarded by the Croatian Ministry of Culture).

The abandoned Jedinstvo factory on the northern bank of the Sava River in Zagreb has also been primarily used by the sub-cultural scene, which initiated a collaboration with the city authorities, and started a new project of conversion for cultural purposes, which was designed by its former users, architects Dinko Peračić and Miranda Veljačić. Under the slogan We need it – we do it, the authors presented their conversion project as part of the Croatian exhibition of the 2016 Venice Biennale.

A similar approach was used for the Museum of Modern and Contemporary Art in Rijeka in the former H building of the Rikard Benčić Factory. The museum was designed by Dinko Peračić. The result of the minimal financial funds available for the project was a design based on a work in progress concept. This sensible realization was awarded by the Bernardo Bernardi Award and the Grand Prix Award of the Zagreb Salon. It also won the award for best conceptual project by the Croatian Chamber of Architects. Within the same industrial complex, in the brick building, a Children's House was opened. Architect Saša Randić inserted new spaces within the envelope of the existing brick building.

LOSSES

Unfortunately, many industrial sites were demolished. In Zagreb, the Paper Factory, a significant modernist complex designed by Zlatko Neumann (1957-61), has recently been almost entirely demolished. The Kamensko textile factory, the Zagreb Textile Factory (Tekstilni kombinat Zagreb), the Ševčik Brothers machine factory and foundry, all located in the western urban fabric of the capital city, have been demolished since 2010. Valuable locations of these former industrial complexes were or will be used for building contemporary mixed-use complexes (mainly residential buildings and office space). Only the significant elements were preserved as symbols of the original industrial complexes.

In addition to this brief overview of the industrial heritage in Croatia, a few examples of the current process of reindustrialization, started after the deindustrialization and the pandemic and after the supply chains were broken, should also be mentioned. The reactivation the new Rimac Campus, which is a car manufacturing complex with an R&D center is exciting. The complex, located in Sveta Nedelja near Zagreb, was designed by 3LHD architects for Rimac Automobili. The complex for young innovator Mate Rimac is under construction, with plans for opening in 2023.

CROATIA



AUTHOR

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CZECH REPUBLIC

Jan Zikmund and Benjamin Fragner

INTRODUCTION

In the Czech Republic industrial heritage is a subject largely centred on two distinct concerns. One is factories that, despite their often unignorable architectural qualities, become the object of property speculation, where what matters is the land under the factory, which can only be freed up for developers' interests by demolishing what is there. This situation has remained the same for twenty years and no significant changes can be expected in the foreseeable future.

At the other extreme there is a growing general awareness among the public of the qualities of industrial heritage. A role in generating this awareness has been played by state-funded research projects, publications on the subject aimed at a general readership, conferences, exhibitions, and meetings, and successful examples of new architectural interventions to adapt sites to a new use. Cities and large towns are also starting to embrace industrial heritage as part of their identity and incorporate it into their public projects. Activities to promote and protect industrial heritage, however, continue to emerge on a grassroots level, in local communities outside the environment of conservationists, museums, and academia, which, thanks to online platforms, are able to share their aims with a wide range of people.

The national interdisciplinary Vestiges of Industry platform serves as a hub of information on all these activities. This platform was developed largely at the initiative of the Research Centre for Industrial Heritage at the Faculty of Architecture of the Czech Technical University (CTU) in Prague, which is an institutional member of TICCIH. It is designed to informally bring together the activities of scholars, experts, institutions, amateur enthusiasts, and civic initiatives relating to industrial heritage, and it works closely with CTU's Faculty of Civil Engineering and the National Heritage Institute. In 2018 the Research Centre for Industrial Heritage, in close cooperation with a number of TICCIH members, organised the international off-site conference *Creators of Industrial Buildings*, which took international colleagues to visit various significant textile factories in the Liberec region, while the conference itself was held in the water and coal tower of a carpet factory, which is also a local centre of informal activities. On an institutional level, there is also important close cooperation with the Czech ICOMOS National Committee, which has a working group on industrial heritage. The growing popularity of the subject among the public is also apparent from the increasing number of industrial sites taking part in the popular Day of Architecture, an annual nationwide event in which buildings and structures that are usually closed to the public open up for tours, lectures, and bicycle trips.



Lime works in Kovářská, a part of the Erzgebirge/Krušnohoří Mining Region, which was included on the UNESCO World Heritage List in 2019 (Benjamin Fragner).

LOSSES

If we had to cite one characteristic feature of the past four years, then it would be the increasing destruction of railroad heritage. The State Railroad and Transport Route Authority (Státní podnik Správa železniční a dopravní cesty – SŽDC) is not interested in using some of its buildings that are often very unique and is systematically replacing them with standardised utilitarian shelter structures. There has been at least some effort to redress this situation and the SŽDC has signed a memorandum of cooperation with the National Heritage Institute and with various other local initiatives, for example, to conserve the railroad station in Nymburk.

PUBLIC POLICY

There are two important laws currently in a stage prior to finalisation that will have a fundamental impact on the handling of industrial heritage. One is the new building act, the introduction of which was halted by the new government, on the grounds of it being poorly prepared, and the other is the law on heritage conservation, a new version of which has already been in discussion for several years.

WORLD HERITAGE

One clear international success was that the Erzgebirge/Krušnohoří Mining Region was included on the UNESCO World Heritage List in 2019. This marked the successful conclusion to a nomination process that had taken many years and on which

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the Czech Republic worked in cooperation with Germany. An advanced stage has also been reached in the process to nominate the town of Žatec and the surrounding Saaz Hops Landscape, a site that is a combination of an agricultural landscape and the specific urban-based heritage that is used to process this commodity. In the autumn of 2021 Poland officially asked the Czech Republic to join an initiative for a mass nomination of handmade-paper mills. The Czech Republic selected the paper mill in Velké Losiny for this purpose.

INDUSTRIAL MUSEUMS

Several new museum exhibitions devoted to the history of technology also emerged in the past four years. One of the most successful examples of this is the new National Agricultural Museum in Ostrava, which was established in the former leaching plant of the Vítkovice Ironworks. The inclusion of the Erzgebirge/Krušnohoří Mining Region on the World Heritage List was followed by the opening of a number of small mining exhibitions in Krušné Hory, for example, the Mauritius Mine in Hřebečná and the Johannes Mine in Boží Dar. And with the support of the Norwegian Funds, the main museum section of the National Brewery Museum in Kostelec nad Černými lesy was completed.

EVENTS

Like the rest of the world, the Czech Republic was hit by the COVID-19 pandemic, which meant that museums and galleries were closed for long periods and it was impossible to organise group activities. Several events nevertheless took place. One was the exhibition Industrial Architecture in Old Plans and New Media at the Gallery of the National Technical Library in Prague accompanied by an informative bilingual catalogue (2021), and another was the annual Brownfields conference. In 2018 several events with an industrial theme were also organised as part of the centennial anniversary of the founding of the Czechoslovak Republic, such as the Made in Czechoslovakia conference at the National Technical Museum in Prague and the Industry in Moravia 1918 exhibition at the Technical Museum in Brno. The CTU's Faculty of Civil Engineering, which has for several years been offering a doctoral programme in Industrial Heritage, organised the conference Industrial Heritage – Current Challenges (2019) and a seminar called Threatened Industrial Architecture from the Second Half of the 20th Century (2021).

RE-USE

The conversion of industrial buildings to an adapted new use continues to be an attractive option for open-minded investors and an inviting challenge for architects, who must enter the work of their predecessors and insert a new project. Several dozen



The oast house in Trnovany near Žatec is part of the Saaz Hops Landscape, which has been nominated for inclusion on the UNESCO World Heritage List (Benjamin Fragner).



The new National Brewery Museum exhibition in Kostelec nad Černými lesy (Milan Starec).

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examples of successful conversions carried out in the past five years were assembled in a travelling exhibition and a bilingual catalogue *Industrial Contexts / place_form_programme / The Architecture of Conversion*, which were prepared by the Research Centre for Industrial Heritage FA ČVUT in 2021. Each year the National Heritage Institute hands out the *Patrimonium pro Futuro* award to recognise important achievements in the conservation of cultural heritage in several areas. Projects awarded in recent years include the restoration of the railroad locomotive shed in Kořenov and the Jizerské hory Technical Museum in Bílý Potok, which is located in a former textile factory.

PUBLICATIONS

Under the unusual circumstances of the past two years, it was nonetheless possible to complete a number of publications that have long been in the works. These publications include

- The Industrial Heritage of Ostrava (2019).
- Factory Chimneys: New Uses for an Icon of the Industrial Age (2020).
- The Quest of Universality: The Contexts of Industrial Architecture in Czechoslovakia 1945–1992 (2020).
- The Methods for Achieving the Sustainability of Industrial Heritage Steel Bridges (2022).
- Methodology for the Evaluation and Protection of Industrial Heritage from the Perspective of Heritage Management, The National Heritage Institute (2018).
- Many of these publications were the outcome of long research projects, for example, 'Documenting the Historical Structures Used to Process Hops, 2016–2020', 'Factory Chimneys: Documentation, Conservations, New Uses, 2016–2020', 'Water Towers: Identification, Documentation, Presentation, New Uses, 2018–2022', and 'Industrial Architecture: Understanding Monuments of Industrial Heritage as Technical-Architectural Works and as a Source of Identity of a Place' (2016–2020).

AUTHORS

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DENMARK



The listing of Holmen in Copenhagen was extended in 2021 to include some of the younger buildings. It is also one of the 25 industrial sites selected by the Danish Cultural Heritage Agency for special research. (Caspar Jørgensen)

Lene Skodborg

INTRODUCTION

In Denmark, designated buildings and industrial sites are protected by the Act of Listed Buildings and the Preservation of Buildings administered by the Heritage Agency, which is under the Danish Ministry of Culture. The Agency has the regulatory responsibility for sites and monuments, listed buildings as well as the state-subsidized museums, including the Danish museums working in the field of industry and technology. The Agency holds the overall responsibility for the industrial archaeological excavations undertaken by Danish museums. The Agency is responsible for listing buildings of national significance, and may delist such buildings. In collaboration with the Danish Ministry of the Environment, the Heritage Agency lays down guidelines for securing valuable cultural landmarks and landscapes. The municipalities are required to protect industrial heritage in their local planning as an important instrument in preserving, developing and promoting the tangible component of our cultural heritage.

CONSERVATION AGENCIES

The purpose of *Selskabet Til Bevaring Af Industrimiljøer*, the Danish national society, is to generate interest in the documentation and exploration of the history of industrialization in general and for the preservation of buildings from the industrial epoch, facilities, housing and

cultural environments in particular. The President of the society is the national representative of TICCIH. It publishes *Fabrik & Bolig* (Factory & Dwelling), but also engages in other topics related to the industrial heritage in Denmark and in the Nordic countries. The editorial board also welcomes international articles with a Nordic angle. All articles are peer reviewed and major articles also include comprehensive summaries in English. The Society communicates on Facebook as well. The Danish society has approximately 200 members.

Dansk Teknologihistorisk Selskab, the Danish Society for the History of Technology, is dedicated to the research, education and propagation of the history of technology in Denmark. The society is also dedicated to promoting the exchange of ideas and knowledge between individuals and institutions working on subjects related to the history of technology.

BARK is a private consultancy that advises funds, public authorities and building owners on the use, conservation and development of the built heritage. They activate and recycle buildings, built structures and cities through interdisciplinary studies, projects and campaigns, and they see an active use of the built heritage as the best conservation strategy. Through solid and business-oriented thinking, they advise how to make the built heritage into a resource for the clients in order to create quality of life, development and welfare.

The Danish National League for Built Heritage and Landscape is a non-governmental organization. The legislation in Denmark encour-

DENMARK



De Danske Spritfabrikker distillery in Aalborg is another of the 25 selected industries. Currently it is evolving into a new residential area, Spritten, which changes the whole layout of the former industrial plant. (Caspar Jørgensen)

ages public participation in the process of physical planning and enlistment of buildings. It has motivated the formation of local societies for built heritage, more than 100 of which are under the umbrella of the National League. Corresponding to the member-organizations' co-operation with planning authorities at the local, municipal level, the National League aims at influence on a national level, e.g. on legislation, and furthermore works on general analyses and issues of principle.

PUBLIC POLICY

In 2007, the Cultural Heritage Agency of Denmark instigated a special project to throw light on the heritage of the industrial society and to enhance museum research into industrial history. As one of the results, 25 industries were selected, all of special importance to Denmark and its industrialization. The Agency also conducted a wide range of surveys of ports, cement industries, sugar refineries and industrial art, and defined best practices for reusing ports and industrial buildings.

Sadly, recent urban development has threatened several of these 25 industries such as FDB/COOP warehouse in the suburb of Copenhagen, and a factory building at the port of Aarhus, the second largest city in Denmark. The selection of these 25 industries is not as sufficiently strong protection against re-development.

IMPORTANT SITES

Holmen, the Naval Base, was where Danish naval vessels were built, repaired, maintained and berthed. For more than 300 years, Holmen

was Denmark's largest workplace and one of the first major industries in the country. In addition to Holmen, several other locations in inner Copenhagen once belonged to the naval base. For example, the ropewalk and the sail house behind Kongens Nytorv. The Church of Holmen (originally an anchor smithy), the Arsenal complex, as well as the Nyboder dwellings for sailors near Østerport and the wool manufactory in Rigersgade. With its many institutions and buildings, Holmen was a factory community. From here, the insight, know-how and technicians spread to private companies all over Denmark. Holmen was Denmark's leading technology center. Young officers travelled abroad ensuring that new technologies like the steam engine became available for the emerging Danish industry. Important to mention the English engineer William Wain who served at the Naval Shipyard before becoming a partner at Burmeister & Wain, which outnumbered Holmen as Denmark's largest workplace from around 1850. During this period, shipbuilding at Holmen changed from the construction of wooden sailing ships to steel, steam and ironclads. Today many of the listed buildings have other purposes. Holmen is presently a housing area and home of various schools and institutions such as the School of Architecture and the Royal Danish Academy of Fine Arts, the Rhythmic Music Conservatory, the Danish National School of Film and Theatre and the Opera.

From 2022, Holmen extended the listing to include younger buildings namely the torpedo boat building and torpedo magazine, built in 1910, as well as the torpedo workshop built in 1938. The surroundings of the Nyboder dwellings have been included as a part of the listing, which ensures the whole environment in the future.

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Maltfabrikken in Ebeltoft was built as factory in 1895 and for many years it was a central factory in the town. Falling out of use the buildings were in danger of being removed in order to build a new residential area, but the local citizens ensured substantial philanthropic funding and today, Maltfabrikken is a hub with a café, a cultural center and library.

MUSEUMS

Important museums such as Industrimuseet Frederiks Værk and Industrimuseet in Horsens are continuously renewing and changing their exhibitions and ways of engaging with the audience. Sadly, the National Museum has closed their exhibition at Brede Værk. The exhibition and its contents moved to Industrimuseet in Horsens. Teknisk Museum in Helsingør was given a government grant of 20 million Danish kroner in 2020, and the museum is planning to move to Svanemølleværket in Copenhagen. The new exhibitions are centred on science, technology and innovation.

EDUCATION

Three relatively small centers are focusing on business history with a section on technology and industry. They educate historians and researchers at the Business School in Copenhagen (CBS), the University of Aarhus and the University of Southern Denmark.

PUBLICATIONS

- Jeppe Nevers, J. T. (2020). *Nye industrihistorier*. Syddansk Universitetsforlag.
- Pedersen, F. (2018). *Da Danmark fik vinger, vindmøllehistorien 1978-2018*. Vindmølleindustrien.



De fem søstre is also threatened by development. It is situated at the harbour in Aarhus that is undergoing under major extension. (Caspar Jørgensen)

- Skyggebjerg, L. K. (2015). *Ellehammer, en historie om at arbejde med opfindelser*. Danmarks Tekniske Museum.
- Thestrup, P. (2017). *Odin Danmarks første lokomotiv og dets placering i teknologiudviklingen*. Bane Bøger.
- Toftgaard, J. (2016). *Odense Staalskibsværft 1918 - 2012*. Syddansk Universitetsforlag.



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EGYPT



The 1855 Qabbari Railway Station, Alexandria, demolished in early 2022. (Ziad Morsy)

Mirhan Damir

INTRODUCTION

This is the first national report on Egypt's industrial heritage to share awareness of the country's rich industrial history globally, as it is taking its first steps towards promoting this physical type of technology and production countrywide. Presently, historical legacies in Egypt are officially acknowledged either as part of the Ministry of Tourism of Antiquities (under the Islamic, Coptic and Jewish Antiquities Sector) and designated as a monument, or as part of the Ministry of Culture (under the National Organization for Urban Harmony - NOUH) and designated as heritage. Despite having several buildings listed as part of the two ministries, they are not predominantly promoted as part of the country's industrial history. Egypt is still lagging in having an official and countrywide vision to document, safeguard, and promote this type of physical remains as industrial legacies.

ACTIVITIES

The past years witnessed the early initiations towards promoting industrial legacies in Egypt, even by non-TICCIH members, even though these physical remains were not designated as industrial legacies per se.

TICCIH is presently joined by four members from Egypt, one working in the university, two architects, and the fourth obtaining her master's degree. Due to the current state of almost non-

existent comprehensive documentation of historical industries, which in turn hinders a broader debate about their conservation, the TICCIH members are interested in initiating strategies for the industrial advocacy in Egypt on local and national levels. One of the TICCIH members is among the co-founders of the TICCIH Africa Network, which is involved in the continental collaboration between seven African countries through the exchange of experience and the coordination regarding the safeguard actions of industrial heritage.

PUBLIC POLICIES

There is still little official, scholarly, and public awareness in Egypt and thus appreciation expressed to the historical industrial structures, especially compared to the rich pre-modern built heritage. During the past few years, sporadic initiatives have been made to communicate the notion of industrial 'heritage' with ministerial organisations, scholars, and employees in still-operating historical industrial sites. Nevertheless, it is essential to establish an adequate system with a broader network of heritage advocates to protect industrial legacies in Egypt.

LEGAL PROTECTION

According to the 2022 inventories, including industries of the 19th and 20th centuries, there are 17 monuments listed by the Ministry of Tourism of Antiquities (Islamic, Coptic and Jewish Antiquities Sector) and approximately 54 heritage buildings listed by the Ministry of Culture (NOUH). A total of 71 industrial buildings

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International Workshop between Bauhaus Universität Weimar, Kassel Universität und TU Berlin Campus El Gouna. (Hebatalla Abouelfadl)

are acknowledged on national but mainly local levels. There are still no industrial sites on the World Heritage List. Nevertheless, the author recommends the re-interpretation of several sites that show attributes for global significance.

Besides the differing terminological designations, the listed industries by both ministries fall under different legal frameworks of protection. Alteration attempts to establish commonalities for legal protection, and promotion strategies are still lacking. Compared to other historical building types, the listed industries get the least attention within Egypt's legal agenda to conserve industrial history. This is due to the lack of know-how in valorisation and safeguard strategies of the historical industries. Correspondingly, there has been a series of de-listing historical industries, thus leaving important sites vulnerable to decay and destruction.

PROJECTS

Egypt's production activities go back to ancient times, as exemplified in 2021 with the oldest brewery excavated in the funerary site in North Abydos. From the early 19th century Egypt was one of the first countries in Africa and the Middle East to be part of modern industrialisation. The implementation of these modern technological constructs was predominantly influenced by Euro-

pean entrepreneurs, who pursued their business expansion on the one hand and colonial advocacies on the other. The listed 71 industrial buildings are those founded between the 19th and 20th centuries. Three notable cases are presented here of both listed and unlisted industrial buildings:

Cairo Railway Station: The construction phase of the railway station dates to 1858, designed by British engineer Edwin Banes and built by the British company Robert Stephenson & Co. After several reconstruction phases, the station was erected into its present neo-Mamluk design in late 1892. In 2012, the 'renovation' project of the Cairo Station was finalised, initiated, and financed by the Ministry of Transportation of Egypt. Although the project restored multiple structures and facilities, which were in a deteriorated state, it involved several alterations that violated the historical authenticity of the physical form. NOUH was able to halt the proposed modifications in the neo-Mamluk façade of the station. However, it failed to prevent the extreme interior alterations, which obliterated the historical interior of the station.

Ford Motor Company: The Ford Motor Company was first introduced in Egypt with its automobile showrooms in 1932. Later in 1943, a design was laid out to construct Egypt's first automobile assembly service. The site comprised a massive building, the big-

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The project to rehabilitate the cotton district and its surroundings in Alexandria (Mirhan Damir)

gest automobile service in the entire Middle East. After nationalisation of private manufacturers in Egypt during the second half of the 1950s, the operational activities diminished until it was closed. A project was proposed to re-use the whole site; in 2005, the former automobile assembly service was reused into a school. This example is one of the few successful attempts to transform abandoned industrial sites into effective community-serving services.

Qabbari Railway Station: The station was constructed before 1855 overlooking Alexandria's port area, designed by the resident architect Edwin C. Baines with a sizable rail yard and railway terminus to transport goods and passengers. The railway site with its facilities was operated by the Egyptian National Railway from 1954; the terminus was, however, abandoned for decades. Despite several attempts by scholars and heritage advocates to safeguard the terminus and register it in the national list, the Egyptian National Railway demolished the terminus abruptly in early 2022. With its inland railway line, the station was a pivotal outset to colonial interference to facilitate and speed trade travel between Britain and its colonies in the far East, especially India. It was also characterised as the first physical witness of the introduction of the railway industry in Egypt, Africa, and the entire Middle East. This is a significant loss that several heritage advocates mourn, which was sadly not perceived officially.

MUSEUMS

- The Railway Museum, Cairo.
- The Cotton Museum, Cairo.
- The Nile Museum, Aswan.
- Temporary exhibition Le Raml Tram, Alexandria tram museum (2017).
- Permanent exhibition on Qabbari Railway Station (2022) in Teaching Arabic as Foreign Language in Alexandria.

EDUCATION

- Sharing awareness of industrial heritage has mainly been undertaken within the academic field in the form of research projects and students' seminar projects and workshops countrywide.
- 2020: Modern Heritage to Future Legacy: Conservation and Conversion of Modern Industrial Heritage Sites as an Integral

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Part of Urban Development in the Middle East. The project members are now preparing the first booklet on industrial heritage in Egypt, which is expected to be published in 2022.

- 2018: International Workshop between Bauhaus Universität Weimar, Kassel Universität und TU Berlin Campus El Gouna: City, Community, and Heritage.

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- Alsady, A. (2020). Enhancing Historic Metallic Bridges' Rehabilitation Policies in Egypt. *Journal of Engineering and Applied Science* 67(1), 119–38.
- Bodenstein, R. (2010). Industrial Architecture in Egypt from Muhammad 'Ali to Sadat: A Field Survey. *The Transformation of Places of Production. Industrialisation and the Built Envi-*

ronment in the Islamic World, edited by Mohamed Al-Asad, 41–80. Istanbul: Aga Khan Award for Architecture and Bilgi İletişim Yayincılık Müzik Yapım ve Haber Ajansı Ltd.

- Damir, M. (2022). *Recalling the Omitted: Exploring the Spatial Development of the Modern Industrial Legacies in Egypt. The Case of Alexandria.* Bauhaus-Universität Weimar.
- Foda, O. D. (2019) *Egypt's Beer. Stella, Identity, and the Modern State.* 1st ed. Austin: University of Michigan.
- Pallini, C., & Scaccabarozzi A. (2017). *Les Gares et Le Noeud Ferroviaire D'Alexandrie (Egypte). Une Architecture Nomade. Les Gares Belges En Métal Travers Le Monde,* edited by K. Haoudy and I. Sirjacobs, 102–30. Liège: Les Éditions de la Province de Liège.



AUTHOR

Dr Mirhan Damir worked as assistant lecturer at Alexandria University (2011-2017) and in the international master's program Revitalization of Historic City Districts (2014-2017). Since 2020, she has been working as a researcher within the MHFL Project (Modern Heritage to Future Legacy: Conservation and Conversion of Modern Industrial Heritage Sites as an Integral Part of Urban Development in the Middle East). Mirhan Damir is a member of the engineering syndicate in Egypt, ICOM Egypt, ICOMOS, and TICCIH. She is part of the team of both TICCIH Comms Team and TICCIH Africa. [Contact](#)

FRANCE



An old watermill with its weir on the river Lez at Engomer. (Paul Smith)

Paul Smith

INTRODUCTION

There does not seem to be any significant change in the way the heritage of industry is now properly appreciated as a vital component of the French national heritage: the statutory protection of an industrial site no longer causes any astonishment. As a consequence of growing concerns about climate change, there is however something of a shift in attitudes towards the built heritage as a whole, a greater awareness of how carbon footprints can be kept down by the maintenance of existing buildings rather than their replacement by new ones. Former industrial buildings clearly benefit from this approach and their conversion to new uses is now a widespread phenomenon, even when the original factory architecture is not especially remarkable.

Environmental sensibilities are not always favourable to the heritage of industry, identifying it above all with histories of global warming and pollution. And they come into direct conflict with the industrial heritage in the application of the European water framework directive of 2000. French water authorities aim to remove all the obstacles in a watercourse than can hinder the downstream flow of sediment or the upstream progress of fish. Weirs that are an integral part of a mill's hydraulic equipment and key features in the riverscape, sometimes for centuries, are coming under threat. Heritage organisations and mill owners' as-

sociations are seeking to create the conditions for more sensitive negotiations on this issue, a particularly important one in France: probably more than in any other European country, the easy availability of water power was a crucial factor in the country's nineteenth-century industrialisation.

CILAC

Founded in 1978, France's national industrial heritage association is the Comité d'Information et de Liaison pour l'Archéologie, l'Étude et la Mise en Valeur du Patrimoine industriel, the CILAC. This voluntary association federates local and sectorial industrial heritage associations and has about 150 individual members, not counting the libraries and archive centres which subscribe to its review. It has close connections (and shared membership) with one of France's many associations focused on aspects of the railway heritage, Rails & Histoire, founded in 1987.

Over the past four years, the coronavirus pandemic has not prevented the CILAC from pursuing its objectives as an independent lobby for the study, preservation and interpretation of the industrial heritage, in France and elsewhere. Thanks to Zoom, it has managed to maintain its annual competition for young researchers, and, in various mixed formats, it has put together scientific events such as an international seminar on Jacques Ignace Hittorff, architect of the Paris Gare du Nord in 1864. More recently a conference on the history and heritage of the paper industry was mounted as

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The 1902 Viaur railway viaduct designed by the engineer Paul Bodin, 'classified' as a historic monument in 2021. (Paul Smith)

a homage to the CILAC's former general secretary, the historian Louis André. And in lulls between periods of lockdown, the association has been able to organise its traditional study weekends, organised successively at Nantes, Dieppe and Grasse.

The association's review, now entitled *Patrimoine industriel*, is published twice a year. The CILAC no longer receives the grant money from the Ministry of Culture which formerly helped to defray the costs of producing this review. Consequently, it has to find sponsors, giving rise to thematic issues, such as the pioneering issue on the industrial heritage of computing (n° 73, dated December 2018), supported by the Société informatique de France (SIF) and the association Software Heritage, or the special issue on the industrial heritage of the railways, supported by the SNCF (n° 77, dated December 2020).

PUBLIC POLICIES

Inventory and survey work on the industrial heritage proceeds in different parts of the country and a dozen full-time experts are active in this crucial task of accumulating information and sharing understanding. Since decentralisation legislation in 2004, inventory services are placed under the authority of the regions' elected councils (of which there are now fourteen). The enthusiasm these councils show for the cultural heritage, and for the industrial heritage in particular, varies considerably from one region to another. Another reform, in 2016, placed the advisory committees on heritage protection (CRPA, commission regional du patrimoine et de l'architecture) under the presidency of an

elected representative chosen from the region's local authorities, rather than a representative of the Ministry of Culture. Depending on the region, and on the person chosen for the presidency, this apparently minor change can have positive effects or, on the contrary, can lead to conflicts of interest between local political agendas and broader, more scientific heritage agendas and protection campaigns driven by associations.

Where the statutory protection of the industrial heritage is concerned, the lists published for the years 2018, 2019 and 2020 add 48 industrial or technical monuments to a total of about 46,000 historic monuments. Many of the newly protected sites are relatively modest water mills, bridges, small railway stations or lighthouses, but one or two sites are more significant and worth a special mention here. The Fischer brewery at Schiltigheim, near Strasbourg, ceased production in 2009 but its protection ('inscription') in 2018 saved its most outstanding late-nineteenth and early twentieth-century structures and opened the way to their adaptive re-use. The inscription, in 2019, of the Fer à Cheval soap works at Marseilles, dating back to the 1870s, was exceptional: it is an industrial site still in activity, making soap in its late nineteenth-century cauldrons. Similarly, at Vervins (Aisne), a printworks which still uses its 1920s hot metal linotype machines to print a weekly paper, was protected in 2021. In 2020, the celebrated 1889 Pont Colbert swing bridge at Dieppe, already inscribed in 2017, was 'classified', along with its original hydraulic equipment and the nearby pumping station. This bridge was saved only after a long campaign by French and European friends of the industrial heritage. The preservation of the 1920s sugar factory

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'Station F', the former railway warehouse behind the Austerlitz station in Paris, built in 1928 to the designs of the engineer Eugène Freyssinet and transformed into an incubator for start-ups by the architect Jean-Michel Wilmotte. (Paul Smith)

at Eppeville, in the Somme department, inscribed as a historic monument on 10 December 2021, similarly came as the (provisional) conclusion to a campaign to prevent the destruction of the attractive Art Deco building which mobilised TICCIH along with other associations.

Statutory protection is not, of course, the only way to preserve the industrial heritage. Public recognition and appreciation are also essential and can be encouraged by 'labelling' campaigns, several of which have recently been initiated by French regions, keen to affirm their identity. The Auvergne-Rhone-Alpes region, for example, has given a special label to 42 of its most remarkable industrial heritage ensembles, and the Île-de-France region, around Paris, has inaugurated a labelling programme for its heritage 'of regional interest'. This opens access to grants for restoration and even, ultimately, to statutory protection. About 40 of the 180 sites so far labelled belong to the categories of industrial or railway heritage.

WORLD HERITAGE

2021 saw the inscription of the famous Cordouan lighthouse in the estuary of the Gironde, dating from the 17th and late 18th centuries and, today, the last manned lighthouse in France. From the point of view of the history of technology, it was also the birthplace, in 1823, of Augustin Frenel's 'stepped' lens, subsequently adopted for lighthouses throughout the world. France also continues to participate in the proposed serial nomination for late 19th-century large-arched iron bridges, joining forces here with Italy, Portugal and Germany (the country that will present the nomination). The two French railway viaducts included in the nomination are both in

use and are now protected at France's highest level, Gustave Eiffel's Garabit, classified in 2017 and Paul Bodin's Viaur, in 2021.

Somewhere towards the bottom of France's tentative list, the nomination of the Rochefort Arsenal, with its outstanding dockyard heritage dating back to the late seventeenth century, is no longer being actively promoted. But the twinning of Rochefort with Chatham historic dockyard in Kent, also dating from the age of sail and featuring on the UK's tentative list, would make for an exciting and historically coherent transboundary nomination.

RE-USE

The past few years have seen some notable projects for the adaptive re-use of former industrial buildings. A special mention can go to the former railway warehouse in Paris, built in the late 1920s to the designs of the engineer Eugène Freyssinet, the 'father of prestressed concrete'. Adopting a box-in-a-box approach, this cathedral-like space now accommodates what describes itself as Europe's largest start-up incubator, baptised 'Station F'. Another is for a former tobacco warehouse at Dieppe, dating from the 1860s and converted into a cinema complex with eight theatres (architect: Gilbert Long). At Bruay-la-Buissière in the coal-mining basin of the Nord-Pas-de-Calais region, an 1850 miners' housing estate called the Cité des Électriciens has been transformed by the architect Philippe Prost into a dynamic cultural venue, with a centre for the interpretation of the mining landscape, tourist accommodation and residences for artists. And in Paris, finally, the former Bourse de Commerce has been taken over by François Pinault and transformed by the star architect Tadao Ando into a gallery for the millionaire's foundation

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for contemporary art. The building's remarkable cast-iron roof structure dating from 1811 has been restored and two exceptional Linde refrigeration machines, installed in the basement in 1909, are kept in place as art objects, behind glass screens.

MUSEUMS

No major new industrial museum has been created in France over the past four years, but at Fécamp (Seine-Maritime), a local history museum recently installed in a 1950s factory for drying cod deals with the history of cod fishing which took vessels from Fécamp to the seas off Newfoundland. At Jarville-la-Malgrange, near Nancy, there are some concerns about the future of the museum of the history of iron, which has been closed for more than a year now, supposedly for restoration. At the former Parant glassworks at Trélon, in the Nord department, part of the Avesnois Eco museum since 1983, an exceptional exhibition entitled 'L'envers du verre' dealt recently with the manufacture of glass and the transparent presence of glass objects in our daily lives. The two historic furnaces on this site, dating from 1894 and 1925, were recently (and somewhat belatedly) 'classified' as historic monuments.

EDUCATION

Several of France's twenty architectural schools offer courses on industrial buildings, their history and their conversion, and several universities offer masters' degrees on heritage questions, including the industrial heritage. At the Jean Monnet University at Saint-Étienne, a recently created chair on the cultural heritage of Europe encompasses the industrial heritage, particularly significant in the region. And the University of Paris-I-Panthéon-Sorbonne participates in the joint Erasmus Mundus master, Techniques, Pat-

rimoine, Territoires de l'Industrie (TPTI). At the École du Louvre, there are courses on the industrial and technical heritage for undergraduates preparing them for the competitive examinations to become curators in national or local heritage services. And, at high-school level, at Amiens, a group of teachers from three professional lycées of the city carried out an original pedagogical project based on the history, memories, heritage and velvet products of a local textile factory, Cosserat, which closed in 2010.

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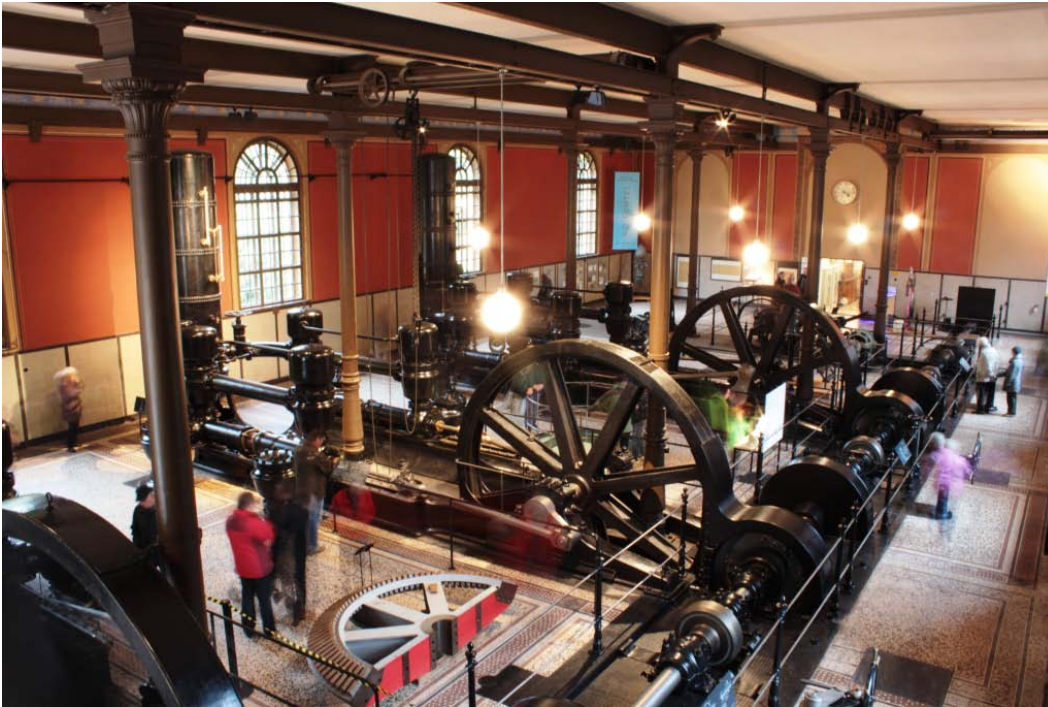
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AUTHOR

Paul Smith (with thanks to Géraud Buffa, Claudine Cartier and Florence Hachez-Leroy) historian, attended his first TICCIH conference in 1981. He worked on industrial and transport heritage at the French ministry of Culture from 1986 to 2018. Since 2019, he has been the CILAC's general secretary.

GERMANY



The 1879 Hochablass waterworks has particularly rich historical technical equipment, mostly from MAN. (Felix Hartmann, Regio Augsburg Tourismus GmbH)

Alexander Kierdorf and Norbert Tempel

INTRODUCTION

As in all countries, the Covid pandemic from 2020 onwards massively influenced the museum, tourism, culture and conference activities. On the other hand, it led to online conferences and presentations, which covered a much larger audience than otherwise and so demonstrated the chances of the digital world. The state supported museums and other organizations to cover financial losses and enable the Covid-safe equipment of buildings and exhibitions. The disastrous flood in parts of Northrhine-Westfalia and Rhenania-Palatine on July 14th, 2021 also damaged or destroyed industrial heritage from hammerworks to historic tram and railway lines and equipment.

In 2019, it was also 50 years that the **Zollern II Engine Hall** at Dortmund was saved from destruction, seen as a major starting point of the Industriekultur movement in Germany, leading to the establishment of specialized professionals in the state conservation departments and a growing interest on industrial heritage in the Ruhr and in the rest of Germany.

As part of the climate protection policy, the German government has decided to reduce and eventually stop the use of coal, uranium, gas and oil for the production of electricity. The first

step was the end of black coal mining in Germany at the end of 2018, which was celebrated by handing over the last piece of coal to the German President Walter Steinmeier. The Coal Phase-out Act, which came into force in August 2020, provides for an end to coal-fired power generation and thus lignite mining by 2038 for reasons of climate protection. The new coalition of the national government that took office in December 2021 brought the prospect of an earlier end by about 2030, but now sees itself forced to re-evaluate the importance of domestic lignite for the energy generation due to the Russian invasion of Ukraine and the subsequent sanctions by the West.

PUBLIC POLICY

Conservation in Germany is mainly organized on the State (Bundesland) level, forming a hierarchy of local, professional and government level. The recent 'modernization' of the state law on conservation (Denkmalschutzgesetz) in Northrhine Westfalia strengthens the local level and massively cuts the influence of the professional institutions, which is seen as a tendency to weaken professional and regional aspects and influence.

The industrial heritage professionals in state conservation institutions meet regularly twice per year in thematic conferences under the Union of State Conservators (Vereinigung der Landesdenkmalpfleger) as Industrial Heritage Working Group (AG In-

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The Knappenrode lignite Briquette factory, recently restored in the Saxonian Industrial Museum as a broad cultural experience. (Frank Vincentz/ wikimedia commons, 2010)

dustriedenkmalpflege) and to keep close contact in identifying and evaluating new industrial heritage objects. The work of the group is regularly supported by some TICCIH members with guest status.

WORLD HERITAGE

The Mining Region of Erzgebirge/Krušnohoří (Ore Mountains) and the Augsburg Water Management System were both inscribed on the World Heritage List. Some Nominations for the Tentative List, such as High Arch Steel Bridges from the 19th century (transnational), Göltzschtal Railway Viaduct, Millstone Quarter in the Eastern Eifel, Magdeburg-Rothensee shiplift and others are still in the national internal review process.

An interest group of the seven German industrial World Heritage sites, newly founded in autumn 2021, is currently trying to convince the Federal Government to establish a foundation for their continuous funding. The majority of other industrial heritage sites takes a very critical view of this very strong concentration on World Heritage sites.

ACTIVITIES

The TICCIH Germany members group is closely connected to the **Georg-Agricola-Gesellschaft für Industriekultur**. The *IndustrieKultur* quarterly journal publishes reports and news from the world of industrial heritage and announcements of both societies. Issue No. 100 will be published this autumn. The website www.industrie-kultur.de provides a full index and current updates.

In 2020, a groundbreaking Working Guideline for the Treatment of Historic Railway Bridges (*Arbeitshilfe zum Umgang mit Historischen Eisenbahnbrücken*) was developed by representatives of Deutsche Bahn Netz AG (state-owned operator of the railway infrastructure), the Lower Saxony State Office for the Preservation of Monuments and the engineering firm Marx Krontal Partner. The new **working guideline** clearly describes the methodological processes involved in dealing with historic railway bridges.

A great help for the preservation of historic railway bridge constructions are the recently amended federal funding regulations that now provide funding not only for replacement by new bridges but also for the comprehensive rehabilitation of existing historic bridges (**Performance and Financing Agreement III**, § 17 from 1.1.2020):

REGIONAL ORGANISATIONS

Almost all states in former Eastern Germany celebrated Industrial Heritage years of differing content; starting with Thuringia in 2018, in Saxonia and the state of Brandenburg, the year 2019 respectively 2021 were centered around the Boom state exhibition at Zwickau/ Saxonia and a broad number of regional exhibitions in Brandenburg.

The **Berlin Centre for Industrial Culture** is a lively joint institution of the Berlin University of Applied Sciences and the Stiftung Deutsches Technikmuseum Berlin. The centre networks players in industrial culture in Berlin, Brandenburg and the Federal Republic, researches and presents Berlin's industrial culture, develops tourist attractions and biking routes and develops educational formats for young and old.

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The former Zanders paper mill at Bergisch Gladbach still contains much late-19th century equipment. (Ulrich Schildberg, 2018)

MUSEUMS

The great number of industrial and technical monuments in Germany need permanent repair and maintenance, much in the normal field of building conservation and repair, but also such in specialized fields as metal conservation. The German Mining Museum at Bochum is organizing a [Database](#) together with the Westphalian Museum of Industry on industrial heritage preservation and management and establishing this topic in the Georg Agricola Technical College at Bochum.

After a generation of successful existence, many industrial museums must be renovated and modernized, and this process extending over several years is also used to redirect its exhibitions and open the buildings for new uses. Prominent examples are the Altenberg Zinc Works at Oberhausen, the Flagship of the Rhineland Industrial Museum, and the Knappenrode EnergieFabrik, a site of the Saxonian Industrial Museum.

Connected with the closure of the last black coal mines in Northrhine Westphalia in 2018, the remaining sites were visited by historians and conservators. Important machinery and buildings of the recent past were chosen for preservation.

A mayor renovation was finished on the Muengsten Railway bridge, opened in 1897 and still the highest in the country. After the German

railway initially intended destruction, over almost a decade an inspection and renovation process was carried out, including the complete rebuilding of the tracks. In 2021, renovation work successfully ended, and even a visitor's route could be opened on the inspection path.

RESEARCH

The Freiburg Mining Academy at Saxonia is now well established as a place of education and research on Industrial Heritage. Places of qualification for conservators/restorers are also Berlin and Cologne. The Deutsches Museum at Munich and the German Mining Museum at Bochum, which also hold large Archives and Libraries and are mayor places of research, are renovating their buildings. The latter will receive a new complex for its depot collections, archives and library (montan.doc).

GDR architecture, especially serial building, is still a problem for monument preservation authorities, but are now increasingly coming into focus. For the first decades of the country's existence, the systematic reconstruction and development of industry stood in the center of GDRs state economic plans. Later, massive investments were made in housing constructions (Plattenbauten - prefabricated slab buildings).

On the background of the end of lignite mining (Braunkohlenförderung) in Germany in 2030 resp. 2038, a state-founded inventoriza-

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tion project was established in the states of Saxonia, Saxonia-Anhalt, Brandenburg and the Rhineland part of Northrhine Westphalia. It aims at describing and identifying all relevant structures – technical, social, infrastructural – from the mining period. The project is to be finished in 2023 and published in digital databases.

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GREECE

Maria Mavroei and Theodora Chatzi Rodopoulou

INTRODUCTION

The Greek Section of TICCIH becomes 30 years old this year, as it was founded on March 13th, 1992. Today, three decades later, we can celebrate the accumulation of a wealth of experience on the protection, preservation and promotion of industrial heritage in Greece.

Nevertheless, industrial heritage has been suffering a prolonged pressure due to the economic crisis of the past decade, and the changing attitudes of the state heritage policies. Industrial heritage projects were underfunded, while larger historic industrial sites were sold to private parties without any form of provision for protection or documentation, thus creating a situation of a heritage crisis.

However, the pandemic and the consequent social distancing brought about an increasing interest in the remains of the recent past as well as in the social media discussion. The most characteristic example is the Industrial Archaeology Facebook group which has attracted by now more than 16,000 members.

TICCIH GREECE

Despite social distancing during the pandemic, there was an increase in the number of the Greek TICCIH's new members, with 16 in 2018-2021. Amongst the initiatives taken by the Section was the translation of the ICOMOS-TICCIH Dublin Principles into Greek, as it is considered a significant international document for the conservation of industrial heritage.

During this period, TICCIH sought to expand its network and collaborate with other organizations on the protection of industrial monuments (ELLET Society for the environment and cultural heritage, Monumenta etc.).

The Greek TICCIH and ICOMOS exhibition Industrial Heritage in Greece, 1980-2015. Preservation - Research - Education continued travelling in the country: after Chania (Crete, 2015), Athens (2016), and Thessaloniki (2017), the exhibition was presented in Xanthi (2018). The exhibition's tour around Greece (from 2015 to 2018) was very successful with hundreds of visitors, proving the great interest of the public in industrial heritage.

The Greek Section of TICCIH supported the conference The Castles of Industry. Rehabilitation, reintegration, valorisation organized by the Technical Chamber of Greece/ Section of Central Macedonia in Thessaloniki (April 2022).



The Greek Powder & Cartridge Company S.A. in Elefsina.

One of our main activities was the submission of well-documented memoranda and resolutions to support the preservation of significant industrial sites, such as the Kirki mines in Alexandroupolis and the industrial site of the Greek Powder & Cartridge Company S.A. in Elefsina.

An important new entry in the list of organizations engaged in the protection and preservation of industrial heritage in the country is the Vault of Industrial Digital Archives (VIDA). VIDA is an interdisciplinary team (it evolved into a Civil Non-Profit Organization in 2021) aiming to record, document and preserve the Greek industrial heritage and to raise public and state awareness. One of the main instruments of VIDA's work is its website (<https://vidarchives.gr>) which comprises a freely accessible database with crowdsourced information.

PUBLIC POLICY

The financial and sociocultural situation of the country, influenced by the crises of the property market (2008) and the COVID-19 pandemic, has led the national and local governments to sell off publicly owned heritage assets to private investors.

Furthermore, the decision taken jointly by the Minister of the Environment and Energy and the Minister of Culture and Sports in 2021 to simplify and accelerate the licensing of the demolition process as regards the buildings which are considered dangerous due to their ruinous state, has caused great concern among the industrial heritage community. It is feared that these urgent procedures will lead to the loss of historic industrial buildings and structures.

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The exhibition Threads of History, Naoussa Centre of Industrial Heritage – ERIA.

PROJECTS

The complex of the Greek Powder & Cartridge Company S.A. (PYRKAL) in Elefsina, which dates back to 1934, was designated a historical site and 12 of its buildings as historical monuments by the Ministry of Culture in July 2019. Soon afterwards, the political leadership of the Ministry changed due to the national elections. The new Minister issued a new decision, according to which 12 buildings were designated as historical monuments but the designation of PYRKAL as a historical site was rejected.

Just a few months later, the historic Kirki Mines in Alexandroupolis, owned by the Greek State, was examined for listing but neither the buildings and their equipment nor the whole area of the mines were listed by the Ministry.

During the lock-down period in April 2021, the Greek Prime Minister announced the creation of a government park at the historic premises of the Greek Powder & Cartridge Company S.A. (PYRKAL) in Ymittos (Athens) with the relocation of nine ministries to the site and the transfer of the production activity of Hellenic Defence Systems S.A. to Lavrion. The industrial plant of PYRKAL in the district of Ymittos is one of the oldest Greek industries, and certainly the oldest company in the ammunition industry. In 2022 the Ministry of Culture and Sports decided the designation of only 12 out of the 94 buildings and structures, without their machinery. We believe that this unique historical complex is not treated with an appropriate protection plan.

Besides the creation of new industrial museums, the last four years saw the inauguration of various reused former industrial sites. Notable examples include the conversion of the modernistic FIX brewery in Athens into the National Museum of Contemporary Art Athens (2020), the inauguration of an art gallery in the public tobacco factory in Lenorman Street in Athens (2021), the transformation of five buildings of the Papastratos tobacco complex in Piraeus into the Piraeus Port Plaza office complex and the Enso Hotel Piraeus (2021).

Noteworthy industrial heritage conservation and reuse studies undertaken in the last four years in Greece include the study for the conversion of the Flotation building of the former French Mining Company of Lavrion into a centre for research and archives (2019) and the conservation study of the historic 19th century French loading bridge of Lavrion (2020): a project that is currently under way.

With respect to historic machinery, a significant project is in progress in the Industrial Complex of the former Lignite Mines of Ptolemaida S.A. (LIPTOL) owned by the Public Power Corporation. The Ministry of Culture and Sports paved the way for the demolition of the complex by not listing LIPTOL but decided the preservation of 21 of the complex's machinery (2017). The project of the dismantling of the listed mechanical equipment is under way.

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The Greek Powder & Cartridge Company S.A. in Ymittos, Athens.

LOSSES

Unfortunately, there were also losses of historic industrial sites: the listed monument of Krakaris Pier in Piraeus Port, carrying the conveyor belt of the Fertilizers' Plant, collapsed during the earthquake of July 2019. In April 2021, the listed Foustanos Threadmill in Neo Faliro was destroyed by fire. The following day the Municipality of Piraeus demolished part of the privately owned factory. Moreover, two 19th century railway bridges collapsed, the first one over Enipeas river near Farsala in 2020 and the second one over Evinos river in Western Greece in 2021, while two listed tobacco houses in Xanthi and Karditsa were destroyed by fire in 2022.

MUSEUMS

Since 2018, a number of industrial museums were delivered across Greece. Important examples include Naoussa Centre of Industrial Heritage - ERIA, housed in the textile mill ERIA (2021) and the Cereals and Flour Museum in Larisa, which is housed in the flour mill of Pappas (2018). Furthermore, the Railway Museum of Athens was relocated to the historic railway complex of Lefka in Piraeus (2019). The conservation of the site and its proper transformation into the National Railway Museum of Greece is unfortunately still pending. Lastly, after a decade of delays, the works for the transformation of the machine shop of the French Mining Company of Lavrion into the Lavrion Mining and Metallurgy Museum started.

EDUCATION

Nowadays, industrial history and heritage have gained their position in the curricula of the Schools of Architecture and the Departments of History in most Greek universities, attracting the interest of many students. As a result, several postgraduate dissertations and doctoral theses each year enrich the research into our industrial past.

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GREECE

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INDONESIA



The First Indonesian Plantation Museum, Medan, North Sumatra. (Musperin)

Maya Rosa and Hasti Tarekat

INTRODUCTION

Industry is often an important factor, in some cases a solely factor, for new development of an area. Asian countries with their prosperities due to industrialism are witnesses of huge assets of industrial heritage in all forms and facets. Many industrial cities and towns grow further and some are dying. These phenomena can be found everywhere and it seems it cries out loud waiting for responses from mostly and foremost heritage professionals.

As any other countries in the world, Indonesia is renewing its industry continuously to adjust with new needs and demands. This leaves several industries with common dilemma: what to do with old factories, machines and sites? Which ones need to keep and which ones may disappear? If an old factory with its large site is kept, how? Knowledge and experience are badly needed in all levels from policy makers to day-to-day managers of the industries.

Industrial heritage as a specialized field is not much addressed yet in Indonesia. There are voluntary community groups in certain areas but nothing like a professional association yet. Nevertheless, the awareness of industrial heritage in Indonesia is improving especially in the last two decades. Participation of Indonesia in the international arena through ANIH and TICCIH are important

to create platforms of learning and exchanging for the Indonesian researchers and practitioners.

IMPORTANT SITES

The conservation of Tjolomadoe Former Sugar Factory in Central Java in 2018 and the designation of the former Coal Mining Ombilin as the World Heritage Sites in 2019 marked the progress of awareness of Indonesian stakeholders about the importance of industrial heritage. More and more industrial heritage sites are cherished and conserved. On the other side, Indonesia lost many valuable industrial heritage sites and objects, too, due to lack of understanding and experience.

INDUSTRIAL MUSEUMS

- The Second Museum Perkebunan Indonesia-Musperin (Indonesian Plantation Museum) in Medan, opened March 2022. It is Badan Kerjasama Perusahaan Perkebunan Sumatra (Cooperation Institution of Sumatran Plantation Companies BKS-PPS) Building in Medan, North Sumatra. It used to be the location of Algemeene Vereeniging van Rubberplanters ter Oostkust van Sumatra (AVROS, General Association of Rubber Planters of East coast of Sumatra) that was established in 1910. The members were planters from the Netherlands, Belgium, United States of America, and United Kingdom. The

INDONESIA

BKS-PPS Building is built in 1919 and designed by the architect G H Mulder.

- The First Indonesian Plantation Museum was opened in 2016, located in the building that was used to be a research center of AVROS, built and designed at the same year and architect and the AVROS Building.

Since 2021, there is a preparation to open the Third Indonesian Plantation Museum in Pasuruan, East Java, in the building of sugar research center.

PUBLICATIONS

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Tjolomadoe Former Sugar Factory during renovation in 2018, Surakarta, Central Java. (Hasti Tarekat)



AUTHORS

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IRELAND

Dr Niall Colfer

INTRODUCTION

Current attitudes to industrial heritage in Ireland are in a state of flux, with buildings and sites of an industrial nature perceived differently by different sections of society. From a legislative and policy perspective the current level of protection for industrial heritage is far below what is necessary to ensure it will continue to be a positive tool in identity creation in our cities, towns and countryside. As a result, prominent sites continue to be removed to make way for new development. However, it can be argued there is growing awareness amongst the general population regarding the importance of industrial heritage in terms of place-making and reinforcement of community identity. This awareness has been heightened by the recent pandemic, which has seen large numbers of people utilising industrial heritage features (canals, piers, reservoirs etc.) as spaces for recreation.

INDUSTRIAL HERITAGE ASSOCIATION OF IRELAND

The **Industrial Heritage Association of Ireland** (IHA) was established in 1996 as an all-Ireland body to foster an awareness and appreciation of Ireland's rich and diverse industrial legacy among the general public and to encourage its protection by the relevant statutory authorities. Since its formation, the IHA has sought to function as a link between government organisations, NGOs, and individuals working in the field.

The IHA had a one-day tour of sites in counties Carlow and Wicklow in the summer of 2019 which was well attended by our members. An evening tour of the Iveagh Gardens was organised for the Association in September 2019. We had a tour of the Guinness Brewery and the Roe & Co. whiskey distillery in a converted power station in January 2020. The Covid-19 pandemic significantly impacted our ability to arrange any site visits, etc. but the IHA were able to have an in-person AGM in September 2021. This included a site visit to Fancroft Mill and Gardens in Co. Offaly. In November 2021, Dublin Port Authority offered the Association a boat tour of Dublin Port, which was well-attended by the membership. The board's bi-monthly meetings have been held online since the beginning of the pandemic and continue to do so though it is hoped that in-person meetings will recommence this year. The Association has continued with the publication of an annual newsletter and in 2020, to remain engaged with our membership during the Covid-19 lockdowns, we circulated a bi-monthly newsletter. In December 2019, we had an Industrial Heritage Awards evening, supported by the ESB, with four awards awarded that evening.

The IHA have made several submissions to statutory bodies



Boland's Mill and recent development, Grand Canal Dock, Dublin. This 19th-century flour mill is listed on the Dublin City Council Record of Protected Structures (RPS Ref: 7377).

and Local Authorities regarding policy change and the protection of industrial Heritage in large infrastructural projects. These include submissions in relation to the upcoming Monuments and Archaeological Heritage Bill, the draft Dublin City Council Development Plan 2022-2028 and the Dart + West rail programme in Dublin.

The IHA have a close working relationship with ICOMOS Ireland, and over a weekend in April 2022 a joint meeting of ICOMOS Ireland and ICOMOS UK was held in Caernarfon, Northwest Wales to discuss the challenges posed in protecting our historic landscapes and buildings.

PUBLIC POLICIES

The Department of Housing, Local Government and Heritage implements policy in relation to archaeology and built heritage. There are two avenues under which a site can achieve statutory protection. Firstly, the Record of Monuments and Places (RMP), which is a list of archaeological sites that are af-

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The former Guinness Power Station, Dublin, built in 1948, now houses the Roe & Co distillery and visitor experience. (Photo: Kevin Purcell)

forded legal protection under Section 12 of the 1994 National Monuments Act. Unfortunately, the RMP is primarily focused on monuments dating before 1700. Secondly, the Planning and Development Act 2000 requires each local authority to compile and maintain a Record of Protected Structures (RPS) on which structures of industrial interest can be listed. Our two national inventories, the [National Inventory of Architectural Heritage](#) and the [Archaeological Survey of Ireland](#), provide the basis for the recommendations to government and planning authorities for the inclusion of particular structures on the RMP and the relevant RPS.

Many Local Authorities across the country are reviewing their Development Plans, which include policies to safeguard the industrial heritage within their jurisdictions, identifying and assessing industrial heritage sites with a view to adding them to the local authority's Record of Protected Structures. A section of the Royal Canal to the north of Dublin city has been added by the relevant local authority to its Record of Protected Structures. Growing awareness and appreciation of 20th century architecture is also raising awareness of industrial heritage sites from that era and is leading to the protection of these structures, such as concrete grain silos in Dublin Port and a former power station within the Guinness Brewery site.

The Government has approved Heritage Ireland 2030, a cross-

Government Strategic Policy for Heritage that sets out a framework for the protection, conservation, promotion and management of Ireland's heritage for the next decade and beyond. A [comprehensive implementation plan](#) is now being developed to deliver on its actions.

WORLD HERITAGE

The Transatlantic Cable Station on Valentia Island, Co Kerry has applied for inclusion on Ireland's new World Heritage Tentative List, which is due to be finalised in 2022. This is a transnational nomination with Canada: [Transatlantic Cable Ensemble: Valentia-Heart's Content](#).

PROJECTS

The [Dublin City Industrial Heritage Record](#) (DCIHR), developed by Dublin City Council from 2004 – 2009, is published online. The DCIHR investigated and mapped 1,219 sites throughout the city and produced a written record of each site and an extensive photographic record of 3866 photographs.

The former Guinness Power Station, built in 1948 as the first major post-WWII industrial building in Ireland, was repurposed in 2017-2019 to house the [Roe & Co distillery](#) and visitor experience. The building was built to provide steam power to the

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Guinness St. James's Gate brewery, which was founded in 1759.

MUSEUMS

A **90-ton diving-bell** was recently restored by the Dublin Port Company. It was built in 1866 in Drogheda and was designed by Bindon Blood Stoney, the Dublin port engineer from 1856 to 1898. Inside the chamber is a mini museum with interpretative panels that tell a fascinating narrative animated with a water floor feature underfoot.

The IHA **website** has a map of all industrial sites open to the public.

EDUCATION

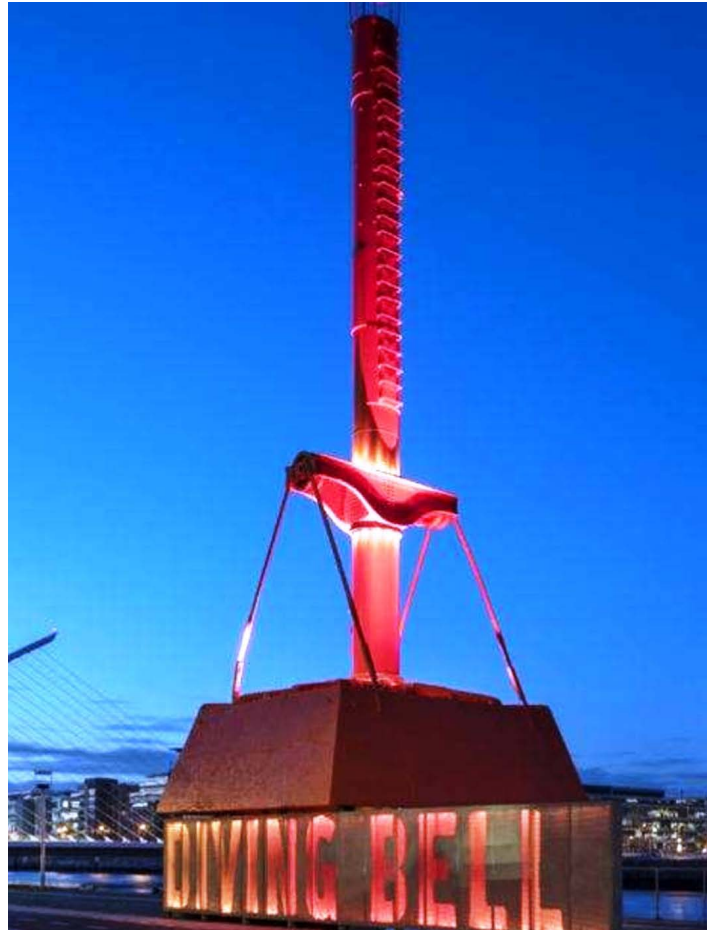
IHA and Dublin City Council ran a one day conference in October 2019 focusing on the historical context and archaeological evidence for the development of corn and flour milling in Dublin City.

Documenting Maritime Cultural Heritage was a symposium discussing opportunities for the preservation and documentation of historic harbours in Ireland and Wales.

PUBLICATIONS

For an overview of the industries of Ireland from the mid-18th century to the early 20th century see Colin Rynne's *Industrial Ireland 1750-1930: An Archaeology*, 2006.

Cork County Council, with funding from the Heritage Council, published *Industrial Heritage of County Cork*, 2019.



The restored **Diving Bell** on Sir John Rogerson's Quay, Dublin.



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ITALY

Massimo Preite and Eduardo Currà

INTRODUCTION

Industrial archaeology and industrial heritage are represented in Italy by a very vital and growing network with AIPAI, the Italian Association for Industrial Archaeological Heritage, as the national reference association for TICCIH. To establish a monitoring and observatory activity, AIPAI established the *Stati Generali del patrimonio industriale* (General State of Industrial Heritage) in 2018, which were held in Venice, Padua and Piazzola sul Brenta and have become a three-year initiative. The second were held in Rome and Tivoli in 2022.

There is a changed geography that includes new divestments and abandonments, due to companies that have not overcome the crisis, but from another perspective there are the built-up expertise in digital networking and virtual enjoyment of industrial culture, as well as private and public programs of recovery and revitalization that leverage precisely on the values of industrial memories.

Most evident is the European recovery plan and the national recovery and resilience plan, which includes, in addition to direct actions for businesses, those dedicated to areas of industrial archaeology included in large and small cities, seeing them as an opportunity for a broader regeneration process. It is at this juncture that the Italian Ministry of Culture recognized AIPAI, on the occasion of its 25th anniversary, for its work with great commitment on the front of census, protection and enhancement of industrial heritage.

At the center of these last four years AIPAI has three main missions that have proved successful:

- to increase the activity of observatory and support to the definition of protection;
- to strengthen cooperation with other Italian associations that, with their specificities, deal with industrial heritage (ERIH Italia, Amodo, Museimpresa, Docomomo, Audis, ReMi);
- to promote a permanent platform for comparison and coordination.

The plurality of bodies dealing with industrial heritage is an asset; they are also joined by ICOMOS Italia, for cultural heritage, and ISPRA, for the environment. The main fact that emerges from the synthesis work and that aims at the elaboration of strategic visions for the future is that it can be noted that in the culture of

industrial heritage in Italy *project and conservation* are no longer in antithesis. They represent two sides of a unified approach to reuse practices.

PUBLIC POLICIES

A law for the reuse and redevelopment of disused industrial areas is under discussion. The legislative measure provides for the establishment, at the Ministry of Economic Development, of a special Fund for the reconversion and redevelopment of disused industrial areas. The resources of the Fund are intended for the co-financing of projects for the reconversion and redevelopment of disused industrial areas adopted by the regions, in agreement with the municipalities within their territory.

Projects that promote the conversion and redevelopment of disused industrial areas, with the buildings and land being used for public, productive, commercial, residential and tourist purposes, favouring the redevelopment and environmental reclamation of the sites and the construction of infrastructures strictly functional to the redevelopment operations, will be eligible for co-financing.

The most innovative part of the bill concerns the protection of historical industrial buildings: in fact, in addition to the reclamation of the areas and the allocation of no less than 20 per cent of the buildings for public use, the projects will also have to provide for interventions for the protection and enhancement of the shapes and volumes of industrial buildings of greater historical and architectural value.

LEGAL PROTECTION

Protection of the Palau-Palau Marina railway in Sardinia. The Ministry of Culture's Archaeology, Fine Arts and Landscape Department is writing to the Superintendence of the Provinces of Sassari and Nuoro to ask them to be vigilant for the full protection of the Palau-Palau Marina railway section, which the Region of Sardinia and the Municipality of Palau want to dismantle.

On 2 October 2021, flames engulfed the Ponte dell'Industria in Rome and parts of the 'iron bridge' collapsed. The original bridge inaugurated in 1863 was an open bridge, for the passage to the ports of Ripa Grade and Ripetta, with two fixed, wider spans and a central one with a liftable deck, supported by the two pairs of mighty cast-iron columns in the centre of the river. It is a genuine product of industry, shipped from England and assembled by the Belgian company that was responsible for the work, and is part of the innovations that took place in papal Rome in the second half of the 19th century.

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WORLD HERITAGE AND OTHER LISTS

IVREA Città Industriale del XX secolo was inscribed in the UNESCO Heritage List in 2018. Founded in 1908 by Camillo Olivetti, the city of Ivrea is an industrial and socio-cultural project of the 20th century. The urban form and buildings were designed by some of the best-known Italian town planners and architects between the 1930s and 1960s, under the direction of Adriano Olivetti. The city includes buildings for production, administration, social services and residential uses, reflecting the ideas of the Community Movement, founded in Ivrea in 1947 and based on Adriano Olivetti's book, *The Political Order of Communities*.

In July 2021, the proceedings for the protection of the large Aermacchi area in Varese began, in view of the particularly important historical-architectural and relational interest of the compendium formerly housing the Macchi-Nieuport - Aermacchi offices and factories in Varese. AIPAI, together with DoCoMo, had urged the MiC to achieve the protection of the site and its recovery. The former AERMACCHI complex retains the value of its layout, with the warehouses and buildings that articulate the whole, its internal dimensional relations and those with the surrounding context, as well as, in general, its urban and landscape location.

Twenty-five years of Crespi d'Adda on the UNESCO World Heritage List. Crespi d'Adda is the most important example in Italy of a workers' village that has been preserved perfectly intact to the present day, constituting one of the most complete and exemplary examples of this type of industrial heritage in the world.

RESTORATION AND RE-USE

Redevelopment of the area of the former 'Fonderie Riunite di Modena'. After a design competition a few years ago, the Municipality of Modena will start work in 2020. The Masterplan, relating to the entire area of the former industrial plant abandoned in the 1980s, envisages four strands of interventions for the realisation of the DAST, District for Technology Acceleration and Development.

The regeneration project of the Tobacco Factory in Florence. The Factory is certainly one of the most ambitious urban regeneration programmes in Italy: it envisages the recovery, by 2026, of the historic Tobacco Factory made up of 16 buildings. The Factory is destined to become an avant-garde creative and productive centre, able to attract the international community of professionals and creative people who want to work and live in Florence, among culture, fashion, art and craftsmanship.

Joule school will be established in the former Gazometro Ostiense in Rome. Joule is a centre for ENI's sustainable entrepre-

neurial training. The industrial complex has been regenerated as a true 'Perimeter of Innovation'. With this transition, the ex-Gazometro has become a forge of energy and entrepreneurial innovation. Eni has provided space for laboratories, projects, entrepreneurs, start-ups and new ideas, which are inextricably linked to the pivotal concepts of the current energy transition.

LOSSES

In July 2020, despite appeals from the world of culture and heritage, Angelo Bianchetti's Autogrill, an icon of the Italian boom, was demolished. Probably one of the most iconic autogrilles of the Italian economic boom period, the Villorosi Ovest station, it was inaugurated in 1958.

In 2021, the Silos Granario in Gravina in Puglia was partially but irreparably demolished. AIPAI and DoCoMoMo (aimed at the documentation and conservation of 20th century Italian architecture) worked jointly for the conservation of the Silos to the institutions in charge, both at municipal and regional level, but at the level of the bodies in charge of protection there was no response during the critical phase and the demolitions continued, only to be interrupted when it was too late.

MUSEUMS

During Covid, the museums did not stop being open to visitors.

The musil - the museum of industry and labour of Brescia, made its collections and activities accessible through its digital channels. The material on the construction of hydroelectric power plants and related works in Valle Camonica contained in the Fondo Ghislandi is accessible in the Cedegolo Hydroelectric Power Museum.

2020 October The Dalmine Foundation organised virtual visits to the photographic archives, together with Carolina Lussana and Jessica Brigo. An opportunity to talk about the industrial photography preserved in the archives as a key to understanding the changing times.

EDUCATION

The Erasmus Mundus Joint Master Degrees Techniques, Patrimoine, Territoires de l'Industrie (TPTI) has been renewed for three years more since 2021 in Techniques, Heritage, Territories of Industry. The master is a two-year international training programme coordinated by the University of Paris I Panthéon-Sorbonne (France), which awards a joint degree with the University of Padua and the University of Evora (Portugal). In Italy, AIPAI and Sapienza University of Rome are partners of the Master.

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HECTOR is the acronym for the Erasmus+ project coordinated by the Union of Municipalities of Amiata and Val d'Orcia, in Tuscany and supported by the partnership of the other two largest mercury mines in Europe: Idrija Mercury Heritage Management Centre, the mine of Idrija in Slovenia; and Minas de Almadén Y Arrayanes S.A. from Almadén in Spain.

HECTOR stands for Industrial Heritage as key Competences for Tourist Operator, so as to highlight the increasingly fundamental relationship between Industrial Archaeology and tourism. HECTOR has an ambitious objective, that of training a new professional figure, the Tourist Operator specialised in Industrial Heritage. The TOIH is a comprehensive working figure that is able to perceive the cultural, social and economic value of industrial sites and to highlight its potential for sustainable development at local as well as European level.

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AUTHORS

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Edoardo Currà is Associate Professor of Architectural Engineering at Sapienza University of Rome and Habilitated to the position of Full Professor. National President of AIPAI, and TICCIH Italy. Currà coordinates the research group on architecture, construction and industrial heritage at the DICEA Department and is a member of the board of the CRITEVAT - Research centre on environmental and land protection. Scientific director of the Journal *Patrimonio Industriale*.

JAPAN

Toshitaka Matsuura

INTRODUCTION

2020 was a commemoration year for Japanese industrial heritage researchers because, after 30 years of work, the comprehensive nationwide survey of industrial and modern heritage that began in 1990 jointly by the central and local governments has finally been completed.

Unfortunately, however, some fewer desirable changes in the situation surrounding Japan's industrial heritage appear to have begun in this period, with a decline in the Japanese public's interest in industrial heritage. The Tomioka Silk Mill and related Sites, and the Sites of Japan's Meiji Industrial Revolution, were inscribed on the World Heritage List in 2014 and 2015. Through enthusiastic coverage by the mass media, many citizens took a great interest in the new cultural heritage sites and expected them to be protected and utilized. However, the enthusiasm did not last for five years: firstly, mass media coverage suddenly decreased around 2018 and the public lost interest in industrial heritage. As a result, both central and local governments reduced their measures for industrial heritage site. The public's loss of interest in industrial heritage has caused some cases where important industrial heritage sites in various regions have been forced to disappear by development projects without being made public.

NATIONAL MEASURES

In 2020, the survey on industrial and modern heritage, launched in 1990 as a new national policy, finally came to an end. Prior to 1990 very few people in Japan recognized industrial heritage as a cultural asset and old factories, disused mines, old machinery and vehicles were regarded as unattractive, space-consuming and expensive obstacles to be destroyed. However, as this research progressed, important industrial heritage sites were designated by the State as cultural assets and historic sites. This made many citizens realize that industrial heritage is an important cultural asset and reminded them of how important industrialization and modernization were to Japan.

The survey was conducted in 47 prefectures and 11 major cities, and covered all buildings, mines, dams, ports, factories, shops, schools, hospitals, housing and various other areas built in conjunction with Japan's modernization from the mid-19th century to the end of the 20th century. The number of heritage sites identified during the survey over the 30-year period was 38,600 nationwide, of which 78 were designated as national cultural assets.



The remains of the Takanawa railway in central Tokyo. The railway opened in 1872 and ran for just over 30 km.

INDUSTRIAL TOURISM

The Japanese Government has been focusing on attracting overseas tourists since around 2005. The measures began to have a noticeable effect in 2015, when the number of overseas tourists, which had previously been 8 million per year, exceeded 20 million and in 2018 exceeded 30 million. However, by 2020, when the covid-19 epidemic began, the number had fallen to 4 million, and then to just 250,000 in 2021.

The interest of many international tourists is in the unique and exotic Japanese culture that took shape during the Edo period (17c to 19c). However, some Asian tourists are also interested in the history of Japan's modernization, which began in the mid-19th century, and the various advanced industries that resulted. In particular, tourists revisiting Japan often choose industrial heritage sites and state-of-the-art factories as destinations. To this end, since around 2017, companies and local authorities have been trying to open historical and operational factories to the public. Under these circumstances, it is of paramount importance to convey the attractiveness of industrial heritage to domestic and foreign tourists. For this reason, it is said that publicity and visitor attraction activities in cooperation between the government and companies hold the key to the preservation and utilization of industrial heritage.

However, covid-19 epidemic restricted social and economic activities in the country as a whole, and all tourism was severely affected, but more so for industrial heritage, which was just beginning to be widely recognized as a new tourist destination, were hit hard in terms of funding and manpower.

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Sado Gold Mine was one of the world's largest gold producers from the mid-17th century and until the early 20th century.

WORLD HERITAGE

Three of Japan's 25 World Heritage Sites are industrial heritage sites. Iwami Ginzan Silver Mine and its Cultural Landscape in Shimane Prefecture, which was inscribed in 2006, is the first example of an industrial heritage site in Japan to be inscribed on the World Heritage List. The site is the remains of Japan's largest silver mine, and at its peak from the end of the 15th to the beginning of the 17th century, the silver mines produced a third of the world's silver and most of the silver produced in Asia.

Tomioka Silk Mill and related Site, registered in 2014, which is a heritage site themed on the development of mass silk production technology and technological exchange with overseas countries from the mid-19th to the early 20th century and comprises four assets, including a silk mill, silkworm farms,

silkworm seed production farms and cold storage facilities for silkworm eggs. For this heritage site, a Gunma Prefecture-run **World Heritage Centre** in the vicinity of the Tomioka Silk Mill where the history and current status of the heritage site and its value are explained.

Lastly, the Sites of Japan's Meiji Industrial Revolution, comprising 23 sites across Japan, was inscribed as a World Heritage Site in 2015. This heritage site is a group of heritage sites scattered across Japan related to Japan's industrial modernization, mainly related to heavy industry, including iron and steel manufacturing, coal mining, shipbuilding, spinning and port facilities. In 2020, **Industrial Heritage Information Centre** opened in Tokyo to provide information on the current status and history of the entire heritage site. This is a government facility to fulfil the conditions required by UNESCO for World Heritage listing, including com-

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mentary on the heritage group and the overall history of each property. However, there are those who point out further problems with some of the displays and commentary.

Furthermore, in 2022, the Japanese Government applied for the Sado Gold Mine, an industrial heritage site in Niigata Prefecture, to be inscribed on the World Heritage List. This gold mine, located on Sadogashima Island in the Japan sea on the western side of Niigata Prefecture, began full-scale gold production in the mid-17th century. The nomination currently under application covers the remains from the 17th to 19th centuries, when research has been completed and conservation of the remains has been established. Regarding the OUV, nomination also emphasizes the existence of a unique Japanese technological system used for mining and smelting during the 200-year period between the mid-17th and mid-19th centuries, when Japan was closed to the rest of the world.

INDUSTRIAL HERITAGE IN DANGER

The remains of Japan's first railway in Takanawa, central Tokyo, are currently being destroyed. The railway opened in 1872 and connected Tokyo with the overseas trading hub of Yokohama. It was the first railway in Asia to be opened by Asians on their own. The railway track had been buried under the main line between Tokyo and Osaka for a long time but was unearthed almost exactly as it was when it was built following the development of a huge redevelopment project of the East Japan Railway Company. The excavated section, known as the 'Takanawa Embankment', is a unique railway line which was constructed as a railway bed by building an earthen embankment in the surf on the coast. The length of this embankment is approximately 2,300 m, and the part excavated this time is about 800 m.

The appearance of this embankment reveals the shape, dimensions, structure and method of construction of Japan's first railway line, which was built 150 years ago. Interestingly, the structure was a fusion of railway civil engineering technology imported from the UK and indigenous Japanese civil engineering technology. However, the investigations, which were carried out in line with JR East's redevelopment schedule, were technically accurate to a certain level, but they did not involve experts from many related fields, such as archaeology, civil engineering and history, and were based on rather limited knowledge. Furthermore, the excavation site was only open to interested parties for a very limited period and scope. This valuable heritage site was demolished without sufficient discussion on its preservation, leaving only a part of it as a national cultural asset.

Redevelopment is about to be extended to the construction of the western section, where the same remains have been identified. For this reason, it is necessary to strongly request that the remains of the expanded area, which have now escaped destruction, be fully preserved.

Requests for conservation and public access have been submitted to JR East by many academic societies and NGOs in Japan, such as Japan ICOMOS, the Japanese Archaeological Association and the Society for the Study of Industrial Heritage, as well as by TICCIH President. We, industrial heritage researchers and many others involved in the preservation of the site, are concerned that the remains of the first railway in Asia, as well as in Japan, are being destroyed to make way for development projects by railway operators, and we appeal for Japanese and international support for their investigation and preservation.



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JORDAN

Nedhal Jarrar

INTRODUCTION

Jordan's industrial heritage sites conservation in 2022 still lacks implementation of laws and legislation regarding the protection of heritage itself, and the lack of a clear definition of this industrial heritage. On the other hand, the lack of awareness regarding the significance of that heritage as evidence of the historical development of Jordanian culture, and the significance of heritage as an economic resource, have also resulted in the loss or neglect of many of these sites.

However, the number of Jordanian members of TICCIH is very small. ICOMOS-Jordan can be the best organization that could be interested in preserving Jordan's industrial heritage.

PUBLIC POLICIES

The last two decades witnessed a systematic destructing of industrial heritage sites in Jordan, the most important of which were the satellite earth station in Al-Baq'a, grain silos in Aqaba, the old glass factory in Ma'an, the Jordanian ceramic factory in Zarqa, the salt refinery in Azraq, and the Marka power plant in Amman. This type of heritage is not on the priorities of Jordanian governments. In other words, the change in the state's discourse regarding the industrial heritage sites is fundamental, but in a negative way, where one of the most critical aspects of this change is the withdrawal from infrastructure projects. Furthermore, the privatization of those sites, and then their removal under investment arguments or because of the lack of appreciation, are among the most common reasons for the destruction or dismantling of historic sites in Jordan. Protecting and re-using the industrial heritage sites would be the potential to provide information on a particular period of industrialization era in this part of the world that conveys a sense of place, memory, and national identity.

LEGAL PROTECTION

It is worth noting that the first Jordanian Law of Antiquities was passed in 1934 and was amended several times, of which the last was in 1988. In 2003 (formalized in 2005), the Government of Jordan passed a law for the protection of architectural and urban heritage putting Jordan's Ministry of Tourism and Antiquities (MoTA) in charge of the process. This law defines a heritage site as a site or a building that has been constructed after the year 1750 AD, and that is of heritage value in regard to its architectural type, its relevance to historical characters, or significant national or religious events.

The World Bank stated in a report in 2005 that there are a few laws related to the protection of cultural heritage in Jordan, including industrial heritage, such as the Interim Law for the Pro-



Al-Juwaidah Silos, Amman Governorate.

tection of Urban and Architectural Heritage No. 49 of 2003. The law deals with heritage sites constructed after the year 1750 for its importance either with regards to the structural technique, or its relation to a historical significance, or its relationship to significant national or religious events (Architectural and urban heritage protection law No. 5 of 2005).

Both of the architectural and urban heritage protection laws are the most related to the preservation of the heritage sites in Jordan. Unfortunately, these laws are inactive. Moreover, there is a committee headed by MoTA, which is the National Committee for the Protection of Architectural and Urban Heritage, that is working recently to activate the heritage laws.

It should be noted heritage of modernity in Jordan in general, and the industrial heritage, in particular, is often seen as unimportant. Furthermore, the privatization of many industrial heritage structures has deepened this marginalization, and no law or procedure can protect them after that. Additionally, the official government discourse, that it is not a priority to preserve Jordan's modern heritage versus foreign investment, only cares for the financial return from creating new projects, which are often constructed over the ruins of old industrial heritage sites.

PROJECTS

There are a few attempts to preserve the modern heritage sites in Amman, as it is the capital city of Jordan, despite the difficulty of enforcing the architectural and urban heritage protection laws. These are recently unimplemented due to the controversy

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over the necessity to compensate the owners of those heritage buildings, which of course applies to the industrial heritage sites. A comprehensive study that has been published recently by the Amman Greater Municipality (GAM) and one of the Jordanian architectural consultants, TURATH was called Amman Heritage. It was specialized in preserving the architectural and urban heritage to determine the heritage sites in the city, where more than one thousand heritage sites are in the city of Amman only.

It is worth noting that GAM decided recently to rehabilitate the Amman Electricity Hanger, as being one of the oldest modern landmarks in Amman, and one of the first industrial buildings in the city related to Jordan's nation-building projects (see *TICCIH Bulletin #91*). A rehabilitation by TURATH, began in 2007 and transformed the deserted building into a contemporary public space. It should be noted heritage of modernity in Jordan in general, and the industrial heritage, in particular, is often seen as unimportant. Furthermore, the privatization of many industrial heritage structures has deepened this marginalization, and no law or procedure can protect them after that. Additionally, the official government discourse, that it is not a priority to preserve Jordan's modern heritage versus foreign investment, only cares for the financial return from creating new projects, which are often constructed over the ruins of old industrial heritage sites. GAM purchased the building from the Jordan Electric Power Company (JEPCO) in 2006 to preserve it as a heritage site (Tabar, 2014). Rami Daher, the architect behind the re-adaptive of the AEH and CEO of TURATH, stated that The story of electricity is significant for Amman. It has never been talked about, and it has never been celebrated. It is a story that is linked to the industry. It is a story of how Amman became a modern city (Tabar, 2014). The objectives of the project were to preserve and acknowledge Amman's heritage of modernity (of which this hangar is an essential example of) and to showcase and narrate the story of the electrification of the City.



Amman's Hijaz Rail station, Amman.

PUBLICATIONS

- Jarrar, N. Jordan – *A Struggle Against Privatization and Neoliberalism*. TICCIH Bulletin 91, 2021.
- Jarrar, N. and S. Jaradat. The De-industrialisation discourse and the Loss of Modern Industrial Heritage in the Arab World: Jordan as a case study. *Journal of Cultural Heritage and Management and Sustainable Development*, 2022. (Approved)



AUTHOR

Nedhal Jarrar is a Jordanian architect, academic, and researcher, teaching at Al-Hussein Technical University in Amman as a part-time lecturer. He has ten years architectural experience, including documentation, restoration, and maintenance projects, and participated in a UNESCO program for preventive heritage preservation in Petra, and he has just finished documenting one of the significant archeological sites in Jordan, the Umayyad bath complex at al-Muwaqqar, in cooperation with the German Embassy in Jordan.

[Contact](#)

MALTA

Robert Ghirlando

INTRODUCTION

This is the first national report for Malta. The island has a rich artistic, architectural and military heritage, eclipsing industrial heritage to the point that awareness of the latter has been rather low. And yet, industrial heritage is recognised by Maltese Law, specifically the Cultural Heritage Act of 2002. To be fair, awareness of the importance of conserving industrial heritage is growing. Some initiatives taken in recent years include the setting up of the Industrial Heritage Platform at the University of Malta, seminars, Heritage Malta's efforts to collect items of interest, and the restoration of old Malta-made buses, now used as a tourist attraction.

ACTIVITIES

There is no Maltese TICCIH group as there is only one TICCIH member in Malta. The **Industrial Heritage Platform (IHP)** at the University of Malta which was set up in 2015. In April 2016, it organised a seminar at the Marsa Power Station which was due for demolition and has since been demolished. The IHP is currently undertaking a number of activities to raise awareness about Malta's Industrial Heritage. In September 2020, the IHP, together with the Malta Group of Professional Engineering Institutions (of UK), organised an Industrial Heritage boat-tour of Malta's Grand Harbour.

CONSERVATION

The water tower at the Marsa Abattoir, built in reinforced concrete in the 1930s, has now been scheduled by Malta's Planning Authority following an intensive restoration programme. The water tower is a notable case of restoration, whereas the demolition of the Marsa Power Station and the Gzira Honda and Ford Garages notable losses.

There are plans to restore the Royal Navy reservoir, built at the beginning of the twentieth century and another reservoir built in the 1950s, and to reuse them for their original purpose of storing water.

MUSEUMS

Appeals to establish an Industrial Heritage Museum have so far produced no results.

EDUCATION

The training and education of restorers and conservationists is now well established, although there is no specific training on industrial heritage.

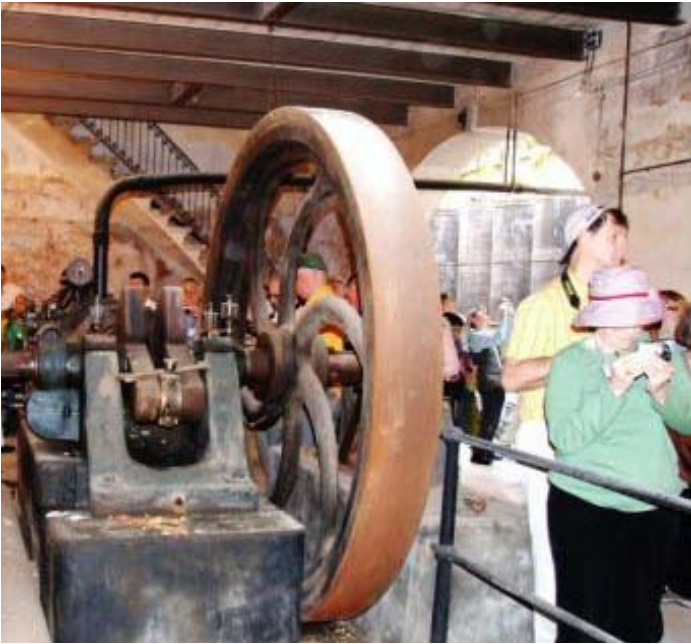


The Marsa Abattoir Water Tower after restoration.

PUBLICATIONS

- Borg, R. P. (2020). *Concrete heritage: challenges in conservation*. Symposia Melitensia, 16, 35-52.
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MALTA



Members of the (American) Society for Industrial Archaeology visiting one of the first electric generators installed in Malta in a private residence.

- Gambin, T. (2013). *Mapping ancient water management systems*. Malta Archaeological Review, 9, 70-72
- Ghirlando R. (1993) *Birgu - Birthplace of Malta's Technological Society, Birgu - A Maltese Maritime City*, Central Bank of Malta.
- Ghirlando R. (2014) *Developments in Technology and Independent Malta, Melita Historica*, vol XVI No.3, Malta Historical Society.



AUTHOR

Prof Ing Robert Ghirlando is a mechanical engineer. He worked in manufacturing industry before joining the University of Malta in 1987 where he is now a visiting Professor. He has written about Malta's industrial heritage and founded the Industrial Heritage Platform at the University of Malta. [Contact](#)

MEXICO



El Pulque · Hacienda de Santa María Tecajete, Hidalgo, Exhibition. (Marco Antonio Hernández Badillo)

Belem Oviedo Gámez

INTRODUCTION

During these last years, the Mexican Industrial Heritage has awoken a greater interest in academic fields, becoming the topic of historical, social and economic researches and, to a lesser extent, specific studies to recover it and reuse it have been conducted. The work of TICCIH México has contributed to consolidate this interest, emphasizing the significance of this heritage.

Considerable work remains to be done because industrial heritage is not one of the public policies in our country nowadays. Re-use proposals mostly include considerations such as their strategic location, in urban contexts, where major investments can be profitable. Few projects are supported by the recovery of these sites for what they represent. The risk of the projects started during the last years and which are only based on the commercial use of these spaces is that, in the best scenario, they only represent some architectonic elements according to the requirements of the law that give priority to heritage ensembles facades while affecting the site character, making a reading of the place difficult, and destroying its own identity within the community.

The most recent example is the old Santa Rosa factory (1899) in Ciudad Mendoza, Veracruz, located in one of the most im-

portant textile corridors of the 19th century, and one of the bastions of the working-class struggles of the 20th century. It was inaugurated as commercial mall in May 2022, after two years of work (the pandemic years). According to authorities of the National Institute of Anthropology and History, in Veracruz 'they tried to preserve the essence of a historical building... which houses the economic development of an important region'. Since 2001 the Mendocino Community Museum was opened in the warehouse space, created by Bernardo García Díaz, member of TICCIH México, it covers the history of textile industry in the region and exhibits machinery and tools used in the factory.

Cultural and Industrial Landscapes is a complex topic whose study is barely starting, several national and international symposiums have been dedicated to it; one of them was committed to study proposals to legislate its protection.

Sites documentary record is another concern among scholars, a tendency to formulate strategies to conduct inventories throughout the country is notorious, even though they are independent or sectioned, because every researcher or group is generating their own records and recording platforms according to their own capacities.

MEXICO

ACTIVITIES

TICCIH México organized two international symposiums, one called Agro-industrial Heritage, Paths, Challenges and Meaning, with the participation of Prof. Patrick Martin, President of TICCIH (2009-2018). The academic sessions conducted in Mérida, Yucatán, were enhanced with technical visits to henequen haciendas to learn about the sisal production process and their reuse.

The symposium Communication, Transportation and Industry: Management, Valuing and Communities was carried out in collaboration with diverse national and international associations, in February, 2022 at the Old Railway Workshops in Aguascalientes. The inaugural speaker was Dr. Miles Oglethorpe, President of TICCIH. The following publications were presented: TICCIH México and Life Goes on Between Rails and Steam. Rail Workers Labor Everyday Life and the Use of Free Time in México written by Frederick Thierry Palafox, member of TICCIH México.

TICCIH México has integrated a new generation of members, young people who wrote their bachelor's and master's degree thesis about Mexican industrial heritage and that passed the Master Erasmus Mundus TPTI. The most recent member, Luis Ibáñez González, did it in 2019 with the thesis The Hydraulic System of the Mexico Basin During the Porfiriato. Ma. de la Cruz Ríos Yañes was a Visiting Scholar in 2018 and Nerina Aguilar Robledo and Laura Pacheco Urista are working now on their doctoral thesis.

The Inventory of Mexican Industrial Heritage has advanced in regions where TICCIH México has representation; the goal is to achieve a representative sample of the whole country. Records will be integrated to a Geographical Information System and they will be published through a link on our webpage

The National Coordination of Historical Monuments of the National Institute of Anthropology and History created the Industrialization Processes Seminar in México, History, Architecture and Technology, 19th to 21st Centuries that integrates scholars from different areas and from different states of the country organizing, between 2019 and 2021, two national symposiums. Papers resulting from them have been published in five volumes of the bulletin called Historical Monuments issued by INAH. The seminar has been replicated in the states of Nuevo León and Zacatecas.

The State Committee on Industrial Heritage Conservation of Nuevo León organizes an international symposium on an annual basis sponsored by diverse institutions such as the State Council for Culture and Arts of Nuevo León and the North Border Conference, A.C., and the Mexican Committee for Industrial Heritage Conservation, A.C.



Almacen (Warehouse) of the Foundry Workshops of La Maestranza. (Marco A. Hernández Badillo)

The Industrial Heritage Network of México: Conservation, Studies and Awareness was created with the general objective to foster knowledge on the industrial heritage of México and to create awareness about it, it includes fourteen members from universities and research centers from the north, west and central areas of the country, who meet virtually every month to present **research progress**, meeting every year.

Several universities are promoting theses about industrial sites, among them the universities of Yucatán, Puebla and the National Autonomous University of México, as well as the National College of Anthropology and History.

PUBLIC POLICY

Except for the professional and permanent work conducted by the National Center to Preserve Railroad Cultural Heritage, whose pillars are the Mexican Railroad National Museum and the Railroad Documentation and Research, there is no other instance of the federal government that works around Industrial Heritage, therefore, there is no public policy encouraging this type of work.

To be protected, industrial heritage has the Monuments and Archeological, Artistic and Historical Sites Federal Act of 1972, which goes up to the 19th century and its Regulations. Heritage belonging to the 20th and 21st centuries is regulated by the National Institute of Fine Arts and Literature; in both cases, there are no specific rules regarding industrial heritage. Because México is part of several international organisms, such as the Convention of UNESCO of 1972, it is possible to recourse to international norms to protect it.

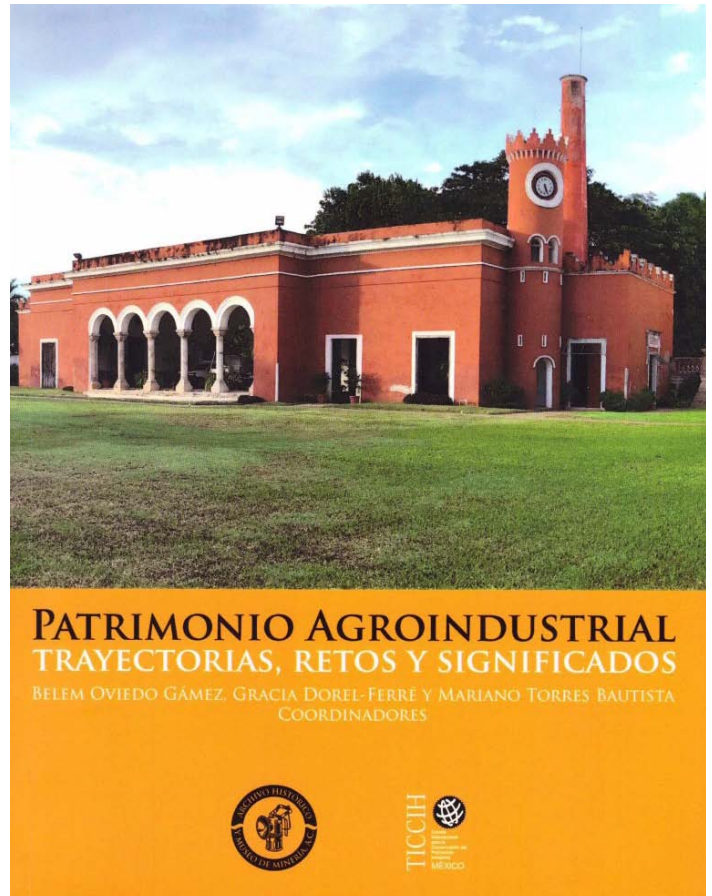
MEXICO

Besides the law of 1972, documentary heritage is covered by the Archives General Act of 2019 its Rules and Regulations and the criteria issued by the Archives National Council for private archives, category in which most industrial archives fall.

UNESCO awarded the Memory of the World Registry México 2021 to the Historical Archive of the Real del Monte y Pachuca Company (1727-1986), the proposal was prepared by Aracely Monroy Pérez and Belem Oviedo Gámez. The archive belongs to AHMMAC, founding member of TICCIH México, institution that, from civil society, has worked 35 years and is an example of good practices in the documentary, built and immaterial mining industry heritage field. As of today, its industrial site recovery work continues in the Dolores Mine (S. XIX-XXI).

PUBLICATIONS

- De la Torre, F. (2021). *Entre la quimera y la realidad. Industrialización y utopía social en Jalisco (siglo XIX)*, México, Universidad de Guadalajara.
- Dorell, G., Oviedo, B., & Torres, M. (Coord.). (2018). *Patrimonio Agroindustrial. Trayectorias, retos y significados*. México, TICCIH México y AHMMAC.
- Gómez, J., & Rivera, R., (Coords.). (2018). *El Patrimonio Industrial y Agroindustrial de México*, México, Comité Mexicano para la Conservación del Patrimonio Industrial, A.C., Universidad Autónoma de Chapingo y Universidad de Málaga.
- Morado C., Contreras C., González, S., & otros. (2020). *Memoria Industrial*. México, CONARTE
- Navarro, J.A.. (2022). *Urbanismo, Patrimonio Industrial y resiliencia en Guadalajara, México. En Resiliencia en espacios desindustrializados* Valencia, España: Tirant Humanidades.



Agro-industrial heritage, trajectories, challenges and meanings, TICCIH México book, 2018.



AUTHOR

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NEW ZEALAND



Makatote railway viaduct is recently restored by operator:

Paul Mahoney

1. INTRODUCTION

This first-ever national report from New Zealand (NZ) sets a baseline. The initial focus is how Industrial Heritage preservation is achieved in NZ. Industrial heritage sites in the outdoors are popular in NZ and they are the most-visited heritage sites.

Industrial heritage in NZ has a very wide interpretation that includes engineering, transport, military, and agricultural heritage.

The key industrial themes in NZ 1870-1970 fall into three categories:

1. Agricultural production: sheep + beef + dairy + fruit ... *more*
2. Extractive industries: timber + coal + gold + flax ... *more*
3. Infrastructure: transport + energy + communications ... *more*

2. ORGANISATIONS

There are eight key contributors to NZ industrial heritage: find them by Web search:

2.1 Engineers New Zealand

- Professional engineers' organisation
- Identify key heritage sites
- Oral history
- Web resource
- Site plaques

2.2 Department of Conservation DOC

- Government agency
- Largest manager of industrial heritage
- 100 plus sites are open to the public
- 50+ historic bridges of many types

NEW ZEALAND



Karangahake gold mine is the most popular NZ site.

- World Heritage State Party for NZ
- My primary heritage roles are in this Department

2.3 Heritage New Zealand

- Government agency
- Administer key heritage legislation
- National register of significant heritage
- Manage some industrial heritage sites

2.4 Federation of Rail Organisations FRONZ

- National community organisation
- Represents 63 railway heritage organisations
- Legislation, training, safety, marketing, networking

2.5 Archaeological Association

- National community organisation
- Manages the NZ Archaeological Site Record

2.6 Regional & local government

- Administer key heritage legislation
- Manage some sites ... including

- Auckland museum of transport & technology
- Dunedin railway station
- Taieri Gorge Railway 64km

2.7 Community groups

- They make a major contribution ...
- Volunteers + some paid staff
- Largest projects are railway heritage
- Wrights Hill military fort Wellington
- Ormondville Railway Station

2.8 Business investment

Example: Colonial Ammunition Co Auckland city. Heritage area elements:

- Shot tower
- Forge shop
- Adaptive re-use of mid-city site for apartments

I am the only TICCIH member in NZ, starting in 2012. I am privileged to serve on the Australian ICOMOS/TICCIH National Committee. In NZ I enjoy industrial heritage interactions with many committed colleagues.

NEW ZEALAND



Rail Trails are popular investments such as Central Otago.

3 PROJECTS AND LOSSES

Outstanding projects: clean down to bare steel and repainting the giant 1908 Makatote Viaduct by KiwiRail, 262m long, 79m high, on the main railway route in the North Island.

Major recent loss: closure of underground coal mine tours at Denniston coal mine. This tour offered an outstanding underground experience in authentic workings from the 1880s. Suspension of operations on the Taieri Gorge Railway, Dunedin. This is NZ's longest and most spectacular preservation railway. It may yet be revived.

Major typology gap: there are no protected or preserved processing plants for farm production: wool, meat, & dairy industry.

Generalised reflections on successful projects:

- Urban sites: adaptive reuse is necessary
- Remote sites: many are in beautiful settings
- Best to provide an activity for visitors

4 MUSEUMS AND SITES

- Five popular museums & their themes: find them by Web search
- The Kauri Museum, Matakoho (timber)
- MOTAT, Auckland (many themes)
- Waihi Arts Centre & Museum, Waihi (gold)
- Tawhiti Museum, Hawera (farming)
- Shantytown, Greymouth (gold, timber)
- Five popular industrial heritage sites: find them by Web search

- Cape Brett Lighthouse DOC
- Karangahake Gold Mine DOC
- Ormondville Railway Station: community group
- Denniston Coal Mine DOC
- Central Otago Rail Trail DOC

5 EDUCATION

Industrial heritage warrants one lecture on a heritage course at Victoria University.

6 PUBLICATIONS

Apology that this selection is rather random, due to this being the first NZ report and time constraints.

- Beaglehole, H, 2006, *Lighting the Coast*, Canterbury University Press: a national study of the coastal lighthouse system researched from official records and site visits.
- Mahoney, P, 1998, *The Era of the Bush Tramway in New Zealand*, IPL: a national study of forest railways based on first-hand interviews and site visits.
- Pollard, J S, 1987, *Requiem for a Gas Works*, Canterbury University: an engrossing and humorous account of a devilish industry including both technology and human interest.
- Thornton, G G, 1982, *New Zealand's Industrial Heritage*, Reed: NZ's first national overview of industrial heritage, and while rather dated, it remains the only work in its class.
- Warr, E, 1988, *From Bush Burn to Butter*, Butterworth-Heinemann: an introductory study of the development of the dairy industry which is New Zealand's leading export industry.

NEW ZEALAND



AUTHOR

Paul Mahoney, Senior Heritage Advisor, Head Office, Department of Conservation, New Zealand [Contact](#)

NORTH MACEDONIA



Promotional material for the digital publication Perspectives on Industrial Heritage Protection

Ivana Kocavska

INTRODUCTION

North Macedonia has a peculiar industrial development that can be the subject of a variety of disciplines, however, the interest to deal with its heritage has appeared very recently. Due to the late emergence of the professional practices to analyse, safeguard, re-purpose and reinterpret industrial heritage in the country, there is no TICCIH group in North Macedonia and this report is a result of the collaboration between TICCIH and ICOMOS Macedonia in the project **Perspectives on Industrial Heritage Protection** that was developed during 2021.

Perspectives on Industrial Heritage Protection consisted of two main activities, translation of professional literature on the protection of industrial heritage and organizing a promotional event - expert discussion.

With the support of TICCIH, a selection of eight scientific papers from the TICCIH guide **Industrial Heritage Re-tooled: The TICCIH Guide to Industrial Heritage Conservation** were translated into the Macedonian language, along with two international documents for the protection of industrial heritage. The selection of the papers was based on the necessities and current state of the protection of this type of heritage in the Macedonian context.



Screenshot from the event and expert discussion Perspectives on Industrial Heritage Protection to celebrate publication of the selection from TICCIH's Industrial Heritage Re-Tooled.

The pioneering digital publication in Macedonian language **Perspectives on Industrial Heritage Protection** (download from this link) is edited by Kristina Biceva, President of ICOMOS Macedonia and Ivana Kocavska, author and manager of the project. This publication aims to open up a discussion on industrial heritage and highlight its wider values for the community.

On this note, the second activity of the project, promoting the new publication, was a digital forum with an expert discussion on 17 December 2021, in order to increase the interest and research in the area of industrial heritage protection in the country. The forum featured the following speakers:

Miles Oglethorpe, President of The International Committee for the Conservation of the Industrial Heritage (TICCIH)

NORTH MACEDONIA

James Douet, editor of the Industrial Heritage Re-tooled and of the TICCIH bulletin

Sonja Ifko, President of ICOMOS Slovenia and Associate Professor of Architecture at the Faculty of Architecture, University of Ljubljana

Ada Vlajić and Rifat Kulenović, Museum of Science and Technology, Belgrade, Serbia

Ivona Krsteska, Cultural Echoes, Skopje, Macedonia

The virtual event was attended by professionals of various backgrounds from N. Macedonia, USA, China, Bulgaria, Turkey, Nigeria, Indonesia, the Netherlands, Serbia, Bosnia and Herzegovina, Croatia, Israel, Slovenia, Japan, Vietnam, Australia, Iran, Portugal, Ireland, Belgium, Scotland, Spain and Lebanon. The video stream of the event is available at ICOMOS Macedonia's [YouTube channel](#).

The project was financially supported by the Ministry of Culture of the Republic of N. Macedonia.

Without a doubt, this edition will contribute to the recognition of the values of industrial heritage and its proper evaluation and protection in N. Macedonia, as its promotion has created an occasion and conditions for cooperation between the institutions and organizations concerned.

PUBLICATIONS

- Бицева, К., Коцевска, И. (Уред.). (2021). *Перспективизаза штитана индустриското наследство. Скопје: Национален комитет на Меѓународниот совет за споменици и локалитети ИКОМОС во Македонија*. ISBN: 978-9989-2271-4-1



AUTHOR

Ivana Kocevska is an independent cultural heritage practitioner. Currently, she is a management associate at the National Committee ICOMOS Macedonia. Her fields of scientific interest include industrial heritage and heritage disaster risk management. [Contact](#)

PHILIPPINES

Ivan Anthony Henares, with contributions from Eric Zerrudo, Marianne Claire Vitug, Edgar Allan Sembrano, and Reynaldo Lita

INTRODUCTION

The TICCIH Philippine National Committee (TICCIH Philippines) was formed on November 11, 2020. An agreement was signed by TICCIH Philippines and TICCIH formalizing the recognition of the national committee. While the Philippines has many industrial heritage sites, raising awareness about the sites needs much support. By organizing the national committee, TICCIH members in the Philippines hope to raise the profile of Philippine industrial heritage in TICCIH, as well as within the country, where it lacks recognition even among government cultural agencies.

An agreement of cooperation was also signed between TICCIH Philippines and the Asian Network of Industrial Heritage (ANIH) on June 30, 2021, to promote the conservation of industrial heritage and related work in the Asia Pacific region through international collaborative partnerships.

ACTIVITIES

The Philippine Industrial Heritage Forum 2021 was held on January 15, 2021, the inaugural event of TICCIH Philippines. TICCIH Philippines was also actively involved with the events of the Asian Network of Industrial Heritage (ANIH) and participated in several meetings in 2021 and 2022.

TICCIH Philippines released a position paper *Isla de Provisor*, the site of the decommissioned Manila Thermal Power Plant (MTPP). The plant itself was sold for scrap by the Power Sector Assets and Liabilities Management Corporation (PSALM). A Heritage Impact Assessment (HIA) should be undertaken to determine other significant remnants of Manila's industrial history that can be found on the island. The island itself could have been a potential site for a Philippine Museum of Industrial History.

TICCIH Philippines was also signatory to a petition against the Pasig River Expressway (PAREX) that is to be built over the Pasig River. It also filed its own petitions with government cultural agencies for the protection of the Pasig River and its banks because of the negative effect the PAREX would have on a significant number of industrial heritage properties along the river.

SITES

In 2018, the Ma-ao Sugar Central in Bago City, Negros Occidental and the Sugar Simborios (Smokestacks) were declared Important Cultural Properties (ICP) by the National Museum, making them the first manufacturing-related industrial properties protected by



Smokestack of the Ma-ao Sugar Central in Bago City, Negros Occidental and the Sugar Simborios.

the Philippine Government. Previously, bridges, lighthouses, railroad stations, and specific churches were the industrial properties in the Philippine Registry of Cultural Property (PRECUP). Also declared ICPs were the Bureau of Customs in Port Area, Manila and the Aduana in Intramuros, Manila, the American and Spanish colonial period customs houses respectively.

The National Historical Commission of the Philippines declared the Capul Lighthouse as a National Historical Landmark in 2018. They had also given Level II protection through historical markers to the commercial houses of Ker & Company Ltd. (2018) and Ynchausti y Compañía (2019), both in Iloilo City, as well as the Cape Santiago Lighthouse (2018) in Calatagan, Batangas.

Originally for Negros Island, the Negros and Panay Sugar Heritage Trail plan was expanded in 2021 to include Panay Island, as well as Guimaras Island. The creation of the trail was a result of a proposal to nominate the Centrales Azucareras of Negros Island (Sugar Centrals of Negros Island) as a World Heritage Site. Initially, this serial nomination was to include historic sugar centrals such as the Ma-ao Sugar Central in Bago City, Victorias Milling Company in Victorias City; Hawaiian Philippines Company in Silay City, Central Azucarera de La Carlota

PHILIPPINES



THE INTERNATIONAL
COMITTEE FOR THE
CONSERVATION OF THE
INDUSTRIAL HERITAGE

ICOMOS
international council on monuments and sites



ASIAN NETWORK OF INDUSTRIAL HERITAGE
亞洲產業文化資產
資訊平臺

PHILIPPINE INDUSTRIAL HERITAGE FORUM 2020



January 15, 2021
3PM Manila
7AM London | 8AM Paris
2AM New York | 6PM Sydney



The Philippine Industrial Heritage Forum 2021 was organized by TICCIH Philippines and ICOMOS Philippines, together with the Asian Network of Industrial Heritage (ANIH).

in La Carlota City and Lopez Sugar Corporation in Sagay City, Negros Occidental; and the Bais Sugar Central in Bais City, Negros Oriental.

The name was later modified to the Sugar Cultural Landscape of Negros Island and expanded to include Panay Island, given that the potential nomination could also include the historic centers of Silay City and Iloilo City, several sugar plantations and historic residences, and other related properties. Iloilo City was a major global trading port for Philippine sugar.

The Iloilo Provincial Culture, Arts, History and Tourism Office also conducted extensive documentation of simborios or smokestacks related to sugar or salt production and has identified 78 intact smokestacks scattered in four of the five districts of the province.

The Department of Transportation (DOTr) and the Philippine National Railways (PNR) required the contractor of the new Malolos-Clark Railway Project (MCRP) to conduct a heritage assessment and design a protection plan for the individual old train stations along its right-of-way. This will ensure that the old historic stations are stabilized and protected while construction activities are implemented with their vicinity.

The Heritage Impact Assessment (HIA) of the North-South Commuter Railway Project on the PNR North and South Lines of Luzon was conducted by University of Santo Tomas (UST) Center for Conservation of Cultural Property and Environment in the Tropics (CCCPE) from October 2021 to April 2022. The flagship project of the Department of Transportation through the GCR Consortium traces and transects the historic Philippine National Railway routes in the north from Malolos to Clark and in the south from Solis to Calamba. The route was analysed as a landscape, ensemble and component structures according to historical architectural, material, structural and socio-cultural investigations.

San Sebastian Basilica, the Philippines' only all-metal building, is one of the country's last remaining churches whose interiors have remained mostly authentic and survived the ravages of earthquakes and war. In 2019, the Order of Augustinian Recollects and the San Sebastian Basilica Conservation and Development Foundation, Inc. commissioned a Conservation Management Plan (CMP) for its restoration program. What is clear in the CMP is that the highest significance of the basilica is its use as a place of worship. At the moment, the Foundation is preparing for activities that aim to rehabilitate the basilica's dome and roof areas where leaks and

PHILIPPINES

disengaging metal parts have already been recorded. Local and international conservation specialists have been working to save this unique Philippine treasure.

Industrial heritage properties that were demolished or damaged include the Philbanking building, Port Area, Manila and Barit Bridge, Laoag City, Ilocos Norte (partly demolished due to road widening) in 2018, the Sunico Foundry, San Nicolas, Manila in 2020, and the Puente de Putol Grande, Tayabas, Quezon (partly damaged due to road widening) in 2021.

MUSEUMS

The Carmen Copper Corporation (CCC) Heritage Center in Toledo, Cebu, the first copper mining museum in the country and in Southeast Asia, formally opened on September 19, 2018.

The National Historical Commission of the Philippines (NHCP) opened the Museum of Philippine Economic History in Iloilo City in February 2019. Housed in the Ynchausti y Compañía building, which was restored by the NHCP in 2018, the museum showcases thirteen galleries that presents the rich and vibrant story of the Philippine economy.

Museo El Deposito in San Juan City, Metro Manila was also opened by the NHCP on February 20, 2019. The museum features the 1882 Carriedo Waterworks, including the El Deposito underground reservoir, that provided potable water to Manila in the 19th century.

PUBLICATIONS

- Henares, I.A. S. and Mansinares, C. C. (2021, December). Reviving industrial heritage in Western Visayas: Advancing critical inquiries in sugar heritage to decolonize Visayan identity [paper presentation]. *Anthropologies of (De)Colonization and Beyond: 43rd Annual Conference of the Ugnayang Pang-AghamTao, Inc.*
- Zulueta, J. B. (Ed.) (2019). *Victorious. Victorias Milling Company, Inc.* ISBN 978-621-96015-1-1.



AUTHOR

Dr Ivan Anthony Henares is a tourism educator, cultural policy researcher, and advocate for heritage conservation in the Philippines. He is an Assistant Professor and Graduate Program Coordinator at the Asian Institute of Tourism of the University of the Philippines, Diliman. President of the International Committee for the Conservation of the Industrial Heritage (TICCIH) and, International Correspondent (Philippines) to the Asian Network for Industrial Heritage (ANIH), and Secretary General of the ICOMOS International Cultural Tourism Committee (ICTC).

With contributions from Dr. Eric Zerrudo, Marianne Claire Vitug, Edgar Allan Sembrano, and Ar. Reynaldo Lita.

POLAND

Jacek Dąbrowski and Bartosz M Walczak

INTRODUCTION

The beginnings of industry in Poland date back to the late 18th and early 19th century, when Poland did not exist then as a sovereign state, and the development of industry depended on the economic policy of the partitioning powers. Before 1850 industry relied heavily on manufactories, and the nuclei of the future industrial districts were formed during this period. The major period of industrialization lasted from 1850 to the First World War, and developed most intensively in the Prussian partition, while the weakest was in Austria.

The diverse economic structure of the various regions weighed heavily on the reconstituted Polish nation after the First World War. Additionally, the established trade ties dissolved after 1918. After the Second World War, industry was nationalized and the entire economy, including industry, was centrally planned. A characteristic feature of the socialist economy were great industrial investments, mainly in heavy industry. Political and economic transition began in 1989, industry was privatized and restructured. This caused a massive deindustrialisation of inefficient old production sites.

For many years, the transformations of post-industrial facilities has been a field of conflict between architects and conservators. Pressure from politicians and developers also plays an important role. The polarization of these positions, but also an attempt to overcome might be illustrated by the cyclical conferences *Między ortodoksją a kreacją* [Between Orthodoxy and Creation], organized at the Ethnographic Museum in Warsaw.

Industrial heritage is still perceived (unfortunately also by a number of heritage conservation professionals) primarily as the architectural remains of former factories, and not as complexes consisting of technological processes carried out on the basis of a set of machines. In other words, the cultural value of production technology is underestimated and therefore having negative impact on heritage valorisation and its subsequent protection.

PUBLIC POLICIES

There is a growing social and institutional awareness of the value of industrial and engineering heritage sites. A good example is the widely-discussed and high-profile plan to blow up the over 100-year-old, fish-belly railway bridge over the Pilchowickie Lake (Lower Silesia) for filming *Mission: Impossible 7*. TICCIH Poland and numerous social organizations were involved in the protection of this valuable engineering structure, while heritage conservation authorities carried out an efficient and substantive procedure of putting the bridge under legal protection through its listing at



Pilchowice fish-belly railway bridge, protected from demolition to shoot *Mission: Impossible 7* on the initiative of TICCIH Poland. (TICCIH Poland archive)

the national register of monuments. A similar social action was launched to protect the historic locomotive depots in Katowice and Kutno, and above all the Szombierki heat and power plant in Bytom, which, on the initiative of TICCIH Poland, was successfully entered into the Europa Nostra list of Most Endangered Heritage Sites in Europe for 2020 (Fig. 2).

The basic legal act regarding the protection of monuments in Poland is the *Ustawa z dnia 23 lipca 2003 roku o ochronie zabytków i opiece nad zabytkami* [Act of 23 July 2003 on the protection and care of monuments]. In the period 2018–2022, it was amended eight times by the *Sejm* [Parliament], but the organizational and institutional system of heritage protection in Poland has not changed significantly. Industrial heritage, like other heritage typologies, is protected primarily through listing on the registers of immovable monuments (buildings, complexes of buildings, etc.) and movable monuments (machines, devices, works of art, etc.) kept separately for each province by the Provincial Heritage Conservators. As of the 1st of January 2022, the registers of immovable monuments included includes 3,605 industrial complexes and factories, which constitutes 4.55% of the heritage sites protected by law in Poland. There were 3,368 objects of technology in the register of movable monuments, which with the total number of movable technical monuments amounting to 275,066 is only 1.22%.

SITES

Heritage sites of special importance to the history of Poland are, since 1994, recognized by decrees of the President of the Republic of Poland as Monuments of History. This prestigious title is

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The Szombierki heat and power plant in Bytom, one of the Most Endangered Heritage Sites in Europe for 2020. (P Gerber, 2019)

currently held by 116 historic buildings and complexes throughout the country, including 14 sites related to industry and technology (12.1% of all Monuments of History):

- Bochnia – a salt mine (2000)
- Bóbrka - the oldest crude oil mine (2018)
- Ciechocinek – a complex of graduation towers and salt works with Tężniowy and Zdrojowy parks (2017)
- Duszniki Zdrój – a paper mill (2011)
- Gdańsk – the Gdańsk Shipyard - the birthplace of Solidarity (2018)
- Gliwice – a radio station with a timber-truss mast (2017)
- Augustowski Canal (2007)
- The Elbląg Canal (2011)
- Krzemionki near Ostrowiec Świętokrzyski – a flint mine from the Neolithic period (1994)
- Ozimek – a cast-iron chain suspension bridge over the Mała Panew River (2017)
- Tarnowskie Góry – a historic silver-bearing ore mine and the Czarnego Pstrąga adit (2004)
- Warsaw – the William Lindley’s Filter Station Complex (2012)
- Wieliczka – a salt mine (1994)
- Zabrze – a complex of historic hard coal mines (2020)

There are 17 sites inscribed on the UNESCO World Heritage List, among them three industrial sites:

- Wieliczka Salt Mine – inscribed in 1978, as one of the first 12 sites in the world. In 2013, this entry was extended to the Bochnia Salt Mine and the Saltworks Castle in Wieliczka. The rock salt deposits in Wieliczka have been exploited since the

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13th century. The mine has nine levels and stretches over 360 km with chambers, altars, statues and other works of art carved in salt, being elements of a large-scale industrial undertaking. The historic Bochnia Mine consists of three shafts: Sutoris (from the mid-13th century), Campi (from the mid-16th century) and Trinitatis (from the early 20th century) and nine levels.

- Tarnowskie Góry Mine of lead, silver and zinc ores, inscribed in 2017. The site is located in Upper Silesia, in one of the main mining areas in Central Europe. The mine had a significant share in the global production of lead and zinc. The site consists of tunnels, shafts, galleries and an underground water management system with a steam pumping station. The latter is a testimony to the continuity of work on draining water from the mine for over 300 years. Thanks to a special system, unnecessary water was used to supply the city with drinking water and for industrial use.
- Krzemionki region of prehistoric stripped-flint mining, inscribed in 2019. The site is located in the Świętokrzyskie Mountains and consists of four locations related to mining in the Neolithic and Bronze Age (approx. 3.900 to 1.600 BC). The stripped flint was mined and processed here for tool-making purposes, which was a turning point in the history of mankind. Underground mining structures with around 4,000 chambers and galleries, and flint processing sites form one the best preserved Neolithic site of this kind discovered so far in the world (Fig. 3).

In addition, there are ongoing procedures related to the submission of the Gdańsk Shipyard to the UNESCO World Heritage List.

PROJECTS

It seems that in 2018-2022, less adaptation work was carried out on post-industrial sites than in the previous period. At the same time, the quality of these works was improved. Unfortunately, what is preserved and revitalized to a large extent depends on the decisions of investors, and not the cultural values of individual facilities. Selected projects:

- Łódź, the spirit industry plant – a conversion into the multi-functional complex Monopolis. Also in Łódź - K. Scheibler's power plant conservation as part of the Fuzja project (a residential and office complex).
- Warsaw, Powiśle Power Plant – a conversion into a multi-functional complex.



Successful adaptive re-use of a former vodka factory complex in Łódź, Monopolis. (B M Walczak, 2021)

- Gdańsk, Gdańsk Shipyard – a long-term process of transforming the shipyard area into a new district of the city is underway.
- Krakow, the Peterseima Factory – an adaptive re-use as lofts and offices.

MUSEUMS

There are 975 museums in Poland, and the number of museums has increased by 175 compared to the previous report of 2018. There are some 215 museums which, in whole or in part, document the industrial heritage, which constitutes 22% of all Polish museums. The majority of new museums with the focus on industrial heritage, technology heritage, technical monuments etc. are small, private institutions, typically specialising in automotive and military.

In 2022, after several years of reorganisation and renovation, the National Museum of Technology was opened. The museum is run by the Ministry of Culture and National Heritage, the Ministry of Science and Higher Education and the City of Warsaw. The most important Polish railway museum is also in Warsaw. It is still in the process of reorganisation, currently operating as part of the cultural institution of the Mazowieckie Voivodeship called Museum Station.

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EDUCATION

There is no educational program on the protection of industrial heritage at university level in Poland. The issues related to the protection and conservation of technical monuments are included in the curricula in the architecture (e.g. Łódź, Wrocław), and also as part of postgraduate studies (Warsaw). It is planned to launch a series of vocational trainings and to re-activate postgraduate studies entirely devoted to selected aspects of industrial heritage protection with the participation of TICCIH experts.

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AUTHORS

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Dr Bartosz M. Walczak, professor at the Department of History of Architecture, Revitalization and Monument Conservation at the Institute of Architecture and Town Planning, Lodz University of Technology. Author of projects for adaptation and the revitalization of Łódź including factory-residential complexes in the European textile industry, awarded by the European Union and Europa Nostra. Vice-president of PK TICCIH. [Contact](#)

PORTUGAL

José Manuel Lopes Cordeiro

INTRODUCTION

The industrial heritage situation in Portugal has not changed significantly since the 2018 report. A consistent policy has been absent from the field, including museology, across successive governments. There has been no concern with carrying out an industrial heritage inventory at a national level, though municipalities have occasionally conducted them locally. A national plan is increasingly necessary to safeguard the industrial heritage, which is progressively threatened, with some important sites having disappeared. There are, however, some positive aspects, namely regarding the classification of industrial sites and the Government's commitment to promoting industrial tourism.

The Seixal Municipal Ecomuseum/ Vale de Milhaços Gunpowder Factory, in collaboration with other entities, is developing the IH-4Future Project to raise awareness of industrial heritage, its importance in the history of industrial civilization, and the urgency of its preservation.

PUBLIC POLICIES

The key change in the policies devoted to industrial heritage was the interest shown by the governmental agency Turismo de Portugal in promoting industrial tourism. This initiative involved all the tourism regions of the country. It has also found great receptivity in municipalities that have structured a selection of industrial tourism options in their respective areas. A Portuguese Industrial Tourism Network is being set up with the cooperation of municipalities and private entities. The Network developed a Quality Standard for Industrial Tourism, established and published by the Portuguese Institute of Quality. The organization has also published a Guide to Good Practices in Industrial Tourism to stimulate the Network, in which APPI/TICCIH Portugal has participated since its inception. In addition to a highly attended cycle of Webinars on industrial tourism held in 2020-21, Turismo de Portugal also promoted the 1st National Industrial Tourism Week, with multiple initiatives across the country.

One of the success cases of industrial tourism has been the regular steam train trips in some areas of the country. These include the Historical Train, which has circulated during the summer on the Vale do Vouga Line, and the Douro Historical Train, which has also circulated during the summer in the Alto Douro Wine Region (UNESCO World Heritage Site).



Ammonium sulfate silo from Companhia União Fabril, 1952. (DGCP)

PROTECTED SITES

- 2018 – Arrábida Bridge, between Porto and Vila Nova de Gaia. Designed by Eng. Edgar Cardoso, it was built between 1956 and 1963; at the time, it had the longest reinforced concrete span arch in the world, with a width of 270 meters.
- 2019 – Set of properties linked to the industrial activity and social work of Companhia União Fabril, including: Alfredo da Silva House-Museum; former Post of the Republican National Guard; First-generation Stinville building (1907-1917); Buildings of the Old Steam Power Plant; Pyrites Unloading and Grinding Warehouse; Worker District of Santa Bárbara; former headquarters of the CUF Sports Group; Alfredo da Silva Mausoleum; Ammonium Sulfate Silo (1952); Sulfur Silo (1960); and Industrial Museum and Documentation Center (formerly Diesel Power Station, 1928-1937), in Barreiro.
- 2021 – Former pasta factory A Napolitana, in Lisbon. Designed by the firm Vieillard & Touzet in 1908, it remained in operation until 1970.
- 2021 – Confiança Factory, in Braga. This soap factory and perfumery, built-in 1921, is one of the last examples of the city's industrial heritage.
- 2021 –Pinhais Canning Factory, in Matosinhos. Built-in 1927, it is one of the oldest canning factories in Portugal.

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Marie d'Anjou cannery recovered, island of S. Jorge, Azores. (Francisco de Lacerda Museum)

- 2021 – Mundet Cork Factory, in Seixal. Founded in 1905, it became the largest Portuguese cork factory and one of the largest in the world, currently holds the Mundet Nucleus of the Municipal Ecomuseum.
- 2022 – English Man's Cork Factory, including the gardens and integrated mobile industrial heritage, the Cork Museum, in Silves. The Cork Museum was installed in one of the buildings, which in 2001 was awarded the Micheletti Prize for industrial museology. Built in 1893, it's owned by Avern, Sons & Barris.

WORLD HERITAGE

The Water Powered Funicular of the Bom Jesus do Monte Sanctuary in Braga, already classified as a Monument of Public Interest since 2019, is now inscribed by UNESCO. Designed by Nikolaus Riggenbach and Raul Mesnier, it opened in 1882 and it was the first funicular built on the Iberian Peninsula.

It was also proposed to extend the area classified as World Heritage of the Historic Center of the city of Guimarães to the neighboring Leather Square, consisting of a set of 19th century tanneries.

An application to World Heritage is being prepared for the six large-arch metal bridges existing in Europe (in France, Germa-

ny, Italy and Portugal). The Portuguese bridges are the Maria Pia Bridge (inaugurated in 1877 with a project by Théophile Seyrig) and the Luís I Bridge (opened in 1886, also designed by T. Seyrig).

RESTORATION AND LOSSES

The Calouste Gulbenkian Foundation Vilalva Award distinguishing heritage recovery and enhancement projects was presented in 2019 for the rehabilitation of the Coimbra Old Ceramics building. The Municipality of Torres Novas recovered the abandoned Caldeirão Hydroelectric Power Plant for museum purposes. The Alviela Channel Siphon in Sacavém, built-in 1880 and responsible for supplying water to the Lisbon region, was the subject of conservation works.

The Marie d'Anjou cannery, which was in great disrepair, was recovered and reused for the new facilities of the Francisco Lacerda Museum, on the island of S. Jorge, Azores. The former Leiriense Flour Mill was recovered and reused for a luxury condominium, a project awarded with an architecture prize. The old water tank of Pasteleira (from 1886) was rehabilitated as a pole for the Porto City Museum. The former Francisco Mendes Alçada wool factory in Covilhã was recovered and reused as a university residence with a tourist aspect intended for local accommodation.

The historic Ginjal Pier, where old abandoned factories are located, in Almada, across the river from Lisbon, is threatened by

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a real estate project. The Robinson Cork Factory in Portalegre, founded in 1848, faces an uncertain future, with one of its buildings having been demolished in 2019. Aurifícia Company, a metallurgical factory founded in 1865 in Porto, is also in a state of uncertainty. Also, Porto-Boavista Railway Station, the first one built in Porto in 1875, will be demolished to construct a shopping center. The Blast Furnace of the National Steel Company, in Seixal, classified as a Monument of Public Interest, is abandoned and in an advanced state of degradation. The titan steam crane on the North pier of Leixões Harbour, built in 1884 and a part of the history and industrial heritage of Matosinhos, is in poor condition and is threatened with demolition. In Ponta Delgada, Azores, the Sinaga Sugar Factory is also under threat, although part of its machines have been saved by the Carlos Machado Museum.

The municipality of Mealhada allowed, in 2019, the demolition of the historic Pampilhosa Ceramic Factory. In 2020, three emblematic industrial sites were demolished: the Industrial Machinery Factory Pinheiro in Trofa, the Minhoto Textile Mill in Guimarães, and the Vila Real Bread Factory, designed by the famous Portuguese architect Nadir Afonso, who worked with Le Corbusier and Oscar Niemeyer. It was one of the landmark works of 20th-century Portuguese architecture. In 2021, the Fonte do Lameiro Industrial Complex in Covilhã, known as Tinte Velho, used for dyeing since the 18th century, was demolished to give rise to a private real estate project.

MUSEUMS

The Loulé Rock Salt Mine opened with a 1.3 km interpretation route inside the mine, where the old and current mining processes are shown. The former Biel hydroelectric plant, founded in 1894 in Vila Real, the first public service hydroelectric plant in the country, is being transformed into a museum. In Mira Daire, the Industrial and Handicraft Textile Museum was inaugurated, installed in an old carpet factory founded in 1933. In Bragança, the railway museum reopened in the old city center station, completely renovated. In Vila Nova de Gaia, the World of Wine (WOW) - The Cultural District, a museum complex was installed in former Port wine cellars, with seven museums, five of them related to industrial heritage.

The exhibition *Plasticity: A History of Plastics in Portugal* at the Leiria Museum received the Dibner Award for Excellence in Museum Exhibits, attributed by the Society for the History of Technology. In Amadora, the exhibition *Memories of Amadora Industry* was presented regarding some of the city's leading metallurgical factories. The River Ave Valley Textile Industry Museum in Fimalicão presented an exhibition depicting the historical evolution of the first modern textile mill in the region. The Vizela River

ARQUEOLOGIA INDUSTRIAL

José Manuel Lopes Cordeiro (Ed.)



Museu da Indústria Têxtil da Bacia do Ave
TICCIH Portugal - Associação Portuguesa para o Património Industrial

First issue of the new series of the journal *Arqueologia Industrial*, published by APPI/TICCIH Portugal.

Spinning and Textile Mill was established in 1845 in Porto, and this marked the 175 anniversary of its foundation.

RESEARCH

The topic of industrial heritage continues to evoke much interest in the academic world, particularly in Masters and Doctoral dissertations. Numerous theses were presented in the field of architecture (re-use projects), museology, and historical and archaeological studies. Archaeology and industrial heritage are also part of the study plans of some university courses.

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AUTHOR

Prof. Dr. José Manuel Lopes Cordeiro is a retired from the Universidade do Minho. He is the director of the River Ave Valley Textile Industry Museum, a TICCIH Board member, and chairman of the Portuguese Society for Industrial Heritage. He is also the director of Arqueologia Industrial, and APPI – Associação Portuguesa para o Património Industrial / Portuguese Society for Industrial Heritage. [Contact](#)

SERBIA



Weifert Brewery, Pančevo, a cultural property of great importance. (Szilard Antal, 2020)

Anica Draganić

INTRODUCTION

In 2013, the **Society of Conservators of Serbia** declared industrial heritage as the most vulnerable category of historical material remains at the national level, explaining this condition as a consequence of an obsolete legal framework which did not define industrial heritage as a specific type of cultural heritage. Although conservators consider industrial heritage as part of the total corpus of cultural heritage, the current level of exploration and implemented conservation works indicate an inadequate approach to industrial remains.

Forming a joint strategy that would include all relevant management structures and institutions at the national and local levels and the private and civil sectors was urgent. I researched the conservation approach and current condition of industrial heritage in the Vojvodina region (2014-2015) and in 2015, the National Team for the Industrial Heritage Protection was created, whose task was to define a working methodology in the industrial heritage field and to implement it in conservation practice. The team was operative for two years, but the methodological guidelines were never officially adopted. A systematic approach to the protection

of industrial heritage has not yet been established, but individuals are persistently working on educating and raising awareness among young people and citizens about its values and potential. In recent years, industrial heritage has become increasingly interesting for students and young researchers of architecture, urbanism, tourism and creative industries, as evidenced by numerous graduate and master theses.

PUBLIC POLICY

Until recently the legal framework for the protection of cultural heritage determined the Law on Cultural Heritage from 1994. By the end of 2021 the new law was adopted. Despite the expectations of the professional public, industrial buildings, complexes or locations are not defined by the new law as a separate category of immovable cultural property. Namely, the term 'industrial heritage' does not exist in the umbrella law on cultural goods, but only the term 'work of technical culture', which complicates the procedure of industrial sites proclamation and protection.

ACTIVITIES

The formal conditions (min. five members) for creating a national group were met at the end of 2020, but the pandemic situation

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postponed signing an official national agreement. Miles Oglethorpe, the President of TICCIH, and Anica Draganić, Serbian national representative, will sign the Agreement during the upcoming TICCIH Congress in Montreal.

Professors engaged at the **University of Novi Sad** and the Cultural studies platform CULTstore are the core of the National TICCIH group. They implemented several projects during last years:

- *Railway Heritage for Sustainable Tourism Development – Rail4V4+V (2021-22)*; financier – Visegrad Fund; leader – Cultural studies platform CULTstore, <https://rail4v4v.com/>
- *The Banat narrow-gauge railway (2021)*, financier - Ministry of Culture and Information; implementer - Cultural studies platform CULTstore
- <https://banatskamalapruga.rs/>
- *Straightening European Cultural Identity Through Interdisciplinary Heritage Studies – euCULther (Jean Monnet Module, 2019-22)*; financier – European Commission, EACEA; implementer - Department of Architecture and urbanism, University of Novi Sad, <http://euculther.uns.ac.rs/>
- *Digital dissemination of the brewing heritage – BEERoutes (2019-20)*; financier - Ministry of Culture and Information; implementer - Department of Architecture and urbanism, University of Novi Sad, <http://www.beeroutes.arhns.ftn.uns.ac.rs/>
- *Shadows and silhouettes of industrial past of Vojvodina (2018)*; financier - Provincial Secretariat of Culture and Public Information; implementer - Department of Architecture and urbanism, University of Novi Sad.

SITES

Systematic research of the current state of these industrial sites in the Vojvodina region resulted in the conclusion that the state of protected industrial sites is extremely bad due to partial valorisation, inadequate purpose, lack of maintenance and unresolved ownership relations. Documentation shows that many properties were not explored and valorised before legal protection. Therefore, subsequent conservation work was only partly carried out, often without prior analysis and expert studies. Due to insufficient awareness of the importance of certain monuments, later generations of conservators and local communities allowed the decay and destruction of unique examples of technical heritage. Despite the legal protection, six of 39 registered industrial monuments on the territory of Vojvodina are completely demolished.



The tile factory and brickyard, one of only three new listed sites since 2018. (Terra Center for Fine and Applied Arts, 2022)

The Serbian **Information System of Immovable Cultural Property** shows that from 2018 until today, only three industrial sites in Serbia have been listed:

- Hydroelectric power plant Gamzigrad in Gamzigradska Banja near Zaječar, December 28, 2018
- Fiat car service building in Belgrade, March 8, 2019
- The industrial facility Old tile factory and brickyard, Terra in Kikinda, August 6, 2021

PROJECTS

The most notable projects of industrial heritage revitalization are happening in Novi Sad due to two prestigious titles the region won, as European Youth Capital 2019 and the European Capital of Culture 2022.

Cultural station Svilara, Novi Sad. The former silk dyeing workshop, located in the urban core, was abandoned for years. Factory building and its chimney were preserving the memory of the times when the silk factory was the generator of the social and economic development of the area. The cultural development strategy envisages the establishment of the Cultural station in a culturally underdeveloped part of the city and the transformation of the old silk factory for that purpose. The old silk factory was a specific symbol of the place, but its meaning and significance were almost lost. Theoretically based place rediscovering has led to a critical approach to old factory reactivation. Designed as an

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open cultural space dedicated to contemporary interpretations of heritage through the interaction of artists, organizations and individuals, the Cultural station Svilara opened in 2018. It has already transformed the symbol of the past into the generator of the future.

Creative district, Novi Sad. The oldest urban industrial area is defined as a priority area for cultural and economic development in the coming period, and the new detailed regulation plan provides guidelines for its transformation into a Creative district. The revitalization of the complex began in April 2018, without previous analysis and valorisation, and is being carried out in several phases. Based on conservation conditions issued in 2019 by the Institute for the Protection of Cultural Monuments of the city, the reconstruction, adaptation and rehabilitation of the three oldest buildings from the interwar period were carried out.

A turning point in the revitalization was made by the systematic research of the industrial history, which brought new knowledge for the argumentative interpretation and evaluation of the layered industrial heritage. Accordingly, in the continuation of the process of revitalization of space, it is noticeable (re)interpretation and preservation of specific historical values through naming buildings based on their original purpose, more careful treatment of the physical structure (especially construction), selection and application of modern materials in the renovation, etc. Program and social diversity are recognized as the most valuable inherited elements of this area, which would be necessary to keep in the transformation process to preserve the ambient values and genius loci of the oldest industrial area.

MUSEUMS

- The Museum of Science and Technology and the Museum of Yugoslavia, exhibition **On Factories and Workers**, Belgrade, curatorial team Ada Vlajić, Rifat Kulenović, Jovana Nedeljković and Radovan Cukić
- Jewish community of Zrenjanin, Cultural studies platform CULTstore, exhibition **Elek's factory**, Zrenjanin, National Museum, curators Ferenc Nemet, Anica Draganić and Maria Siladji
- Cultural studies platform CULTstore, exhibition **Railway heritage of Novi Sad**, Novi Sad, Railway station, October 16 – November 2, 2021, curators Maria Siladji, Anica Draganić and Silard Antal
- Foundation Novi Sad 2021, European Capital of Culture, exhibition **Great Liman: Narratives of inherited area**, Novi Sad, Creative district, curators Anica Draganić and Maria Siladji



Svilara Cultural station and the silk factory exhibition in Novi Sad, core of the first industrial zone, Novi Sad, October 2019. (Maria Siladji)

- Faculty of Technical Sciences, University of Novi Sad, exhibition **Silk factory in Novi Sad as the core of the first industrial zone, Novi Sad, Cultural station Svilara**, curators Anica Draganić and Maria Siladji

EDUCATION

- University of Novi Sad, Faculty of Technical Sciences, Department of Architecture and Urbanism – Master in Architecture and Urban Design – course **Adaptive reuse of the built heritage**, <http://ftn.uns.ac.rs/2125145543>
- 2019/20. studio **Reactivation of the Novi Sad railway station**
- 2020/21. studio **Revitalization of the marshalling yard in Novi Sad**
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AUTHOR

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SLOVENIA



Kamšt, the water pumping wheel of the Idrija mine. (Idrija Municipal Museum)

Sonja Ičko

INTRODUCTION

The Slovenian national board of TICCIH is organized within the Slovenian working party for industrial heritage / Slovenska delovna skupina za varstvo industrijske dediscine ([SLO-IND-DED](#); [Facebook](#)). It has been closely cooperating with ICOMOS Slovenia and other professional organisations in the field of cultural heritage since it was established in 2016.

TRENDS AND ATTITUDES

We are pleased to report that in this period, industrial heritage is getting more recognition in Slovenia due to several diverse projects

and activities from various stakeholders and the adaptive reuse of formal heritage sites, etc. Of course, there is still plenty to do in the future in regard to the protection of movable and immovable industrial heritage. There have been no significant changes in the institutional framework, however, the existing system is still sufficient. Improvements were made in the system of classification of industrial heritage sites in the national register of immovable heritage.

The heritage category has become more recognized among both professional and general public, although there are still many tasks and open questions to be solved in the future. More sites received statutory protection, and some were declared monuments of local importance.

Besides the Slovenian working party for industrial heritage there

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is also a museum professional's association related to industrial heritage, the Section for Technical Heritage at the Slovenian Museum Association. It was formed in 2001 and its members are representatives from around 20 national, regional and private museums. The curators from the Technical Museum of Slovenia are the leading force in the section.

EDUCATION

As reported in the last National Report, there are no special educational programs on industrial heritage, but the existing courses include more topics on industrial heritage preservation. At the Faculty of Architecture, University of Ljubljana the included courses are Industrial Buildings, Preservation of Contemporary Architectural Heritage and Heritage Interpretation. As part of the last course the students prepared an internet platform **Nome nest Omen**.

Project Hector. The **HECTOR Project** Industrial Heritage as Key competences for Tourist Operator is an Erasmus+ project created by a diverse team of nine partners from Italy, Slovenia, Spain, Belgium, Germany, Austria and Bulgaria. It aims at increasing employability for young Europeans (aged 18-30) having a background, education and/or training in the tourism sector, by providing them with core skills and a specialization on experience tourism in industrial heritage.

PROJECTS

In 2019 the common project **PLACES of WORK _PW** Industrial heritage of Central and East Europe of Tallinn University of Technology, Department of Civil Engineering and Architecture and of Faculty of Architecture, University of Ljubljana was launched. Students supervised by Henry Kuningas and Sonja Ičko prepared an internet platform with presentation of several industrial sites of Central and East Europe.

Digitalization of IH. In the context of post-pandemic recovery, the digitalization of heritage was encouraged with several EU fundings. Many industrial heritage sites have got new virtual reality presentations of their heritage. One of them is Idrija Kamšt, managed by Idrija Municipality Museum. The Kamšt is a large water-powered pumping device, which was used to raise the pit water from the Idrija Mercury Mine. Its special feature is a water wheel 13.6 m in diameter that takes 13 seconds to make one full revolution. At the same time, approximately 300 litres of pit water were pumped from a depth of 283m. How it worked is now presented in interactive virtual reality animation.

Cukrarna, Ljubljana. In 2021 the renovated **Cukrarna sugar refinery** was opened as a cultural centre in Ljubljana. The building was once considered one of the most important industrial



The exterior of the former Cukrarna sugar refinery, now adapted to a cultural centre. (Irena Marušič)

plants in Slovenia from the first half of the 19th century. It first operated as a sugar refinery. In 1828, Rossmann & Pelican, two wholesalers from Trieste, applied for the factory permit and set it up in Ljubljana due to the proximity of the customs. In 1835, the first steam engine in the territory of present-day Slovenia was installed in the factory, and a period of relative stability followed. In the years between 1841 to 1849, the new owners increased the factory's capacities and thus caused the biggest boom in the history of the Ljubljana sugar industry.

Rog, Ljubljana. Rog Factory, the former bicycle factory, in the centre of Ljubljana represents an important cultural monument and piece of industrial heritage not only for the Slovenian capital, but also of the wider region. The Municipality of Ljubljana has recently started the first renovation works, which will turn the degraded and decaying building into a new creative, cultural and social center of Ljubljana, Centre Rog. The renovation will include a demanding and extensive process of architectural, urban and program interventions into the area in and around the factory.

Project ID20 was established with a vision to transform heritage from a thing of the past to a matter of the future. It unites and provides networking opportunities for more than 40 young activists and supporters. They are helping young people with ideas to develop products and services that seek inspiration in rich local cultural heritage. Based in Idrija, formerly the world's second-largest mercury mine and a UNESCO World Heritage Site, the intertwining of heritage and innovation created the perfect environment for innovation in business, service and creativity sectors.

SLOVENIA

MUSEUMS

Many museums have staged permanent and temporary exhibitions of industrial heritage in the last few years. The work of the Technical Museum of Slovenia has to be mentioned again along with the work of the City Museum in Idrija, several museums of the Gorenjska region, the Coal mining museum of Slovenia, Koroški pokrajinski muzej, and Zasavski muzej Trbovlje.

- **Temporary exhibitions** in the Technical museum of Slovenia: The coal mining museum of Slovenia permanent exhibition: <http://muzej.rlv.si/en/>
- Idrija municipal museum: <http://www.muzej-idrija-cerkno.si>

- Elan Ski Museum: <http://museum.elanskis.com>

- **400 Years of Steel Industry in Mežiška Valley.**

In the last few years several museums from Gorenjska region have prepared a series of exhibitions entitled: **Our factories - our pride**. The life of the present day Gorenjska region largely defines its industrial past. The industry was the carrier and guide of not only the economic but overall development of the region in the past century. Among the products that testify to the creativity and achievements of the people, there have been some very successful stories that have led to the creation of internationally recognized brands.



AUTHOR

Dr Sonja Ičko, University of Ljubljana, Faculty of Architecture, Ljubljana, and Irena Marusic, Technical Museum of Slovenia, Ljubljana. **Contact**

SWEDEN

Catarina Karlsson, Jennie Sjöholm and Magdalena Tafvelin Heldner

INTRODUCTION

Industry in Sweden has in the past been dominated by the exploitation of raw materials, and still is, but the country has been subject to deindustrialization in recent decades, of materials – mining, forest, energy – but also engineering, chemicals, food and ICT. Over the report period 2019-2022, industry, legislation and the state have worked with the issue of climate change, a global problem that demands global solutions.

ACTIVITIES

The organization representing TICCIH in Sweden is **Svenska industriminnesföreningen (SIM)** - the Swedish Industrial Heritage Association. SIM is a network for industrial heritage professionals with the objective to support research, preservation, conservation and awareness efforts within the field of industrial heritage. SIM cooperates with ICOMOS Sweden, Europa Nostra Sweden and other organizations in Sweden dealing with cultural heritage.

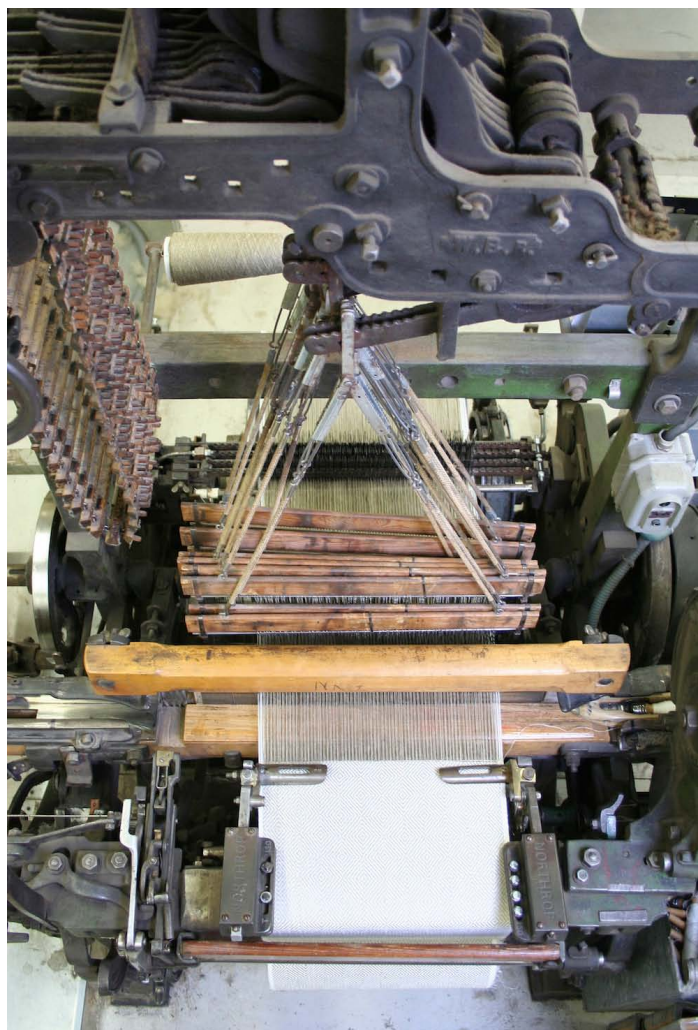
Since 2018, SIM's Board has aimed to meet the industrial heritage challenges of contributing to sustainability to be relevant and contribute to raising societal values in the public debate. SIM has decided to work with the global sustainability goals as a tool for decision-making and work within the organization.

Since 2019, the Swedish TICCIH board works with a specific theme each year, in order to focus on aspects important for the industrial heritage of today and to contribute to the contemporary public debate. In 2019 the theme was 'Sustainability', in 2020 'Industrial heritage generates - site development in a social perspective', in 2021 'Adjustment in a challenging time of change', and in 2022, the theme is 'Modern industrial heritage'.

The Swedish TICCIH section's work includes awarding the annual Industrial Heritage Site of the Year (IHS) prize, the Industrial Heritage Publication of the Year (IHP), and arranging online seminars related to current annual themes.

The IHP award was introduced in 2020. The purpose of the award is to draw attention to and support the work of publishing and thereby making available and utilizing the industrial heritage. The nominees can be books, magazines, podcasts, TV series, dissertations, radio programs, websites or social media channels that focus on industrial heritage.

The IHS award is used as a tool for promoting sites dealing with societal issues, in particular those relating to the global goals for sustainable development. The award must also relate to the an-



A mechanical loom from Manchester, England, built in 1923, at the Växbo Lin textile factory with linen products, the Industrial Heritage Site of the Year 2019. (Växbo Lin)

nual theme. The award draws substantial media attention, and the prize ceremony always involves the participation from high-level officials from regional authorities, making it a valuable tool for the successful heritage projects in their efforts to raise financial and political support.

PUBLIC POLICIES

Actors and organizations in industrial heritage can be divided into official and unofficial actors. Formally, through the Swedish National Heritage Board (RAÄ), the Swedish government is responsible for all heritage on the national level. They support SIM

SWEDEN



Jädraås double blast furnaces and roasting furnaces was in operation between 1856 and 1930. Industrial Heritage Site of the Year 2020. (Margareta Cortés)

and other industrial heritage initiatives. On the regional level, the county administrative boards are responsible for cultural heritage, although their involvement with IH has declined. On the local level, the municipalities are responsible for cultural heritage as a part of regular municipal planning.

Other official heritage actors are some of the museums in Sweden – Tekniska museet, Textilmuseet, Nordiska Museet, Statens Maritima Museer, Arbetets museum, Trafikverkets museer, Ekomuseum Bergslagen and the county museums. A vital group are also the working-life museums, in 2022 about 1,500. There are also various actors in the unofficial heritage sphere who deal with industrial heritage.

Another organization conducting research on industrial heritage

is the Swedish Steel Producers Association, focusing on the history of mining and metallurgy as well as the protection of related heritage sites. An important effort is their Atlas project, which aims to publish reports with archaeological and historical data pertaining to the medieval history of mining and metallurgy in Sweden. By linking material remains with cartographic records and historical information, the reports are a resource both for research and for heritage protection. There is also the Falun Copper Mining Heritage board that works with the world heritage of the Falun copper mine.

Prominent Industrial Heritage sites in Sweden are available at the Swedish Industrial Heritage association home page www.sim.se or www.raa.se.

SWEDEN



Engelsberg Ironworks, a Swedish world heritage site. (Kenneth Sundh)

PROJECTS

A great concern is that heritage sites are under increasing threat from the EU Water Framework Directive. Actors in the heritage sphere in Sweden, including SIM, have taken initiatives to save historical remains under threat of being demolished. A particularly important category is historic industrial sites located close to waterways in Sweden, which are under the threat of being demolished on a grand scale as a consequence of the Directive, which requires member states to open up migration routes for fish in inland waterways.

In May 2019 the Vattenhistoriskt nätverk (Water History Network) was formed to collaborate on the hydropower issue and one of the founder organizations was SIM. Today the network includes ArbetSam, Europa Nostra Sweden, ICOMOS Sweden, the Support Association for small-scale hydropower, the Swedish Hydropower Association, the Swedish Association for Building Preservation, the Swedish Industrial Heritage Association and the Swedish Local History Association. The network brings together national organizations that are affected by the Swedish water administration in order to make visible and demonstrate valuable cultural heritage in these environments. It cooperates to ensure a holistic view where the cultural environment is considered and

solutions for the benefit of both the cultural and natural environment by the water are noticed.

MUSEUMS

During the pandemic every museum and exhibition and NGO has been struggling. The impact on the museum sector has been great and the National Heritage Board has done a survey of the museum sector in Sweden, and a description on how to adapt to changing conditions. They have identified four main challenges, which the museums repeatedly mentioned and highlighted: economy, staff and skills, digital infrastructure and the important role of museums in society.

EDUCATION

Heritage research, university based academic research on industrial heritage is conducted at several universities in Sweden – KTH-Royal Institute of Technology, Stockholm University, University of Gothenburg, LTU-Luleå University of Technology, Dalarna University, Karlstad University and Södertörn University.

In the period 2019-2022 the largest initiative is still **REXSAC** (Resource Extraction and Sustainable Arctic Communities) a Nor-

SWEDEN

dic center of excellence for Arctic research which was funded 2016-2021 led by KTH, Stockholm University and Stockholm Environment Institute together with twelve partner institutions. In the field of industrial heritage REXSAC explores under which circumstances legacies of resource extraction can be a resource for building sustainable post-extraction futures.

Dalarna Högskola ran the project Ecultours 2018-2020, which aims to improve students' skills, knowledge and employability within cultural heritage tourism, using the Falun copper mine world heritage site as a case study. At Karlstad University, the [Centre for Regional Studies](#) (CRS) has led a project dealing with the great changes in the tourism industry as an effect of digitali-

zation – the changing conditions for how the industry communicates with visitors and how visitors experience destinations. This has an effect on how the industry uses and narrates industrial heritage sites. The aim is to stimulate new knowledge, interaction, generation of ideas and synergy effects between academia and industry through development and innovation processes.

PUBLICATIONS

The list of publications on IH in Sweden 2019-2022 is long and available at the Swedish Industrial Heritage association's home page, www.sim.se.

AUTHORS

Dr Catarina Karlsson is an archaeologist and historian with a focus on mining and metallurgy. Board member of SIM since 2017 and its chair since 2018 and Sweden's representative in TICCIH.

Dr Jennie Sjöholm is a conservation specialist, she researches cultural heritage processes in the built environment and impacts of industrialization on cultural heritage. Board member of SIM since 2015.

Magdalena Tafvelin Heldner has been curator and project manager at the Technical Museum since 1998 and has over the years worked with everything from nuclear power plants, hand paper and vacuum cleaner manufacturing to innovations. She has long been involved in various forums for the industrial heritage both in and outside the museum. She is co-opted to SIM's board.

SWITZERLAND

Toni Häfliger

The group of TICCIH members living in Switzerland or those with Swiss nationality is very small. The author was registered as the only member with a Swiss connection, but in the meantime, fortunately, several persons are again listed in the register. This could result in an active Swiss network.

In spring 2022, the long-time TICCIH member Dr Hans-Peter Bärtschi passed away at the age of 71 from the late effects of an accident. He was a pioneer of industrial archaeology in Switzerland.

From 23 - 25 June 2022, the conference took place at the **Swiss Federal Institute of Technology** ETH in Zurich (centre) with a broad, international field of speakers and digital contributions. The event was initiated by the Office for the Preservation of Historical Monuments of the Swiss Federal Railways SBB. The ETH (Chair of Construction History and Monument Preservation), the Federal Office of Culture, ICOMOS Suisse and the SBB Historic Foundation are project partners.

The conference is conceived as a survey and is intended to present the current state of knowledge with its wealth of questions and topics. The results will be evaluated in the interest of the railway; if necessary, interdisciplinary or even international projects on specific topics should result from this. The corresponding work is underway.

As the former head of the SBB's specialist department for the preservation of historical monuments, the author has been appointed as co-project leader for a specialist conference on the findings, positions and methods of the preservation of railway monuments.

It is particularly noteworthy that representatives of the four railways currently inscribed on the UNESCO World Heritage List met together for the first time. These include the Semmering Railway in Austria, the Darjeeling Railway with extensions in India, the Albula-Bernina Line of the Rhaetian Railway in Switzerland and, since July 2021, the Trans-Iranian Railway.



AUTHOR

Toni Häfliger architect BSA SIA urbanist FSU, conservator/expert, and member of TICCIH. [Contact](#)



An art performance with lighting, music and contemporary dance on the coal washing plant the new Pingxi Coal Mine Museum, one of anchor points on the Pixie Coal Mining Settlement Route. (Protection. MxM Chen Hsuan MingXHuang Atz: LAYER)

Hsiao-Wei Lin

INTRODUCTION

Following the amendment of the Taiwan's Cultural Property Act with an act on the cultural landscape in 2005, and the addition of serial cultural heritage in 2016, many active reuse plans of industrial heritage have been developed in recent years. Due to their unique combination of natural and cultural characteristics, these plans are particularly illustrative of the concept of serial heritage through their integrated geographical, natural, historical, and economic elements and the exchange of cultural experiences.

A wider spectrum for the conservation of industrial heritage has been developed in the proposals of Regeneration of Historic Sites Projects, Ministry of Culture (MOC), which often involved a complex system of historical, technological, social, architectural or scientific aspects with urban planning. Some of the projects are of industrial importance, for example, The Industrial Landscape of Chuhuangkeng Oil Field, the Former Japanese Navy's Sixth Fuel Factory in Hsinchu, the Beigang and Suantou Sugar Factories, the Taichung and Pingtung Tobacco Factories, and the Chung Hsing Paper Factory and Gold Museum.

Further, following the concept of Taiwan's Cultural Route in 2016, four theme routes of industrial heritage have been planned in 2022: The Huwei Dynamic Sugar Industrial Route, Pixie Coal Mining Settlement Route, Alishan Forest Railway Cultural Landscape Route, and the Chianan Irrigation Cultural Landscape Route. Moreover, Taiwan Power Company is also planning the Waterpower Electricity Cultural Route which demonstrates the commercial interest in using cultural route for company branding and identity.

The definition, framework and operational system of Taiwan's Cultural Route is supervised by the Bureau of Cultural Heritage, Ministry of Culture. Consequently, the establishment of Taiwan's Cultural Route of Industrial Heritage will be illustrated to demonstrate an important identity of Taiwan's Cultural Route and address the challenges of management, stereotype usage, fragmental and non-contextual conservation of industrial heritage sites.

Taiwan's Cultural Route of Industrial Heritage was synthesised from the Cultural Route Character proposed by ICOMOS, the concept of Cultural Route from the European Council, and the operational system of European Route of Industrial Heritage. (ERIH). The structure of Taiwan's Cultural Route consists of Theme Routes, Regional Routes, and Anchor Points. Through Tai-

TAIWAN



Taipei Feitsui Reservoir and its landscape could serve as a proposed anchor point on the Waterpower Electricity Cultural Route (Yu-Lin Wen)

wan's Cultural Route, we will plan a comprehensive set of criteria and procedures that will bring new dimensions to conservation policy of industrial heritage in Taiwan.

THE ASIAN NETWORK OF INDUSTRIAL HERITAGE (ANIH)

Since its establishment in 2018, the Asia Network of Industrial heritage has set up a regularly opened office in the Taichung Cultural Creative Park, created and maintained a data website, published on Facebook and ANIH Bulletins.

In terms of networking, ANIH has organized Advisory Committee Board Meetings and International Correspondent meetings

to strengthen relationships and exchange information with representatives from more than 13 countries in Asia. In 2021 the ANIH Youth Forum Activity Series connected young people from Taiwan and Korea to work together on a workshop. 2022 sees important breakthroughs in ANIH's international cooperation. This year, ANIH set up the system for International Correspondent Collaboration Online Seminar Program to invite the international correspondents hosting seminars in their countries. Thus, the Malaysia's Tin and Taiwan's Mining Industrial Heritage Online Seminar was held by Malaysia Correspondent, Transformation and Discernment of the Tobacco Industrial Heritage Sites in Contemporary Times in Taiwan and the Rethinking Economic Activities and Natural Resources: Raising Social Awareness for

TAIWAN



The exhibition of Taiwan's Cultural Route of Industrial Heritage introduced the diversity cultural routes. (ANIH Gallery)

the Industrial Heritage was held by Indonesia Correspondent. These activities not only provide information to the ANIH network but also extend the influential power of industrial heritage to wider international society.

From these seminars, the scope and the characteristic of Asian industrial heritage has been shown to echo the *Taipei Declaration for Asian Industrial Heritage (2012)*: *We recognize that industrial heritage in Asia is deeply related to the natural resources, land development and vernacular economy. Industrial heritage in Asia is always part of a comprehensive cultural landscape, either in urban or in rural settings. In addition to the built environment, it strongly reflects the interaction of humans and the land, featuring the characteristics of heterotopography.*

TRENDS

Over the past three years, more private companies have positively engaged with conservation work. Many of these companies are former state-owned companies, including: Taiwan Power Company, Taiwan Sugar Corporation (TSC) and Chinese Petroleum Corporation (CPC), they typically start with large scale inventories, various exhibitions and dynamic reuse projects. For example, CPC supports the conservation of the first Taiwan oil mining at

Chuhuangkeng Oil Field and the Kaohsiung Refinery Plant; TSC promotes the reuse projects in Beigang Suantou Sugar Factories and others; Taiwan Power Company is planning the Wanlong data center for storing important documents and Waterpower Electrify Cultural Route. As a result, conservation of corporate heritage might become an important part of Corporate Social Responsibility (CSR) in the future.

RE-USE

Notable re-use industrial sites and museums, many running regular and special exhibitions, are listed on the page following the end of this report, with links to online information.

EDUCATION

Training and education activities on industrial heritage have been held in several universities in Taiwan, such as Chung Yuan Christian University, National Taipei University of Technology and Taipei National University of Arts. In addition, other event based training courses are organized by other parties. One good example is the Institute of Historical Resources Management which organized serial lectures, walking tours and school group in Jianguo Brewery in order to show the value of this living brewery.

TAIWAN

PUBLICATIONS

- Yu-Chen Chien, 2019, The Introduction of Taiwan's Water System Heritage, Bureau of Culture Heritage, Ministry of Culture
- Hsiao-Wei Lin, 2021, Finding Ways- The First Episode of Taiwan's Route of Industrial Heritage, Bureau of Culture Heritage, Ministry of Culture
- 林曉薇, 2021, 覓徑－臺灣產業文化路徑序曲。文化部文化資產局
- Yu-Feng Wang, 2019, From Asano Cement Kaohsiung Plant to Taiwan Cement Corporation: The First Cement Factory in Taiwan, Initial Cultural-Creative CO., LTD
- 王御風, 2019, 從淺野到臺泥：臺灣第一的水泥廠, 我已文創有限公司
- Bing-Hong Zhong, 2019, Alishan in our memories, Alishan Forest Railway and Cultural Heritage Office
- 鍾秉宏, 2021, 記憶.阿里山, 行政院農業委員會林務局阿里山林業鐵路及文化資產管理處.



AUTHOR

Dr Hsiao-Wei Lin is associate professor in the Department of Architecture at the Chung Yuan Christian University, Taiwan. Her research is focused on the reuse of cultural heritage, industrial cultural landscape and landscape planning. She has been involved with many practical conservations works based on research projects, community participation as well as heritage education and local culture museum. She is a TICCIH Board Member, a member of ICOMOS-UK and the Chairperson for the Advisory Board Committee of Asia Network of Industrial Heritage (ANIH). [Contact](#)

NOTABLE RE-USE INDUSTRIAL SITES AND MUSEUMS

The Industrial Landscape of Chuhuangkeng Oil Field

- <https://anih.culture.tw/index/en-us/casestudies/69415>

The National Railway Museum Park

- <https://www.nrm.gov.tw/en/>
- <https://event.culture.tw/NTM/portal/Registration/C0103MAAction?actId=12243> (exhibition)
- <https://event.culture.tw/TRW/portal/Registration/C0103MAAction?actId=10003> (exhibition)
- https://event.culture.tw/NTM/portal/Registration/C0103MAAction?useLanguage=tw&actId=00125&request_locale=tw (exhibition)
- https://event.culture.tw/NTM/portal/Registration/C0103MAAction?useLanguage=tw&actId=00125&request_locale=tw (exhibition)

Taiwan Pineapple Museum

- <https://pineapple-museum.khcc.gov.tw/home01.aspx?ID=1>

Pingting 1936 Tobacco Culture Base

- <https://www.cultural.pthg.gov.tw/pt1936/Default.aspx>
- <https://anih.culture.tw/index/en-us/inventory/61902>

Chung Hsing Cultural and Creative Park

- <https://anih.culture.tw/index/en-us/inventory/15158>

The Former Japanese Navy's Sixth Fuel Factory in Hsinchu

- <https://hclm.iaa.nycu.edu.tw/?fbclid=IwAR3M3vqd5dOF9xd0cMeVK8rjanArSHGlzz6x8OpS0ysNet2xxOmZGaCynSI>

Wushantou Reservoir and Chianan

- <https://anih.culture.tw/index/en-us/inventory/38666>

Alishan Forestry Industry and Forest Railway Cultural Landscape

- <https://anih.culture.tw/index/en-us/inventory/61363>

New Pingxi Coal Mine Museum

- <https://anih.culture.tw/index/en-us/inventory/60119>
- <https://www.mineartfestival.com/> (exhibition)

Gold Museum

- <https://www.gep-en.ntpc.gov.tw/>
- <https://www.gep.ntpc.gov.tw/xmdoc/cont?xsmsid=0G246372044741635353> (exhibition)
- <https://www.mineartfestival.com/> (exhibition)

Beigang Sugar Factory

- <https://rhs.boch.gov.tw/index.php?inter=project&id=2&did=89> (Chinese)

Suantou Sugar Factory

- <https://rhs.boch.gov.tw/index.php?inter=project&id=3&did=11> (Chinese)

Jianguo Brewery

- <https://anih.culture.tw/index/en-us/inventory/62945>

TURKEY



From Silahırađa Power Plant to a center for education, culture and arts of 'santralistanbul' and the main campus of Bilgi University.

Elif Mihçiođlu

INTRODUCTION

In Turkey, conservation of historic industrial heritage has been started to be considered within the concept of cultural heritage starting from the late 1980s, specifically with the rehabilitation necessity and for the sake of a more holistic and comprehensive multi-layered conservation approach (Saner, 2012).

Parallel to its archaeologically and culturally long history, the industrial heritage of Turkey is also rich and various. The industrial assets in Turkey can be categorized into four periods: Pre-Ottoman, Ottoman, Early Republican, and Republican. The Pre-Ottoman period includes Pre-Roman, Roman, and Byzantine periods, and there are industrial assets like water supply system structures such as water channels, wells, aqueducts, aqueduct pools, cisterns, and watersheds. Ottoman Period industrial assets include structures for the production of various products like food, energy, garment, chemicals, construction materials and ships, various water supply structures (water transmission lines, aqueducts, distribution systems, channels, sheds, collecting pools, water towers), transportation structures like bridges, train stations, and piers, mines, and quarries. Early Republican Period (from the early 1920s to 1950s) and Republican Period (after 1950s) include vari-

ous production facilities, transportation structures, water supply structures, and related residential and social areas.

TICCIH Turkey

TOBB ETU Department of Architecture came forward to become the center for TICCIH Turkey very recently. It aims to reach TICCIH's shared primary goals for the preservation of industrial heritage in Turkey, fostering development in the field, increasing the public sensibility, and sustainability.

CONSERVATION AND RE-USE

Istanbul, the birthplace of industrialization in Turkey, has been a significant production and commercial center due to its unique location and rich history. The Golden Horn coasts included many important industrial establishments. In this area, restoration projects started in the late 1980s. Parallel to the increasing interest in the adaptive reuse of industrial assets in Istanbul, a similar interest started in the other cities of Turkey starting from the 1990s.

In chronological order, the notable cases of conserved and reused industrial heritage buildings and sites are;

- Baruthane-i Amire (early 18th century), Ottoman primary

TURKEY



From historic coal gas factory to a cultural center in Izmir:

gunpowder plant in İstanbul, was converted to Ataköy Yunus Emre Culture Center and opened in 1993.

- Aral Wine Factory (early 1930s) in Eskişehir has been converted into a cafe-restaurant complex that opened in 1996.
- Bakırköy İspirtohanesi in İstanbul (1917), a section of the Ottoman gunpowder plant in İstanbul, has been converted into İstanbul Technical University Conservatory and Culture Center opened in 2000.
- Hasköy Lengerhane (early 18th century), a ship anchor manufacturing place, and Şirket-i Hayriye shipyard in İstanbul both have been converted to Rahmi Koç Museum, which opened in 2001.
- Cibali Tobacco Factory (1884) was converted to Kadir Has University and opened in 2002.
- Passport Ferry Terminal buildings and warehouses in İzmir (late 19th century) have been converted into a cultural center and a bazaar, completed and opened in 2003.
- Silaharağa Power Plant in İstanbul (1913), Ottoman Empire's

TURKEY



From Sümerbank Textile Factory to Abdullah Gül University Sümer Campus in Kayseri.

- first urban scale electrical power plant, has been converted into a center for education, culture, and arts, named 'santralistanbul,' opened in 2007, which is used as the main campus of Bilgi University (Figure 1).
- Sütlüce Slaughterhouse in İstanbul (early 1920s) has been converted into Haliç Congress Center and opened in 2009.
- Kasımpaşa Salt Repository in İstanbul (1864, with additions in the early 1900s) has been converted to an office building, opened in 2009.
- Historic Coal Gas Factory (1859) in İzmir has been converted into a cultural center and opened in 2009 (Figure 2).
- Cer Ateliers in Ankara (1927), service and repair ateliers for the train wagons in Ankara have been converted to Cer Modern Arts Gallery, opened in 2010.
- Samsun Tobacco Factory (1887), one of the first cigarette production facilities in Turkey, has been converted into a shopping center and opened in 2012.
- Sümerbank Textile Factory Complex in Kayseri (1935) has been converted into Abdullah Gül University Sümer Campus, opened in 2013 (Figure 3).
- Tophane-i Amire in İstanbul (16th century), Ottoman primary armory, has been converted to Mimar Sinan University's Culture and Art Center, opened in 2015.

TURKEY

- Bomonti Brewery in İstanbul (1891), the first beer production facility in the Ottoman Empire with modern beer production techniques, has been converted into an entertainment center, opened in 2015.
- Sümerbank Leather and Shoe Factory Campus in Beykoz, İstanbul (from early 1800s) is the 183-acre industrial settlement has been in conversion progress to serve as an arts and culture center since 2018.
- Feshane in İstanbul (1843), a manufactory of Turkish red caps, has been converted into a convention and exhibition center and is in progress.
- Darphane-i Amire in İstanbul (late 18th century), banknote printing house, has been converted to İstanbul Museum, is in progress.

LEGAL STATUS

Industrial heritage is under the primary responsibility of some state institutions such as the Ministry of Culture and Tourism, Ministry of Environment and Urban Planning, Higher Council of Conservation of Cultural and Natural Assets, and Conservation Boards and Municipalities at regional and local scales. On the other hand non-governmental organizations actively working on industrial heritage are ICOMOS Turkey, Chamber of Architects of Turkey, Chamber of Planners of Turkey, ÇEKÜL, Europa Nostra Turkey, KORDER, and so on.

According to related **Turkish law no. 2863** about the conservation of cultural and natural property, industrial heritage is not specifically mentioned. In the legal context, the immovable cultural assets are identified, registered and categorized into two groups depending on their qualities as a historical document, age and aesthetic qualities, and a combination of more than one of these. The first group comprises more qualified monumental buildings and sites, and the second group comprises less qualified cultural assets, mainly composed of residential buildings, warehouses, and other modest buildings and sites. The industrial heritage buildings and sites can be considered and assessed in either one of these groups, depending on their qualities. Legally, conservation and restoration specialist architects with graduate degrees from restoration/conservation master's programs are licensed to study the first group of buildings and sites, and the architects, graduates of undergraduate programs in architecture, are licensed to study the second group of buildings.

EDUCATION

Education and training programs on conservation and restoration of cultural property have been conducted mainly by the

graduate programs on immovable cultural assets at the Faculties of Architecture and the two-year associate degree programs entitled 'Architectural Restoration,' 'Restoration-Conservation' at the Vocational Schools.

Undergraduate programs on conservation and restoration of cultural property in the country have been started at the Faculties of Letters, Science and Letters, and Fine Arts in recent years. There are no special programs on industrial heritage, but the curricula of these higher education programs are mainly focused on the conservation and restoration of immovable cultural assets comprising industrial heritage. As of 2022, there are seven doctoral programs, around 25 master's programs at 22 universities at some of which more than one related **specialization programs** are available and eight **undergraduate programs**, 65 associate degree programs specifically on restoration and conservation of immovable cultural assets. On the other hand, there are 131 architecture schools giving undergraduate education, both at the state or foundation universities, as of 2022 (Tuna, 2021), which include theoretical courses and practical studio courses on conservation and restoration, sometimes on industrial heritage, depending on their curricula. At seven universities, there are offered specific courses on industrial heritage. There is an increasing scholarly interest in studying industrial heritage buildings, sites, and landscapes.

RECENT PROJECTS

Hasanpaşa Gasworks in İstanbul, reused as park and museum complex is the National Architecture Award winner in the category of Building Conservation in 2022. With its new name **Museum Gazhane**, was reopened in July 2021.

British Oil Mill Project in Mersin won the National Architecture Awards in the category of Conservation Project in 2022. British Oil Mill is an industrial heritage in a Mediterranean coastal town located near Mersin International Port, the building was established as a cotton-seed oil mill in the early 1900s. The oil mill is unique in Turkey with its hybrid structural system, which combines stone masonry walls with a steel framework.

Conservation and Reuse Project of Coal Lavatory and Workshop Buildings in Zonguldak with its new name **Üzülmez Culture Valley** is located about 3 km from the city center. The project won the National Architecture Awards in the category of Conservation Project in 2020.

Old Ginnery in Tarsus is reused as Gözlükule Excavations Research Center of Boğaziçi University was granted Europa Nostra Award in 2019 and is recently shortlisted for Aga Khan Award in 2022. The dilapidated buildings of an abandoned 19th

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century ginnery in Tarsus are now home to a redesigned contemporary center for archaeological research and public engagement.

Tersane-i Amire or Haliç Shipyards in İstanbul (1455) includes three shipyards, Haliç, Camialtı and Taşkızak, located on the northern side of Golden Horn. In 2013, Taşkızak and Camialtı shipyards, located on a total land of about 70 acres, were transferred to the private sector for a 49-year 'build-operate-transfer' period. Restoration projects of Taşkızak and Camialtı shipyards continue under the supervision of the Conservation Board, while Haliç shipyard keeps its production activities currently but is announced to be preserved and refunctioned as a contemporary art museum soon.

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AUTHOR

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Dinorwig Slate Quarry, part of the Slate Landscape of Northwest Wales which was inscribed on the World Heritage List in 2021 (Crown copyright RCAHMW)

Mark Watson

INTRODUCTION

There has been a shift in opinion in support of industrial heritage in the last four years. Two examples are given: Redcar Steel works, closed in 2015, and the Historical Railway Estate of small bridges over lines closed in the 1960s.

At Redcar steelworks in the North East of England campaigns were mounted to retain as monuments a blast furnace that went into operation in 1979 and a reinforced concrete silo of a related coke works built in 1958, Dorman Long incised into the concrete. A programme of historic building recording was carried out in 2021 instead of physical preservation.

Heritage railway infrastructure - small bridges left behind by railway line closures in the 1960s, often informally adopted as footpaths and cycleways, are mainly the responsibility of the Highways Agency. The National Highways Historical Railways Estate (HRE) has inherited these from British Railways Residuary Body — 3,200 assets that could not encumber the national rail network. Having tackled big viaducts — either demolished or repaired to have a useful purpose carrying active travel routes, like those managed by Sustrans — the Scottish and Anglo-Welsh Viaducts committees were wound up in 2006, but many little bridges are undesigned. A programme to infill former railway bridges, accelerated during the pandemic, sparked a well organised campaign that emergency measures should not be used to block routes appreciated now more than ever as local amenities. This paused some of these highly carbon-intensive infillings.

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Albert Dock, Liverpool, former WHS. Seen between the warehouse stacks is the 148m Radio City Tower, 1969, still the tallest building in the city with antenna included. (Mark Watson)

Management of live railways is changing to unify responsibility between operating companies and infrastructure as Great British Railways. Railway Heritage Trust makes incremental improvements to buildings in the working railway and rented estate, like Kilmarnock station.

TICCIH GB

The national TICCIH Group is a collection of members of TICCIH with British addresses. It tweets as @TICCIHBrit and has 1,300 followers, far more than the number of members.

The Association for Industrial Archaeology (AIA) has introduced a new 'Young Member' category for members under the age of 36. 52 of the 500 members are located outside the United Kingdom and a growing number of articles in *Industrial Archaeology Review* are by international authors. Annual conferences took place online in 2000 and 2001, due to CoVid-19, besides East-West online workshops with China and other countries represented.

The AIA Restoration Grant programme is entirely funded by three anonymous donors. Since 2009 it has awarded more than £1 million to some 80 cranes, railway turntables, canal locks and swing bridges, locomotives, boats and road vehicles, mining structures, stationary steam engines, waterwheels and textile machin-

ery. AIA grants often lever in more money. AIA looks forward to its 50th anniversary in 2023.

The Newcomen Society, or International Society for the History of Engineering and Technology, was founded in 1920 to promote, encourage and co-ordinate the study of the history of engineering and technology from ancient times to the present day.

PUBLIC POLICIES

An All-Party Parliamentary Group (APPG) for Industrial Heritage has a new chair, Stephanie Peacock MP. The APPG held a conference in London in 2019 following its *Report on the Challenges facing the Industrial Heritage Sector* in 2018, assisted by AIA and other stakeholders.

Heritage Lottery Fund (HLF) is now National Lottery Heritage Fund (NLHF). Recent large grants were given for further development of the Black Country Living Museum and Ironbridge Gorge Museum. Since 1994 HLF / NLHF has awarded almost £590 million (\$736 USD or 687 million euro) to 1,400 industrial, maritime and transport heritage projects.

New grants go to **Loughborough Bellfoundry** (Taylor & Co, a working business continuing the living, and tangible heritage

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Port Sunlight, Wirral, combines Beaux Arts planning and formal landscapes with Arts and Crafts cottage housing. Village stakeholders are preparing to bid for a place in the UK Tentative List review. (Jose Fotografia, 2016. Courtesy of Port Sunlight Village Trust)

craft skills of bell founding. The rival Whitechapel Bell Foundry has relocated from the East End of London, proposed to become a hotel) and **Newport Transporter Bridge** (Wales, 1906, by designer Ferdinand Arnodin, like his bridge in Rochefort, France).

WORLD HERITAGE

In 2019 the Jodrell Bank space telescopes pushed further the final frontiers of World Heritage, to connect with outer space, when it was inscribed by UNESCO as a world heritage site.

World Heritage achieved some notoriety thanks to the delisting of Maritime Liverpool in 2021. **Maritime Mercantile Liverpool** had been inscribed as a world heritage site in 2004 but had lost all the attributes that had given it outstanding universal value according to experts. The 2003 UK Nomination had used the term **Urban Landscape** and Historic Urban Landscape but inscription by UNESCO (criteria (ii) (iii) and (iv)) excluded those terms and focussed future management on the technical interest of dock buildings and urban architecture. In 2012 a development was approved by Liverpool City Council called Liverpool Waters. Little of it is implemented due to low development pressures in a city that has seen considerable economic decline. A visualisation of its intended appearance was shown to every subsequent World Heritage Committee meeting that considered the property 'at risk'.

Planning approval in 2021 for a football stadium in Bramley-Moore Dock triggered deletion by UNESCO. It is one of 43 wet docks

in Liverpool, ten of them within the WHS. Used for shipping coal it had no warehouses characteristic of other Liverpool Docks (Albert Dock). World Heritage listing was hoped to support the conversion of large warehouses around Stanley Dock, one now the Titanic Hotel, and Bramley Moore Dock is just to the north of its entrance.

The buffer zone had 750 hectares around the 136 hectares -six linked components- of the World Heritage property. World Heritage nominations made by the UK were all then contiguous properties, such as Derwent Valley Mills, linked by narrow canal or railway heritage corridors. The concept of a scattered 'serial' site notionally avoiding nearby development sites has not taken root here.

To the industrial heritage community these events set back our contention that heritage and development are complimentary.

In July 2021 the Slate Landscape of Northwest Wales was inscribed by UNESCO as a World Heritage Site. Six component parts in and around Snowdonia reflect an industrial landscape shaped by the quarrying and mining of slate, and its transportation to domestic and global markets. Listing celebrates the global impact of the Welsh slate industry during its 'golden age,' 1780 -1940, when 1/3 of the world's slate output came from Wales. The workforce was almost entirely Welsh-speaking, and today 70% of local people speak Welsh.

The slate quarries and mines comprise stepped workings, deep pits, underground chambers, cascading tips, water-systems, and

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narrow-gauge railways – two still in operation – which carried slate for export. The industry pioneered technological innovations used in other parts of the world. These attributes define the Outstanding Universal Value of the Slate Landscape of Northwest Wales WHS. Conservation actions are set out in a Management Plan.

Today ten of the 33 World Heritage Properties in the UK relate to industry, science and technology. The 1999 UK tentative list had defined several themes. Of these the most hits on target were the industrial sites: six out of nine are now inscribed by UNESCO. The call is current for a revised Tentative List, which might include Chatham Dockyard and Port Sunlight model village.

RE-USE

Union Chain Bridge (1820) across the Tweed between England and Scotland is being refurbished, the oldest suspension bridge still to carry road traffic. Temple Works, Leeds, will become an outstation of the British Library.

Oldham in Lancashire, at its peak had more cotton spindles than any country in the world outside Britain. A Mills Strategy was launched in 2022 jointly by Historic England and Oldham Council. Only a few mills are listed but their high landscape value is now a material consideration. In central Manchester, Brownsfield Mill (1816) has been converted to Avro loft apartments by Urban Splash.

MUSEUMS

The push to make heritage attractions self-supported through visitor income had potential to become a catastrophe for them and their staff when the CoVid-19 pandemic required that attractions close. The impact of the pandemic in its first two years was lessened through grants focused on existing attractions, and 10% of Heritage Emergency Funds went to Industrial Transport and Maritime projects.

Reduced hours and fewer professional curators are a concern at Gladstone Pottery, the Potteries Museum and Art Gallery owned by Stoke-on-Trent City Council.

North Mill Belper, (Derwent Valley Mills WHS), an 1804 cotton mill, will close as a visitor centre due to the ending of revenue support grant from the local authority, as austerity tightens. In 2020 Masson Mill (1783) closed as a shopping complex with machinery.

UK WORLD HERITAGE SITES

Property on World Heritage List	Date UNESCO Inscribed (and criteria)
Ironbridge Gorge	1986 (i) (ii) (iv) (vi)
Blaenavon	2000 (iii, iv)
New Lanark	2001 (ii, iv, vi)
Derwent Valley Mills	2001 (ii, iv)
Saltaire	2001 (ii, iv)
Cornwall and West Devon Mining	2006 (ii, iii, iv)
Pontcysyllte Aqueduct and Canal	2009 (i, ii, iv)
The Forth Bridge	2015 (i, iv)
Jodrell Bank Observatory	2019 (i) (ii) (iv) (vi)
The Slate Landscape of Northwest Wales	2021 (ii) (iv)

Events around inventor [James Watt](#) culminated in Birmingham and Scotland in 2019, 250th anniversary of his separate condenser patent. STICK, the Scottish Transport & Industry Collections Knowledge network has [resources](#) about keeping industrial heritage in steam.

The International Early Engines Conference has presented the latest research on early steam engines, in Elsecar, 2017, and at the Black Country Living Museum in Dudley in 2021. [Proceedings](#) are published by the Newcomen Society.

John Rennie designed many bridges, canals and harbours. The 2021 bicentenary of his death saw a website hosted by [Rochester Bridge Trust](#).

EDUCATION

No academic courses focus exclusively on industrial heritage.

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The Portage Lake Lift Bridge, located in Houghton, Michigan, USA just down the street from the TICCIH headquarters, was listed as a National Historic Engineering Landmark by the American Society of Civil Engineers in June. Photo Daniel Schneider.

Submitted by the Society for Industrial Archeology (with contributions from T. Arron Kotlensky, Christopher Marston, Bode Morin, Daniel Schneider, and Steven A. Walton) and HAER Staff (Christopher Marston, Dana Lockett, Todd Croteau, Tom Behrens, and Justine Christianson)

INTRODUCTION

Along with much of the world, the United States contended with a variety of responses to the COVID-19 pandemic. Museums and historic sites faced mandated shutdowns, construction and conservation projects slowed down, and conferences and meetings were postponed or went virtual. Now as we hope the worst of this pandemic is over, we strive to return to some form of normalcy albeit with new constraints, supply chains, and different

levels of public, private, and virtual engagement. During the pandemic, the US continued its work in industrial heritage, although focusing more on digital and virtual components that could be completed remotely. Over the past four years, the National Park Service, American Society for Mechanical Engineers, American Society for Civil Engineers, and the Institute for Electrical and Electronic Engineers made notable designations of US industrial heritage while Historic American Engineering Record of the NPS continued transmitting significant engineering site documentation collections to the Library of Congress while adopting ever new and sophisticated technologies for formal documentations. The Society for Industrial Archeology which postponed its 50th anniversary conference twice because of COVID has returned to regular spring and fall events and new regular virtual programs while continuing to serve as the formal industrial heritage organi-

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Architect Paul Davidson scanning the interior structural framework for a 2019 HAER survey of the Statue of Liberty.

zation for the United States and Canada and TICCIH state-organization. Overall, the pre-COVID activities of industrial heritage in the US are returning but we still contend with uncertainties in public and private commitments while political landscapes, which can impact documentation and conservation projects, continually evolve.

WORLD HERITAGE UPDATE

As reported in 2018, the previous United States administration formally withdrew the country from UNESCO, effective December 31, 2018. While this decision did not prevent the US from pursuing world heritage status for its sites, it did mean that the nation would no longer engage in or vote on world heritage or participate in other UNESCO functions. That policy direction has been reversed under the current administration and President

Biden has included allocations in the FY 2023 State Department budget to fully fund US commitments to the United Nations including UNESCO and the World Heritage Fund. The fiscal year for the United States begins October 1 and with political maneuvering, the issue may not be fully resolved until after the November elections.

The most active World Heritage nomination in the US is the Bethlehem (Pennsylvania) Moravian town site that includes an intact industrial quarter. This nomination with Gracehill in Northern Ireland, is an expansion of the currently WH-listed Moravian Church Settlement in Saxony, Germany. The current US portion of the nomination is expected for National Park Service final review in August and then be sent to the World Heritage Centre for technical review in September. The two other US industrial sites included on the 2017 tentative list, the Brooklyn Bridge (New York) and Chicago Skyscrapers (Illinois), have yet to submit documents.

PUBLIC POLICY

A great deal of movement on the industrial heritage of the United States came from the bicentennial in 1976—note that both SIA and HAER were founded just before that, as the country reckoned with what was already being lost to deindustrialization as that notable anniversary was coming up. Now, 50 years on, we are now reconsidering what IH is for America and what to do about and with it. Historic preservation as a field here tends to focus on residential and social sites, although the adaptive reuse of industrial spaces in most major cities are readily identified and vigorous. Still, too many sites are being lost each year and in some cases generational interest in ‘old time’ industries (e.g., mills) continues to abate in our always-on digital world.

LISTINGS AND HERITAGE RECOGNITION OF INDUSTRIAL HERITAGE

National Park Service

The United States National Park Service (NPS) administers National Parks, National Historical Parks, the Historic American Engineering Record (HAER), and the federal list of sites: the [National Register of Historic Places](#) (NRHP), and the list of sites of greater national significance elevated to [National Historic Landmark](#) (NHL) status.

Most NHRP sites tend to be domestic, cultural, or political, though some have industrial components and a search of 3,600-plus [listed properties](#) since 2018 (there are over 97,000 since the program’s inception) show at least seven newly listed “industrial historic districts” (IHD) in NC [2], VA [2], WI [2], and IA, out of the 78 IHDs in the whole database.

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Eighteenth Century Moravian Industrial Area, Monocacy Creek vicinity, Bethlehem, Northampton County, PA, (Historic American Building Survey, 1969). The quarter included a pottery, smithy, waterworks, oil mill, spring house, butchery, tannery, dye house, grist mill, and the miller's house and garden and date to the mid 18th century. The site is part of the Historic Moravian Bethlehem Historic District which is being considered for World Heritage status expanding the Moravian Church Settlements existing inscription.

Since 2018, however, eight industrial heritage sites have been awarded the much more significant NHL status: West Point Foundry Archeological Site (NY), Minong Copper Mining District (MI), Western Railroad Stone Arch Bridges and Chester Factory Village Depot (MA), Colorado Fuel and Iron Company Administrative Complex (CO), Strategic Air Command Ground Alert Facility (ID), Barnum Institute of Science and History (CT), Quebec OI Launch Control Facility (WY), and the Sampson-White Joiner Shop (MA).

The NHL Division of the NPS has completed a theme study on Labor History in the United States in 2022, "[Labor History in the United States](#)" to complement their "[Labor Archeology of the Industrial Era](#)" study (2015) and it is also worth reiterating their slightly older "[The History of Large Federal Dams: Planning, Design, and Construction](#)" (2005).

Historic American Engineering Record (HAER)

The [Historic American Engineering Record](#) (HAER) is one of three divisions that comprise the U.S. National Park Service's Heritage Documentation Programs (HDP). Scott Keyes was named Chief of HDP in 2021, the program's first permanent head since 2017.

In 2019, HAER celebrated its fiftieth anniversary with multiple initiatives. These included two sessions of presentations by HAER staff and partners at SIA's 49th Annual Conference in Chicago. Justine Christianson and Christopher Marston coedited the "[HAER at 50](#)" theme issue of [IA: The Journal of the Society for Industrial Archeology](#) (vol. 44, nos. 1-2, 2018). This double issue highlighted how HAER continues to utilize high tech methodologies to produce documentation, and articles by several alumni who reflected on how their experiences with HAER helped shaped their careers.

HAER continues to survey sites with the latest terrestrial laser scanners to achieve highly accurate 3D point clouds from which 3D parametric models are created and manipulated into archival architectural drawings. In addition to our traditional drawing documentation, this born-digital workflow has led to new and exciting digital visual interpretations including 360-degree panoramas, 3D video animations, 3D mesh models, and virtual tours that integrate all of these elements into online web-based interactive explorations.

Despite the pandemic, HAER continues to document a variety of sites related to industrial heritage which are transmitted to the [Library of Congress](#). Recent projects include: Statue of Lib-

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erty (NY); Schoharie Creek Aqueduct (NY); **Arlington Memorial Bridge** (virtual tour, DC); Canal Road Culvert (DC); Grand Canyon Railway culvert (AZ); historic fishing vessels of the Great Lakes (MI); WWII-era Fort Hancock Barracks (NJ); Middleton Place Culvert (SC); and a Dry-Laid Stone Wall, Retaining Wall, and Dam No. 5 for C&O Canal National Historical Park (MD). Although the HAER Maritime Program Coordinator's position has been discontinued, several maritime resources have been recorded, including the US Coast Guard 378' Hamilton Class Cutters, NPS Ferry Ranger III, New York State Barge Canal Tugboat Urger, Chris Craft Racing Boat Snook, and Sidewheel Ferry Eureka.

HAER continues working with the Hagerty Drivers Foundation (HDF), to create a comprehensive record of the most historically significant vehicles in the US. Recent projects include a 1927 Ford Model-T; a 1984 Plymouth Voyager; the "Cannonball Run" 1979 Lamborghini; the 1981 DeLorean "Time Machine" used in "Back to the Future"; a 1950s Hudson Hornet stockcar; the 1963 Chrysler Turbine Car; and a 1966 Volkswagen Station Wagon used by Civil Rights leaders.

Finally, the successful 17-year-long **National Covered Bridges Project** concluded with the publication of *Guidelines for Rehabilitating Historic Covered Bridges* (2019), coedited by Christopher Marston and Thomas Vitanza.

Engineering Societies and Heritage in the US

The American Society of Mechanical Engineers (ASME), the American Society of Civil Engineering (ASCE), and the Institute for Electrical and Electronic Engineers (IEEE) maintain active heritage programs, and while all are now international societies, each continues a robust program of landmarking in the United States.

The **ASME Historical Mechanical Engineering Landmark program** has designated 6 of its 13 landmarks of the last four years in the U.S., including the West Point Foundry (which subsequently became a NHL), the Princeton Plasma Physics Laboratory, and The Thurston Collection of Laboratory Artifacts at Cornell University. The **ASCE's Historical Civil Engineering Landmark program** has dedicated 14 of its 20 landmarks in the U.S. in that same time, including the Portage Lake Vertical Lift Bridge (MI; a stones' throw from SIA headquarters in Houghton), the Brooklyn waterworks (NY), the Union Pacific Railroad (NE), and a number of dams across the country. Finally the **IEEE Milestones program** has designated nearly four dozen in the last four years, and although many are not physical sites (e.g., the BASIC Computer Language developed in NH), in the US they include numerous sites in Silicon Valley (CA), astronomical radio antennae (CA, LA/WA, NJ), powerhouses and electrical systems (CA, HI, and NY), and various inventions in the areas of computing and networking.

GROUPS / ORGANIZATIONS / INSTITUTIONS

The principle industrial heritage organization in the United States is the Society for Industrial Archeology (SIA), which in 2021 celebrated its fiftieth year as the principal organization dedicated to the study and preservation of industrial heritage in the United States and Canada. Last year we also renewed our headquarters at Michigan Technological University in Houghton, MI, which offers the only graduate program directly related to industrial heritage in the U.S. In 2018 our annual conference was held in Richmond, Virginia, and in 2019 we were in Chicago to higher-than-normal attendance. We, like most other historic preservation groups, then had a forced 18-month hiatus until later summer 2021, when we held our annual conference in Bethlehem, Pennsylvania with a focus on anthracite coal mining. In a return to our normal late spring timing, we recently held our 2022 annual conference in Portland, Oregon, which featured tours and presentations focused on the diverse industries of the Pacific Northwest. In 2023, the membership will gather again in Grand Rapids, Michigan, historically a center of furniture manufacture in the American Midwest. Our membership continues to hold steady at around 900 members, many of whom also remain members in one of the ten active regional and local chapters, spanning from New England to the West Coast. Annual conferences draw from 100-200 attendees, and fall tours are typically about 50 people.

Publications and Outreach

The SIA remains committed to advancing the scholarship of industrial heritage through its two main publications: *IA: The Journal of the Society for Industrial Archeology* (edited by Steve Walton at Michigan Tech) and the SIA Newsletter (edited by Marni Blake-Walter). Recent IA issues have featured themes focused on retrospectives on the achievements of the Historic American Engineering Record, intangibles in industrial heritage, as well as journal issues that collect diverse research topics in industrial history and heritage. In addition to our printed publications, the SIA national office staff in Houghton, Michigan created in 2020 its well-received *IA Online* series, featuring live presentations by speakers on a diverse array of industrial heritage sites and topics. IA Online grew out of a desire by the SIA's leadership to present new and unique content to our membership despite the challenges of the pandemic and we expect to continue the series in the latter half of 2022 and into 2023.

Grants and Advocacy

Through the generous contributions of members and a gift from the estate of the late Eric DeLony (who served as the chief of HAER from 1971 to 2003), the SIA Board of Directors continues to support the efforts of nonprofits and government agencies who seek to

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preserve industrial heritage in the United States and Canada. Grants in 2022 were awarded for the preservation of a unique smelter artifact from the Sequoia and Kings Canyon National Parks as well as support for analysis of wood used in the construction of surviving narrow gauge railroad cars maintained by the Nevada-California-Oregon Railway. The SIA also supports the protection of industrial heritage by acting as a consulting party to environmental compliance efforts—notably those initiated in the US under the National Historic Preservation Act—by taking part in meetings with project stakeholders and discussing ways to preserve or at least document industrial heritage before it is lost to development.

Keeping up the Big Tent of Industrial Heritage

The SIA's strength has been and continues to be its ability to bring together a broad spectrum of the public. Whether our members work as educators, historic site managers, agency staff, heritage enthusiasts, or in the management of cultural resources, we as an organization draw together experience and talent un-

like any other in the United States and Canada. Understanding the uniqueness of our organizational roots is not a challenge; our challenges now and into the future lie in communicating the importance of preserving and cherishing industrial heritage and it is in part through our relationship with TICCIH that we expect to share and draw the means to meet those challenges.

EDUCATION

Michigan Technological University in Houghton, Michigan remains the only U.S. institution with a graduate program devoted specifically to industrial heritage, namely its M.S. and Ph.D. in Industrial Heritage and Archaeology (IHA). Over the last half decade or so, and specifically because of the creation of the Ph.D. in IHA, the program has shifted to emphasize more heritage topics and relatively fewer archaeological projects. Active projects are currently in the areas of digital industrial heritage (especially HGIS), labor camp archaeology, and repurposing abandoned mines for energy storage.

URUGUAY

María Julia Burgueño

In recent years, researchers from different parts of Uruguay have been valuing and developing the Industrial Heritage in each of the various regions that make up our country, both urban and rural areas.

The death of the researcher Rene Boretto Ovalle left us with a very large void in the studies of Industrial Heritage in Uruguay. But following where he lead we are, from a national perspective, continuing to emphasize the regional and the local. This is our way of working: from the local with a view to the totality of Uruguay.

The pandemic, and lockdown, has increased the documentary study and the exchange through social networks or other internet media.

The areas in which we have been working have been the agri-food sector, with special emphasis on beef and sheep from the old

Saladeros y Frigoríficos that still persist; dairy production, with butter, cheese and sweets – like our icon condensed milk – even in the extractive industries of precious stones (agates and amethysts) and limestone and other stones for the construction of ports, housing or bridges. There are also researchers in the railway field, from where many populations of our country emerged, to which can be added the study of flour mills. Such is the case of the Molino Bonjour in the eastern region of Colonia.

There is meanwhile a proposal in the city of Mercedes (Soriano) to make a local Industrial Museum, based on a stone quarry dating from the early 19th century to contemporary industries.

Industrial Heritage from a gender perspective is our challenge for this year.

The reorganization of AURPI as a form of researchers' association of the Industrial Heritage of Uruguay is another challenge for the coming months.

AUTHOR

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ERIH – The European Route of Industrial Heritage



ERIH dance event WORK it OUT 2019. Because of its great success, the event has since been organised annually. Ignacy Historic Mine, Rybnik, Poland.

Rainer Klenner

ERIH, the **European Route of Industrial Heritage**, is the tourism information network of industrial heritage visitor attractions which tell the fascinating story of the places, the processes and the people that together make up Europe's shared industrial heritage. The network is run by the ERIH Association, which has more than 300 members in 30 countries. Over 100 member sites are so-called Anchor Points, sites of exceptional historical importance in terms of industrial heritage which also offer a high-quality visitor experience. Regional Routes introduce in more detail the industrial history of landscapes, which were particularly influenced by industrialisation. All locations are assigned to one or more of 16 European Theme Routes, which represent branches of industry and show the variety and the interlinkages of European industrial history and their common roots. In total ERIH presents over 2,100 interesting and historically significant sites and attractions from all European countries. In 2019 ERIH was certified as a Cultural Route of the Council of Europe.

PROJECTS

The European Commission declared 2018 as the **European Year of Cultural Heritage** (EYCH 2018). The aim of the campaign was to encourage more people to discover and engage with Europe's cultural heritage, and to reinforce a sense of belonging to a com-

mon European area. ERIH organised a number of activities celebrating EYCH 2018. To illustrate that industrialisation is not a national but a Europe-wide and international development the brochure **European Industrial Heritage: The International Story** was published; it is available on the website.

ERIH's main contribution was the dance event **WORK it OUT**. **WORK it OUT** is aimed primarily at young people (children, teenagers and young adults from school classes, sports clubs, dance and fitness studios, etc.) and of course, anyone who is young at heart. Through the event, people can experience industrial heritage and its sites and discover its importance in their own past, its relevance for their present and its future potential. Initially on 1 May, Labour Day, and since 2020 on the second Sunday in September (European Heritage Days in many countries), there was dancing in and around impressive industrial heritage sites throughout Europe and the industrial monuments were promoted as an attractive place to experience. Before the events, the **WORK it OUT** dance could be easily learnt via a YouTube tutorial. The music, with elements from Beethoven's European anthem *Ode to Joy* and industrial sounds in electronic dance style or as a rap version, is re-composed every year, as is the specially developed choreography, which translates the sound, movement and repetition of industrial activity and work from earlier times into modern dance moves. The composite videos of the previous **WORK it OUT** dances can be viewed on the website, section Projects.

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Linking Europe focuses on the international links created by industrialization. Winding engine, Zollern Colliery LWL Industrial Museum, Dortmund, Germany. (R. Klenner)

Also, since 2018, ERIH has undertaken annual surveys about industrial heritage in Europe (**ERIH Industrial Heritage Barometer**). ERIH is often asked by journalists, politicians and other interested parties for data about industrial heritage in Europe. Although many individual locations or regions do collect data on various issues, national and European data was not readily available. Therefore, based on the questions ERIH is frequently asked, a questionnaire was compiled on the topic groups core data, target groups, perspectives and measures. This formed the basis of the Europe-wide online surveys. Due to the Covid-19 pandemic, the 2020 survey was postponed to 2021. In 2021 some additional questions were added relating to how sites are dealing with the pandemic. This allowed assessment of the impact of the pandemic on a year-to-year basis.

In 2019 ERIH launched a project to illustrate the pan-European interconnections of industrialisation: Linking Europe. Europe's industrial development has always been characterised by cross-border trade in raw materials and commodities, the transfer of knowledge and technology, and large-scale population movements as a result of labour migration. Linking Europe demonstrates the connections between local stories and the wider picture of European industrial development. ERIH members were encouraged to participate by, for example, displaying smaller objects in a prominently placed display case; larger objects or stories could be presented in other ways. Ideally, the object or story should have a connection to another ERIH site. What this connection actually consists of is explained by displays that are installed at both sites. The ERIH website presents these Linking Europe sto-

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ries in a virtual exhibition (section How it started). The exhibition is frequently expanded and extended by linking the displays to biographies and articles on knowledge and technology transfer between European countries and regions.

EDUCATION

To attract young people to European industrial heritage as a career option, ERIH, in co-operation with universities, organises the European Academy of Industrial Heritage. The programme is based on a series of co-developed lectures on European industrial heritage and covers topics such as industrial history, cultural heritage, identity, deindustrialisation, redevelopment, tourism as well as event concepts and cultural networks. The first series of lecture was organised jointly with the University of Saarland in Saarbrücken and the University of Trier (D) followed by a cooperation with the University of Silesia in Katowice (PL) in 2021. Further lecture series at other universities are currently being planned.

COMMUNICATION

ERIH's annual conferences, which have been held every year since 2005, deal with current topics in the field of industrial heritage tourism. They are also a platform for people from different European countries and regions to exchange experience and expertise and to get to know each other. The conference in 2020 focused on 'Succession Planning for Industrial Heritage' and, because of the Covid-19 pandemic, was for the first time organised as hybrid online and in person event. The presentations introduced examples of how we can protect industrial heritage by ensuring that skills and knowledge are passed on to future generations. In order to get more information and examples of successful knowledge transfer, a survey was then conducted among ERIH members; the results are published on the website (section About ERIH | Surveys). During this conference Dr Miles Oglethorpe, TICCIH President, and Prof Dr Meinrad Maria Grewenig, ERIH President, officially presented the Memorandum of Understanding (MoU) that was signed by both associations. The MoU makes the previously informal cooperation official and defines the organisations' common aims.

One of the main concerns of the network is the exchange of experience and knowledge. The ERIH website collects and presents information about industrial heritage in Europe as a comprehensive knowledge portal. In the Service section of the website there are numerous links to industrial heritage websites from all over Europe. A linked database was created presenting Expert databases and best practice websites on different topics dealing with industrial heritage. As all sites now have to deal with the ef-

fects of the Covid-19 pandemic, the section has been expanded to include notes and handouts on this, as well as a Digital offers chapter.

ERIH's website is the most comprehensive portal on industrial heritage in Europe. Thanks to the support of the European Union, it has been possible to expand the content and equip it with read-aloud and translation features to enhance inclusion; its contents at a glance:

- more than 2.100 sites in all European countries
- among them more than 100 so-called Anchor Points, sites with special significance for industrial history which also offer a high-quality visitor experience
- all locations are assigned to one or more of 16 European Theme Routes, which represent branches of industry
- 20 Regional Routes with brief descriptions of their industrial history
- more than 230 Biographies
- brief descriptions of European industrial history and the industrial history of all 51 countries that are partly or entirely considered part of Europe from a political, cultural or geographical point of view
- 17 historical reviews of branches of industry
- approximately 400 links to industrial heritage networks and industrial heritage/archaeology organisations, industrial-related sites on UNESCO World Heritage List, international declarations and charters dealing with industrial heritage
- more than 100 links to expert databases and best practice websites on different topic dealing with industrial heritage
- a regularly updated overview ('save the date') of events, conferences, colloquia, trade fairs and cultural festivals in Europe dealing with industrial heritage (tourism)
- more than 5,000 links to websites of industrial heritage sites, regions and branches of industry described

ERIH's YouTube channel brings together both ERIH-produced videos and livestreams presenting our projects and events, as well as other relevant footage showcasing Europe's industrial heritage. Sorted playlists include videos introducing Anchor Points and other ERIH members, as well as regional routes or networks and

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events focusing on industrial heritage. There are links to trailers for all industrial-related World Heritage sites in Europe and to the channels of other European industrial heritage organisations and networks.

Working together and sharing together is in ERIH's genes. With this in mind, we are happy to contribute our experience to (policy) advisory bodies and cultural networks:

- As part of the discussions on funding opportunities and networking in the joint offers for the European Year of Cultural Heritage 2018, ERIH was represented on the EYCH Stakeholders' Committee of the European Commission from 2017-2019.
- Since 2019, the Commission has appointed a representative of the ERIH Board to the newly created Cultural Heritage Expert Group. The group advises the Commission on the development of new programmes and provides feedback on issues with existing funding programmes.
- ERIH is one of 51 participating organisations in the European Heritage Alliance 3.3 in which European or international net-

works and organisations agreed to work more closely together to promote the untapped potential of Europe's heritage, cultural and natural, immovable and movable.

- Since 2014 ERIH's projects have been supported by the European Union through the Creative Europe funding programme, established by the European Commission to strengthen European cultural networks.

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