

# CONGRESSO XVII - CHILE



NATIONAL REPORTS  
2016 - 2018

EDITED BY JAMES DOUET

# **TICCIH National Reports 2016-2018**

**National Reports on Industrial Heritage  
Presented on the Occasion of the  
XVII International TICCIH Congress  
Santiago de Chile, Chile**

***Industrial Heritage:  
Understanding the Past,  
Making the Future Sustainable***

**13 and 14 September 2018**

**Edited by James Douet**

**THE INTERNATIONAL COMMITTEE  
FOR THE CONSERVATION OF INDUSTRIAL HERITAGE**

**TICCIH Congress 2018**

**National Reports**

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.

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The 2018 TICCIH National Reports provide descriptions of industrial heritage activities that have occurred over the three years since our last Congress. This material is presented during our 17th Congress, held in Santiago, Chile, and continues our practice of reporting global actions and events related to the industrial heritage, collected and reported on a national basis by our members.

The National Reports represent a range of successes and disappointments, in some cases, all serving as examples to learn from. We can be proud of our work and the results of our international collaboration, and look forward to continued progress in the future.

PATRICK MARTIN

TICCIH President 2009-2018

# EDITOR'S INTRODUCTION

This compilation of national reports is the seventeenth to have been published by TICCIH since 1973, the whole series constituting a unique record of the developing priorities, changing techniques, evolving anxieties, and perennial satisfaction gained from safeguarding the material and immaterial remains of industry. It is also the second to be produced digitally and so it can be downloaded from the TICCIH website along with the national reports that were collected for the previous TICCIH congress in Lille, France, in 2015.

Earlier printed collections of national reports may also become more easily available as part of a scanning program arranged by TICCIH President Professor Patrick Martin through the Michigan Technological University Digital Commons. This has seen the second significant area of publishing by TICCIH, that of its conference proceedings and transactions, brought much more freely into the public's reach. These papers can already be [downloaded](#) for almost all of the congresses stretching back to the 1973 meeting at Ironbridge, UK: The First International Congress on the Conservation of Industrial Monuments.

A third branch of TICCIH's publishing is the thematic reports to assist the international comparative evaluation of industrial heritage sites and landscapes. There are now eight such single-industry studies, all of which can be accessed from the [TICCIH website](#) and from that of ICOMOS. Their format and completeness varies, but with the completion of the most recent one, on the water industry, there is a tested work process and a consistent formula which should help the production of more in the future. TICCIH is committed to further studies and it will actively support authors and experts who are prepared to undertake this important - and enjoyable - course of research.

Finally, the TICCIH Bulletin is now in its twentieth year, appearing reliably on members' computers each quarter. Future data excavators will find it a rich mine of information, and if an index is ever created to the subjects, regions and authors it will become a tremendous resource. Don Durfee at the Michigan Technological University took the paper Bulletin into digital format and distribution, while Daniel Schneider redesigned it when he took over production in 2017. His stylish and easy-to-read layout was carried over to the twenty-one national reports that you now have in your hands.

These reports are all the work of authors who have striven to convey in a consistent manner how the industrial heritage of their country has evolved during the three years which have passed since TICCIH gathered in northern France for its last international congress. Our thanks go especially to them for this effort, to condense numerous strands into a comprehensible narrative, and I hope the editing and presentation of their work does it justice.

JAMES DOUET

Barcelona, 2018

# ARGENTINA

**Mónica Ferrari, Graciela Moretti, Jorge Tartarini, Graciela Viñuales, Gabriela Santibañez, Javier Roig, Adriana Ortea, Carolina Rainiero, María Elena Méndez, Arnaldo Vaca, Adriana Chuchuy and Juan Loguso**

**English Version: Oriana Martinelli**

Agreement Project between TICCIH Argentina and the National Commission of Monuments of Places and Historical Assets of the Argentine Nation - We are working on the elaboration of a Framework Agreement for collaboration between the Argentine Committee of the International Committee for the Conservation of the Industrial Heritage (TICCIH) and the National Commission of Monuments, Places and Historical Properties of the Argentine Nation in order to promote the respective missions and functions, through the exchange of information and the coordination of the safeguard actions that correspond to each one of them.

## CHANGES IN PUBLIC POLICIES

The heritage discipline was included in Contests of the Ministry of Culture and National Fund of the Arts. This contest seeks innovative projects, where art and culture are used as tools to respond to different problems such as social fragmentation, urban segregation, discrimination and social violence, among others. It is an unprecedented action that has the support of the following Public Organisms and Organizations: Ministry of Culture of the Nation; Ministry of Education and Sports; Ministry of Social Development; Ministry of Labor, Employment and Social Security; Ministry of Environment and Sustainable Development; Ministry of Security, Ministry of Justice and Human Rights; Ministry of Science and Technology; Federal Council of Investments-CFI; Union of the Civil Personnel of the Nation-UPCN and National Bank Foundation of Argentina.

## LIST OF DECLARED INDUSTRIAL HERITAGE ASSETS

The National Commission of Monuments, Assets and Historic Places declared the following assets of the Industrial Heritage Program:

- 2015 - Justicialista Automobile, City of Buenos Aires
- 2015 - Pulqui I and Pulqui II planes
- 2015 - Railway Bridge in La Rinconada, Neuquén.
- 2017 - Old suspension bridge, Tierra del Fuego.
- 2017 - Segunda Barranca Lighthouse, Patagones.
- 2017 - Liebig Town, Entre Ríos.
- 2017 - Suspension Bridge, Necochea.
- 2017 - Club Argentino Automobile Headquarters, City of Buenos Aires



Suspension Bridge, Necochea. Photo: María Elena Méndez

## SCIENTIFIC MEETINGS

2017 - VI International Congress of Railway History, November. Mendoza, Argentina. Organizers: IAHF, TICCIH Argentina, University of Congress and National University of Tucumán.

2017 - Meeting of Latin American Committees of ICOMOS of the XX Century Industrial Heritage. October 17 to 20 Buenos Aires, Argentina. Organized by ICOMOS Argentina

2017 - IV Forum of students and young graduates. The Industrial Heritage. From the nineteenth century to the present. Reflection, commitment and action in Latin America. October 17 to 20 Buenos Aires, Argentina.

## UNIVERSITY TRAINING PROGRAMS

School of Architecture and Urbanism of the National University of Tucumán, 2013 -2018

The University Volunteer Program depends on the Secretary of University Policies of the Ministry of Education of the Nation. The University Volunteer is an extension project with the objective of deepening the link of Public Universities and National University Institutes with the community in which they are inserted, through proposals aimed at improving the quality of life of their population and encouraging student commitment of higher university level with the social reality, promoting their solidarity participation, oriented to the development of their communities.

University Volunteer Project 'Heritage and Local Development (La Villa Obrera tells its story);' Responsible: Moreno, D.; Coordination: Logusso, J.



University Volunteer Project 'Identity in the Sugar Route,' Responsible: Roig, J

### School of Architecture and Urbanism of the National University of Tucumán, 2017-2018

University Extension Project 'Industrial Heritage and Tourism' funded by the Secretariat of University Policies under the Ministry of Education Presidency of the Nation Framed as an Assisted Professional Practice (Extension Mode). Coordinator: Logusso, J.

### School of Architecture, Planning and Design. National University of Rosario

Workshop co-organized by the Bauhaus-Universität, Weimar, Germany; the FAU, University of Chile, Santiago de Chile; the FADU, University of the Republic, Montevideo; and the FAPyD, National University of Rosario, Rosario. March 6 to 17, 2017.

- [fapyd.unr.edu.ar/workshop-bauhaus-universitat-weimar/](http://fapyd.unr.edu.ar/workshop-bauhaus-universitat-weimar/)

### School of Architecture, Planning and Design. National University of Rosario

Theme for the WAVE Rosario 2018 workshop: 'The architectural and landscape good as a catalyst for cultural identity.'

Universitat luav di Venezia from June 25 to July 13, 2018: 'Italian Beauty' FAPyD-UNR from June 18 to July 6, 2018.

### School of Architecture, Planning and Design. National University of Rosario

Optional subject: Digital surveys with final work on Survey of the Belgrano railway's stations.

## CONVERSION OR REHABILITATION

### Province of Mendoza

Although they have not materialized, the province of Mendoza, through the provincial government and also the municipality of the city of Mendoza, under the auspices of the CAMZA and FADEA endorsement, has recently promoted the holding of 3 national preliminary project competitions to rehabilitate industrial and/or railway sites:

Mendoza Station - Master plan, sustainable district, project ideas for rehabilitation

- <http://camza.org.ar/2017/02/15/concurso-nacional-master-plan-e-ideas-morfologicas-distrito-sustentable-estacion-mendoza-prorroga-entrega-al-10-03/>
- <https://www.plataformaarquitectura.cl/cl/871116/estacion-mendoza-la-sustentabilidad-como-guia-para-la-generacion-de-espacio-publico>



IV Forum of students and young graduates. The Industrial Heritage. Photos: Gabriela Santibañez

Trams Terminal - Preliminary project for the installation of a Producers Market

- <https://losandes.com.ar/article/view?slug=concurso-nacional-recuperacion-de-la-antigua-terminal-de-tranvias-de-mendoza>
- <http://camza.org.ar/2017/12/07/ganadores-concurso-nacional-de-anteproyecto-mercado-de-productores-de-mendoza-antigua-terminal-de-tranvias/>
- <http://camza.org.ar/2018/03/09/entrega-de-premios-concurso-nacional-de-anteproyecto-mercado-de-productores-de-mendoza-antigua-terminal-de-tranvias/>

'Nave Creativa' - Preliminary project for a warehouse in an old railway station: San Martin.

- <https://www.plataformaarquitectura.cl/cl/886518/nave-creativa-mendoza-concurso-nacional-de-anteproyectos-en-argentina>
- <http://camza.org.ar/2018/03/22/ganadores-concurso-nacional-nave-creativa-mendoza/>

### Province of Buenos Aires

Project and management: Puerto Quequén area. Rehabilitation of the Flour Mill. Quequén Grande Necochea.

- <http://www.necocheanet.com.ar/noticias/actualidad/1913-proyecto-para-recuperar-el-ex-molino-harinero-quequen-grande>

### Province of Santa Fe

Urban recovery of the Rosario coastal front

- <http://www.rosario.gob.ar/ArchivosWeb/bid.pdf>

Sorrento Power Plant reconversion project, Rosario





VI International Congress of Railway History, November 2017. Mendoza, Argentina.  
Photos Luis Bruna & Graciela Moretti

## NEW WEB SITES

Railway museum of Godoy Cruz, Mendoza.

- <https://www.godoycruz.gob.ar/cultura/museos/>

The worker's neighbourhood from the Tafi Viejo's railway workshops, Tucumán

- <https://www.facebook.com/villaobreradetafiviejo>

'Vasija Secreta' wine cellar, Cafayate, Salta

- <http://vasijasecreta.com>

'El Esteco' wine cellar, Ex Michel Torino, Cafayate, Salta

- <http://www.elesteco.com>

'Nanni' wine cellar, Cafayate, Salta

- <http://www.bodegananni.com>

'Viñas de Animana' wine cellar, Animana, Salta

- <http://www.bodegaanimana.com>

'Colomé' wine cellar, Cachi, Salta

- <http://www.bodegacolome.com>

'Tacuil' wine cellar, Molinos, Salta

- <http://www.tacuil.com.ar>

The 'vine and wine' museum, Cafayate, Salta

- <http://www.museodelavidyelvino.gov.ar/>

## SIGNIFICANT PUBLICATIONS

Ferrari, M., Bruna, L. & Vilavicencio, M. (Comp.) (2017). *VI Congreso Internacional de Historia Ferroviaria. Ferrocarriles, Historia y Patrimonio Industrial. Organizado por TICCIIH Argentina, Universidad de Congreso y Universidad Nacional de Tucumán. Mendoza, 8, 9, 10 de noviembre.*

Santibañez, M. G., Logusso, J. y Guzmán Coraita, L. (Comp.) (2017). *El patrimonio industrial desde el siglo XIX a la actualidad. Reflexión, compromiso y acción en Latinoamérica. ICOMOS Argentina. E-Book ISBN: 978-987-29432-5-7.*

Tartarini, J. (Coord.), Pell Delgado, I; Lloga Fernández, R; Sanabria Ortega, K. (2016). *Arquitectura ferroviaria de América Latina. Buenos Aires. Ministerio de Cultura de la Nación. 280 págs. ISBN: 978-987-4012-25-8.*

Vaca, A. Orche, E & Vaca, M. (2016) *Cable Aéreo Chilecito La Mejicana. Venas De Acero En Las Entrañas Del Ferrocarril Del Famatina. Córdoba disponible en*

- [https://issuu.com/mativaca/docs/cable\\_aereo\\_chilecito\\_-\\_la\\_mejicana](https://issuu.com/mativaca/docs/cable_aereo_chilecito_-_la_mejicana)

Vaca, A. & Vaca, M. (2018). *Cable Carril Chilecito. La Mejicana. Una cicatriz en la montaña. Chilecito: Arnaldo Vaca. Disponible en*

- [https://issuu.com/avaca85/docs/cablecarril\\_chilecito\\_-\\_la\\_mejicana](https://issuu.com/avaca85/docs/cablecarril_chilecito_-_la_mejicana)

## INDUSTRIAL HERITAGE NATIONWIDE

Petrina, Alberto y Sergio López Martínez (Dir.). *Patrimonio Arquitectónico Argentino. Memoria del Bicentenario. Tomo II (1880-1920) 740 páginas. CEPAN. Buenos Aires, 2015. Available in*

- [https://issuu.com/minculturaar/docs/libro\\_ii\\_parteI](https://issuu.com/minculturaar/docs/libro_ii_parteI)

*Review covers four decades of urban-architectural production according to the historical, political-economic and cultural context of its time, with special emphasis on the industry.*

**Günter Dinhobl**

TICCIH Austria has seven members working in the university, technical and administration sectors. Four of them are also ICOMOS members and one is a member of the ICOMOS Austria Monitoring Group responsible for the UNESCO World Heritage Site Semmering Railway.

This report was prepared by the TICCIH Austria team with input from the Austrian Federal Monuments Office (Österreichisches Bundesdenkmalamt, ÖBDA, [visit web site](#)) and the Institute of Art History, Building Archaeology and Restoration at the Technical University of Vienna (Technische Universität Wien)

## OVERVIEW

Austria's industrial heritage is rich and varied and includes one industrial UNESCO World Heritage Site, the Semmering Railway. Industrial buildings can also be found in all other World Heritage sites in Austria (see TICCIH Austria National Report 2015).

In 2017 the Monuments Register contained more than 38,000 listed properties, 6.4% of which were classified as industrial heritage and distributed as follows:

## PROTECTION AND MANAGEMENT OF INDUSTRIAL HERITAGE

The protection of listed industrial heritage in Austria is the responsibility of the Austrian Federal Monuments Office (ÖBDA) and is covered by the 'National Monuments Protection Law' (Denkmalschutzgesetz). The ÖBDA has recently published general guidelines on monuments' conservation (Standards der Baudenkmalpflege 2014) and building history surveys (Richtlinien für bauhistorische Untersuchungen 2016 download [visit web site](#)),

however these do not address the specific defining characteristics of industrial heritage.

## PROMOTION AND SUPPORT

Although public awareness of industrial heritage in Austria is still low, some industrial heritage sites are open to the public during Austrian Monuments Day which takes place every year during the Autumn.

In 2017 TICCIH Austria launched a new web presentation ([visit web site](#)). Whilst currently available in German language only, the aim is to expand it over time and include a representative se-

**table: Austria - classified industrial heritage**

	number of entries* in database 'protection of monuments' (ÖBDA) 2018
energy, supply	160
hydraulic engineering, navigation	311
machines	4
mining, metallurgy	217
production - building materials, glass	49
production - food industry	185
production - general	78
production - metal	149
production - paper, printing	11
production - textile, leather	62
trade	51
traffic - aerial cableway	16
traffic - railway	512
traffic - road	577
traffic - tram & underground railway	50
<b>classified Industrial Heritage - Overall</b>	<b>2.432</b>

**source:** Österreichisches Bundesdenkmalamt (ÖBDA), April 2018

\*: at one database entry there might be several classified monuments



Demolition of the large furnace hall of the Ultramarin-factory in Peisching/Neunkirchen. Photo: Doris Berl, source: Berl/Stadler 2016



View of machinery factory 'Independenta' in Sibiu (Romania)



Scrapping of the rail/road-bridge across the Danube in the city of Linz. Photo: Bernhard Holub (CC BY-SA 3.0, from Wikimedia Commons)

lection of industrial heritage sites together with relevant background information. In addition, an open source software platform - 'OMEKA' - is currently being tested for heritage documentation. The software will also facilitate the presentation of 3D recreations of destroyed industrial buildings.

The Austrian Association on Mining History (Montanhistorischer Verein Österreich [visit web site](#)) held a conference on 'salt and archives' in 2016 in Bad Ischl near the famous prehistoric salt mining area of Hallstatt. The papers were published in its magazine 'Res Montanarum' No. 57/2017.

In 2017, together with TICCII Italy and ICOMOS Germany, TICCII Austria supported an initiative to raise public awareness of the threat to 'Negrelli Hall,' a historic freight shed for intermodal rail/road-transport exchange across the Alps located in Bozen, Italy (see TICCII Bulletin No.77, 2017). Unfortunately, the initiative was unsuccessful and 'Negrelli Hall' was demolished later that year.

Also end of 2017, documents of the Semmering Railway conserved in the Technical Museum of Vienna were added to the UNESCO Memory of the World Register ([visit web site](#)). At the same time a book with these documents and several articles was published. The On the other hand, the Austrian State Archive ([visit web site](#)) with its huge number of Semmering railway related documents did not apply for Memory of the World register.

## SELECTED RECENT ACTIVITIES

### SUCCESSSES

#### Millstatt: Diving Tower

The diving tower dates from the 1930s and is part of the public bathing beach at Millstatt in Carinthia. The tower is a significant regional landmark but was closed due to safety concerns in 2008. It was reopened in 2018 following renovation and upgrading to contemporary safety standards in cooperation with the ÖBDA.

#### Eisenerz: Leather Tannery

The former tannery in the mining town Eisenerz in Styria was part of the leather manufacturing industry connected to the mining sector. In 2004 renovation work commenced at the initiative of the Leather Tannery Salzer Association (Ledergerberei Salzer). The full restoration of the tannery building and the remaining technical inventory was completed in 2015. A museum of leather craftsmanship is shortly to be established on the site.

On-going

#### Mautern: Road Bridge

The iron lattice bridge across the Danube connecting the cities of Krems/Stein and Mautern was built in 1895 and has a length of more than 300 metres. In 1945 the bridge was blown up by the German Armed Forces and reconstructed by the engineering corps of the Soviet army. At present there is a debate on whether to replace or conserve this historic road bridge. The latter option would involve repairing the damage caused to the structure by the use of de-icing salt in winter.

#### Vienna: 'Johann Strauss' Steamship

The 'Johann Strauss' steamship is one of the remains of the former Danube Steamship Company (Donau Dampfschiffahrtsgesellschaft) and the hull can be dated back to 1853. The ship underwent several modifications and served as restaurant and entertainment venue until 2013. Due to unclear ownership and progressive decay, the steamship was moved from its original location and may be scrapped soon because of lack of the public interest in its preservation and the low appreciation of its industrial heritage value.

#### Vienna: Post Office and the Magazine Hall of the former Northwestern Railway Station

The Northwestern Railway Station - dating back to the early 1870s - was transformed to a freight terminal in the 1950s and finally to a container terminal in the 1970s. The original station building was demolished but the post office and magazine halls from the early times have survived. At present there is no certainty that the



buildings will be preserved and re-used while the former industrial district is undergoing a transformation into urban district.

#### **Bad Gastein: Angerschlucht Bridge**

The Higher Administrative Court ruled against the owner's appeal to reject the listed status of the Tauern Railway Bridge crossing the deep valley of Angerschlucht. As a result, the bridge continues to be listed as industrial heritage and has to be maintained in future, while rail transport has been redirected through a newly built concrete bridge.

#### **Steeg: Seeklause at Hallstätter See**

Based on an article in TICCIH Bulletin No 67 of 'Seeklause at Hallstätter See' a questionnaire on a similar weir system was launched in 2015. Responses from all over the world made it possible to make a comprehensive comparison of such technical buildings. This comparison is one input into on-going discussions on the future of the Seeklause. The intermediate results of this will be presented at TICCIH Conference 2018 in Santiago de Chile.

#### **Neunkirchen: Power House of the Former Screw Manufacture Company Brevellier and Urban**

The power house is what remains of the screw cap manufacture company located in the 'Industrieviertel' (Industrial Quarter) in the South of Vienna (the Industrial Quarter is the southeastern part of the four quarters of Lower Austria). The building still contains generators dating back to 1917 and an authentic Patent Babcock & Wilcox steam boiler for continuous operation. This significant ensemble is not in use and may be demolished soon.

### **LOSSES**

#### **Linz: Combined Rail and Road Bridge 'Linzer Donaubrücke'**

The combined rail and road-bridge across the Danube river in the city of Linz was demolished and scrapped in 2016 (see also Austrian National Report 2015 and DINHOBL Guenter: The Linz Railway Bridge – Demolished! in: TICCIH Bulletin No.74, 2013, p.11)

#### **Peisching / Neunkirchen: Ultramarin Factory**

The Ultramarin factory was established in Neunkirchen in 1860 and relocated to nearby Peisching in 1877 following citizens' complaints. The ensemble consisted of four buildings: a large (68m) furnace hall, a second smaller furnace, a building for the production of fire-clay crucibles and a dwelling house. In the mid-1990s production came to an end and the buildings were demolished in early 2016. Documentation of the buildings was carried out by Berl/Stadler of TUWien in 2016.

### **EDUCATION AND TRAINING**

Seminars, training 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 Vienna Technical University. In 2017 a design course was dedicated to 'strategies of re-use' which included

an excursion to the Independenta factory complex in Sibiu (Romania).

Architecture curricula at the Graz University of Technology (<https://istbau.tugraz.at>) and at the University of Innsbruck (<http://www.baugeschichte.eu>) include several courses on the conservation of historical buildings and monuments.

The Danube University at Krems hosts a 'Center for Architectural Heritage and Infrastructure' and a 'Center for Cultural Property Protection' ([visit web site](#)). Courses in building refurbishment and re-use (Sanierung und Revitalisierung) are included in the Architecture Studies curricula.

### **PUBLICATIONS**

Doris BERL, Gerhard A. STADLER: Ultramarinfabrik (Blaufabrik) - Neunkirchen-Peisching / Niederösterreich. Eine Dokumentation; Technische Universität Wien - Institut für Kunstgeschichte, Bau-forschung und Denkmalpflege, 2016

Therese BERGMANN, Christian GRILL: Mühlenbrief (quarterly, [see link here](#))

Ulrike MATZER (Hg.): Marianne Strobl, 'Industrie-Photograph 1894-1914' (Series Beiträge zur Geschichte der Fotografie in Österreich / Fotohof edition Band 254), Wien, Salzburg 2017

Montanhistorischer Verein Österreich (Hg.): Vorträge der montangeschichtlichen Tagung 'Salz und Archive' Bad Ischl, 21. und 22. Juni 2016; In: res montanarum 57/2017 (res montanarum is published once or twice a year, [see link here](#))

Bernhard NEUNER: Bibliographie der Semmeringbahn-Literatur; Südbahnmuseum Mürzzuschlag am Semmering, 2017

Robert PAP: UNESCO Welterbe Semmeringbahn. Berndorf 2016  
Peter PAYER: Auf und Ab. Eine Kulturgeschichte des Aufzugs in Wien. Wien 2018

Ute STREITT, Gerhard A. STADLER, Elisabeth SCHILLER (Hg.): Die Linzer Eisenbahnbrücke. Von der Neuen Brücke zur Alten Dame. Linz - Weitra 2016

Ute STREITT, Gerhard A. STADLER, Elisabeth SCHILLER, Michael SENGSTSCHMID: Die Linzer Eisenbahnbrücke 1900 bis 2016. Eine Chronik in Bildern und Texten. Linz - Weitra 2017

Technisches Museum Wien: Höchste Eisenbahn! Von der ersten Alpenbahn Europas zum Semmering-Basistunnel. Berndorf 2018.  
Technisches Museum Wien: Blätter für Technikgeschichte Band 78/79: Themenband MATERIALIEN. Wien 2015

Technisches Museum Wien: Blätter für Technikgeschichte Band 78/79: Themenband MATERIELLE KULTUR. Wien 2016/17

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Roland TUSCH: Industrial World Heritage Under Construction. Furnace, Issue 3, 28-38; 2016.

Roland TUSCH: Semmering Railway Austria: Layered landscape between historical and high-performance railway. In: AIAPP Associazione Italiana di Architettura del Paesaggio, Tasting The Landscape. Torino 2016 [53rd IFLA World Congress, Torino, ITALY, APRIL 20-22, 2016]

Roland TUSCH: A New Building Type Characterized the Landscape: Lengthman's Cottages Along the Semmering Railway in Austria. In: Ed. cilac Comité d'information et de liaison pour l'archéologie, l'étude et la mise en valeur du patrimoine industriel, Résumés – Abstracts. Lille 2015 [XVI TICCIH Congress Lille Region, Lille, SEP 6-11, 2015]



Steam locomotive 41.195 – Photo: ETWIE

In Belgium, heritage is a competence shared between the three federal entities, Flanders, Wallonia and Brussels. In the run-up to the XVII TICCIH Congress, ETWIE (*Expertisecentrum voor Technisch, Wetenschappelijk en Industrieel Erfgoed*), PIWB (*Patrimoine Industriel Wallonie-Bruxelles*) and BruxellesFabriques joined forces within the Belgian section.

## FLANDERS

**Dr Joeri Januarius, Tjil Vereenoghe and Hannelore De Craene (ETWIE)**

## ORGANISATIONS, EDUCATION AND POLICY

The oldest voluntary organisation for industrial heritage in Flanders is the Vlaamse Vereniging voor Industriële Archeologie (VVIA, [www.industrieelerfgoed.be](http://www.industrieelerfgoed.be)). Founded in 1978, the association continues to protect and preserve industrial heritage. Since 2012 ETWIE ([www.etwie.be](http://www.etwie.be)) is recognised by the Flemish government as the Center of Expertise for Technical, Scientific and Industrial Heritage, focusing on the movable and intangible aspects of this heritage.

### Museums

Between 2016 and 2018 several museums of industrial heritage

were renewed or reopened. In Izegem, for example, the collections of the National Shoe Museum and the National Brush Museum were merged into a new museum called Eperon d'Or, in a former shoe factory. The museum opened its doors in 2017. In September 2018 the Museum over Industrie, Arbeid en Textiel (MIAT, [www.miat.gent.be/en](http://www.miat.gent.be/en)) in Ghent, one of the most important museums in the field of industrial heritage, will open a new main exhibition and at the same time change its name into Industrie-museum.

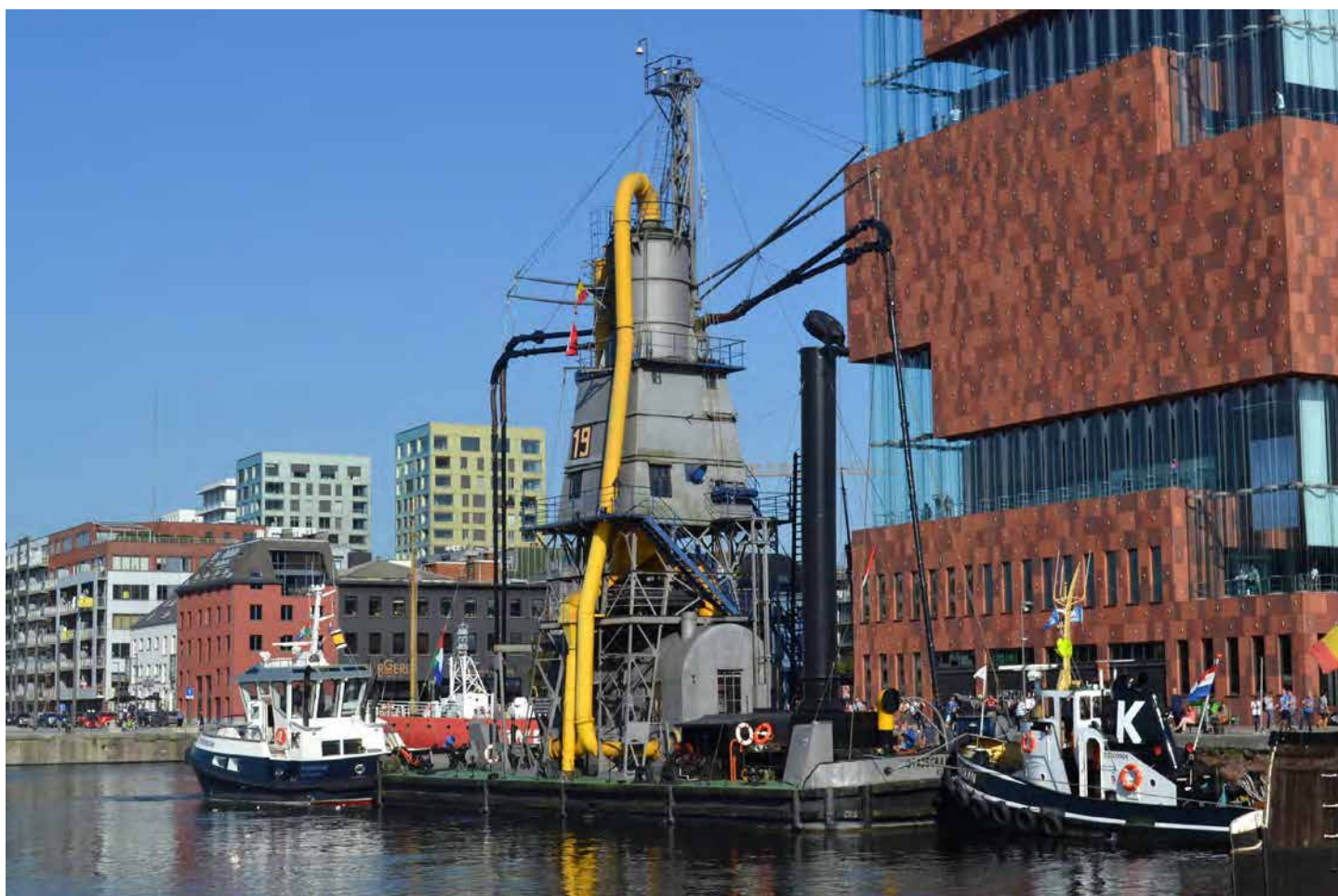
### Education

Formal courses on industrial heritage remain rather scarce. Every year, VVIA organises the course 'Introduction to industrial archaeology.' Two Belgian universities offer courses about industrial heritage. At the Free University of Brussels dr. Joeri Januarius teaches the course 'Industrial archaeology and industrial heritage.' At the University of Antwerp Patrick Viaene teaches the Master course 'Monuments and landscape architecture.'

### Policy

In 2015 a new Immovable Heritage Decree came into effect in Flanders, which directly and indirectly impacts the industrial heritage. One significant change to the policy of immovable heritage is





Stadsgraanzuiger at its new location in Antwerp – Photo: ETWIE

the increased stake and responsibility of cities and municipalities. In 2016 the revised Maritime Heritage Decree came into effect. The revision expanded the instruments for financial support and legal repercussions for the protection of maritime heritage and determined the new Maritime Heritage Inventory. In 2017 a new Cultural Heritage Decree came into effect as well, having an impact on the funding of museums and organisations in the cultural sector.

## INDUSTRIAL HERITAGE

### Protection

In the past few years, only a few industrial heritage sites were recognised as a protected monument. Some interesting examples are the water tower of the Umicore factory in the village of Olen (1927) and the chimney of the Gevaert company in Mortsel (1928). The latest additions to the 'List of Masterpieces' include the steam locomotive 41.195, the only surviving standard gauge steam locomotive built in Flanders (1910). In 2018 the 'Hoge Kempen Rural-Industrial Translation Landscape' in Limburg was submitted for inclusion on the UNESCO World Heritage List. The nomination included the former mining sites of Eisden, Winterslag, Waterschei and Zwartberg.

## RESTORATION AND REUSE

In Limburg, several mining sites are being redeveloped. The Be-Mine project for example ([www.bemine.be](http://www.bemine.be)), that aims to find new purposes for the protected mining site of Beringen, included brushing up the exhibition in the [Mijnmuseum Beringen](http://mijnmuseumberingen.be). The project wants to combine urban functions with cultural tourism. In 2017 Visit Flanders awarded a grant of 3.5 m euro to the project be-MINE PIT, a new mine experience center at the site. The center will open in 2020. At the same time there has been a lot of discussion about the preservation of the coal washing plant at the Beringen site. As there are severe threats that a large part of the building will be demolished, it was included on the long list of Europa Nostra's 'Seven Most Endangered' programme in 2018. Local organisations are campaigning to save the building from demolition.

The rehabilitation project of Brewery [De Hoorn](http://dehoorn.be) in Leuven was one of the winners of the EU Prize for Cultural Heritage/Europa Nostra Awards 2016. The jury stressed the exemplary conversion of this 1923 industrial heritage gem where the very first Stella Artois beer was brewed, into an event hall.



In general, the heritage of ports and harbours has attracted attention. In the north of Antwerp, the harbour area, which features a lot of maritime and industrial heritage, is undergoing an important renewal thanks to private and public investments. Since 2017 the museum MAS also started a collaboration with the Maritime Museum in Rotterdam (Netherlands). Both museums will join efforts to exhibit the floating grain elevator 19, the only working steam elevator in the world. In 2017 the elevator made its first trip to Antwerp.

In the city of Ghent, a lot of attention has been paid to the valorisation of industrial remains in the old harbour area, as well. Recent developments include laying out a 'crane landscape,' where several historical harbour cranes are lined up along the dockside. Nearby, the former ACEC factory was redeveloped into a shopping complex, called Dok Noord.

## PUBLICATIONS AND RESEARCH

The MIAT now publishes scientific articles in its [digital knowledge center](#). 'Industrial archaeology and industrial heritage bibliography' is available in the digital knowledge platform on [ETWIE's website](#). ETWIE and MIAT now collaborate to keep this bibliography updated. Currently it lists ca. 9.500 titles. The Dutch-Flemish journal 'Erfgoed van Industrie en Techniek' is the only remaining journal dedicated to industrial heritage.

## WALLONIA

### *Jean-Louis Delaet (PIWB)*

Real-estate assets are the exclusive competence of the Wallonia Region. The Wallonia Town and Country Planning and Heritage Code (CWATUP), which originated in 1984, has been replaced since 1 June 2017 by the Regional Development Code (CoDT); and, very recently, on 25 April 2018, the regional Parliament adopted a Specific Heritage Code (CoPat). However, the real-estate assets are the competence of the Wallonia-Brussels Federation, which manages matters related to the public, like culture (and museums).

As the cradle of the Industrial Revolution, Wallonia was rightfully recognized by having its major mining sites registered as World Heritage Sites in 2012, a few years after the recognition of the hydraulic lifts of the Canal du Centre. The range of preserved sites and conservation activities in memory of this social and technological adventure is significant for such a small region. Nevertheless, the absence of a proactive regional policy and, more fundamentally, of a real industrial culture in Wallonia is still an issue.

In this context the activities of the Wallonia Heritage Institute (WHI) from 1999 to 2017 are even more remarkable. The latest projects the organisation has intervened in, have demonstrated the dynamism of this public operator:

The screening and washing plant at Péronnes-lez-Binche, built in 1954, is classified and renovated, focusing on the concrete facades. As there was, unfortunately, no specific new purpose, the plant was subjected to a partial declassification order (21 March 2017), which should, however, enable new projects.

Since 2015, the Keramis Ceramics Centre at La Louvière has been preserving, studying and promoting the material and intangible evidence of the ceramics production of the Boch company. It houses the ceramic collections of the Wallonia-Brussels Federation.

The Stone Trades Centre at Soignies, for which the first phase was inaugurated in 2016, is bringing back to life the classified industrial buildings of the Great Wincqz Quarry. It is dedicated to teaching and preserving all the knowhow.

The Solvent Belge site at Verviers was bought in 2017 to act as a memorial to the industrial heritage, mainly by preserving textile machines and printing machines (Casterman collection), as well as the moulds of the former crystal-ware works of Val-Saint-Lambert.

Since 1 January 2018, the new [Wallonia Heritage Agency](#) or AWaP has grouped the services of the heritage department (public service of Wallonia-DGO4) and the WHI.

In general, industrial heritage achievements have been implemented through civic initiatives, supported by municipalities and provinces, by the Wallonia Region and by the European Regional Development Fund (ERDF). Many of these public sites are managed by non-profit associations (Asbl), which is more flexible than direct management by public authorities.

The civic initiatives are often supported by PIWB, an organisation that brings together industrial archaeology sites. The association has been subsidized since its creation in 1984 by the Wallonia-Brussels Federation and since 2013, it has received additional aid from the Wallonia Region. At the level of communication tools, PIWB is developing a [website](#) as well as raising alerts when heritage sites are in danger.

The association publishes an annual magazine 'Factories and Men,' of 80 pages: Industrial memorials. It includes a valuation of the condition of the industrial and social heritage in Wallonia and Brussels in 2015, of the transport heritage of railways and public transport in 2016, and of the transport heritage of road transport and waterways in 2017.

When it comes to mining heritage, the Bois du Cazier in Marcinelle, one of the four major mining sites, has just received the European Heritage Label because of the impact of the tragedy of 8 August 1956 (262 victims). Two industrial relics are currently in the news:



The Hasard coal mine in Cheratte - Photo: PIWB

The Hasard coal mine in Cheratte, known for its buildings in the neo-mediaeval style (1907), partially classified, is being renovated at the initiative of the SPI, the economic development agency of the Province of Liège. This site will host new companies, as well as housing and shops. In a second phase, the headgear, the machine room and the lamp room will be restored. The old mining village was the background to a film by Thierry Michel *Les Enfants du Hasard* (2017).

The Saint-Albert headgear at Péronnes (Hainaut), which is still intact, near the screening and washing plant already mentioned, in the same 'liner' style, is still threatened with demolition, in spite of a successful initial appeal by the defense committee to the Council of State. A new application for a permit has been made by the owner Fluxys, manager of the natural gas transport infrastructure.

But it is mainly the steel-making heritage which has caught the attention. Following a conference organised in 2014 by PIWB, in partnership with the WHI, the association addressed the regional government with a 'Memorandum to safeguard the traces of the heavy industry of the twentieth century'. After the disappearance of the hot phase of steel-making, there are only three relics left:

the HFB at Ougrée near Liège (a neighbour of the HF6 at Seraing, which was demolished in 2016) which might be demolished too, the HF2 in Clabecq, which disappeared already, and the HF4 in Marcinelle near Charleroi, which is in danger. For its defense, a committee has been formed by former workers and executives as well as representatives of PIWB. Made aware of this, the City of Charleroi decided in favor of keeping it, as well as the three chimneys of the ore sintering plants.

Repurposing scenarios are being examined, also financially, by the regional government, but the essential problem remains its purchase. On 8 May 2017 the owner obtained a partial demolition permit. In the Liège basin, the town of Seraing is launching innovative projects to take over other steel-making relics. An online petition on the site of the old Chertal steelworks called 'Let's save a molten-metal transport wagon, symbol of Liège steelmaking,' this time in the east of the basin, recently gathered more than 2.000 signatures. Must read: Long live the blast furnaces! Towards a recognition of the steel-making heritage of Wallonia, *Dérivations*, special issue N°5, Liège, 2017.

Some good news is that PIWB has just been awarded a grant by the AWaP to perform an update to the inventory of the industrial



heritage, carried out upon request by the former DGO4 already twenty years ago. This is one of the first decisions of the Agency and it forecasts good things for the future.

In addition, the AVaP wishes to target certain threatened sites that risk losing their memorial value in partnership with Asbl Méta-Morphosis ([www.meta-morphosis.org](http://www.meta-morphosis.org)), the aim of which is to preserve the memory of the places and transmit the pride of the men through art, as has been done at Cheratte (This is not only heritage, Liège, 2015) and is at the planning stage around HF4.

## BRUSSELS

### Guido Vanderhulst (BruxellesFabriques)

The Brussels-Capital Region has experienced high points in terms of industrial heritage. Particularly active in this field, the association BruxellesFabriques is a member of the Asbl Patrimoine Industriel Wallonie-Bruxelles.

The fight to obtain classification and therefore protection for the Avenue du Port continues. The Region refused the request but BruxellesFabriques has appealed to the Council of State. We are still waiting for the conclusions. This avenue is symbolic of the industrial heritage and does not only concern the Brussels region. This avenue, paved with 1.5 m porphyry paving stones, which extends over one and a half kilometers along the Willebroek Canal, is the only one that still exists. These industrial boulevards made of paving stones had to be able to support heavy wagons. These paving stones are formed by an explosion of magma and therefore have exceptional strength, like real diamonds. They come from the Lessines quarries in the province of Hainaut. Extracted and prepared under very difficult conditions, each paving stone, weighing between 7 and 12 kg, is handled seven times before being laid on the road using unique know-how. The Walloon pavers had a reputation throughout Europe. They laid paving stones in numerous cities, even on the Red Square in Moscow. It is therefore an exceptional story, both socially and technically, that we wanted to promote.

The restoration of the machines from the old Wielemans-Ceupens brewery is finalised. As the winner of the Europa Nostra prize, the project had significant corporate patronage and support from the Region (the heritage assets being classified) to start and finish this restoration according to best practice. Almost everything was brushed by hand and a special varnish was applied. Certain parts were redone identically. A new connecting rod was installed, which enables the steering wheel of the steam engine to be operated, by driving the pistons which were blocked until now. The assembly is remarkable: it includes an American De La Vergne compressor from 1895, probably unique in the world, and a Carels de Gent steam engine (1905) coupled to a Swiss Sulzer compressor; also from 1905. There is also a system of cooling gas pipes, an electrical control panel for the factory and the overhead crane functioning manually by chains. Four workers were involved



The restoration of the American De La Vergne compressor – photo: E. Vanderhulst

and were trained for this restoration. Under the guidance of an experienced chief mechanic, former car mechanics and welders contributed a lot thanks to their knowhow and intelligence in resolving problems.

A task of creating an inventory of the Brussels industrial Heritage is being finalised, in partnership with the Brussels Region. While already around 1975 a visual inventory had been drawn up by the Modern Architecture Archives, this inventory was updated in 1995 by the Fonderie, the Brussels Museum of industry and work. Updating the inventory was necessary. A huge number of industrial buildings have recently been the subject of actions by property developers, either through demolition or conversion, which were rarely successful. The context of these buildings and their histo-



The Carels steam engine after restoration – photo: E.Vanderhulst

ries were not documented. The Region had already included the previous lists in its official inventories, but without any history or contextualization. This is insufficient.

A study was begun on the 'Estaminets and cafes, Brussels histories,' as part of a project run by the City of Brussels. The old stock exchange will become a 'beer palace,' devoted to the importance of beer in Belgian and Brussels culture. So as not to limit this to be a showcase for Belgian brewers, a human and social dimension had to be included. The BruxellesFabriques association was assigned a publication by the City, without doubt prior to an exhibition in this outstanding location.

Other struggles were undertaken for the industrial heritage, such as the future of the old Charleroi Canal Basin, which property developers bought to build homes for the middle class without considering the urgency of social housing for the least privileged. On the symbolic Tour & Taxis site, which is again in the news, the property developer is making substantial changes mainly through very significant new buildings, irreversibly changing the typology and configuration of the site. Luckily, the 'heritage' buildings such as the freight station, the post office and the customs office are restored with much attention and a real concern to be true to their original architecture.

The site of the former Poëleries Godin has been completely flattened. A shopping center is being developed there. The building that the workers called the 'Cathedral' has been saved and renovated. An exhibition took place, showing the essential role that Jean-Baptiste Godin played in the development of cooperative social movements in the 19th century. The second constituent is the history of the site itself and the description of installations that have disappeared.

An important publication was published by BruxellesFabriques in 2017: the story of a ship-owner at the Port of Brussels, Fifty years on the Brussels quays by Léon SMET. One can be a ship-owner and still have constant concern for one's dockers and their working conditions. What is more, he joined in doing their work, loading and unloading the boats and barges with his men. Finally, an annual cycle of eight conferences was organised on various industrial heritage subjects, bringing together various contributions from notable scientists. This cycle will be repeated in 2018.





The work revitalized a set of silos in Vancouver during the Vancouver Biennale, between 2014 and 2016, as part of a project called Giants. Source: <http://www.vancouverbiennale.com/artworks/giants/>

## Ronaldo André Rodrigues da Silva

The triennium 2015-2017 was consolidated as a period of progress in the recognition of the industrial heritage in Brazil. However, the steps in the direction of protection management still occur slowly and are not integrated between state agencies and private entities. Nevertheless, the report presents in the same way the themes related to the Committee, as well as the information on updating and preserving the industrial heritage in its various forms of expression.

Initially after the first years of operation of TICCIH-Brasil that state and federal heritage preservation agencies have sought to develop activities, as well as to evaluate and protect a growing number of heritage elements related to the industrial theme. In part, we must consider the relevance and consolidation of TICCIH-Brasil and its recognition at the national level, with the participation of members of the Committee in the national representative of ICOMOS, ICOMOS-Brasil, which, with its revitalization, sought to value the different forms of representation of cultural heritage, among them the industrial heritage. As a result, several partnerships have been developed that have resulted in participation in national and international congresses and seminars, which had the industrial patrimony as a discussion area: history of architecture and urbanism,

landscape and heritage, industrial and rail heritage, landscapes and cultural routes, and heritage of the 20th century.

## VALORIZATION OF THE INDUSTRIAL HERITAGE

The actions which stand out are the presentation, in September 2015, to the General Secretariat of UNESCO, of the dossier of the Cais do Valongo for its insertion in the nominative list of cultural heritage of the humanity. The site received between the 16th and 19th centuries about 4 million slaves who were mainly intended for coffee, tobacco and sugar plantations in the interior and other regions of Brazil, in addition to those used for domestic work and public equipment. The site was disbanded in 1831 with the ban on the slave trade and at the beginning of the 20th century was grounding. At the end of 2016, the National Historic and Artistic Heritage Institute (IPHAN) confirmed the heritage protection of four properties in Rio de Janeiro, among them the Old Docks D. Pedro II, ratified in the 84th Ordinary Meeting of IPHAN, where the Cultural Center for Action of Citizenship currently operates. The construction projects for the D. Pedro II docks were influenced by European constructive methods, an advanced port technology that included the construction of the wharf and warehouse, as well as its logistics. The proposed inscription is based on



São João del Rei Railway Complex (Minas Gerais).

the historical and ethnographic values attributed to the building, as one of the last testimonies of the work of the engineer André Rebouças in the port region of Rio de Janeiro. The protection proposal also includes the Fundamental Stone and objects found inside a Time Capsule, both launched on September 15, 1871 and found in 2012, during the archaeological excavations in the Pier Valongo area.

In 2015 occur the restoration of the old Santa Amélia Factory (São Luís, Maranhão) that was completed and transferred to the Federal University of Maranhão (UFMA) to be used for the classes and destination for a hotel training. The Santa Amélia Factory, established in 1902, was the old factory of the Maranhense Wool Company, founded in 1892. It is an important example of Maranhão's industrialization and the installation of cotton culture in the region. Complementarily, it is sought the requalification and restoration of the old Progresso Factory also located in São Luís, managed by the Federal University of Maranhão (UFMA). In it will be installed the Center of Archeology so that it can be used as a place of preserva-

tion of archaeological artifacts that are the result of the work of diagnosis and archaeological prospecting conducted by Petrobras in the municipality of Bacabeira (MA). The revitalization works have an agreement between Petrobras, UFMA and IPHAN, and it is proposed to install the History course of the University, as well as the Archeology Center and the Museum of Archeology. The Progresso Factory, together with the Santa Amélia Factory where the Tourism and Hospitality courses are held, are part of the UFMA University Complex in the Historic Center of São Luís.

Another revitalization project, approved in October 2016, comprises the Ver-O-Peso region, in Belém, Pará. The market consists of an architectural and landscape complex comprising an area of 35 thousand square meters that includes historic buildings such as the Iron Market, Meat Market, Clock Square, Docks, Açaí Fair, Castelo Hill and Beira's House. The group has been inscribed on UNESCO's Indicative List since February 2014 and seeks to establish, through its valorization, conservation and restoration activities, all the necessary elements and criteria to receive the title of World Heritage.



## PROTECTION

Approval was granted at the federal level for the recognition of telegraph stations that include buildings by the Strategic Commission of Telegraph Lines from Cuiabá to Porto Velho (Rondon Commission), in Vilhena and Ji-Paraná, in Rondônia. The two old telegraph stations are important vestiges of the country's telecommunications system, in the process of integration of the Midwest and North regions. The Vilhena Telegraph Station was built in the early 1900s and was intended for use as a telegraph station. The Telegraph Station originated the city of Vilhena and for almost 50 years was the main record of the region. In 1988, the station was transformed into the Marechal Cândido Rondon Museum, known as Rondon's House. In Ji-Paraná, the Telegraph Station, inaugurated in 1914, became the Communications Marechal Rondon Museum and has a collection of pieces that are part of the history of the construction of the line and the telegraph station of the Madeira-Mamoré Railway.

With concern, a fire broke out at the Língua Portuguesa Museum (São Paulo, SP) at the end of 2015, in December. The museum is housed in the Luz Station Complex, listed by the federal agency, IPHAN in 1996. The revitalization and restoration work of the museum station were partially delivered at the end of 2017. The building facades and the clock are restored and in part rebuilt. The proposal of completion of the works and delivery of the building to the population foresees its reopening for the beginning of 2019.

The important element for the history of the transportation system in Brazil was recovered and restored, the steamship Benjamin Guimarães. This cultural asset is one of the last examples operating in Brazil. The centenary ship located in the city of Pirapora, northern territory of the State of Minas Gerais, has its recovery process financed and managed by the State Heritage Protection Agency, the State Historical Heritage Institute of Minas Gerais (IEPHA-MG).



The steamship Benjamin Guimarães was built in the United States, in the Mississippi Valley, and brought to Brazil in 1913, to the Amazon River basin. Source: [http://www.iepha.mg.gov.br/media/contentbuilder/upload/bens\\_tombados/1-Vista\\_Vapor\\_Benjamin\\_Guimaraes.jpg](http://www.iepha.mg.gov.br/media/contentbuilder/upload/bens_tombados/1-Vista_Vapor_Benjamin_Guimaraes.jpg)



In the 1920s it started sailing on the São Francisco River where it received the name of Benjamim Guimarães in honor of the patriarch of the firm that acquired the steam. It has capacity for 140 people and is one of the last examples of steamship in operation in Brazil, with a system powered by firewood and boiler, steam driven and stern wheel. It is intended to preserve this important element and to value its historical and cultural importance for the region of the valley of the São Francisco River. It was officially recognized as municipal and state cultural heritage, the steamship was registered by IEPHA-MG in 1985 and incorporated into the historical heritage of the municipality of Pirapora in 1997.

Another industrial complex recognized for preservation is located in the city of São Paulo (SP), the old complex of the Antarctica Brewery in Mooca, which was registered by CONPRESP [Conselho Municipal de Preservação do Patrimônio Histórico, Cultural e Ambiental da Cidade de São Paulo] in September 2016. The company Antarctica Paulista – Ice and Brewery Factory was inaugurated in 1888, in the region of Água Branca. In 1995 the company was closed, and the complex began to fall into decadence due to abandonment. The recovery and preservation of the company is an old struggle of residents and activists of the neighborhood of Mooca, which demonstrates the strength of the local identity in relation to the memory of the city. Thus, the recognition of the industrial heritage represents a great achievement for the neighborhood that seeks its revitalization and valorization of the region and its surroundings. There are also several hundred-year old industrial sheds in addition to the Conde Rodolfo Crespi Stadium, Juventus team, a renowned football club in the city of São Paulo that has not yet been demolished.

In the southern region of the country, in October 2016, the Rheingantz Complex was awarded an agreement between the Judiciary and the City Hall for the restoration of the factory's main building. In partnership with Inovar Participações e Incorporações Ltda, a Term of Conduct Adjustment (Termo de Ajustamento de Conduta – TAC) was signed for the restoration, revitalization and commercial use of the old textile complex located in the center of the city Rio Grande whose site was registered by the State Historical and Artistic Heritage Institute of Rio Grande do Sul (IPHAE-RS). After the restoration process, it is proposed to reuse with the installation of commercial activities, university, theater and leisure area. In addition, the establishment of a Reinghant Museum and Industry Museum and the creation of a space focused on environmental education.

In the railway area, an important group in Sorocaba, São Paulo, was recognized as cultural heritage for the Council for the Defense of Historical, Archaeological, Artistic and Tourist Heritage of the State of São Paulo (CONDEPHAAT). The station built in 1875 comprises a historical landmark on the São Paulo railroad, the Sorocabana Railway (EFS). It is an important complex, as it houses a group of buildings, among them workshops, station, residences, warehouses, administrative center, manoeuvring yard and other buildings. Its importance for the industrial heritage of Brazil is re-

lated, initially, to the cotton culture and to the pioneer production of the Imperial Iron Factory of São João de Ipanema [Fábrica de Ferro de São João de Ipanema]. Then it became an important path for the coffee agroindustry and contributed decisively to the industrialization of the region. The process of listing and protection of the whole constitutes an important instrument for its conservation to prevent it being destroyed or decharacterized.

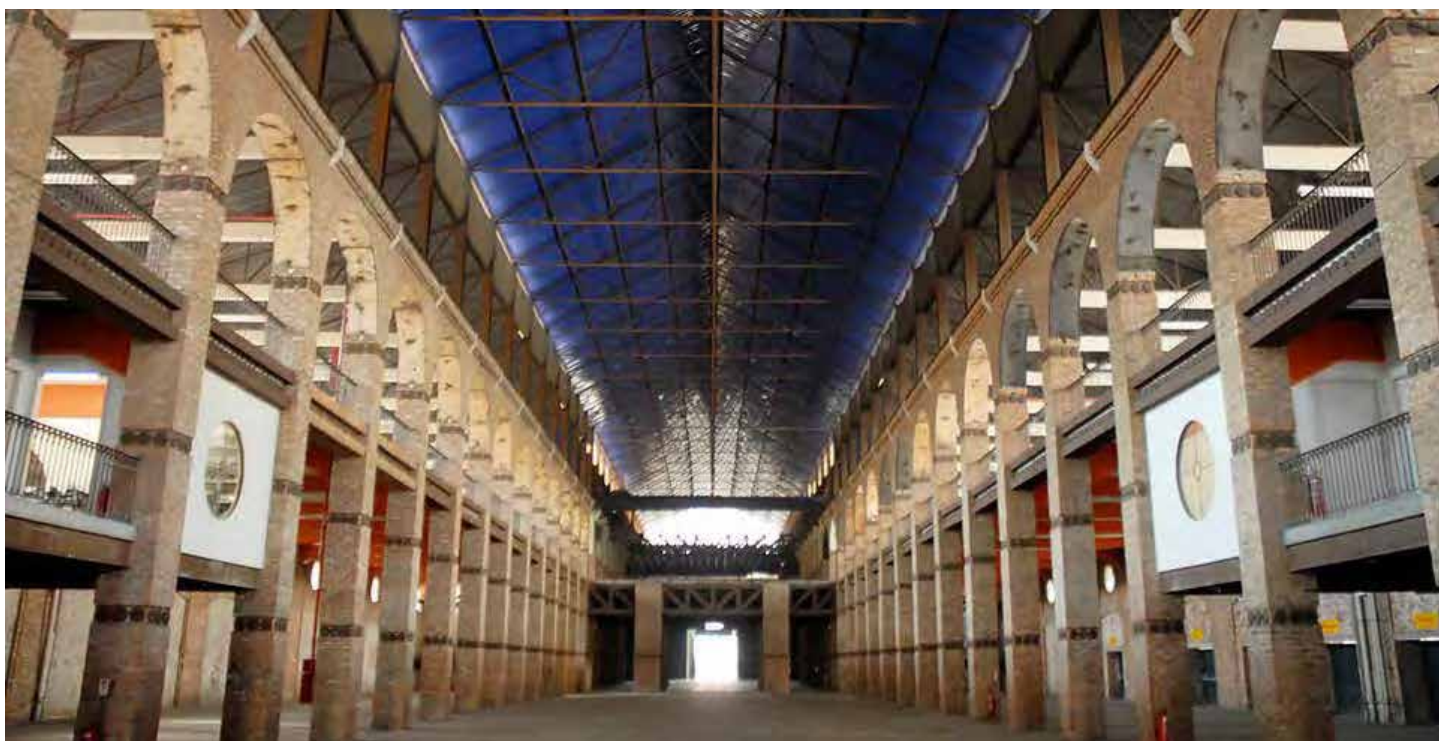
## MUSEUMS

Among the museological actions carried out, it is worth mentioning the work of the federal cultural heritage preservation agency, IPHAN, which started to manage the São João del Rei Railway Complex (Minas Gerais) in 2017. The railway set was ceded for 20 years and is under contract to create a shared management plan between the Institute, City Halls and the company Valor Logística Integrada (VLI), the current administrator of the property. The whole is part of the old Estrada de Ferro Oeste de Minas and integrates a stretch between the cities of São João del Rei and Tiradentes which has a tourist train. Among the properties ceded to the management of the preservation body are the Railway Station, the first and second modules of the Railway Museum, Arts Center, the old Warehouse, the Mechanical, foundry and ironworks workshops and the Machine House.

The Train Museum is in the Engenho de Dentro neighborhood and occupies part of the old manufactory of the extinct Federal Railway Network S. A. (RFFSA). The railway pieces are outstanding: the Baroneza, of English origin and built in 1852, was the first locomotive to operate in Brazil on the Mauá Railroad, inaugurated in 1854. The Imperial Car, built in Belgium in 1886, served D Pedro II and his family; and the Car of King Albert, built in Engenho de Dentro and adapted exclusively to serve the King of Belgium, during his visit to Brazil in 1922; and the Presidential Car, also built in Engenho de Dentro, which served to President Getúlio Vargas in the 1930s, among other pieces.

A counterpoint to the issue of museums is at the closure of the activities of the TAM Museum in January 2016, in São Carlos, São Paulo. The airline, responsible for the institution dedicated to the history of aviation in Brazil, began its activities in 2010 with the objective of preserving a collection of approximately 90 aircraft, among them, Dassault Mirage III, Fokker 100, Spitfire, besides other items and a valuable collection and technical reserve. Among the justifications are the Brazilian economic crisis, the financial results of LATAM, TAM's successor and the main principal responsible for the museum. A proposal of continuity of the museum proposes its transfer to the São Paulo capital, in partnership with authorities of the Aeronautics and installation in Campo de Marte, first aerodrome of the city. However, the idea still does not count municipal authorities because of litigation in relation to the proposed site.

In relation to heritage education, the proposal of the National Historical and Artistic Heritage Institute (IPHAN) in 2016 provided a downloadable tool for 'Heritage Education: Participatory



The Central Warehouse building of the old Docks D. Pedro II located in front of the Valongo Pier area, recognized as a world cultural heritage site by UNESCO. Source: <http://guiaculturalcentroedorio.com.br/centro-cultural-acao-da-cidadania/>

Inventories,' which aims to develop references to cultural heritage. The proposal is to promote a discussion about democratic access to patrimony preservation policies according to the identification of patrimonial elements that are recognized by individuals, groups and communities. The free access allows to develop the citizen spirit and the cultural expression according to the references of memory and individual and collective history.

## TRAINING AND EDUCATION

Events related to cultural heritage were held, which, among other perspectives, also developed debates on the industrial heritage. Among them are: the Art and Crafts Advisers Forum [Fórum dos Mestres e Conselheiros] in Belo Horizonte (Minas Gerais), which focuses on the discussion about heritage education and the dimensions of intangible heritage, including the arts and crafts, of know-how and technical knowledge; the 4th Ibero-American Colloquium of Cultural Landscape, Heritage and Project in Belo Horizonte (MG) that sought to investigate the idea of cultural landscape and discuss different experiences related to the cultural landscape discuss to deepen understandings about the possibilities of approaching cultural heritage through of the figure of the Historic Urban Landscape. In July 2016, the of Industrial Tourism Brazilian Congress took place in São Paulo, in the city of São Bernardo, which included monitored visits to companies included in the São Bernardo Industrial Tourism project. Topics related to professional qualification for tourism, industrial heritage and the development of a strategic plan and actions for industrial tourism in Brazil were also discussed.

Another event took place in September 2016, with the VIII Symposium on Archeology and Heritage of IPHAERJ under the theme 'Industrial Archeology and Globalization in the Worlds of Pedro, Ismail and Victoria.' Headquartered in the Museum of Humanity the central theme of material culture and the various worldviews of the Victorian era. The central idea was to exchange experiences and knowledge related to patrimonial themes and new archaeological discoveries in Brazil and in the world. At the end of 2016, in November, at the University of Campinas, UNICAMP, the Workshop on Industrial Heritage: Hydroelectric Plants and their context in the state of São Paulo took place. The partnership between UNICAMP / USP / UNESP / FAPESP sought to create a space for debate about the professional production of itineraries for industrial tourism, with a centrality in the electric sector. The Eletromemória Project, developed with FAPESP, under the coordination of prof. PhD. Gildo Magalhães, carried out a survey of the tourism, heritage and cultural potentials of about 60 hydroelectric plants in São Paulo, prior to 1960. The activities involved theoretical hours and practical activities. And in the 2017, the ICOMOS-Brasil developed the First Symposium in Belo Horizonte and presented an overview of the discussions on the heritage, from conferences and round tables that will bring an idea of the state of the art of the national debate.

As a final example, the relationship between arts and industrial heritage involves the revaluation of disused areas. Although it occurs in Canada, the work was developed by two Brazilian brothers, Gustavo and Otávio Pandolfo Osgemeos. The artistic intervention is carried out in six large structures, 23 meters high each, which

from then on have been converted into permanent works of art. Based on the highlights and different elements and industrial landscapes presented, there is a small number of facts and actions that have elapsed in the triennium 2015-2017, in addition to the last Brazilian national report. There were several other interventions, requalifications and official recognition, at various levels – national, state and local. However, other situations have also been verified, ranging from abandonment to the disappearance of movable and immovable elements, and industrial landscapes. That preservation and conservation actions can be intensified, as well as the development of integrated management policies, both at the territorial level and at the public and private institutional levels.

Finally, the national equity policies to be developed for the period 2017-2019 involve the valorization and encouragement of Ver-o-Peso (Belém, Pará) and Paranapiacaba (Santo André, São Paulo) which are in the process of being recognized by UNESCO, and its dossiers sent to the institution and prepared under the coordination of the national protection organism, the IPHAN. For the period between 2020-2026, it is intended to develop works related to other historical and cultural sites, such as the Cedro Dam in Quixadá Monoliths (Quixadá, Ceará) and the Brazilian Fortification Complex (Amapá, Bahia, Mato Grosso do Sul, Paraíba, Pernambuco, Rio de Janeiro, Rio Grande do Norte, Rondônia, Santa Catarina and São Paulo) for insertion in the nominative list of the cultural heritage of humanity.

## PUBLICATIONS

'Azulejaria em Belém do Pará – Inventário – Arquitetura Civil e Religiosa – século XVIII ao XX' [Tiles in Belém of Pará – Inventory – Civil and Religious Architecture – 18th at 20th centuries] seeks to value the set of elements in its variety of colors, designs, textures and sizes that are part of the visual imagery and historical and cultural narrative of the city. The richness and diversity of the pieces that decorate the façades of the buildings stand out according to the inventory. Together, software was developed called Azulejar which mapped 20 points of the city and presents data about history, manufacturer, origin among others. The application will help the public as a guide in a virtual circuit in the city of Belém of Pará, using georeferencing technology, such as GPS, of mobile devices, which assists and identifies the location of works of interest to the user.

'Preservação do Patrimônio Edificado: A Questão do Uso' [Preservation of the Built Heritage: The Question of Use] is the debate about the daily use of the architectural work and the Brazilian experience by means of a review of the history of the federal action of preservation of the built heritage. The politics of preservation of cultural heritage today are: the intensification and updating of the use and appropriation of protected monuments and urban sites. Among the examples of reuse and revitalization of the built heritage, the urban requalification of the Rio de Janeiro waterfront, especially the Flamengo Park Project and the Porto Maravilha Project.





Sewell: Vista contemporánea de Sewell después de su cierre.

**Dr. Arq. Jaime Migone Rettig, Presidente TICCIH Chile, Miembro del BOARD TICCIH**

El desarrollo de las actividades del Comité Chileno para la Conservación del Patrimonio Industrial de Chile / TICCIH Chile se basa en los siguientes proyectos:

## EL CASO DE SEWELL, SITIO MINERO PATRIMONIO DE LA HUMANIDAD

Es un ex campamento minero enclavado en la cordillera de los Andes en el centro de Chile y fue declarado como Monumento Histórico en la categoría de Zona Típica el 27 de agosto de 1998 según el Decreto Ley N° 857 del Ministerio de Educación. Posteriormente, el 13 de julio de 2006 fue declarado Sitio Patrimonio de

la Humanidad por el Comité del Patrimonio Mundial de UNESCO reunido en Vilna, Lituania donde se considera como un 'ejemplo excepcional del fenómeno global de las ciudades obreras'.

Uno de los más importantes desarrollos que genera este proyecto, el cual se desarrolla entre los años 1907 y 1911, es un ferrocarril que une el campamento con la ciudad de Rancagua que se encuentra a 550 metros sobre el nivel del mar.

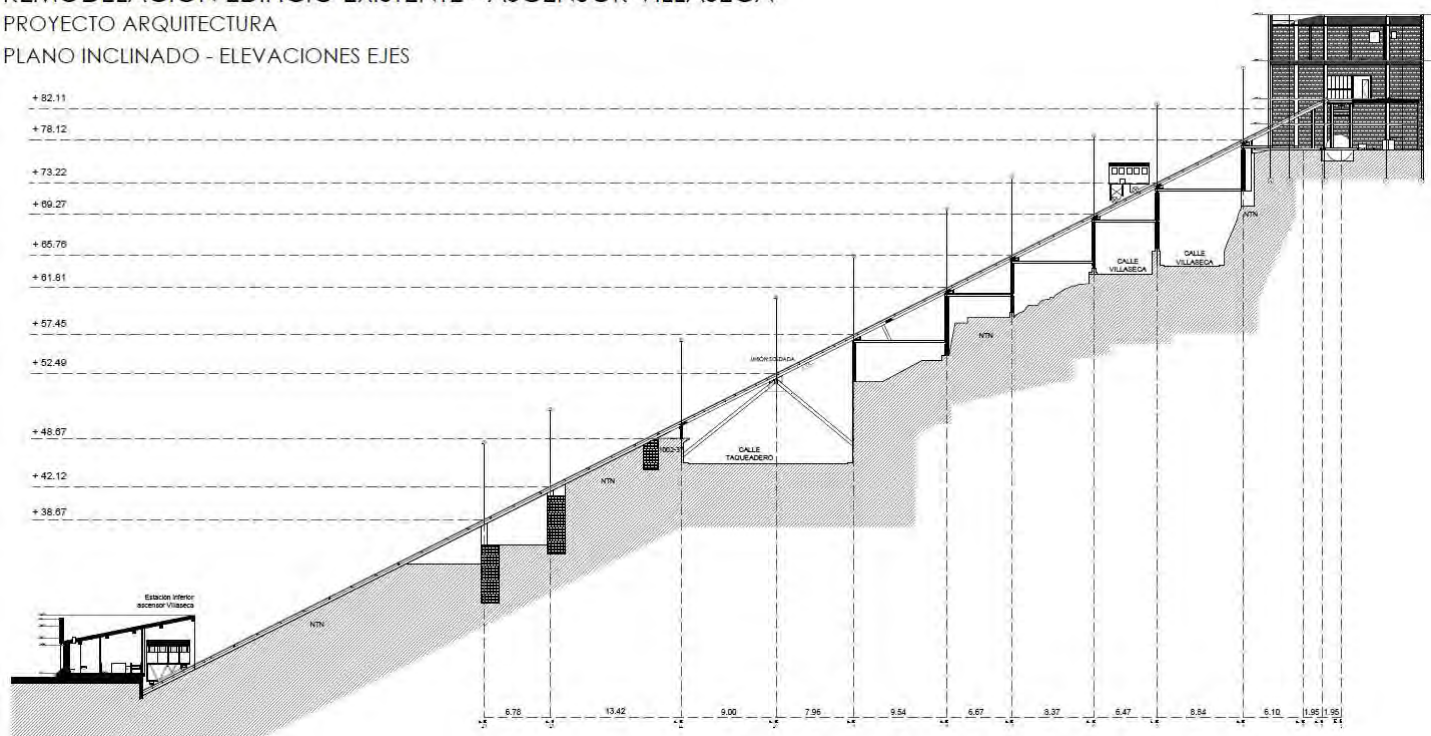
Asimismo, en 1971 se inicia la denominada 'Operación Valle' trasladando paulatinamente a todos los habitantes de Sewell a la ciudad de Rancagua, ya que la calidad de vida y el costo que significaba su operación a más de 2000 metros de altura, fueron cambios que CODELCO implementó y que culminaron en 1978 con



## REMDELACIÓN EDIFICIO EXISTENTE - ASCENSOR VILLASECA

### PROYECTO ARQUITECTURA

#### PLANO INCLINADO - ELEVACIONES EJES



Monjas. Plano del diseño del nuevo puente en la Estación Superior.

el cierre total del campamento. Año en que además se inaugura la nueva 'Carretera del Cobre' uniendo a Sewell con Rancagua y finalizando la operación del ferrocarril después de más de 67 años de existencia.

Sewell en la actualidad conserva alrededor del 40 % del campamento original, con una cantidad aproximada de 50 edificios, los cuales están en excelentes condiciones de conservación y pueden ser visitados turísticamente por cualquier ciudadano.

La operación de la mina de cobre sigue en pleno funcionamiento, por lo que el sitio patrimonial se encuentra dentro de las zonas extractivas y de producción del concentrado de cobre, lo que sin duda complejiza su gestión patrimonial. Para esto se crea en 2007, un año después de la nominación como Sitio Patrimonio de la Humanidad, la Fundación Sewell, institución privada sin fines de lucro, quien ha llevado la gestión de la puesta en valor, así como la organización turística del campamento.

Otra importante gestión realizada por la Fundación Sewell es la creación del 'Museo de la Gran Minería de Cobre,' el cual fue inaugurado en diciembre de 2010, como parte de la celebración de los 200 años de la independencia de Chile

## PROYECTO RESTAURACION ASCENSORES MONJAS Y VILLASECA EN VALPARAISO

El proyecto de restauración del ascensor Monjas y Villaseca en la ciudad de Valparaíso, es un trabajo ejecutado por un equipo de

especialistas, de carácter multidisciplinario, conformado especialmente para participar en este concurso público.

Este concurso, fue licitado por el Ministerio de Obras Públicas de la Región de Valparaíso. Su principal objetivo ha sido el poder contar nuevamente en funcionamiento, con este ascensor formando parte activa del conjunto de ascensores y funiculares de la ciudad.

Estos ascensores están compuestos por una estación inferior, un plano inclinado por el cual se desplazan los carros y una estación superior que está unida a la ladera del cerro, por un puente. El proyecto contempló la restauración arquitectónica, estructural y también de la maquinaria de este conjunto.

La intervención en sitio patrimonial tendrá como escala de prioridades los siguientes aspectos:

- 1 Seguridad: el primer aspecto a considerar, no transable, es la seguridad de los usuarios del sistema de transporte y habitantes de los inmuebles que constituyen el conjunto del ascensor Monjas.
- 2 Conservación Patrimonial: el segundo aspecto a considerar, será tratar de rescatar y restaurar el máximo posible de las estructuras existentes.
- 3 Accesibilidad Universal: el tercer aspecto es ajustar y rediseñar el sistema de accesibilidad universal para estaciones y carros.
- 4 Eficiencia: el cuarto aspecto considerado será la eficiencia de



Santa Laura. Vista planta de lixiviación de salitrera Santa Laura. Foto J. Migone año 2016.

los recursos para la puesta en valor del ascensor como medio de transporte y monumento histórico.

## **SALITRERAS SANTA LAURA Y SANTIAGO HUMBERSTONE. PATRIMONIO DE LA HUMANIDAD**

Proyecto de Restauración de la Casa de Administración.

Estas ex oficinas salitreras son dos importantes ejemplos de las más de 210 campamentos mineros dedicados a la extracción y producción de nitrato del Desierto de Atacama, las cuales fueron declaradas como Patrimonio de la Humanidad el 17 de julio de 2005 por UNESCO.

Se encuentran en la Región de Tarapacá en el norte de Chile a más de 1.500 kilómetros de la capital, Santiago y a 50 kilómetros de la ciudad de Iquique, puerto libre de impuestos y sede de gran actividad económica de esta zona del país.

Muy cerca de Santa Laura, a unos 5 kilómetros, se encuentra la oficina salitrera de Santiago Humberstone de una envergadura mucho mayor y cuya población superó los 3.700 habitantes. Tam-

bién su estado de conservación es precario, pero cuenta con gran parte de toda la zona urbana habitacional, con diversas tipologías de viviendas, una plaza central, un mercado y una pulpería, una iglesia y un teatro restaurados, piscina y diversas instalaciones industriales dedicadas a la extracción, refinamiento y traslado de salitre y yodo.

Muchos años después, Santa Laura y Santiago Humberstone fueron adquiridas por el Estado de Chile, para su protección y conservación, convirtiéndose en monumentos y testigos de esta epopeya del desierto. Para lo cual se creó la Fundación Museo del Salitre, institución privada, quien tiene el comodato para la gestión y administración de ambos sitios patrimoniales. Su gestión y sistemática labor de puesta en valor, ha revertido positivamente el ciclo de destrucción y abandono de estas dos oficinas, recuperando con mucho esfuerzo ambos sitios, los cuales se han convertido en un punto de interés cultural de la región superando las 80.000 visitas anuales con mucho éxito.

Se ejecutó el Proyecto de Restauración y Rehabilitación de la Casa de Administración de Santa Laura, con un Centro de Interpretación y el Museo de Yodo.



SITUACIÓN ACTUAL ELEVACIÓN NORTE



SITUACIÓN ACTUAL ELEVACIÓN SUR



Santa Laura. Vista planta de lixiviación de salitrera Santa Laura. Foto J. Migone año 2016.

## PROYECTO DE RESTAURACION MAESTRANZA SAN BERNARDO

El proyecto de restauración de la Maestranza San Bernardo comprende un conjunto de edificios correspondientes a la principal área de ferrocarriles del Estado de Chile, donde se reparaban, construían y mantenían, todos los equipos, locomotora y carros de este sistema de transporte en el país. El conjunto está conformado por los edificios Armaduría, Herrería, Calderería y Tornamesa, que son los que han permanecido hasta hoy.

La propuesta es de carácter conservativo y se mantienen todos los edificios según su imagen figurativa original. El desarrollo del nuevo uso como centro comercial y cultural, fue desarrollado por el arquitecto Gonzalo Martínez de Urquidí y su equipo profesional. El proyecto de restauración fue desarrollado multidisciplinariamente, por un equipo especial para la tarea. El proyecto aún no ha sido ejecutado y durante 2018 serán iniciadas las obras.

La compatibilidad de materiales para la reparación de los elementos dañados y de las pieles del edificio, también es un criterio de intervención definido para mantener al edificio dentro de los rangos originales en su sistema constructivo.

Los edificios son restaurados como contenedores para albergar una nueva función en su interior, por lo que se propone su cierre, ya que no posee ni ventanas ni puertas en estos momentos, para lo que todo lo propuesto mantiene la geometría de los paramentos históricos, pero con tecnología contemporánea, diferenciándose con claridad, para evitar cometer falsos históricos.

El proyecto de restauración tiene por objetivo la recuperación de la imagen figurativa original del edificio, para albergar una nueva función, diferenciando las nuevas intervenciones arquitectónicas y espaciales, con lo existente.

El proyecto se basa en la vocación de uso de esta estructura industrial para permitir que en su interior se desarrolle la nueva función, pero manteniendo su imagen industrial histórica y su espacialidad de gran galpón como maestranza metalmecánica que fue.

El proyecto de consolidación estructural tiene por objetivo recuperar físicamente el edificio, para que cumpliendo con las normas actuales, sea posible albergar nuevos usos en su interior.



**Liu Boying - Professor of Tsinghua University, School of Architecture, Chairman of the Industrial Heritage Committee under Cultural Relic Academy China**

## PROTECTION AND REUSE

### Urban Development and Transformation

After the last National Report was submitted to TICCIH in 2015, China's industrial heritage protection has entered a new stage, especially under the big historical background of the slow-down of economic growth and transformation of development mode. At present, in China, there are more city's development in the target of Global City, such as Beijing, Shanghai, Guangzhou, Shenzhen, as well as 11 National Central Cities. The development of these cities has developed from the traditional outspread development to the new mode of paying more attention on the upgrading and quality. The newly increased construction land and the scale of construction in the mega cities have been strictly controlled to ease the plague of 'urban disease.' The focus of urban construction has shifted from the new construction to the regeneration, and the renovation and reuse of the existing buildings have become the key point of urban construction. A large number of industrial buildings are exempt from the simple dismantling doom. They are retained in more cities, reused and transformed into high technology and creative industries, culture, commercial and sports space, playing a proper role in the functional demand of urban new-style development.

## INDUSTRIAL STRUCTURE RESTRUCTURING

From 2011 to 2014, the elimination of backward production capacity in the industrial sector involves 19 industries, including steel, non-ferrous metals, building materials, light industry, textile, food and so on, shutting down more than 8,000 industrial enterprises in whole country. In March 2013, the State Council approved 'The Planning Adjustment and Transformation of the Old Industrial Base (2013-2022).' There are 120 old industrial cities nationwide, distributed in 27 provinces and municipalities, including 95 prefecture-level cities, and 25 provincial capitals and specific plan-oriented cities. Through the adjustment of industrial structure, we can improve the antagonistic relationship between industrial production and ecological environment, improve the industrial layout of cities and achieve sustainable economic development. However, this process is very time-intensive, which brings unprecedented challenges to the protection of industrial heritage and the reuse of industrial buildings.

## URBAN RENEWAL

Beijing: According to the Beijing Urban Master Plan (2016-2035), the central urban area is a concentrated area bordering the national political center, cultural center, international exchange cen-

ter, science and technology innovation center and a key area for building a world-class, harmonious and liveable capital, to relieve of non-capital functions become very important for that. The government strictly controls the total amount of construction, adjusts the structure of land use and compresses the industrial land in the central urban area, and the current situation of industrial land will be reduced by 38.90 square kilometers.

Shanghai: According to the investigation and research in 2013, there will be more than 300 square kilometers of industrial land to be reduced, demolished or reclaimed, or converted to its use.

Shenzhen: According to the Thirteenth Five-Year Plan for Urban Renewal in Shenzhen, all types of urban renewal sites will cover an area of 30 square kilometers for 2016-2020, including 100 old industrial area renewal and comprehensive renovation projects, to provide space for new industrial and innovation-driven development, and to promote the adjustment and upgrading of industrial structure.

Guangzhou: According to the Guangzhou Urban Renewal Master Plan (2015-2020), the existing urban renewal land in Guangzhou is 589.85 square kilometers (including 208.58 square kilometers of old factories). The urban renewal of 167.79 square kilometers industrial land will be put into practice before 2020. A large number of industrial buildings are faced with dismantling, reuse and protection during the process of urban renewal.

## PROTECTION AND REUSE

### Government Level

1) Ministry of Industry and Information Technology China Industrial Heritage Alliance was set up on December 10, 2016, which aims to promote the protection of industrial heritage, develop industrial culture and inherit craftsman's spirit. In December 2017, the Ministry of Industry and Information Technology promulgated the 'List of National Industrial Heritage (the first batch),' with a total of 11, and began to work on the nationwide industrial heritage survey and the investigation of the industrial museums.

2) In January 2018, China Association for Innovation Strategy Research Institute and Urban Planning Society of China jointly announced the 'China Industrial Heritage List (first batch)' '100 industrial enterprises, establishing the relationship between the industrial heritage, inventions, inventors and industrialists, and is planning to edit and publish 'The Story of Chinese Industrial Heritage' on the base of enterprises.

3) From the Wuxi Forum in 2006 to the Third National Relic Survey in 2007-2011, to the announcement of the Seventh Batch of Key National Heritage Conservation Units in 2013, as well as the publication of lists of outstanding historic buildings in various places and the list of industrial heritage protection, the industrial

heritage special protection planning compilation has become an important part of the protection of historical and cultural cities. The protection of industrial heritage gradually standardized, protected by laws and regulations. For example, Chongqing has compiled 'The Industrial Heritage Protection and Utilization Planning,' which includes 96 non-movable industrial heritage sites to be investigated and registered (including warehousing).

## IMPACT OF MAJOR EVENTS ON PROTECTION AND REUSE

### Shanghai World Expo, 2010

The Nanshi electric light factory at the old Taiping pier, Shanghai, which was the first electricity factory by the government administration, rent a set of generators from British North Shanghai Jardine Matheson, lit up the roads in Shanghai in 1897. It moved to the present site-the southern city of Bansongyuan road on the bank of Huangpu River in 1935. The main body of the power plant, the coal-conveyer gallery and the 165 meters high chimney were built in 1985. Nanshi Power Station, with more than 80 years of thermal power history, witnessed the rise of industrialization. During the 2010 Shanghai World Expo, it was reused as the 'Pavilion of Future,' and changed to the 'Shanghai Power Station of Art' on October 1, 2012, as well as the location of the Shanghai Biennale. <http://www.powerstationofart.com/>

### Huangpu River Riverside Landscape Belt

The 45 kilometers riverside coastline of the Huangpu River in Shanghai opened to the public at the end of 2017. Among them, the Xuhui and Yangpu sections have been created to a leisure landscape with the theme of industrial heritage protection and reuse. The Minsheng Wharf on the East Bank of Huangpu River has been more than a hundred years old. The giant building located there is the 80,000 ton silos built in 1995. It used to be the largest bulk grain silo in Asia. Now it is the cultural relic protection building and important industrial heritage in Shanghai. In 2017, it was transformed into a new landmark of culture and art in Shanghai.

### 2022 Beijing Olympic Winter Games

The west ten silo of Shougang Park have been transformed into the office of Beijing Olympic Winter Games Organizing Committee in 2016. The blast furnace will be planned to transform into a steel museum, the clean-coal workshop and the main building of thermal power plant will be reused as the national winter sports training base. The construction has started in 2017. The cooling tower will become one part of the venue for Big Air, and the TV relay in the background of the blast furnace will bring a new visual experience to the world's audience in the Winter Olympics in Beijing 2022.



Zhuotongjing in Daying County





800 Show (In 1945, the Xin'an motor factory was established by national capitalists Zhou Fu, and then renamed to the people's motor factory in 1950s. The Chinese first deep-water pump was produced here. In 2008, the factory turned to the creative industrial park where has 15 buildings, and the largest one is 115 meters long.)



Digital rendering of the blast furnace that will be transformed into a steel museum.



Chongqing iron and steel plant

## TYPICAL CASES OF CONSERVATION AND REUSE

**Shanghai:** Five of the top ten urban renewal projects in 2017 Shanghai are the renewal of industrial land, including Redtown, 800 show, No. 8 Bridge, G-ART and OCT Suhe Bay. The renovation of silo warehouse on Minsheng Wharf has caused a sensation.

### Guangzhou

Taigucang was built by British Swire from 1904 to 1908 for the use of the company, is a relatively complete storage wharf, consists of three T-shaped trestle bridge concrete piers, land area of 54888 square meters, 321 meters wharf coastline. The wharf has 6 warehouses with brick-wood structure, 2 warehouses with mixed structure and 2 warehouses with reinforced concrete structure, with concrete floor yard area of 11362 square meters. There are 9 auxiliary buildings for production, 6 auxiliary living buildings and 5 office buildings. In 2005, it was designated as the Guangzhou Cultural Relic Protection Unit, and has become a 'City Living Room' of Guangzhou, integrating cultural creativity, exhibition trade, sightseeing tourism, entertainment and other functions since 2008.

### Guangzhou TIT Creative Park

The predecessor was Guangzhou textile machinery factory, which was merged by several private enterprises in 1956, which ceased production in 2007, ending more than 50 years of historical destiny. In 2008, it transformed into a creative industrial park with

the theme of fashion design, including costumes, fashion, creativity, culture and art, covering an area of 93,400 square meters. While the original building area was 34,300 square meters, the total construction area after renovation is about 55,300 square meters.

### Shenzhen

ID-TOWN International Art Zone: Formerly known as Shenzhen Honghua Printing and Dyeing Factory built in 1989, it is about 50 kilometers from the city of Shenzhen, made up of 19 old industrial plants, covering an area of 80,000 square meters and building area of 35,000 square meters. The art zone has Creative design, international art exchange, master workshop, education and training, fashion release, leisure tourism and other creative and cultural functions.

## RESEARCH ON CONSERVATION AND RE-USE

### World Heritage

In 2004, ICOMOS published The World Heritage List: Filling the Gaps, An Action Plan for the Future, known as the Gap Report. It expressed the global strategy, which aims to ensure a more representative, balanced and credible World Heritage List. The Gap Report classified items by typological framework, chronological-regional framework and thematic framework, and then analyzed the global distribution from different angles. It aimed to 'provide States Parties with a clear overview of the present situation, and likely trends in the short-to medium-term with a view to identifying under-represented categories.'



## RESEARCH ON INDUSTRY

### Salt Industry

Zhuotongjing in Daying County, Sichuan, was praised by Joseph Needham as the 'Fifth Great Invention' of China. Through the three western missionary of Italian traveler Marco Polo and French missionaries, the Chinese ancient inventions had a profound impact on modern drilling technology, affecting the development of underground resources such as oil and natural gas, completely changed people's social life today.

### Railway

The Industrial Heritage Committee of China Cultural Relics Academy set up the 'Railway Heritage Research Base,' which has a positive impact on the development of economy, society, culture and urban construction on the areas along the railway. Research on types of industrial heritage, including the heritage composition (buildings, structures, bridges, culverts, station, garage, machine shops, rail, and landscape) and evaluation criteria (slope, turning radius and traction technique), the comparative study between the China's railway heritages, and the international perspective research has been carried out.

### Industrial Reuse

Research on the protection and reuse of industrial heritage under the Shared Economic Model. The shared office born out of 'We-Work' in the United States has profound impact on China, and most shared office buildings in China are turned from the reuse of industrial architecture, some of them were listed as industrial heritage.

## INDUSTRIAL MUSEUMS

In 2015, the Industrial Heritage Committee of China Cultural Relics Academy set up the 'Industrial Museum Alliance,' which was jointly launched by more than 20 professional industrial museums, focusing on the collection, research, exhibition and recording of industrial relics.

### Jingdezhen Ceramic Industry Museum

'Chinese porcelain capital,' Jingdezhen, has nearly two thousand years of porcelain making. Jingdezhen craftsmen had always relied on handmade ceramics, until the 1950s. In 1958, Jingdezhen first new mechanized ceramic enterprises Cosmic Porcelain Factory was formally established, leading the Jingdezhen and even the national ceramics industry towards industrialization. In 1980s, as the main producers of export porcelain, Cosmic Porcelain Factory with the remarkable export earnings, was called 'China Jingdezhen Royal Porcelain Factory' by foreign merchants. After entering the 1990s, Jingdezhen porcelain experienced the pain of reform, and the whole industry was in trouble. Cosmic Porcelain Factory represented of the 'Top Ten Porcelain Factory' have also been shut down, gradually going to decline. The once lively factory was gradually desolate.



Guangzhou TIT Creative Park

Jingdezhen Ceramic Industrial Heritage Museum, located in Taoxichuan cultural and creative park, through the renovation of the factory of Cosmic Porcelain Factory in Jingdezhen Old State-owned Porcelain Factory and the combination of scene reproduction, precious objects and graphic image data display, shows the tools, equipment, kilns, processes and products of modern ceramic industry, oral history of 391 ceramics workers, 69,000 porcelain workers archives and so on, opened in October 2016. In the process of transformation, the project team retained 22 old factories, 89,000 square meters of factory buildings and 27.35 acres of plant area, transforming the original burning workshop into Taoxichuan Industrial Heritage Museum, Art Museum, and converting the raw materials workshop into the pottery experience space. Uphold the principle of 'restoration as the past,' in the construction of external wall masonry and environmental pavement, the design reuses the bricks and tiles from the old buildings to ensure the idea of material recycling. The museum has added floors, retaining the ancient wood burning round kiln, the coal burning tunnel kiln in the 1960s, and the gas burning tunnel kiln in the 1990s, showing the achievements of ceramic industry in different periods.

Through innovative architectural design, the museum creates a unique and novel cultural experience space. Taking time as a preface, the museum makes full use of modern skills of sound, light and electricity to display the history of the development of modern industry in Jingdezhen from 1909 to 2010, including the vicissitudes of history and the brilliance of the past, through various scenarios such as scene reproduction, precious objects, picture materials and so on. There are innovative and wonderful interpretations of the furnaces, processes, tools and equipment, a series of representative products from the top ten porcelain factories, documentation with great research value, and traditional techniques and ceramic customs with unique characteristics. The industrial heritage museum has become the cultural symbol of Jingdezhen, a famous historical and cultural city, which is also the spiritual sustenance of 100,000 ceramic workers, honored in UNESCO 2017 Asia-Pacific Awards for Cultural Heritage Conservation - New Design in Heritage Contexts.

## Shanghai Museum of Glass

<http://www.shmog.org/>

Shanghai Museum of Glass is located in the original glass production base in Baoshan District, Shanghai, covering an area of 6,000 square meters, which is the first modern glass museum in China. The museum from the renovation of original glass factory and warehouse buildings, transformed into a space for glass art, research and technology. In order to enhance the visitors' experience and to attract more potential visitors, the museum also provides hot glass show, DIY workshops, lectures, libraries and other interactive activities in addition to the glass theme shows. The facade of the museum uses a unique U-shaped industrial glass, which shows the national language and characters related to 'glass' through the LED backlight, forming a unique visual feast. Starting from the museum, a new glass-themed creative garden will continue to evolve, including a sculpture square with artworks, various facilities for scientific research, and a business district with commercial facilities.

## Chongqing Iron and Steel Factory Museum

Chongqing Iron and Steel Factory Museum, formerly known as Hanyang Ironworks, built in the Westernization Movement, was founded by then governor of Hubei Province Zhang Zhidong in 1890, and moved to now Dadukou District of Chongqing to build a new plant in 1938. It made outstanding contributions to the victory of the Anti-Japanese War and construction of socialism in New China. The museum mainly includes material and non-material objects with the marks and typical meanings, such as machinery and equipment, productions, documentary materials, audiovisual materials, patent technical materials, production technology, trademark advertisements, production and daily necessities, especially reflecting the characteristics of Chongqing's modern industry development in the six historical stages: Initial period (1890 - 1937); Anti-Japanese War period (1937-1945); National economic recovery and consolidation period (1949-1964); The third-line construction period (1964-1984); Reform and opening up period (1978-1997); Period directly under the central government (1997 to present). The 8000-horse power steam engine, produced in 1905, was brought from United Kingdom at the end of the Westernization Movement, which become the treasure of the museum. The archives center of Chongqing Iron and Steel Plant is rich in content, which contains over 300,000 volumes archives since founding in Hanyang in 1890, more than 300,000 books and documents including precious ancient books. The archives collection together with the history research, exhibition and service, has become a historical database for studying the development history of China's modern steel industry and a 'think tank' for the future development of Chongqing Iron and Steel Plant. Since 2007, the whole process of relocation has been recorded with a record of 62,129 photos, 2703 minutes of video and 32045 volumes of

files. The archives interviewed more than 30 leaders and old workers of the plant, with total of 4576 photographs, 2860 minutes of video recording and 3296 minutes of sound recording, vividly illustrating the course of their struggle in various periods. In November 2016, the 'Dialogue • History' Chongqing Iron and Steel Imaging Record Exhibition was held.

## OTHER WORK

1) The 8th Chinese Industrial Heritage International Academic Conference was held in Southeast University, Nanjing in Dec. 1-3 2017. More than 300 scholars from whole country participated in the symposium, 109 papers were submitted and 38 delegates gave speeches. Prof. Leonhard Schenk (professor at Konstanz University, Germany), Dr. Thierry Baert (Lille Métropole Development and Urban Planning Agency, French), Dr. Andreas Butter (Lebniz Institute for Research on Society and Space, Germany), Yvon VELOT (Ecole Nationale Supérieure des Arts et Métiers (ENSAM), representative in China) and Prof. Wang Jianguo (academician of the Chinese Academy of Engineering) participated in the symposium and made speeches.

2) The 'Survey, Research and Conservation of Chinese Industrial Heritage' - Collected Papers of the 7th Chinese Industrial Architecture Heritage Academic Conference 2016 was published in Nov. last year. The book carefully selected 60 articles from 101 papers to show the latest research results of Chinese industrial heritage.

3) The Industrial Heritage Committee of China Cultural Relics Academy has completed the translation of TICCIH's publication Industrial Heritage Retooled, planned to publish in June 2018. The book publishing plan of Historic Record of Chinese Industrial Heritage is being organized by the South China University of Technology press, which is independently listed as a volume with provinces and municipalities as a unit. The first batch contains 24 volumes. The contents include the investigation of industrial heritage, the case and experience analysis of industrial building renovation and reuse, and comprehensively record the development process of Chinese industrial heritage conservation and reuse.

4) The attention to the industrial documents was limited to the industrial enterprise achieves, and not enough for the researcher on the field of industrial heritage at present. The combination between different bodies is very important for the interdisciplinary research, especially under the urgent situation and in key moment of the transformation and relocation of the enterprises. The scattering of valuable cultural relics is the greatest loss to the research of industrial heritage and the value of industrial heritage.

**Prof. Dr. Sebnem Onal Hoskara - Professor of Architecture and Urban Design, Department of Architecture, Faculty of Architecture & Director Urban Research and Development Center, Eastern Mediterranean University (EMU), Famagusta, 99450 (via Mersin 10 Turkey), North Cyprus.**

## EXECUTIVE SUMMARY

The initial research on the industrial heritage of (Northern) Cyprus has been initiated by the authors of this report in 2009, conducted at the Eastern Mediterranean University in Famagusta between January 2009 – December 2012. The research, aiming at sustaining the industrial architecture in North Cyprus through scientific research, involved documentation of the industrial heritage in Northern Cyprus focusing on their urban, contextual, landscape, social, cultural, economic, political and regenerative values, and bringing proposals for their future conservation within the wider context of the international industrial heritage conservation movement. This report introduces the initial inventory of Cypriot industrial architecture and heritage in Northern Cyprus, while also focusing on the evolution and contemporary state of the industrial heritage, which is unfortunately facing neglect and ignorance.

## HISTORIC REVIEW ON THE INDUSTRIALIZATION IN CYPRUS

Cyprus, which was once also a colony of the British Empire, is a Mediterranean island that succeeded in maintaining its rich cultural heritage despite the changes in social, cultural, economic and political conditions after the industrial revolution. Before the Suez Canal, connecting the Mediterranean Sea to the Red Sea, was opened, commercial commodities, transported from Asia by land route to the coasts of Eastern Mediterranean had been carried to Europe by the sea. Cyprus, being located on this commercial route, served as a popular port for the commercial vessels as well as a market place where goods from the east and the west were exchanged and bartered. The island preserved if not increased its significance after opening of the Suez Canal for navigation. For these reasons, it fell under the domination of the rich and powerful civilizations of the era (Egyptian, Roman, Byzantium, Lusignan, Venetian, Ottoman and British).

With the opening of the Suez Canal in 1869, the increasing strategic importance of the island in this region and large deposits of copper ore found in it resulted in growing interest of the British Empire, which was taking fast steps towards industrialization, to Cyprus. The Ottoman Empire, which was facing the Russian threat at the time, rented Cyprus to the British Empire with an agreement signed in 1878 in return of the alleged promise of the British to assist the Ottomans. Thus, the British Colonial Period (1878-1960) started on the island.

During this period, the most modern technological devices of the era were brought to the island to better exploit the existing resources of Cyprus. Therefore, the first steps towards industrialization were taken in the island of Cyprus, then. For the first time in this period, facilities and buildings needed for industrial production were built and production started.

After the British Colonial Period, the Republic of Cyprus (founded by Turkish and Greek Cypriots) Period (1960-1963) started. After the corruption in the administration of the Republic and many violent armed conflicts that took place in the island, the Island and the capital city - Nicosia were divided into two as Turkish and Greek sections in 1974. However, these developments could not prevent industrialization on the island; on the contrary, many industrial buildings were erected in various parts of the island to increase the production.

Movements of industrialization that commenced with the British domination on the island and existent industry buildings and those erected until 1974 and still standing are waiting to be declared as architectural, historical and technological heritage for future conservation.

All activities aimed to obtain financial gain by means of processing and using raw materials are defined under the concept of 'industry'. All events which were initiated in the British Empire in the 18th century, and consecutively spread to the rest of the world, emerged as a result of developments observed in technique, production and transportation and at the same time accompanied the change itself are described as the 'industry revolution.' In this century, which can be defined as the century of enlightenment, science was systematically applied to the production process. Therefore, new manufacturing methods could be found and new raw materials, new energy sources and automation could be used. Economic activities were assembled and specialized: with the new business organization, factories were formed and for the first time, production went beyond the local and familial sphere and systematically reached a national and international scale.

This dynamism, which started in the British Empire in the 18th century, gave a start to a new revolution and a new era where the traditional handicrafts and primitive agricultural methods were rendered inactive and many technological inventions that expanded the horizon of the humanity were made. Revolutionary inventions in weaving, mining, iron casting and transportation (steam turbine, engine etc.) enabled production of many products by means of automation. Most of the factories were established during this period in the middle and north regions and out of the already existing cities of the British Empire. Thereupon, people living in rural areas abandoned their homes and lands and migrated to the regions near the newly established factories with the hope of working in the new jobs and living under better conditions. Therefore, new towns started to emerge around the factories and most



of the older cities faced a problem of disproportional increase of population (Benevolo, 1971). This process, which is deemed as the beginning of the industrialization, was not limited with the British Empire but within a considerably short time spread to the colonies of the British Empire, European countries, North America and to Japan at the end of the 19th century.

In Cyprus, the industrial revolution, which began and was experienced with the British Colonial Period had an effect of economic, social and cultural changes and development on the people of the island. Other than the copper ore, some part of the products manufactured in the factories and facilities built were exported, whilst the remaining was offered for local consumption.

The British Empire, which owned the island, initiated advanced research and mining activities after the industrial revolution in the northern-west side (Lefka) of the island where the copper ore was known to exist. These activities were being carried out by CMC (Cyprus Mining Corporation) which was an American company under the management of the British. From 1913 to 1974, the mines in this region were operated and the copper ore explored was exported. The British, who discovered that the mine, which was known to be operated for almost four thousand years, (Hakeri, 1992, p: 238-240), had high deposits of copper ore, immediately made the most modern technology of the era available to the region by means of CMC to ensure more profitable operation. High quality copper ore whetted the appetite of the colony administration more and more. They had bigger and bigger facilities established to explore the ore and for preliminary operations and constructed railway to the port of Famagusta in order to facilitate transportation of the ore to their country. (The Railway Gazette, 1912) Afterwards, a port was built in this region for exportation. Therefore, new job opportunities arose for the Cypriots who had been enduring hardships in those days. Apart of the peoples of the region, people started to come from nearby villages or even other parts of the island to work in the mines and houses and new settlement areas were erected for them. (Keshisian, 1973)

In Cyprus, where the Mediterranean's finest olive is being produced, delicious olive oil is also being made. The British, who turned their hands to olive oil production soon after they came to the island, established factories as alternatives to those that applied traditional methods in olive oil making. They brought the most modern technology to the island to erect factories that make high quality olive oil in a faster and more economic manner. Production of olive was encouraged for more exportation. Therefore, number of workers who worked both on the field and in factories increased. Similarly, production factories for carob (harup) and carob extract – (pekmez) were also constructed in the same period.

Factories equipped with the most up to date technology of the era were built to produce wine and vinegar from the grapes of the island, quality of which is unrivalled as its olive. At the same time,

factories for potato and citrus packaging and citrus juice were built and the resultant products were exported.

In this period, where cigarette lived its golden age all around the world, high quality tobacco was also grown in the island. The colony administration, apart from the facilities it erected to process products like mine, olive, grape, potato, citrus, also built industrial factories to process tobacco.

Towards the end of the British colonial period, textile factories were started to be built on the island, which is on the commercial route of the textile raw materials.

These buildings have witnessed our history and now they are struggling to survive as mirrors of our recent past.

Factories built from the British Colonial Period until 1974, which should be preserved as industrial heritage were firstly built near the port towns. Afterwards, they started to be erected in centers even near production locations due to especially developments in transportation and shipping.

At the beginning of the 20th century, the railway was constructed from Lefka where the copper mines were located to Famagusta. The main reason for that was to carry the copper ore explored and fruit and vegetables grown in nearby villages to Famagusta port for exportation. In parallel to industrialization, shipping was also developed and went under a transformation. (Gürkan, 2000)

## THE CONTEMPORARY STATE OF THE INDUSTRIAL HERITAGE

Cyprus was divided into two separate pieces of land under two separate rules, as the South and the North after 1974, which has led the industrial buildings dating back to the British period on the island setting sail for different horizons after then. For this reason, our 'industrial architectural heritage' existing on both sides of the island has faced different fates and adventures after 1974.

On one hand, buildings that may be considered as industrial architectural heritage in Southern Cyprus, after being used until the middle of the 20th century, have lost their original functions. The southern administration has discovered the value of the industrial buildings with the support from the EU and the local community and therefore detailed documentation efforts have begun. Most of these buildings are currently re-functioned for culture and art events as their counterparts in the rest of the world.

On the other hand, the industrial buildings in Northern sector of Cyprus, sharing a similar fate with the industrial architectural heritage in Southern Cyprus, have become obsolete after being used until the middle of the 20th century. Nevertheless, unlike their Southern counterparts, the value and significance of these Northern buildings have gone un-noticed; they are threatened due to neglect and ignorance and thus no detailed documenta-

tion has yet been made with regards to these buildings. These buildings, which no longer serve for the functions originally assigned to them, are on the brink of destruction due to neglect, haphazard repairs or re-functioning made with poor decision-making. In some regions, however, during re-functioning efforts in the important parts of cities, income that may be generated from the land becomes forefront and the related industrial architectural heritage falls under the danger of being destructed and wiped off the face of the earth.

Keeping our industrial architectural heritage for posterity can only be achieved by merging these buildings with city life by assigning them proper functions as well as protecting their unique identities. In order to deliver the existing industrial heritage to posterity, examining and documenting the industrial buildings and sites in Northern Cyprus, which have played an important role in the physical development of the island and which serve as important elements of the history of technology in Cyprus, through deep research are of vital importance.

## INDUSTRIAL HERITAGE

The main historic industrial heritage in Northern Cyprus can be listed as follows:

- Sanayi Holding Türkteks Buildings – Textile & Oil Factory (now used as Devlet Emlak Malzeme Dairesi – Government Office and Koop-Bank Storage), Nicosia
- Tobacco Factory (now used as TRNC Parliament Building), Nicosia
- Shewson Textile Factory (abandoned), Nicosia
- ARUN Flour Factory (still in its original use), Nicosia
- Bixi-cola (juice) Factory (now used as an office building), Nicosia
- Severis Flour Factory (demolished), Nicosia
- Biscuit Factory, Haspolat / Nicosia
- Mattress Factory, Haspolat / Nicosia
- Plastic Products (pvc) Factory, Haspolat / Nicosia
- Alba Textile (Shirt) Factory, Haspolat / Nicosia
- Harika Detergent Factory (still in its original use), Harika Region, Famagusta
- Textile (Socks) Factory (now used as storage), Maras, Famagusta
- Sanayi Holding Textile Factory ( ), Maras, Famagusta
- Flour Factory, Larnaca Street, Famagusta
- Ece Biscuit Factory (still in its original use), Larnaca Street, Famagusta
- Citrus Fruits & Potatos Packageing Factory (abandoned), Larnaca Street, Famagusta
- Sponge (Sünger) Factory (abandoned), Famagusta
- Ten Ten Cips Factory (still in its original use), Tuzla, Famagusta
- Nar-Pak - Citrus Fruits Package Factory (abandoned), Tuzla, Famagusta

- PVC Pipe Factory (abandoned), EMU Campus, Famagusta
- Zeyko Oil Factory (abandoned, damaged, demolished – only chimney left), Kyrenia
- Olive Oil Factory (abandoned, damaged, demolished), Bellapais / Kyrenia
- Carrop Production Workshop (abandoned, damaged, demolished), Ozankoy / Kyrenia
- CMC (Copper Mine Cooperation) and its Housing District (abandoned and used as housing), Lefke / Güzelyurt
- Cypruvex Citrus Fruits Package Factory (now used as an agricultural research center of Lefke European University), Güzelyurt
- Tobacco Factory (to be turned into a university building – ITU), Yenierenköy / İskele
- Tobacco Storage Building (now partially used as a Cultural Center), Yenierenköy Village / İskele
- Tobacco Factory & Storage Buildings (abandoned), Dipkarpaz Village / İskele

Studying this heritage, we may state that, the historic industrial heritage of Northern Cyprus has been distributed not only in major cities – Nicosia (10), Famagusta (10), Kyrenia (3), Güzelyurt (2) and İskele (3) but also in rural areas, village settlements, due to the need of local production and economics. Thus, in addition to main factories located in the cities, there are olive oil production units in certain villages (e.g. Büyükkonuk, Zeytinlik, Kaplıca, Beylerbeyi, etc.), carrop storage and carrop extract (pekmez) production units and water mills (small scale historic industrial units working with water power) in several villages. Besides, there are also some other industrial heritage buildings which have been destroyed and replaced by some new buildings. An example to this is the Open University in Nicosia which has been built on the land of a tobacco factory.

Considering their types, the industrial heritage in main cities of Northern Cyprus mainly includes examples of textile (5), olive oil (3), mining / housing (1), detergent (1), tobacco – service (4), flour (3), food production (4), pvc (2), sponge (1), mattress (1) and citrus fruits / potatos packaging (3). Only four of these heritage sites are in use in their original function (ARUN Flour Factory in Nicosia, Ten Ten Cips Factory, Ece Biscuit and Harika Detergent in Famagusta). Some of these buildings have been given new use/functions, however, they are in use without any appropriate restoration yet only with certain inappropriate repairs and additions (e.g. Sanayi Holding Buildings in Nicosia, Textile - Socks Factory in Famagusta). Most of the industrial heritage in Northern Cyprus have been damaged and faced with obsolescence due to abandonment and neglect, as well as natural damages. Additionally, due to the daily decisions of the governments, and due to lack of conservation rules and regulations on the industrial heritage in North Cyprus, these buildings are in danger of demolition. One of the latest examples to this damage-by-governmental decisions is the destruction of Sanayi Holding Türkteks Buildings. It

was only after the demolition of almost half of these buildings, the Higher Council of Monuments (Anıtlar Yüksek Kurulu) has listed these buildings after the official request of the authors of this article. The only properly restored industrial building is the Olive Oil production unit in Büyükkonuk Village. It has been well-preserved and restored as a local museum keeping its original traditional / local character with the intention of increasing public awareness for local production and traditions.

As a part of the main research project, upon which this article is established, the industrial heritage of Northern Cyprus has been identified and recorded. A full record of the physical features and condition of each example is made for public use for any future intervention proposals. Records include descriptions, drawings, photographs and video film of moving objects, with references to supporting documentation. People's memories as unique and irreplaceable resource are also gathered for some buildings. The information about each industrial area/building includes the following information: place / city, location, urban & architectural characteristics, original function, year of construction, original owner, structure and condition of the building, the contemporary functional and physical state, temporary usage, technical condition, reasons behind loss of function (abandoned, demolition, destruction etc.), value criteria, possible future functions, etc.

This industrial heritage which is spread over the Northern sector of the island has been faced with obsolescence due to mainly abandonment and neglect, as well as natural damages.

Accordingly, based on the information gathered from the Nizhny Tagil Charter for the Industrial Heritage, the value of the industrial heritage in Northern Cyprus has been evaluated under four main titles:

#### **Location, Land and Architectural Value**

Historic industrial buildings have been an important part of the settlements in which they are located. They are representatives of certain architectural and construction techniques in certain periods. Besides, some large, towering industrial buildings, either located by the waterfront, such as Zeyko Building in Kyrenia, or located within a dense urban environment, such as Sanayi Holding Buildings in Nicosia, stand as symbolic landmarks within the natural and/or built-up context. They stand as a valuable part of their landscapes for people to know more about their cities. They may also have considerable aesthetic value for the quality of their architecture, design or planning. e.g. Nar-Pak in Famagusta, Shewson Textile Factory in Nicosia. 'From the view of location and land value, preserving certain historic industrial buildings in good condition can make infrastructure in old districts continue to work and contribute to tourism industry focusing on industrial sites. This is also one of the fastest-growing economic sectors in Europe.' (Wang and Jiang, 2007). Most of the examples of the industrial heritage in Northern Cyprus are representatives and good examples of Modernism on the island. e.g. Sanayi Holding Buildings, Nar-Pak, etc.

#### **Resource and Economic Value**

In general, the life of building materials is longer than the longevity of functions. In the case of industrial buildings, the function of the concerned building may undergo many changes during the material longevity. Because of the specific function and space requirement, industrial buildings are often constructed with advanced techniques, and most of them are solid, and the internal space is not quite consistent with function, e.g. ARUN Flour Factory in Nicosia. Some factory buildings and warehouses, such as Tobacco Factory & Storage Buildings in Dipkarpaz Village and Zeyko Oil Factory in Kyrenia, are flexible in use. And also, some large equipments and factory buildings, such as CMC in Lefke, have massive volume and complicated structures, so to demolish which are costlier than to reconstruct them.

#### **Social and Cultural Value**

As has been stated in Nizhny Tagil Charter (2003), the industrial heritage is of social value as part of the record of the lives of ordinary men and women, and as such it provides an important sense of identity. The examples of industrial heritage in Northern Cyprus have witnessed various periods and events on the Island. Thus, their existence and sustainability represent social, cultural and economic conditions of their periods. As have been summarized in previous lines, they have been part of the economic life, which has also influenced the urban development in major cities.

#### **Technological and Scientific Value**

The industrial heritage is of technological and scientific value in the history of manufacturing, engineering, construction as put forward in Nizhny Tagil Charter (2003). The industrial heritage examples of Northern Cyprus are exemplifying the existing technologies and use of local / traditional construction materials and techniques on the island. With the British colonial effects, the use concrete and steel used for large-span space requirements in major industrial buildings can be distinguished.

Like in other examples from other countries, all these values of the Northern Cypriot industrial heritage are 'intrinsic to the site itself, its fabric, components, machinery and setting, in the industrial landscape, in written documentation, and also in the intangible records of industry contained in human memories and customs' as has been stated in Nizhny Tagil Charter (2003).

## **CONCLUSION**

In the current legal system in Northern Cyprus, there are no specific rules or regulations for the conservation of industrial heritage, nor the industrial heritage is valued at any level of the society, with some exceptions.

Each example of industrial heritage shows different locational as well as physical and functional characteristics in Northern Cyprus. The only common characteristics that the industrial heritage in Northern Cyprus possesses is that, most of them are abandoned and/or demolished. Thus, in order to ensure their conservation,



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the only way would be to adapt them to a new function. As has been suggested by TICCIH (2003) 'new uses should respect the significant material and maintain original patterns of circulation and activity, and should be compatible as much as possible with the original or principal use.'

To conclude, it should be noted that, the awareness for the value of industrial heritage should be improved within the society. Politi-

cal, social, cultural and economic initiatives on the industrial heritage should be taken; and also, research should be supported to construct a theoretical framework of preservation and adaptive-reuse of industrial heritage. The researchers intend to complete the inventory process for all industrial heritage buildings apply the related authority of the government to have these buildings listed for protection.



Czech | The town of Žatec, which has a unique collection of oast houses, wants to be included on the UNESCO World Heritage list. For more information, see <http://www.zatec-thetownofhops.com/ke-stazeni/cz>. Photo: Benjamin Fragner

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## INTRODUCTION

Large industrial compounds are no longer the most typical or the only or most important examples of industrial heritage in the Czech Republic today. With the winding down of industrial production and the restructuring of the economy, especially in the 1990s, the number of such sites has substantially declined, in-

cluding industrial compounds and structures that were once of considerable importance and occupied an iconic place in the history of Czech industrialisation, such as the textile factories in the Liberec region and Moravia. Mostly just fragments remain of the country's mining and ironworking complexes, often because the conversion to a new use has been too radical in scope, while elsewhere sites are in danger of being demolished because of their poor technical and structural condition.

Some issues have become more pronounced since the last TICCIH congress, and these issues have been brought to light by ongoing research and new publications, which, as can be seen in the selected list of publications below, have responded strongly to the urgent need for basic arguments to provide irrefutable support for the protection or conversion of industrial heritage to a new use.





There have also been a number of exhibitions organised on the theme of industrial heritage: The iron and steel works in Ostrava-Kunčice - the vanishing atmosphere of hard industry is captured in the work of photographer Viktor Mácha at Nikon Gallery in Prague, 2018. ([www.viktormacha.com](http://www.viktormacha.com), more information is provided in TICCIIH Bulletin no. 77, 2017.)

Another response has been the numerous events and initiatives that confirm a deepening interest in hitherto overlooked technical objects and production sites of local importance, the vast majority of which remain at risk and without heritage protection. These include local breweries and malt houses, brickworks, limeworks, small power stations, storehouses, and railway station buildings. These structures are in number and type characteristic features of the landscape and settlements, where they constitute a meaningful but currently threatened layer of culture.

Focal interests and goals are shifting with generational change and are moving more in the direction of younger industrial heritage and closer to the present day.

## INITIATIVES, PROMOTION AND ADVOCACY

Vestiges of Industry<sup>1</sup> is a representative platform in the Czech Republic that has its own website and has directly initiated or organised a number of events itself. It is a volunteer association whose activities emerged out of the series of international conferences and exhibitions of the same name that were organised

in Prague and other towns around the Czech Republic during the first decade of this millennium. The association was set up largely at the initiative of people around the Research Centre for Industrial Heritage at the Faculty of Architecture of the Czech Technical University (CTU) in Prague, which is currently an institutional member of TICCIIH. It works to informally bring together activities in this field initiated by professionals, institutions, interest groups, or at the civic level, and it works closely with a number of universities, and with the National Heritage Institute, which oversees heritage in the Czech Republic. Through its members, the group is involved in assessing and preparing proposals to nominate industrial structures as cultural monuments. The Vestiges of Industry information portal reports on activities relating to industrial heritage in the Czech Republic and insofar as technically possible also abroad. Since 2017 it has been facilitated access to a mobile application called Industrial Topography, which is a publicly accessible and continuously updated database of industrial heritage in the Czech Republic.<sup>2</sup> The Vestiges of Industry platform primarily directs attention to initiatives and events that are working to protect structures at risk and to examples where these efforts have been successful. Unfortunately,



more and more often now it is report on increasing numbers of heritage losses.<sup>3</sup>

One important initiative in recent years was a Czech-German project called The Cultural Landscape of the Ore-Mountain Mining Region – the Road to UNESCO World Heritage Status in which professional institutions and government bodies participated. This project worked on a joint proposal to nominate a mining region in the Czech Republic and in Saxony in Germany for inclusion on the UNESCO World Heritage list.<sup>4</sup> At present, work is under way on a proposal to nominate another site for inclusion on the UNESCO list in a project titled /The Hops Town.

The Vestiges of Industry platform also engages in important collaboration with the Czech National ICOMOS Committee, in connection with which a working/scientific group for industrial heritage has existed since 2016 that initiated a conference devoted to small, overlooked industrial objects in the landscape and in settlements.<sup>5</sup>

Among the promotional and advocacy initiatives that have emerged in recent years it is important to mention regular participation in European Heritage Days (EHD) by various initiatives, owners of heritage, local authorities, and institutions, and as a part of this a technical and industrial heritage day was organised in the Czech Republic. In 2016 the Faculty of Civil Engineering at CTU, which is also an institutional member of TICCIH, included the subject of industrial heritage in the programme of its international conference CESBI6 – Central Europe towards Sustainable Building Conference.<sup>6</sup> Another conference, organised in 2017 by CTU's Faculty of Civil Engineering and by the National Heritage Institute, titled Railroads – Specific Features, Challenges, and Limitations, focused on the current issue of the uncertain fate of historical railway station buildings.<sup>7</sup>

## RESEARCH, EDUCATION, AND RECOGNITION

A development of fundamental importance for the situation of industrial heritage in the Czech Republic is that research projects on industrial and technical heritage have been successful on several successive occasions in the more widely conceived Czech programme of applied research called NAKI (aimed at supporting national and cultural identity), which is funded by the Ministry of Culture:

The National Heritage Institute and the Technical Museum in Brno are working on a project titled Industrial Heritage from the Perspective of Heritage Conservation (2016–2020, the principal investigators are Miloš Matěj, Petra Mertová, and Ondřej Merta).<sup>8</sup> The construction of water towers characteristically accompanied the development of settlements and these structures are the focus of a project that aims to document, identify, and explore new uses for them and that is being conducted at the T. G. Masaryk Water Research Institute (2016–2022, the principal investigator is Robert Kořínek).<sup>9</sup> The Research Centre for Industrial Heritage at



Since last year an app version of Industrial Topography, the database of industrial architecture, has been available that operates on smartphones and tablets.

the CTU's Faculty of Architecture is following up on a past project titled Industrial Topography of the Czech Republic (2011–2014) with another project titled Industrial Architecture: Monuments of Industrial Heritage as Technical-Architectural Works and as the Identity of a Place (garant Lukáš Beran, 2016–2020). The purpose of this project is to gather evidence with which to establish a more informed approach to working with technical and industrial monuments, and to understand their background in terms of the architect's method, the work of design, investment in the international context of technical, architectural, and economic development.<sup>10</sup> In 2018 an international excursion and conference titled The Creators of Industrial Structures will be organised as part of this project. Research with a present-day focus conducted for the Ministry of Culture is being carried out at the Faculty of Civil Engineering CTU in Prague in one project titled Factory Chimneys – Documentation, Protection, New Uses (the principal investigator is Martin Vonka, 2016–2020; in 2017 a conference was organised on this topic)<sup>11</sup> and in another one titled Methods to Achieve the Sustainability of Steel Bridge Structures That Are Part of the Industrial Cultural Heritage (Faculty of Civil Engineering CTU in cooperation with Klokner Institute/Research and Experimental Institute Of Building Materials And Building Structures; principal investigator Pavel Ryjáček, 2018–2022).

Research conducted at the Czech Technical University is directly tied to the classes and teaching programmes at the university that focus on conversion projects – for example, studio classes



In 2016 the open-end spinning mill in Ústí nad Orlicí, the first structure of its kind in the world, was demolished. This demolition drew attention to the vanishing industrial heritage of the post-war era, which wrongly continues to be ignored. Photo: Archive of the Cotton Research Institute in Ústí nad Orlicí.

and assignments where students create alternative architectural projects. The Faculty of Civil Engineering at CTU<sup>12</sup> regularly offers study subjects in this field as part of the post-graduate programme Sustainable Development and Industrial Heritage, as does the Faculty of Architecture at CTU, of which the theory-oriented Research Centre for Industrial Heritage is an independent part.

Relatedly, the Institute of Economic and Social History at Charles University's Faculty of Arts in the studies aspects of economic history,<sup>13</sup> and affiliated with Charles University's Faculty of Humanities is the Centre for the Comprehensive Study of Industrialisation's Material Aspects and Effects on the Landscape,<sup>14</sup> which studies the environment at the time of the onset and, crucially, the boom in industrialisation.

## PUBLISHED OUTCOMES FROM CURRENT ACTIVITIES

A number of publications have been completed and released in recent years. Pencroft's *Dream, or Industrial Heritage in a Wider Context*<sup>15</sup> offers an overview of the current state and the past development of industrial heritage in the Czech Republic and in the

world, and includes a Czech translation of TICCIH's Charter for the Industrial Heritage prepared by the Research Centre for Industrial Heritage at CTU's Faculty of Architecture. Other publications with a more general focus that offer information on current activities include, for example, *Technical Monuments in Norway and the Czech Republic*, a book describing the sharing of experiences, documentation, and evaluations of industrial heritage based on a group project conducted in 2014–2016.<sup>16</sup> *The Overlooked, Lesser and Forgotten Vestiges of Industry in the Landscape and Settlements* is the title of a publication that sheds light on a specific stratum of the culture of settlements and the landscape that has remained outside the focus of attention and is being lost. The book was published to coincide with the European Year of Cultural Heritage 2018 by the Vestiges of Industry platform in cooperation with the Czech National ICOMOS Committee.<sup>17</sup> The creators of industrial structures are the subject of a book titled *Bruno Bauer and Industrial Architecture in the Czech Lands*,<sup>18</sup> which looks at the work of Bruno Bauer and provides an overview of other specialised technical offices, construction companies, and architects. *And Dairies as a Task Worthy of an Architect: Rudolf Holý*<sup>19</sup> looks at the hitherto overlooked subject of post-war industrial architecture in the context of the nationalised state-socialised system of

designing and building industrial sites in the former Eastern bloc. There are also several publications devoted to the now pressing subject of station buildings at risk in the Czech Republic: The Vanished Prague / Stations and Railway Lines Vol. 4 / <sup>20</sup> explores the past appearance of places that have been through or in the near future will undergo dramatic changes; The Cultural Heritage of the Northern State Railway <sup>21</sup> presents evidence on the condition of stations that are part of the Northern State Railway and surviving objects from the time of the construction of this route. The monograph Ostrava-Vítkovice Station<sup>22</sup> was published to support the conservation of this endangered railway station, and on a more general level it also draws attention to the qualities of architecture from the second half of the 20th century.

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The Carlsberg Breweries. Laboremus pro Patria and the Elephant gate. In 2007 Carlsberg was selected as a national industrial heritage site. The old brewery now enjoys a new lease of life as an exciting neighborhood for Copenhageners.

**Frank Allan Rasmussen** - President of the Society for the Conservation of the Industrial Heritage in Denmark

## INTRODUCTION

The purpose of 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. For example, by organizing lectures, meetings and field trips, publication of tracts and other forms of communication along with active support in the form of statements. The President of the society is the national representative of The International Committee for the Conservation of the Industrial Heritage (TICCIH).

The Society for the Conservation of the Industrial Heritage publishes *Factory&Dwelling*, but also engages in other topics related to the industrial heritage in Denmark and in the Nordic countries. *Factory&Dwelling* - the Industrial Heritage of the Nordic Countries is published on a yearly basis and presents academic articles which deal with the industrial heritage of the Nordic countries. The editorial board also welcomes international articles with a Nordic angle. All articles are peer reviewed. All major articles presented in *Factory&Dwelling* also include comprehensive summaries in English.

The board of the Society for the Conservation of the Industrial Heritage: Frank Allan Rasmussen, president, Lene Skodborg, Lars Mørch, Jørgen Hegner, Morten Pedersen, Henrik Harnow. The Danish society has approximately 200 members and has recently launched a Facebook site.

## CHARACTER OF INDUSTRIAL HERITAGE

Denmark is a small country on the European periphery. As in Britain, the Danish landscape is shaped by human activity and no ground is left in an untouched state. Denmark is known for design and architecture as well as agricultural products. The strong connection with Britain left a visible mark on the character of Danish Industrialization. Denmark experienced an industrialization somewhat delayed compared to the larger European nations but basically containing all the typical traits with urbanization, growing population and a broad spectrum of industrial branches. In certain areas Denmark gained international importance – notably early diesel engines, maritime technology and cement production, as well as in a few other areas.

In the 1840s, industry in Denmark began to play a larger role. Although the first steam engine in Denmark was built in 1790, steam engines and mechanical production were relatively uncom-

mon before the mid-1800s. But during the period 1840-1890, the new technology spread. At the same time, still more industrial companies were established and a network of roads, railways and harbors covered Denmark.

From about 1890, steam engines were gradually being edged out by electric and diesel engines, and companies began to use more energy. In other words, more of the work was mechanized and companies were investing in advanced technology.

The companies grew in size, and control and management was on the agenda. Both employees and employers formed unions. A very characteristic trait of Danish society from the 1930s onwards has been the development of the internationally renowned welfare state, also known as the Nordic Model.

From about 1950, mass production became widespread in Danish industry. Planning and rationalization in the American mould became fashionable. New consumer goods appeared in the shops – refrigerators and televisions, plastic goods, medicines and other commodities. Meanwhile, instead of still pinning its hopes on the domestic market, industry was gearing up to export a large share of its production. From around 1930 until the 1980s, crafts and industry together made the economic sector employing most people. In other words, industrialization has shaped Danish society and culture as we know it today.

The landscapes, buildings, technology, workplaces, factories, and dwellings that are part of modern life are firmly rooted 150 years back in time. One way or another, all industries have had an important influence on anyone born or brought up in Denmark.

In 2004-2007, 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 all of special importance to Denmark and its industrialization were selected. 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.

The 25 industries together paint a picture of Denmark's industrial history from 1840 until 1970, even if many of the industries selected are now closed and reused for new purposes such as the Carlsberg brewery and the Lolland Beet Sugar Refinery. Some industries have been converted into museums such as Hjorts Teracotta Factory in Rønne and Hjedding Cooperative Dairy near Ølgod. Some are still bubbling with life like the cement industry in Aalborg and the steelworks in Frederiksværk.

The Cultural Heritage Agency of Denmark has made a guide for each location which is presented on their website [www.kulturarv.dk](http://www.kulturarv.dk) and [www.25fantastiske.dk](http://www.25fantastiske.dk)

## PROTECTION AND MANAGEMENT

The industrial heritage in Denmark consists of the remains of industrial culture which are of historical, technological, social, architectural or scientific value. The remains consist of buildings and machinery, workshops and tools, mills and factories together with sites for processing and refining, warehouses and stores, places for the production of energy, its transmission and use and finally transport and infrastructure as well as housing for the workers.

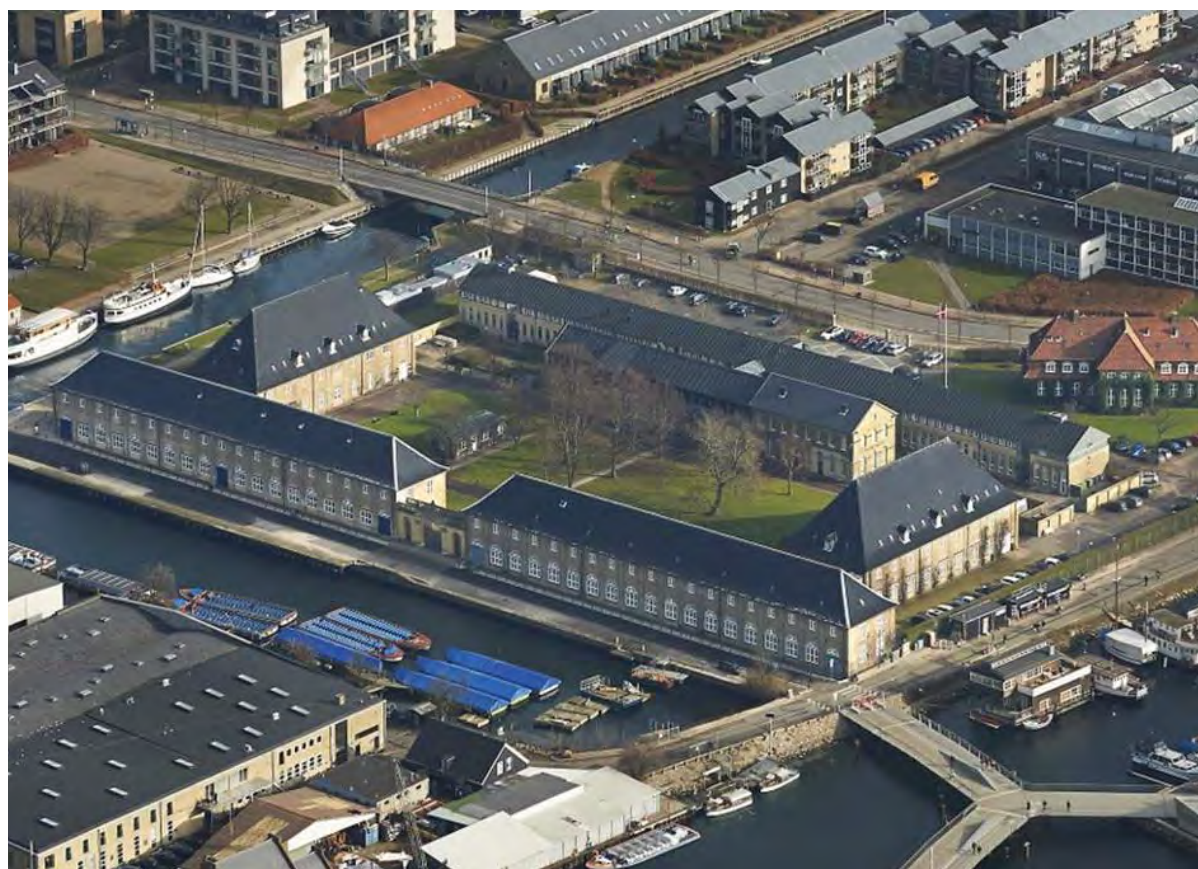
Denmark is rich in industrial sites and monuments. It is a small, flat and fertile country, and most regions have easy access to water. Therefore maritime technology in general and shipbuilding in particular have played a major role. Through the last 150 years, generations of engineers and workers have left traces. Some of these important landmarks and remains still exist, others, unfortunately, have been demolished, even though public opinion has shifted towards a larger degree of appreciation.

To a certain extent the buildings and industrial sites are protected by the Act of Listed Buildings and the Preservation of Buildings, which is administered by the Heritage Agency. The Heritage Agency is a body under the Danish Ministry of Culture. The Agency has the regulatory responsibility for sites and monuments, listed buildings and also the state-subsidized museums, including the Danish museums working in the field of industry and technology. The Agency also helps to document and carry out surveys in the industrial period and make it relevant to the people of Denmark. 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 also 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 Heritage Agency also manages a number of projects aimed at encouraging the municipalities to safeguard heritage assets and regard industrial heritage as a resource that can be used proactively to promote settlement, commercial development and tourism. The Heritage Agency operates several databases of sites and monuments, listed buildings and buildings worthy of preservation.

The municipalities are required to protect industrial heritage in their local planning. Physical planning is an important instrument in preserving, developing and promoting the tangible component of our cultural heritage. Since 2007, the municipalities have been the main stewards of industrial heritage in Denmark. So local planning is very significant, in that municipal land-use plans are required to formulate guidelines and a statement of objectives to safeguard heritage assets. Those assets may be individual elements – from grand industrial monuments to more humble vestiges such as workers dwellings.





Right and Above: The Royal Naval Dockyard in Copenhagen. The storages for sails and rigging. Holmen naval base was a city within the city. The Navy had its own laws, prison, hospitals and schools, churches and churchyards.





The rolling Mills in Frederiksværk. One of the National industrial Monuments.

During the ongoing change to an economy based on information and telecommunications, traditional industrial production has increasingly become a thing of the past, both in Denmark and in the rest of Europe. Large-scale industries, factories and shipyards are being closed down, and industrial ports converted into fashionable residential areas. The Heritage Agency has been focusing on industrial heritage for a number of years in order to ensure that this important part of Danish history will not just vanish but become part of our collective memory.

The Agency also supports the industrial heritage work of several Danish museums and municipalities via a special appropriation from the Danish Parliament, and the funds allocated to museum projects every year. This effort has resulted in greater knowledge of our industrial environment and heritage. During the last decade the interest in Danish industrial archaeology has been growing. Some of the results are presented in *Across the North Sea, Later Historical Archaeology in Britain and Denmark, c. 1500-2000*, edited by Henrik Harnow, David Cranstone, Paul Belford and Lene Høst-Madsen.

## PROMOTION AND SUPPORT

In Denmark, the task of promoting the industrial heritage lies in the hands of the Cultural Agency. The same applies to the museums and associations working in the field of industrial history. The museums have an overall common strategy formulated within the national network called the 'Industrial Pool.' The Danish mu-

seums working with industrial culture can apply annually to the Cultural Agency for funding for special tasks in the preservation and documentation as well as to several different funds. The Danish Industrial museums are frequent users of social media such as Facebook and Flickr and generally use the Internet to promote their work with Denmark's outstanding industrial heritage. Some of the best examples, with English texts, are listed below.

- The Frederiks Værk Museum of Industry (Industrimuseet Frederiks Værk) [www.indmus.dk](http://www.indmus.dk)
- Danish Museum of Industry (Danmarks Industrimuseum) [www.industrimuseet.dk](http://www.industrimuseet.dk)
- Danish Museum of Technology and Science (Danmarks Tekniske Museum) [www.tekniskmuseum.dk](http://www.tekniskmuseum.dk)
- Brede Works (Nationalmuseet Brede) [www.bredevaerk.natmus.dk](http://www.bredevaerk.natmus.dk)
- The Workers Museum (Arbejdermuseet) [www.arbejdermuseet.dk](http://www.arbejdermuseet.dk)
- Energy Museum (Energimuseet) [www.energimuseet.dk](http://www.energimuseet.dk)
- The Danish Railway Museum (Jernbanemuseet) [www.jernbanemuseet.dk](http://www.jernbanemuseet.dk)
- Dieselhouse (Dieselhouse) [www.dieselhouse.dk](http://www.dieselhouse.dk)
- Carlsberg (Carlsberg Oplevelsescenter) [www.visitcarlsberg.dk](http://www.visitcarlsberg.dk)
- Experimentarium Copenhagen (Experimentarium) [www.experimentarium.dk](http://www.experimentarium.dk)
- Industrial Heritage in Denmark (Kulturstyrelsen) [www.25fantastiske.dk](http://www.25fantastiske.dk)



The Powder works in Frederiksværk dating back to the 1760ties. One of the National Industrial Monuments. The Det Danske Staalvalseværk supplied the growing Danish shipbuilding industry with steel plates, but it also provided thousands of new jobs. In 1940, the town had only about 3,000 inhabitants, but by the 1990s, 18,000 people had moved into town.

## ADVOCACY

The industrial heritage is the evidence of activities which had and continue to have profound historical consequences in Denmark and the motive for protecting the heritage is based on the universal values rather than on the singularity of unique sites. The industrial heritage is seen as a social value and a part of the recorded lives of ordinary men and women, and as such it provides an important sense of identity. Of course, needless to say, the industrial heritage is of great technological and scientific value not least because of the quality of its architecture, design and planning.

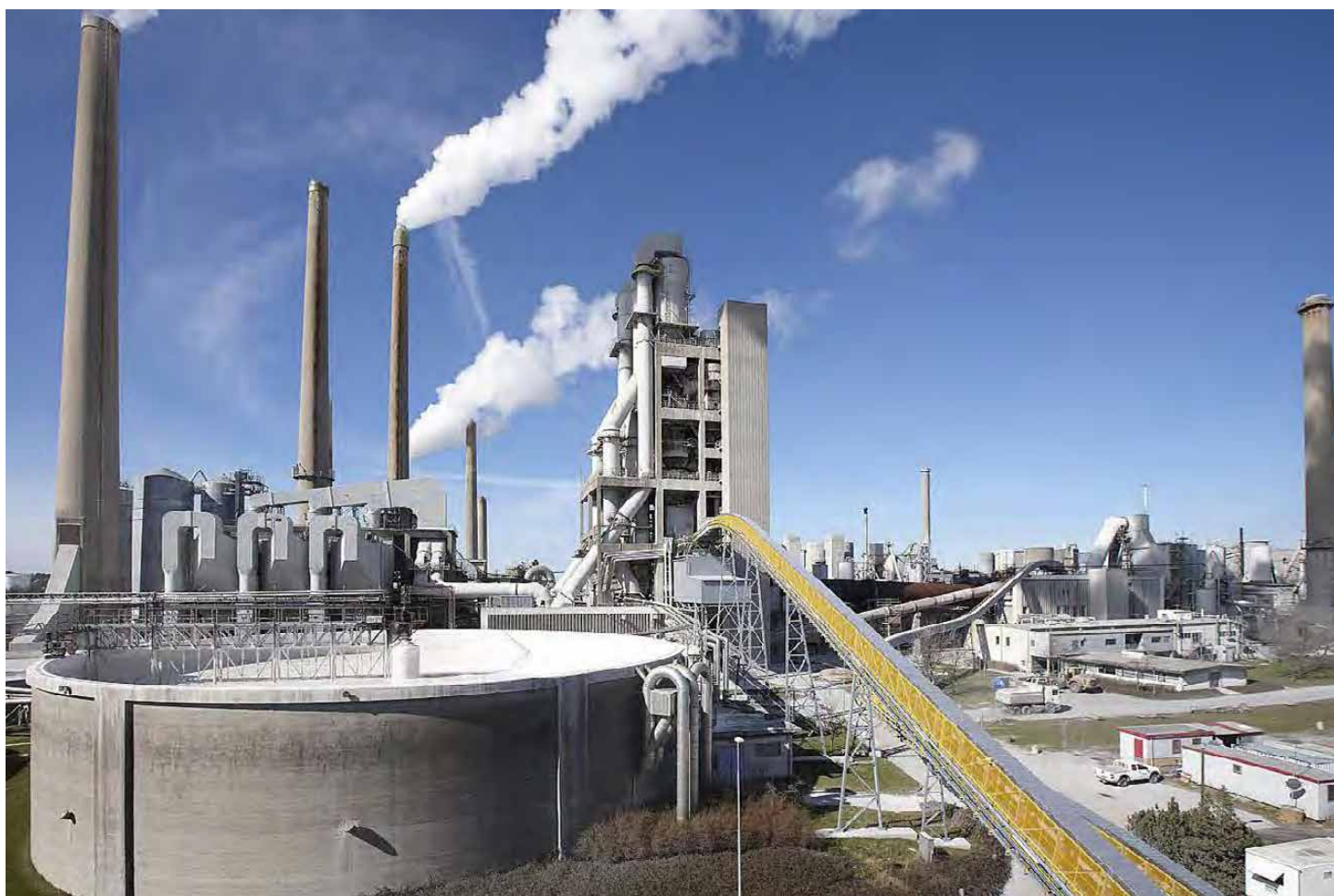
Besides the governmental involvement there is a series of semi-official institutions in charge of public interest in relation to the protection and management of the industrial heritage. The same applies to a formal network of private companies and associations.

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 to make built heritage into a resource for the clients that create quality of life, development and welfare.

The Danish National League for Built Heritage and Landscape (Landsforeningen for Bygnings- og Landskabskultur) is a non-governmental organization, established in 1990 through a merger between two organizations originating in the 1960s. While organizations of a National Trust-type seek protection through possession, the legislation in Denmark encourages public participation in the process of physical planning and enlistment of buildings. For this and other reasons Denmark has been barren soil for the growth of a National Trust. Instead, it has motivated the formation of local societies for built heritage, more than 100 of which are under the umbrella of the National League.

The National League helps and advises its members, and co-ordinates contact and the distribution of information between them. This is closely linked to the broader endeavor to raise the level of public awareness of the cultural heritage. 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.



The Cement plant Aalborg Portland. Aalborg Portland was technologically advanced from the outset.

Finally, the above-mentioned Society for the Conservation of the Industrial Heritage, and last but not least the network, in which museums with interest in the industrial heritage cooperate. The 'Industrial Pool' hosts two annual meetings with presentation of new projects, sharing of ideas and coordination of initiatives in relation to the task of identifying, surveying, recording and protecting the industrial remains in Denmark for future generations.

**Danish Society for the History of Technology.** The society 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. The society runs a website: [www.teknologihistorie.dk](http://www.teknologihistorie.dk)

## RECENT ACTIVITIES

In Denmark surveying is fundamental for the study of industrial heritage. Often a survey of the physical features and condition of a site is carried out prior to demolition or transformation. Such records include descriptions, drawings, photographs and video of moving objects, with references to supporting documentation. Of-

ten people's memories are a unique and irreplaceable resource which should also be recorded when available.

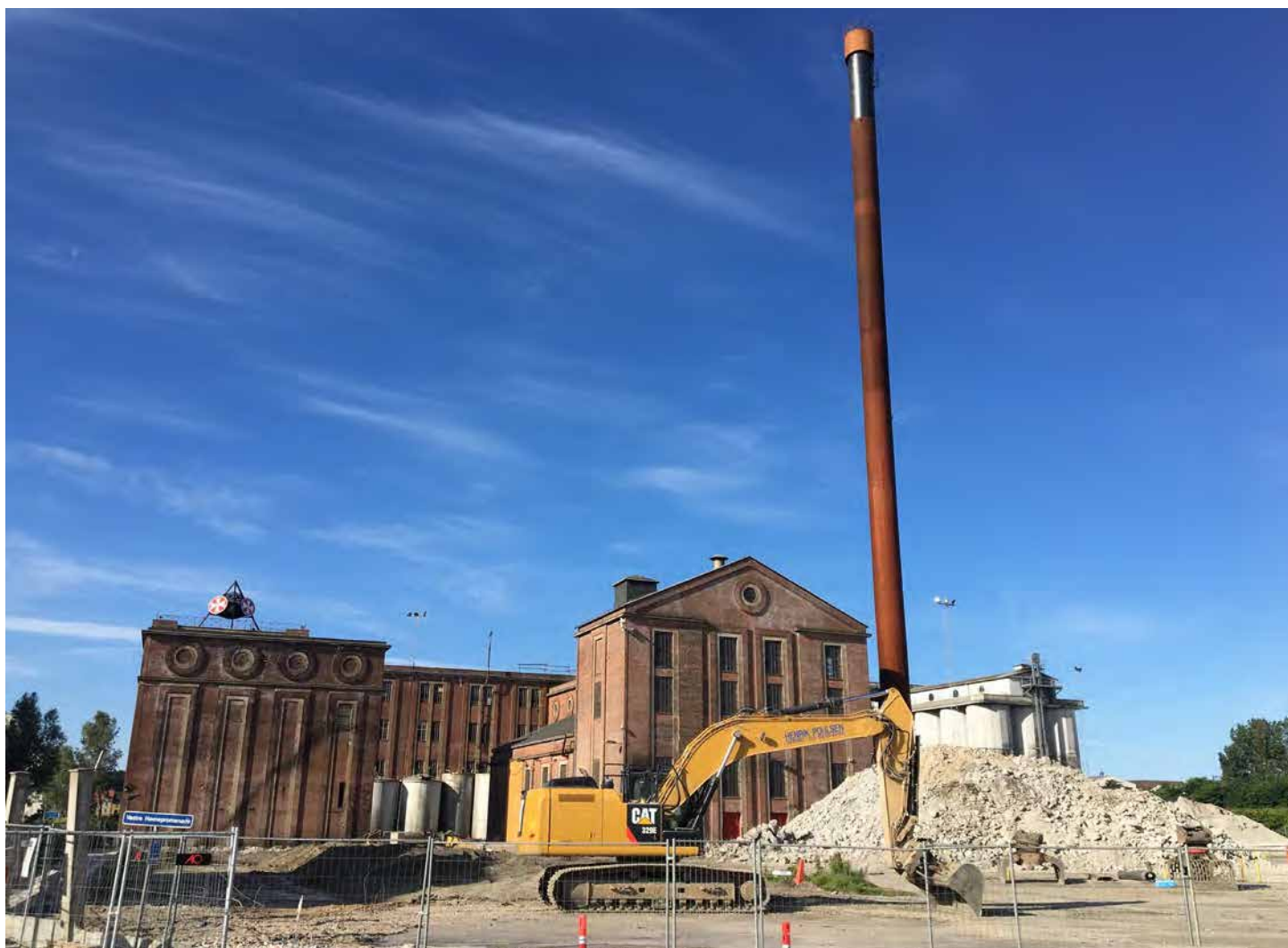
The Business Archives is a part of the National Archives in Denmark, which aims to collect and preserve important historical source material about Danish industrial and business development. Most of the records kept are from the commercial and industrial sectors, but there are also significant amounts of records from transport, finance and the insurance sector.

### National Archives: [www.sa.dk](http://www.sa.dk)

Over the last 15 years a new generation of industrial historians has put its mark on the subject. This group has shifted the focus from singular buildings, plants, machines and tools to a much broader concept of industrial environments, which has resulted in a number of publications of high academic standard.

Caspar Jørgensen and Morten Pedersen have contributed to this development. In their publication, a richly illustrated handbook on Denmark's Industrial Heritage, they give an overview of the Danish industrialization and Denmark's industrial heritage sites: Caspar Jørgensen and Morten Pedersen, *Industrial Heritage in Denmark. Landscapes, Environments and Historical Archaeology*,





The Danish liquor factories from the beginning of the 20th century sought to give their buildings a uniform expression throughout the country.

Aarhus University Press, 2014. With a preface by the General Director of the Danish Agency of culture.

The authors point out that Denmark has a unique industrial heritage and shows that over the past 25 years, despite much discussion and criticism, Denmark has seen a number of successful listings and other conservation initiatives. A handful of the more successful examples deserve to be presented to the members of the TICCIH organization.

#### **Carlsberg (The Brewery)**

The Carlsberg brewery in Copenhagen is one of Denmark's leading brands. It is also one of Denmark's oldest companies, and the buildings are both architectural gems and one of the most important examples of the essence of industrial history in Denmark.

The brewery illustrates several the changes that have characterized most Danish industrial companies over the past 150 years. First mechanization and the use of steam power during the first wave of industrialization, followed by a switch from batch to flow

production during the second wave and then further mechanization and rationalization in the 1950s and 1960s.

Carlsberg has a long and multifaceted history that can be studied and traced through its buildings, production halls and archives. In addition to the brewery, the site includes two housing areas for white-collar and blue-collar workers, respectively, that illustrate the two types of neighborhood – one with detached houses and one with workmen's dwellings - both characteristic of an industrial community.

#### **Holmen (Naval Base)**

Holmen 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 the Holmen several other locations in inner Copenhagen once belonged to the naval base. For example, the rope walk and the sail house behind Kongens Nytorv. The Church of



The Meat Packing district in Copenhagen crowded with people. The Brown Meat City and the White Meat City have new functions. Trendy new restaurants, fitness centers, artists, galleries and bars have moved in.

Holmen (originally an anchor smithy), the Arsenal complex, as well as the Nyboder dwellings for sailors near Østerport and the wool manufactory in Rigensgade. 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 insuring that new technologies like the steam engine was made available for the emerging Danish industry. Not 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.

Many of the listed buildings are being reused for other purposes today. 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 - a creative oasis for students, families with children and tourists. A must-see if you visit Copenhagen.

### Frederiksværk (The Steelworks)

Frederiksværk was founded in 1756 and is one of the few Danish towns to have grown up around a military industrial complex. The Danish kings wanted their own production of military equipment including guns, gunpowder and cannonballs. In Frederiksværk, industrial history unfolds in front of your eyes. The town's history is closely linked to the canal, which runs from Arresø Lake to Roskilde Fjord. The canal was dug in 1717-1719 by soldiers and Swedish prisoners of war, creating the lifeblood for the future growth of the town.

In the 1720's, an agate-grinding mill was built in close connection to the canal and some years later a French master artisan were called to establish a cannon smithy. In the late 1750's J. F. Classen's huge military industrial establishment took shape and his plans for the fortified town still forms the heart of Frederiksværk as we know it today. It includes a cannon foundry, a powder mill and a number of small craft workshops such as a knife and sable factory, gold, silver and steel workshops, gunsmiths, etc. Yet another branch of industry was added when Thomas English established a copper-rolling mill on the site in 1790's. Later the industrialist, Anker Heegaard, took over and in 1928 the company joined an association of iron foundries called United Foundries. In 1941, the firm expanded enjoyed its golden age in the 1950s. The company for years equipped the rapidly growing Danish households with



pots and pans as well as both gas and electric-based household products.

Det Danske Staalvalseværk (the Danish Steel Works), established in 1940, is just as important. Its production was based on scrap metal and therefore pioneered the recycling wave. The location of the steelworks was chosen because of the optimum infrastructure, cheap labor and access to cooling water. The steelworks also attracted foreign expertise and workers from Pakistan and Yugoslavia found work there too. In the 1970s, the company's fortunes began to fade but today the steelworks still plays an active role in our globalized world.

#### **Aalborg Portland (Cement industry)**

F.L. Smidth & Co founded Aalborg Portland A/S in 1889. In this northern part of Denmark the subsoil is full of lime and clay, and therefore Aalborg Portland became the testing ground for a new technology that revolutionized the country's housing stock and soon turned the cement factory into a global leader. Cement is perhaps the material that best symbolizes industrialization. It had its breakthrough at the beginning of the 20th century. Before 1900, cement was used for foundations under fortifications, bridges and harbor piers. But when reinforced concrete was developed ambitions soared and reinforced concrete was used for supporting structures in buildings and other structures.

Its technological improvements included two rotary kilns installed in 1898-99 as the first in Europe. The kilns, which were patented in England in 1877, dramatically boosted production. The factory followed the general trend in Danish industry in those years with new technology edging out manual workers.

The company profited from its experience by patenting subsidiary technologies that stepped up exports extensively. Before 1921, F.L. Smidth had sold 300 rotary kilns that by 1950 accounted for half the world's cement production.

#### **De Danske Spritfabrikker (Distillery)**

In 1846 Isidor Henius founded a syrup and spirits factory in central Aalborg. The factory moved in 1871 to a new plant. From around 1840, the alcohol production in Aalborg concentrated on ever fewer and larger burns. Here, two burners, Henius' Aalborg-privileged Syrup and Spirits Factory and P. Wibroe's Brænderi, quickly became the country's largest in terms of both production capacity and number of employees.

In 1872, the liquor factories were gathered in the limited company Aalborg Privileged Spirits Factory, which, due to several technical advances, took over a leading position in Denmark.

In 1881, the company was admitted to the joint venture De Danske Spritfabrikker, founded in the same year. After the merger, the number of burners in the country fell steadily, and in 1923, De Danske Spritfabrikker owned all remaining burners in Denmark. At the same time, the Danish liquor factories were granted ex-

clusive rights to the production of yeast and spirits - a monopoly that lasted until January 1, 1973 when Denmark entered the EC. In 1931, the Danish liquor factories gathered the production in a newly constructed factory in western Aalborg as part of the company's investment in the city as a production site. The factory is still in operation but is currently owned by the Swedish Wine and Spirits Company.

The liquor factory is designed by architect Alf. Cock-Clausen and built 1929-31. The buildings are built around a central courtyard. This is divided into two of a transverse production building where the actual liquor production takes place. The edge of the factory consists of up to four story tall buildings with iron concrete skeleton, red brick fillings and details in yellow bricks. The masonry is decorated in different ways, including with cornices, window frames and circular shapes around rows of rounded windows.

#### **Kødbyen (The Meat Packing District)**

In 1879, the City of Copenhagen built a cattle market next to the central station, which quickly expanded to include slaughterhouses. In 1934, the White Meat City joined them. Here cattle were sent through an efficient production line from slaughterhouse to meat counter.

The Brown and White Meat Cities in Copenhagen were the largest and most comprehensive cattle and meat markets in Denmark. They provided Copenhagen with a reliable supply of fresh, hygienic meat products. The Brown Meat City dates back to the 1870's and was built in an area that originally housed stables for the city's cattle market. In 1901, Øksnehallen (Ox Hall) was added as a covered market for live cattle. Although the Brown Meat City market was a huge improvement by 1930's it was already too small and outdated, so The White Meat City was built.

The White Meat City was a modern functionalist concrete masterpiece containing meat halls, areas for meat processing and markets. With its distinct white lines, the White Meat City is now appreciated as a pinnacle of Danish functionalist architecture - carefully planned complex with a production line like an American car factory. Other large European cities also gained covered markets in the mid-19th century. London gained Covent Garden and Paris gained Les Halles.

## **EDUCATION AND TRAINING**

There has in Denmark, within the last years, been a growing interest in both education and training. New and larger target groups have been reached. This is especially true for students at the primary and the secondary levels. The museums in particular have undertaken the job to communicate the often complicated history of our industrial past using the Web and social medias. Denmark has no formal academic forum for training in industrial archeology, conservation and preservation and that includes the two professional training in the methodological, and theoretical and aspects of the industrial heritage.



Three relatively small centers focusing on business history, with a twist of technology and industry takes care of the formal education of historians and researchers - one at The Business School in Copenhagen (CBS), another at the University of Aarhus and finally one at the University of Southern Denmark.

## PUBLICATIONS

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Louise K. Skyggebjerg, Industri på udstilling, 2017 (Exhibitions and industry)

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Martin Jes Iversen, Turnaround – Kampen om GN Store Nord, 2015 (Great Nordic Telegraph)

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Villy Poulsen, Danske motorcykler, 2012 (Danish motorbikes)



Aerial view of the 1849 tobacco manufactory in the Krutenau neighbourhood of Strasbourg. In the central courtyard of the site, the technical buildings and chimney date from the 1950s, after wartime bomb damage. Photo Frédéric Harster, Inventaire général du patrimoine culturel, Grand Est.

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## INTRODUCTION

It is not particularly useful here to go back to the last TICCIH congress held at Lille from 6-11 September 2015 with its follow-up tour in the Paris region from 12-14 September, nor to say once again what a resounding success that XVI congress was. Hopefully, those who attended it went home with a better awareness of the tremendous interest of the French industrial heritage, particularly in the Lille and the Paris regions. By the time the XVII TICCIH congress opens in Santiago, a publication of a selection of the papers read at the Lille congress should be available as a special edition of the CILAC's review, *Patrimoine industriel*. Since the Lille meeting, which, for a few days, put the industrial heritage in the news, there have been no comparable events to put it back there again. But, as the CILAC prepares to celebrate its fortieth birthday,

it is probably fair to say that the industrial heritage is now a fully recognised and properly appreciated component of the national heritage as a whole.

Where France's candidates for world heritage listing are concerned, there is nothing quite as spectacular or ambitious as the coal-mining landscapes of the Nord-Pas-de-Calais but one upcoming French nomination is for an exceptional technical property, the Cordouan lighthouse in the Gironde estuary, built at the end of the sixteenth century, enlarged and modernised at the end of the 18th and used in the 1820s to experiment the Fresnel lens, subsequently adopted worldwide. France is also involved in two international initiatives on bridges, the first for transporter bridges (the French one, dating from 1900, is at Martrou, near Rochefort) and the second for metallic arch bridges, such as Eiffel's famous 1888 railway viaduct at Garabit. Where the intangible cultural heritage is concerned, a 2017 French nomination for inclusion on UNESCO's representative list—the 'savoir-faire' associated with perfume production in the region of Grasse—also has an underlying industrial tonality.





Detail of the 1889 Colbert bridge at Dieppe. Photo: Paul Smith

## INDUSTRIAL HERITAGE SURVEY WORK

The industrial heritage location survey—le repérage du patrimoine industriel—, first launched by the Ministry of Culture in 1986, is not entirely forgotten. Some twenty full-time industrial heritage specialists are still employed in the different French regions to pursue this inventory work, to deal with urgent industrial heritage issues as they arise and to share understanding of the industrial heritage with territorial decision makers and the general public. Since a decentralisation law of 2004, these researchers are employed by the regional authorities and not by the cultural services of central government, and a reform of the French regions undertaken in 2015, aiming at reducing public expenditure by reducing from 22 to 13 the number of regions in mainland France, has brought disruptions and delays in the survey programmes.

The industrial heritage of only three of the 22 regions—Poitou-Charentes, Champagne-Ardenne and Franche-Comté—has been fully surveyed, documented and registered in the national data base for the architectural heritage, Mérimée. Elsewhere research

proceeds at varying speeds, depending increasingly on the kind of heritage elected authorities want to promote. This is not always the industrial heritage, and these same authorities often give priority to their own cultural heritage websites, neglecting the national data base.

Nonetheless, particular mention may be made here of some regional programmes on the aeronautical and defence heritage, for example, in the newly-formed regions of south-west France, on the built heritage associated with Michelin in and around Clermont-Ferrand, and, in the Paris region, the survey work actively pursued for the suburban departments of Seine-Saint-Denis and Seine-et-Marne. It is also worth mentioning here the work on the identification, interpretation and promotion of the industrial heritage carried out in some of the 'Villes et Pays d'Art et d'Histoire,' cities and regions of art and history, a label invented by the Ministry of Culture in 1985 and now awarded to 186 cities, towns or rural areas, each of which is expected to employ at least one full-time heritage researcher and mediator. Amongst the cities and areas which have earned the label, several - Roubaix, Saint-Quen-





The Lustucru hall at Arles, view of the 1906 steel structure prior to its dismantling in June 2018. Photo: Paul Smith

tin, Sedan, Grasse, Troyes, Saint-Etienne, Plaine Commune (Saint-Denis)... - have important industrial heritage assets and identities.

## INDUSTRIAL MONUMENTS PROTECTED IN 2016 AND 2017

The lists of historic monuments published by the Journal officiel for the 2016 and 2017 allow for about a dozen sites of industrial production to be identified, protected under the terms of French legislation on historic monuments ('inscrits' or 'classés'). At Loctudy (Finistère), a small fish canning works dating from the early 20th century and characteristic of a host of similar establishments all along the coasts of Brittany, was protected ('classé') in 2016, largely on account of the preservation of all its production equipment. It also features today on Bern's list of monuments in peril. At Renage (Isère), a mid-19th century silk mill, complete with accommodation and a chapel, was given protection as an interesting 'usine-pensionnat,' a 'boarding' factory where the work force was comprised of young women housed on the site under the surveillance of sisters of the order of Saint-Vincent de Paul. At Strasbourg, the 1849 state tobacco manufactory, which ceased cigar production in 2010, was given statutory protection prior to its conversion to new uses, essentially uni-

versity and research facilities. And in what is now—since 2011—the French department of Mayotte, several sites associated with sugar production were protected at Mtsangamouji and Dembeni. As part of a concerted national campaign at a time when lighthouse-keepers are becoming history, several lighthouses in Brittany have also been given statutory protection. Last but not least, the Pont Colbert, at Dieppe was protected (inscribed) in 2017. This 1889 metallic swing bridge, probably one of the last in Europe, was saved from destruction by a concerted local campaign supported by the CILAC and which received added weight in 2016 when the threatened bridge was included on Europa Nostra's list of Europe's seven most endangered heritage sites. The issue now is how to preserve what remains of the bridge's original hydraulic mechanism, threatened with replacement by an automatic system that would allow the jobs of the bridge's two agents to be dispensed with.

Under French law (and unlike the British system of listing), a measure of protection as a historic monument opens up the possibility of public grant money and tax deductions for owners. In these days of cultural austerity at both national and local levels, the number of monuments protected every year—and not only industrial ones—is in steady decline. Out of a total of about 45





The Chavannes coal-preparation plant near Montceau-les-Mines. Photo: Paul Smith

000 protected monuments in France, less than a thousand may be considered as industrial monuments and today, in order to earn its protection, an industrial site must not only prove its interest from the points of view of history or art, it must also demonstrate that its sustainable future is financially assured.

## CILAC, THE NATIONAL INDUSTRIAL HERITAGE ASSOCIATION

Since 2015, the CILAC has been pursuing its activities for the defence and the promotion of the industrial heritage in France, and elsewhere. One of the main tools for this endeavour is of course the publication of the association's review, *Patrimoine industriel, archéologie, technique, mémoire*. Four issues (numbers 68-71) have come out since the Lille congress, and for the last one, readers (this one at least) have appreciated the elegant new layout and visual identity, in harmony with a revamped web site. Each year sees one 'varia' issue with miscellaneous articles and one specialised thematic issue. The recent thematic issues have addressed the difficult heritage of the chemical industries, and the industrial heritage of a particular region, the Limousin. A forthcoming thematic issue will be devoted to the industrial heritage related to information technology.

In December 2016, the CILAC organised a two-day seminar as a homage to Louis Bergeron, who died in 2014. Friends of the industrial heritage know how important Louis Bergeron's role was in the recognition and defence of the industrial heritage both in France and internationally. He was one of the founders of the CILAC, and the two day-seminar in his honour, entitled *Le patrimoine industriel, entre action et réflexion*, heard 14 communications from France and from other countries.

Two other themes have also mobilised the association's energies. Around the special issue of the review devoted to the chemical industries, produced in collaboration with the Société Chimique de France and the Lyons-based association Valpasti, a round table was organised in October 2017 at the Blois Rendez-vous de l'Histoire, a popular annual festival for historians. Another international study day entitled 'A cultural heritage to be revealed, the heritage of chemistry,' was held in Paris, in June 2018, at the Société chimique de France.

The second theme addressed is that of the industrial heritage bequeathed to us by the First World War. In December 2017, a two-day seminar was organised on this theme in Paris, bringing together some eleven communications which will be published

shortly. This initiative is to be pursued in December 2018 with the organisation of a three-day international conference on the same theme.

The association's other activities include the organisation of an annual weekend of visits somewhere in France, a chance to discover and photograph industrial sites, to exchange with the association's members and to eat and drink together. These weekends generally attract between twenty and thirty participants and have been organised at Bordeaux (2016), in the Ardèche department (2017) and in the Val d'Aubois region in the Cher department (2018), a territory recently given the 'Ville et Pays d'Art et Histoire' label. Every year the CILAC also organises a prize for young researchers, with the financial and organisational support of the EDF Foundation (French electricity) and the Société d'Encouragement pour l'Industrie nationale (founded in 1801) which allows the CILAC to hold the prize ceremony in its prestigious Hôtel de l'Industrie, place Saint-Germain-des-Prés in Paris. The prize-winning projects are published in *Patrimoine industriel*.

## TWO THREATENED SITES

The so-called Lustucru building was a remarkable steel structure originally designed for a colonial exhibition at Marseilles in 1906. It was built by Gustave Eiffel's company, the Société de Construction de Levallois-Perret. In 1951, the structure was dismantled and re-erected at Arles as a hangar for the Lustucru factory, a foodstuff firm specialised in pasta products. The riveted structure, described as a 'steel cathedral,' sheltered concrete silos for storing rice. When the factory closed in 2003, the site was abandoned and became an improvised school for street art. Although it had been given a label as '20th-century heritage,' a label delivered by the services of the Ministry of Culture but with no legally binding consequences, the structure was dismantled in June 2018 to make way for a new shopping mall. Sections of the structure have been stored, but there are as yet no realistic projects for their re-erection.

The Lavoisier des Chavannes, the Chavannes coal preparation plant near Montceau-les-Mines (Saône-et-Loire), was built in 1923 and remained in use up to 1999, one of the last coal preparation and wash plants in the country. Its protection as a historic monument, in 2000, was seen as a significant victory for the industrial heritage. Nearly twenty years later, however, the plant stands vandalised, rusting and invaded by vegetation, with no prospect of a sustainable future, either by conversion to some new use or simply being kept as a 'controlled' ruin. The plant is to be demolished in what is called a 'déconstruction patrimoniale,' extracting as much information as possible from the material remains, making 3D digital models and then de-protecting the building and removing it. Archaeologists argue that this is the usual fate for archaeological excavations, but it is a first in France for a protected industrial monument.

## RECENT CONVERSION PROJECTS

### **Pantin (Seine-Saint-Denis), the former SERNAM railway warehouses**

This reinforced concrete structure, designed by the architect Paul Peirani and the engineer Bernard Laffaille, was built for the SNCF between 1947 and 1949. Its three 'naves' cover a total of 35,000 square metres. The Saint-Gobain group has chosen to rehabilitate this structure to make of it a huge market devoted to building activities and materials for professionals. After five years' work, it opened in 2015, and is one of the largest such markets in Europe.

### **Pantin (Seine-Saint-Denis), Magasins généraux, warehouse**

BETC, one of France's leading advertising agencies, founded in 1995, is behind the conversion of the Magasins généraux warehouse building, dating from 1929 and constructed for the Paris Chamber of Commerce and Industry beside the Ourcq canal in the Paris suburb of Pantin. The six-storey reinforced concrete structure comprising two twinned buildings was abandoned in 2000 and became famous as a centre for street art. Some of this has been kept in the conversion project, led for the agency by the architect Frédéric Jung. The site was inaugurated in 2016 with commercial premises on the ground floor and offices for the agency's 750 collaborators above, with a space devoted to exhibitions and cultural events.

### **Nantes (Loire-Atlantique), the Alstom halls**

The so-called Île-de-Nantes (it is in fact an artificial assembly of several separate islands) is one of France's most ambitious programmes of urban regeneration, paying particular attention to the quality of the public spaces around the buildings and treating the place's industrial heritage, in particular what is left of the former Dubigeon shipyards, as essential assets to be kept and re-used. The most recent achievement here, inaugurated in September 2017, is the complete reconfiguration of the 4.5 hectare site formerly occupied by the Alstom firm, specialised in locomotive and electro-mechanical construction. Six workshop halls dating from the middle of the 19th century have been transformed to accommodate a part of the city's university, office space and a restaurant. Under the direction of architect Franklin Azzi, two of the halls have become particularly spacious and well-lit volumes which house the Nantes school of fine arts. The architect does not seek to disguise the industrial character of these halls, but, on the contrary, takes inspiration from it and magnifies it.

### **Saint-Etienne (Loire), a theatre in a former factory**

The Société stéphanoise des constructions mécaniques, a mechanical engineering company with up to 600 workers in the 1970s, ceased production in 2005, abandoning its factory at Saint-Etienne in the neighbourhood known as Manufacture Plaine-Achille. The architect Jean-François Milou was commissioned to adapt the factory buildings to accommodate the Saint-Etienne theatrical company, founded in 1947. The metallic structures of the former industrial buildings are highlighted in red, whilst the theatrical premises,





Pantin, the rehabilitated Magasins Généraux warehouse, occupied by an advertising agency. Photo: Paul Smith

including three auditoriums of different capacities, are inserted beneath the structures in the manner of boxes in a box.

#### **Paris 75011, the Cour de l'Industrie**

This 'courtyard of industry'—in fact three courtyards in succession—is situated to the east of Paris in the faubourg Saint-Antoine, home since the seventeenth century to the furniture-making trades, but also to metal working and paper making. The 'Cour' is in fact located on the site of the celebrated Réveillon factory which was the scene of rioting in April 1789, shortly before the storming of the Bastille, nearby. The housing and workshops making up the ensemble date for the most part from the middle of the 19th century and, after accommodating cabinetmakers during the 19th century, are now home primarily to artists and craftspeople. In 2017, after six years' restoration work, the rehabilitated Cour was opened again and can be visited today as one of the last surviving industrial and craft concentrations characteristic of the small-scale industrial production of the capital.

#### **Malmerspach (Haut-Rhin), activity park in textile factories**

The textile factories in this Alsatian village were run by the Schlumpf brothers, whose collection of historic motor cars today forms the Mulhouse Cité de l'Automobile. After a long period of

abandon, the former industrial buildings have been restructured to form a park, inaugurated in October 2017, that will offer housing, work space and cultural amenities.

#### **Pau (Pyrénées-Atlantiques), tramway factory**

Like many provincial French cities, Pau had its own tramway network, in operation from 1899 to 1928. The tramway depot and electricity generating plant have recently been converted to accommodate a library and archive centre for the local authorities. The factory chimney has been preserved and restored as a signpost for the site, visible from afar.

#### **Saint-Jean-du-Gard (Gard), the 'Maison Rouge' silk-throwing mill re-opened as a museum of the Cevennes valleys**

The 'Maison Rouge' was a silk-throwing mill built in the 1830s and which closed in 1965, one of the last silk mills in production in the Cevennes region where this rural and village-based industry was of considerable importance during the 19th century. After many years in preparation, the museum of the Cevennes valleys finally opened to the public in September 2017, under the auspices of the Alès-community local authorities

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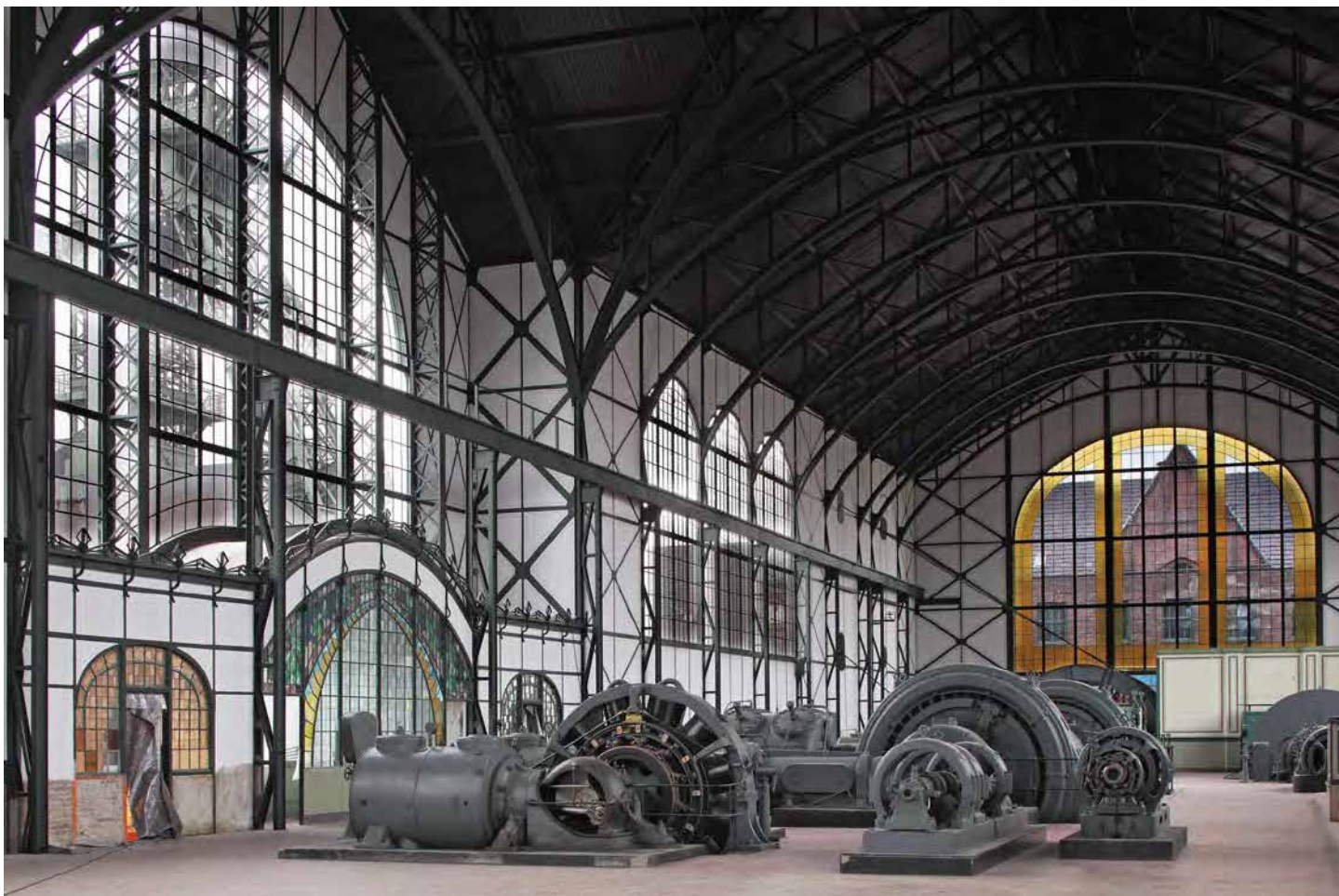
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Dortmund, Zollern Colliery Engine House, interior view with the 1902 electric air compressor. (Westphalian State Museum of Industry, Martin Holtappels)

**Alexander Kierdorf and Norbert Tempel - TICCIH Germany Community**

## INTRODUCTION

The German TICCIH group has intensified its collaboration with the [Georg Agricola Society](#) (GAG). The annual meeting of the Society has become a forum for Industrial Heritage interests. In 2015, it took place in Lauf near Nuremberg, in 2016 in Hamburg and in 2017 in the Zittau region in the southeast corner of Saxony. Excursions, combined with a thematic conference session and lots of formal and informal exchange, form an attractive program. Highlights are the prizes dedicated to the best new academic studies and honoring activities of local enthusiasts. A special TICCIH Germany meeting is held during the GAG weekend, as well.

TICCIH Germany has repeatedly cooperated in conferences organized in the Ruhr area, especially those on the 'Ruhrgebiet Industrial Cultural Landscape' world heritage project, but also on the conference in October 2017 at Berlin on the possible future heritage of the nuclear energy production, which in Germany al-

lows a very interesting comparison of western and eastern technological strategies (see report in TICCIH Bulletin 80, pp. 25-27).

TICCIH Germany is also involved in the [Industriekultur](#) quarterly journal, edited since more than 25 years by the Industrial Museums in Northrhine-Westphalia, but covering Germany and the rest of the world (as far as possible) with much small news and reports, and basic articles on major sites, following a specific topic in each issue. Regional and country topics are presented in cooperation with local specialists and often offer the first source on these subjects (see report in TICCIH-Bulletin No. 75, pp. 16-17).

## STATE TECHNICAL HERITAGE CONSERVATION

The de-centralized, broad structure of German conservation authorities results in regular meetings of the state curators organized in the '[Vereinigung der Landesdenkmalpfleger](#)' (union of state heritage conservators): those specialized on Industrial Heritage meet twice a year and have much online exchange, as well. The annual conference of all state heritage conservators in May





Dark clouds over the Hirschfelde Power Station at the Oder, the border river between Germany and Poland, closed down as a museum in 2017. (Norbert Tempel)

2016 was dedicated to the Industrial Heritage, as well. It took place at the Rhenish Industrial Museum at Oberhausen, and included full-day excursions to different 'key sites' in the whole of the Rhineland. Two large volumes documented the content and results of the conference.

The generation shift of specialists in the conservation authorities is going on, sometimes resulting in part-time activity, in others with at maximum two full-time personnel.

<https://www.imhof-verlag.de/schall-und-rauch.html>

## WORLD HERITAGE

The continuing [Conservation Monitoring](#) of German World Heritage Sites is conducted by ICOMOS Germany with the support of TICCIH members.

The historic warehouse and office complex 'Speicherstadt and Kontorhaus District with Chilehaus' in the heart of Hamburg is the latest industrial monument which became World Heritage in 2015.

The '[Central European Cultural Landscape Montanregion Erzgebirge/Krušnohoří](#)' in Saxony and Czechia, on the tentative list since 2012, is now undergoing the review process.

The '[Hydraulic Engineering and Hydropower, Drinking Water and Decorative Fountains in Augsburg](#)', spanning over several centuries of technology and culture, was also prepared for nomination by a number of conferences and publications and is now on the tentative list.

The 'Foundation for the Preservation of Industrial Monuments and Historical Culture' in the federal state of North Rhine Westphalia, together with partner organisations and adviser Barry Gamble (UK), has prepared a draft Statement of Outstanding Universal Value for the '[Ruhrgebiet Industrial Cultural Landscape](#)'. The organisers would like to achieve the project through the inclusion of the property in the German Tentative List for UNESCO World Heritage, expected to be updated between 2020 and 2025.

German objects are also included in several serial nomination projects, including the Muengsten railway bridge as part of a 'family of European grand-scale arch bridges' (with objects in France, Italy, and Portugal). An [international conference](#) in cooperation with TICCIH Germany took place on 27-28 October 2017.

## REGIONAL ACTIVITIES AND INITIATIVES

In the period covered by the report, the number of regional and local Industrial Heritage Initiatives, resulting in touristical routes, activity weeks and weekends and publications, increased, partly



Witten, Steinhauser Hütte Excavations. (Westphalian State Museum of Industry, Norbert Tempel)

government-, partly privately based, but always including lots of voluntary activities and attracting many visitors. The work of enthusiasts is often restricted by safety reasons, and by the enormous restoration and rebuilding costs, especially with the 'movable' heritage, if a working condition is intended. This is, apart from railways, obvious also in the floating heritage section. Safety regulations have been increased. At Cologne, the town councils official motor barge from 1938 is in such a bad condition that it could not be insured anymore and needs professional repair. On the other hand, the heads of the 'German Harbour Museum' which is with state funding to be established at Hamburg, have acquired the iron hull of a sailing ship at the USA (the former PEKING four mast barge, a so called Flying P-Liner, built by a Hamburg shipowner in 1911), which was brought back to Hamburg in 2017 and is to undergo a complete restoration.

## MONUMENTS AND SITES

The Industrial Heritage is by definition one of the most 'vital' heritage sectors. The closing down of the last black coal mines in Germany at the end of 2018 asks for a complete review of the mining heritage. This is mainly done on the museum and exhibition level, not on that of monuments. Decisions have to be made also on the preservation of rather young objects. The 'Foundation for the Preservation of Industrial Monuments and Historical Culture

'at Dortmund, which has successfully worked on the preservation and conservation of coal mining monuments, would be the natural place for this heritage, as well. But it also has taken over pre-industrial sites and in 2017 the pumped-storage power station 'Koepchenwerk' on the banks of the Ruhr. The job of the Foundation is to take over monuments together with a subsidy of the former owner, to preserve and restore them, and, if possible, to hand them on to new owners.

One of the first and most iconic industrial monuments on the Ruhr, the Zollern engine hall at Dortmund, was re-opened as part of the Westphalian Industrial Museum in September 2016, after an extensive structural and aesthetic renovation and restoration. The iron-and-glass building got back the dark green color of the ironwork and, at one end, the coloured glass windows. The brick masonry filling of the iron framework was carefully kept as far as possible during anti-corrosion treatment and replacement of corroded elements. The marble panels on the inside walls were replaced after corrosion treatment and replenished with new marble where needed.

A mayor problem all over the country still is the preservation of the railway heritage. The complex structure and technocratic perspective of the commercially independent – but still mainly state-owned – railway administration 'Deutsche Bahn' often slows down





Herdecke, pumped-storage power station Koepchenwerk, now preserved under the auspices of the 'Foundation for the Preservation of Industrial Monuments,' Dortmund. (Foundation, Klaus Peter Schneider)

or prevents effective preservation work. State support is given for replacement, but not for restoration of objects like bridges. Even mayor monuments like the Muengsten viaduct were threatened with destruction – but now undergo a remediation process. Many buildings, mainly railway stations, but also bridges, were preserved and could be re-used after they were bought by private people or cities.

A specialist workshop at Berlin in April 2017, organized by the 'Deutsches Technikmuseum Berlin' together with ICOMOS and TICCIIH Germany, discussed the problems of aviation and aerospace heritage in Europe.

The German Engineers Chamber has awarded several monuments with their label 'Historic Monuments of Engineering Art.' From 2015, five more objects were presented in rather short, but very precise and well-illustrated booklets (see list of publications).

## INDUSTRIAL ARCHAEOLOGY

While at Oberhausen (St Antony iron works) and Essen (Krupp), industrial archaeology in its literal meaning has a tradition already, it was a surprise for many that at Witten, a smaller town in the southeastern, Westphalian part of the Ruhr, a mid-19th

century steel works was found below a railway yard in February 2018 and excavated during the following months. The buildings of the Steinhauser Huette, founded ca. 1855, were in the 1920s covered with large quantities of rubble and earth to level the area. Preparing a new industrial estate, more and more of the old factories were discovered in a fairly good state. They turned out to be a steel puddling works, a Bessemer works – built over by a Siemens Martin works - and rolling mills. Other industrial reuses followed. They are unique not only in the Ruhr region, as of the competing Krupp works nothing has survived. With the support of the Westphalian Industrial Museum, the finds were explained, and it is now under discussion if a core area of the puddling mill can be kept visible permanently, as an early monument of steel-making on the Ruhr.

## RESEARCH AND STUDY

Comparative studies and initiatives dealing with industrial regions and their heritage have been executed at Freiberg university (SHIFT [www.shift.eu](http://www.shift.eu)) as well as Bochum (Ruhruniversität) during the last years. Structural change, social developments, reuse of industrial heritage and the role of culture as aspects of post-industrial development strategies were studied in different European regions.



Especially at the research department of the German Mining Museum at Bochum and the Westphalian Industrial museum some work was done on the typology of mining architecture, especially the Malakow-type hoisting tower. The results were published in the *Industriekultur* journal, and a paper presented at the Chile TICCIIH Conference.

These institutions also made accessible an internet platform collecting basic information on conservation and reuse of technical and industrial buildings and objects. Cooperation with universities at Leipzig and Berlin were recently set up. The project will be presented at the Chile TICCIIH conference. [www.indumap.de](http://www.indumap.de)

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Brin 69, Naples (2016)

**Massimo Preite** - TICCH Board member and Italy National Representative

## TRENDS AND ATTITUDES

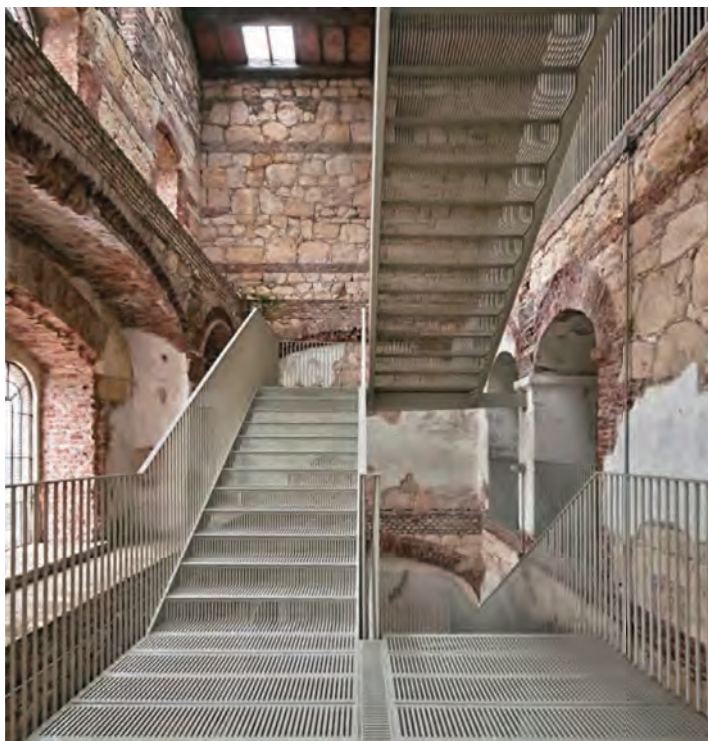
If we look at the methods of recovery of Italian industrial heritage in recent years we cannot but notice a clear divergence between theory and practice, between principles to which the interventions should conform and design practices carried out at times with extreme ease. From the most recent debates on the issues of conservation and recovery of industrial heritage, at least three recommendations emerged clearly:

- That every enhancement proposal is preceded by an accurate historical survey of the former industrial buildings that makes fully understandable not only their structural characteristics, but also the production processes that operated inside
- That the recovery projects are developed in such a way as to preserve the legibility of the historical and functional identity of the reused industrial buildings, despite the new destinations assigned to them and the adaptations necessary to accommodate them;

- That the functional and social revitalization of industrial heritage should not be pursued for individual interventions, but through a project aimed at the unitary recovery of abandoned industrial sites and able to preserve a (minimal) synoptic vision of the urban district or the industrial territory of belonging

These principles - the result of a multi-year work of reflection and research that has involved associations, experts and professionals - have been further reaffirmed also in conferences and study meetings dedicated to specific sectors of industrial heritage:

- Automotive (Seminario Città creativa & Città dell'Automobile, 7 dicembre 2015, Torino);
- Patrimonio alimentare (Convegno nazionale Archeologia industriale e patrimonio dell'alimentare, 15-17 ottobre 2015 Venosa, PZ)
- Siderurgia (Convegno di studi in onore di Ivano Tognarini, La siderurgia italiana tra storia economica e archeologia industriale, Piombino, 4-5 Marzo 2016)
- Industria cartaria (1° Convegno nazionale sull'Archeologia industriale cartaria in Italia, Il patrimonio industriale della carta: la storia, i siti, la valorizzazione, Fabriano, 27-28 Maggio 2016);



New University of Santa Marta, Verona (2015)



Chamber of Commerce, Prato (2012)

- Patrimonio proto-industriale (Convegno Luoghi e processi della produzione in età proto-industriale, Pievebovigliana, Macerata, 14-15 ottobre 2016);
- Patrimonio industriale e Rigenerazione urbana (Convegno nazionale Strategie di rigenerazione del patrimonio industriale, Biella, 30-31 Marzo 2017; Giornata di studi Patrimonio industriale e buone pratiche per la conoscenza e la valorizzazione, San Cesario di Lecce, 22 Aprile 2017; Convegno Rigenerazione e territorio, Malnisio, 20 Aprile 2018);
- Riuso del patrimonio industriale (Metamorfosi urbane: Milano dall'Archeologia industriale agli stili di vita del XXI secolo, Milano, 6-22 giugno 2018)

In the face of these principles, it cannot be overlooked that many interventions to recover industrial heritage in Italy significantly deviate from them. The developed projects have not always been identifiable, in the former industrial sites to be reconverted, the identity elements to be respected, the contextual connections not to be broken or the most appropriate functions to be inserted. To be more precise, rather than the inability to grasp those relational and identity aspects that count so much in the culture of industrial heritage, what should be charged to these projects is the deliberate pursuit of a different program, radically autonomous from those values of 'memory' on which is based philosophy of conservation of industrial sites. As proof of this statement, we point out that:

Very often the former factories recovered do not have a marked patrimonial value; they are ordinary industrial buildings whose main qualities are a good urban location, a

low purchase price and an outstanding spatial flexibility; in these terms the investment decision for the acquisition of the asset is dictated more by the economic convenience of the transaction, than by the commitment to preserve its historical-documentary value;

Practically nothing survives of the narrative linked to the ancient productive function; a new narrative is superimposed on the former, celebrating the company that has re-adapted the old industrial spaces to its commercial and image reasons;

The reconversion projects, although captivating from an architectural point of view, have subjected the decommissioned buildings to transformations that have often exceeded the limits of transformability within which the functional adaptation should have been contained in order not to compromise the identity of the structures.

Of course, there is no lack of exemplary operations, unquestionably attributable to the category of the best architectural restoration: the conversion of the former Santa Marta military bakery into a new university (by Massimo Carmassi, 2015) is the result of a tenacious and coherent effort to preserve the legibility of the historical evolution of the structure through the preservation of the temporal stratification of the material elements that have occurred over time.

In some cases, however, the industrial heritage, rather than constituting the opportunity for a re-use calibrated on the intrinsic lim-





Golinelli Foundation, Bologna (2017)



Prada Foundation, Milano (2016)

its of variability of the original building organisms, seems to have represented the pretext for audacious re-interpretations of the structure, the material consistency and the spatial articulation of the productive buildings. Certain projects show a clear preference for the 'surface values' on those of depth: the image of the new Chamber of Commerce in Prato (by MDU Architetti Associati, 2012) is the result of a 'dressing' of a former textile factory with a 'second skin' in anodized expanded metal and of an 'effraction' of the original monolithic structure with powerful 'gushes' to connect the internal courtyard of the factory with the surrounding urban fabric. On the contrary, the image of the new Tecnopolo Brin 69 in Naples (by Studio Architettura Vulcanic, 2016) is the result of a deliberate 'undressing' intervention of the former Mecafond shed, intended to dematerialise the original envelope and replace it with transparent diaphragms to introject the exterior inside the building. The extreme case is that of the former 'Le Conterie' beads factory in Murano, of which only the main façade has been preserved; the new residences are placed against it (by Studio Macola, 2015) following the original sequence of openings (a rare example of 'façadism' applied to industrial heritage).

In other cases, while the external shape remains almost unaltered, the project works 'in depth,' creating new volumes within the original industrial spaces: among the examples to be cited in this sense are the new architectures built inside the former Golinelli Foundries in Bologna (by Diverserighestudio, 2015), or that of the Tecnopolo recently created within the Officine Meccaniche Reggiane (by Andrea Oliva, 2013) and composed of a complex system of new architectures, open spaces and terraces, all within the Shed 19.

Another category is that of industrial buildings hybridized with grafts of new volumes that produce irreversible 'mutations' of ancient structures. In some cases, it is evident the effort to maintain a clear distinction between original and added elements, as in the NOI (Nature Of Innovation) Techpark in Bolzano, obtained from the reconversion of the former Alumix factories (by Claudio Luc-

chin, 2017). In others, as in the Prada Foundation settled inside a former distillery in Milan, a deliberate attempt is made to 'place in a state of permanent interaction' 'new and ancient elements, such as' 'they were fragments incapable of composing in a single image' (by Rem Koolhaas, 2015). In all the cases mentioned above, and in many others similar, the intentions declared by the designers (preservation of the original structures, rejection of every mimicry, clear distinction between existing and new added elements) are not able to prevent the memory thread from breaking, that the values of authenticity are reduced to a simulacrum and that in its new configuration the 'hybridized' 'site / building represents a faded metaphor of its condition of origin.

## PUBLIC POLICIES AND STATUTORY PROTECTION

An adequate system of institutional protection of industrial heritage is lacking in Italy.

In the Code of Cultural Heritage and Landscape (2004) there are only some indirect references and summaries to the protection of sites and properties of industry. However, at least two important initiatives at national level should be noted:

The Memorandum of Understanding between the Ministry of Cultural Heritage (MIBACT) and the Italian Association for the Industrial Archaeological Heritage (AIPAI) aimed at establishing a multidisciplinary working group and a scientific committee for drafting the best practices and guidelines for the protection conservation, transformation and enhancement of national industrial heritage;

The activity of National Network of Italian Mining Parks and Museums (ReMi) to develop an organic law for the protection of mining sites. Through the participation of the mining parks and museums participating in the network and the contribution provided by the working groups, on July 5, 2017

a bill on 'Protection and valorisation of abandoned mining sites and their historical, archaeological, landscape heritage and environmental' was officially presented. The activity of ReMI continues through a program of national meetings to ensure that the process of approval of the law is completed.

On the regional level, on the other hand, some regions have autonomously taken steps to fill the regulatory gap at the state level. After the regional law of 20 March 2013, n. 5 'Valorisation of the industrial archaeology heritage' of the Umbria Region, two other regions have legislative instruments of protection:

The Puglia Region with the Regional Law January 27, 2015, No. 1 'Valorisation of the heritage of industrial archaeology';

The Basilicata Region with the Regional Law 21 November 2017, No. 31 'Valorisation of the industrial archaeology heritage in the regional territory.'

Finally, worthy of mention are some initiatives, praiseworthy but still too sporadic, aimed at strengthening indirect methods of protection through the achievement of greater visibility of Italian industrial sites in the lists of major international prestige, lists in which the Italian industrial heritage suffers from a certain sub-representation:

The only inscriptions to the UNESCO World Heritage List (Village San Leucio and Crespi d'Adda) date back to the last century; in the last three years the only Italian nomination (after the abandonment of the candidacy of Sesto San Giovanni) is that of 'Ivrea Industrial City of the 20th century';

From 1st December 2014 Torino is a UNESCO 'CREATIVE CITY' for the DESIGN category. This important UNESCO recognition commits the city to promote and support the design field in all its structures through a program of initiatives that will carry Torino to get the role of a reference point city for design in Italy and worldwide.

In the last three years an increasing number of sites have joined the European Route of the Industrial Heritage (ERIH), either as Anchor Point (7), or as site members. The expansion of the ERIH network in Italy has benefited from the stimulus produced by two national meetings, the first in Prato in 2016 and the second in Brescia in 2017.

## INDUSTRIAL MUSEUMS AND EXHIBITIONS

On 30 September 2017 in Turin, within the new Officine Grandi Riparazioni (OGR), the District of Creativity and Innovation was inaugurated. The OGR, built between 1885 and 1895 and used

until the early 90s to maintain railway vehicles, are one of the most important examples of industrial architecture of the nineteenth century in Turin and will host, in continuous rotation, exhibitions, shows, workshops, start-ups, innovative companies, combining ideas and values of creativity with the tools and languages of new digital technologies.

Furthermore, the opening of the new Museo Archeoindustriale of Terra d'Otranto in Maglie (Lecce) is imminent. In the former furniture factory, a fine example of Art Nouveau architecture, there will be examples of traditional industries of olive oil, wine, pasta, confectionery and wood and furniture crafts.

Finally, the biennials of photography organized by the MAST Foundation and exclusively dedicated to industrial photography, work and business are worth mentioning. The first biennial FOTO/INDUSTRIA 2015 included 14 exhibitions of the most relevant photographers in the world, including two in the MAST headquarters and another 12 in prestigious locations in the historic center of Bologna (David LaChapelle at the Pinacoteca Nazionale and Edward Burtynsky at Palazzo Pepoli). The biennial FOTO/INDUSTRIA 2017 has instead proposed the works of great photographers such as Thomas Ruff, Mimmo Jodice and others.

## SIGNIFICANT PUBLICATIONS

La siderurgia italiana. Tra storia economica e archeologia industriale (In onore di Ivan Tognarini), Atti del Convegno di studi, Piombino, 4-5 marzo 2016, Pacini Editore, Pisa, 2017

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Massimo Preite, Paesaggi industriali e patrimonio Unesco, Effigi, Arcidosso (GR), 2017



Tokaido Shinkansen 0 series car.

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## INTRODUCTION

From 2015 to 2018, it was a period of great change for Japanese industrial heritage. In the beginning of this period, two industrial heritage sites, 'Tomioka Silk Mill and Related site' in 2014 and 'Sites of Japan's Meiji Industrial Revolution' in 2015, were registered as World Heritage. For this reason, many people had high interest in industrial heritage. However, in April 2016 a major earthquake occurred in the Kumamoto district of Kyushu. Everyday TV and newspapers were occupied by earthquake news, people's interests moved to earthquakes. Also, as the damage of cultural assets was serious, the interest of experts in investigating and preserving cultural properties also concentrated on the damaged buildings of Kumamoto.

The interest in industrial heritage was relatively inactive despite National Museum of Western Art ('The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Move-

ment') in Tokyo was registered as World Heritage Sites, three months after the earthquake, in July 2016.

At the end of 2017, JAPAN ICONOS National Committee announced 'The best 20 in the 20th century heritage in Japan' list. This list attracting not only experts but also a lot of popular attention. This list includes many industrial heritage sites such as the Tokaido Shinkansen (bullet train) and the Tateyama check dam (sand-trap dam). For this reason, we believe that research and protection of industrial heritage will become active again.

## COUNTRY POLICY

With the revision of the Law for the Protection of Cultural Properties in 2018, part of the authority for the protection of cultural properties was transferred from the government to municipality. In order to further increase the number of visitors from abroad and domestics, the government has set this law with the intention of moderating the regulations for protecting cultural properties. For this reason, experts have pointed out some risks of destruction of cultural properties due to economic priority.





Shinmachi silk spinning mill from sky.

## MOVEMENT ON NATIONAL DESIGNATION

From 2015 to 2018, the Agency for Cultural Affairs of Japan designated 71 cases of modern architecture as National Important Cultural Properties. Among them, there are several industrial heritage, but the items to pay attention to are as follows.

-Shinmachi silk spinning mill (Gumma): Established by the government in 1877, the first mechanical silk spinning mill in Japan. All system was imported from Swiss land.

Koiwai Farm (Iwate): A large-scale western style dairy farm. Construction began from in 1891

Mitsukoshi Department Store Nihonbashi (Tokyo): Built in the center of Tokyo as the first large-scale department store in Japan in 1927.

At the same period some industrial site designated as national historical sites. For example, the Mint Bureau was the first modern mint in Japan. It was established in 1871 the center of Osaka.

## WORLD HERITAGE

**Site of Japan's Meiji Industrial Revolution: Iron and Steel, Shipbuilding and Coal Mining (Kagoshima, Kumamoto, Nagasaki, Saga, Fukuoka, Yamaguchi, Shizuoka, Miyagi)**

The site is a series of 23 component parts in 8 areas, concerning the rapid industrialization of the Japan from the middle of the 19th century to the early 20th century, through the development of the iron and steel industry, shipbuilding and coal mining. The site illustrates the process of technology transfer from Europe and America and how this technology was adapted to the country's needs and social traditions. This was inscribed as world heritage in 2015.

In the process of registration this heritage has been pointed out several problems concerning preservation and integrity. For this reason, the World Heritage Committee requested a report on the state of conservation to review at the 42nd World Heritage Committee in 2018. Japanese government prepared the report, about management plans, visitor facilities, and education of staffs... They sent the report to the World Heritage Center until December 2017.



Seto Ohashi.

### National Museum of Western Art (Tokyo)

In July 2016, the National Museum of Western Art, Tokyo (Le Corbusier Design 1959), located in the center of Tokyo, was inscribed world heritage as part of the 'The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement.'

### Tomioka Silk mill and related site

'Tomioka Silk and Silk Industrial Heritage Group' registered as a World Heritage Site in June 2014 attracted domestic interest as the first modern industrial heritage. There were 1.3 million visitors a year in the year of registration. For this reason, it was necessary to set up facilities for visitors and increase the number of staff. And experts raised a voice worried about overuse. However, in 2018, visitors decreased sharply to half the 600,000 people in just three years from registration. If this decrease continues, it will not be possible to cover expensive operating expenses with reduced admission fee income.

## DISASTER

An earthquake of seismic intensity 6 or more occurred in Kumamoto Prefecture of Kyushu on April 14, 2016. The earthquake killed 50 people, 1,644 injured people, and 64,465 collapsed houses. The damage of the designated cultural property was also serious, causing a great damage to Kumamoto Castle, the shrine and the temple. In addition, traditional townscapes and buildings in this area were also seriously damaged.

Miike coal mine that belonging World Heritage 'Site of Japanese's Industrial revolution Heritage of Meiji Japan' is near from Kumamoto, but there was no major damage caused by the earthquake.

## CHARACTERISTIC PROJECT

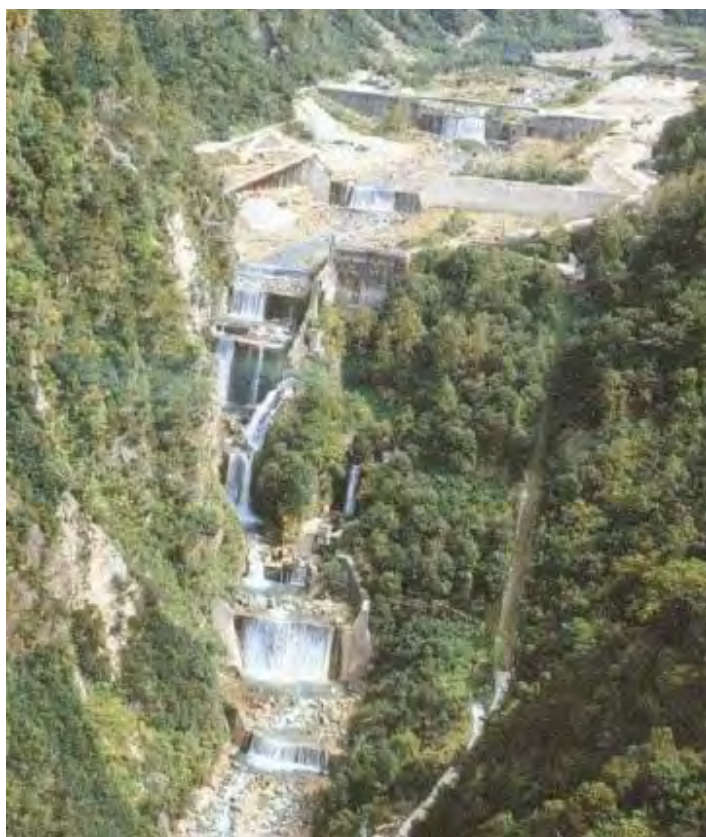
In October 2015, DOCOMOMO (Documentation and Conservation of Buildings, Sites and Neighborhoods of the Modern Movement) Japan invited building experts and conservation experts from nine ASEAN countries. And the Japan Foundation and Japan ICOMOS held the international conference 'Current situation and problems of 20th century heritage in Japan and ASEAN region' in Tokyo.

### 'The best 20 in the 20th century heritage in Japan'

On Dec. 8, 2017, ICOMOS Japan announced 'The best 20 in the 20th century heritage in Japan' 'Nearly half of these sites are considered as industrial heritage. There are many railway and civil engineering related site in this list. There are as follows.

- Tokaido Shinkansen (bullet train) (Tokyo to Osaka): The origin of the high-speed and mass transportation railway system in the world.
- Hisatsu Line (Kumamoto to Kagoshima): A kind of show room of Japan's railway technology imported from Britain, Germany, U.S and originally developed.
- Seikan Tunnel (Aomori to Hokkaido) : The longest undersea tunnel in the world





Tateyama Check dam.

- Seto Ohashi Bridge (Kagawa): Symbol of contemporary Japanese bridge technology
- Tateyama check Dam (sand-trap dam) Group (Toyama): Huge check dam group integrated with river system
- Hydroelectric Power Plant Group in Kurobe River (Toyama): Development of Power station Unified with Kurobe River Nature Museums

## MUSEUMS

### Tobacco and Salt Museum (Tokyo Sumida)

It re-opened in Yokokawa, Sumida, Tokyo on April 25, 2015. This museum is dedicated to the history and cultures surrounding tobacco and salt, goods that were once protected by a government monopoly in Japan. The Tobacco & Salt Museum collects resources, conducts research, and introduces a broad range of history and culture pertaining to tobacco and salt. It also extends beyond these core topics to cover a wide scope of themes in the special exhibitions.

### Kyoto rail way museum

This museum opened on April 29, 2016, after renewing the former Umenokouji steam locomotive museum. The exhibition area is about 31,000 m<sup>2</sup>, the number of exhibited vehicles is 57, which is Japan's largest railway museum. A special facility for inspection and repair of steam locomotives was established at this museum. In this facility you can see the scenery of inspection and repair of old steam locomotives.





Silesian Museum in Katowice, former Katowice coal mine, 2017

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## POLITICAL AND ECONOMIC CONDITIONS

The process of economic transformation in Poland that started with social and economic reforms at the end of the 20th century, resulted in closing multiple historic industries and in some instances entire industrial regions. The liquidation of tangible traces of Poland's industrial development has not been accompanied by a reasonable plan to retain the most important evidence of Poland's economic development.

Steelworks, mines, textile factories and a number of other industrial facilities were for years the pride of their employees and the citizens living nearby. However, along with the economic transformation process, these facilities started to be examples of technological backwardness and poor quality of life of the inhabitants. Today it has become exceedingly difficult to find the silhouettes of blast furnaces, mine shafts, cooling towers or brick chimneys

of former boiler houses in the landscapes of Polish cities. Despite a growing interest in industrial heritage, the liquidation process of the last evidence of the industrial history of these regions has been progressing. Important, often the last examples of industrial activity, keep being closed or destroyed. This is what has been going on with the historic closed mines in Upper Silesia.

## ECONOMIC DEVELOPMENT - POLAND IN THE EUROPEAN UNION

The first two decades of the 21st century saw an intensive economic and social development in Poland. Poland's accession to the European Union in 2004 accelerated the development process, in particular due to financial support from the European Union.

The additional financing supported a number of projects covering overhauls, maintenance and adaptation of historic technical equipment for new, primarily social purposes. With the subsequent financial tranches from the EU budget, several projects were carried out covering industrial heritage. The projects are pursued primarily by local government authorities at various levels. Most



Coal Mining Wieczorek (former Giesche Company), one of the last mines in Upper Silesia. 2017

often post-industrial facilities are adapted for museums, cultural and office facilities.

Along with economic development, a new type of investors appeared, development companies adapting originally industrial facilities for new functions: offices, apartments, shops.

The number of adapted post-industrial facilities has grown abruptly. Post-industrial facilities in large cities have become especially attractive for investors. Apartments in former factories are much in need and reach prices comparable to new developments. However, many of the projects were completed without complying with the rules of protecting industrial heritage.

## LEGAL BASIS FOR PROTECTION OF INDUSTRIAL HERITAGE

Historic monuments in Poland are protected in line with the Act on protection and care of historic monuments, approved in 2003 and amended by Poland's Parliament afterwards. Technical and other monuments are protected primarily by being entered to the Register of Monuments, kept separately for each province by the Provincial Monument Conservators. Facilities of special im-

portance for Poland's history are registered since 1994 and classified - pursuant to ordinances issued by Poland's President - as Historic Monuments. The prestigious title has been awarded to 91 historic facilities and complexes all over the country, including 11 technical monuments:

- Bochnia - Salt mine (2000)
- Ciechocinek - Complex of graduation towers and salt works (2017)
- Duszniki Zdrój - paper mill (2011)
- Gliwice - radio station (2007)
- Augustów Canal (2007)
- Elbląg Canal (2011)
- Krzemionki near Ostrowiec Świętokrzyski - Neolithic flint mine (1994)
- Ozimek - cast iron chain hanging bridge on the Mała Panew river (2017)
- Tarnowskie Góry - underground galleries of a historic silver ore mine and the Black Trout adit (2004)
- Warsaw - water filter station by William Lindley (2012)
- Wieliczka - salt mine (1994)

## INDUSTRIAL HERITAGE ON THE UNESCO





Carbo-Koks Company, one of the last working coking plants in Poland, 2017

## WORLD HERITAGE LIST

In Poland there are 15 facilities on the UNESCO World Heritage List. Among them there are two technical facilities:

- The Salt Mine in Wieliczka was entered to the UNESCO list in 1978 as one of the first 12 industrial facilities in the world. In 2013 the entry was expanded with the Salt Mine in Bochnia and the Saltworks Castle in Wieliczka;
- The lead, silver and zinc ore mine in Tarnowskie Góry was entered in 2017. The lead, silver and zinc ore mine is in Upper Silesia, a main mining area in Central Europe. The facility covers underground corridors with shafts, galleries and an underground water management system.

## MOST IMPORTANT PROJECTS

Growing social awareness concerning the need to protect cultural heritage as well as economic development and funds resulting from Poland's accession to the European Union resulted in multiple new projects related to protection and mainly adaptation of technical monuments to new functions. Among the most important tasks completed in recent years are the following:

### Chosen projects carried out by local governments

- Museum of Urban Engineering in Kraków (1998)
- Museum of Nature and Technology in Starachowice (2001)
- Museum of Technology and Communications. Art Depot in Szczecin (2006)
- ECI Łódź City of Culture (including: Centre of Science and Technology ECI) – a former city power and heat plant (2008)
- Eksplozeum in Bydgoszcz (factory of explosives from 1939) (2011)
- Museum of Coal Mining in Zabrze, composed of Queen Luiza Adit, Guido mine and the Main Key Heritage Adit (2013).
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### Chosen projects carried out by business institutions (developers)

- Shopping Centre with an Art Gallery Old Brewery in Poznań on the basis of the former Hugger Brewery (2003)
- Commercial, service and entertainment centre Manufaktura in Łódź in the former factory site owned by Izrael Poznański (2006)
- Hotel Andel's in Łódź in the former spinning mill owned by Izrael Poznański (2009)
- Office, service, commercial and entertainment complex Art





National exhibition 100 years of motorisation in Poland Zinc Rolling Mill Museum in Katowice, 2018

N in Warsaw in the former Norblin Factory (launched in 2017)

**Chosen projects carried out by private investors and NGOs**

- Topacz Museum in Śląza near Wrocław (2003)
- Railway Museum in Silesia in Jaworzyna Śląska (2004)
- Beer Brewing Museum in Tychy (2004)
- Live Porcelain Museum in Ćmielów (2005)
- Żywiec Brewery Museum (2006)
- Metallurgy Museum of Mała Panew Valley in Ozimek (2012)
- Former Mine Science and Art Centre in Wałbrzych (earlier Museum of Mining and Industry in Wałbrzych) (2014)

**An important group is composed of museums operated by the Foundation for the Protection of Silesian Industrial Heritage**

- Railway Museum in Silesia in Jaworzyna Śląska (2004)
- Zinc Rolling Mill Museum in Szopienice-Katowice (2016).

## MUSEUMS

Over the last five years major changes occurred among museums documenting industrial heritage. According to the Ministry of Culture and National Heritage, in 2018 there are almost 800 museums in Poland. There are 168 of those that fully or partly document industrial heritage which is over 21% of all Polish museums. Since 2000 there have been 76 industrial museums opened, mainly at the beginning of the 2000s. This is a growth by over 45%. In the last five years, three more technical museums were registered.

The growing number of technological museums in recent years has resulted almost exclusively from the activities of local governments and private persons who initiated museums covering industrial heritage, technological heritage, monuments of technology, etc.

The situation was different with respect to state museums. Poland's core museum Museum of Technology in Warsaw established in 1955 by the Central Technical Organisation NOT was recently deprived of funding from the state treasury, and has



Steam train belongs to Railway Museum in Jaworzyna Śląska entering to Wrocław, 2016

materially deteriorated. As a result of the agreement concluded in 2017 by NOT on the one hand, and the Ministry of Culture and National Heritage, Ministry of Science and Higher Education and the City of Warsaw - the National Museum of Technology was established (by the two Ministries and the City of Warsaw) which took over the premises, collections and archives of the former NOT Museum of Technology - and thus it became the state-owned National Museum of Technology. Now the Museum is being reorganised. Branches of the Museum of Technology, including historic industrial facilities from the beginning of Poland's industrialisation of mid-19th century, were largely taken over by local governments.

Transformation has also affected Poland's major railway museum in Warsaw. The Museum is now being transformed and waiting for the construction of its new premises. The last European operating steam depot in Wolsztyn operating regular railway lines was transformed into an institution of culture. In 2017 it resumed regular railway service with steam locomotives.

## EDUCATION

Education in the history of technology and protection of industrial heritage has been offered at university level since the 1970s. History of technology is offered at most technological universities

as an element of broader curricula. Autonomic classes in history of technology are available at the Universities of Technology in Wrocław, Gliwice and the AGH University of Science and Technology in Kraków.

Protection of industrial heritage is now occasionally present and mostly with other core subjects. The curriculum on protection of industrial heritage for students of the Faculty of Architecture of the University of Technology in Wrocław is an exception.

## ACTIVITY OF TICCIH POLAND

Since its establishment in 1978, the Polish TICCIH Committee (PK TICCIH) has been supporting and initiating actions in the sphere of protection and interpretation of industrial heritage in Poland. The intensified activity last year resulted from the reconstruction and activation of the organisational structures of PK TICCIH.

Members of the organisation were involved in rescuing historic industrial facilities in Silesia, including historic mining facilities. The organisation is involved in the preservation of the historic Gdańsk Shipyard in Gdańsk. Now, the members of PK TICCIH are working on a management project for the historic Neolithic flint mine in Krzemionki near Ostrowiec Świętokrzyski as the Museum has filed an application to the UNESCO World Heritage List.

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Over the last three years, members of PK TICCIH were involved in:

- a cycle of conferences organised in the Zinc Smelting Museum Walcownia in Katowice (2016, 2017)
- organisation of a national exhibition titled 100 years of motorisation in Poland
- efforts to protect industrial landscape around the historic Katowice Mine, adapted to house the Museum of Silesia.

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- <https://www.muratorplus.pl/inwestycje/inwestycje-komercyjne/fabryka-norblina-przed-i-po-rewitalizacji-zdjecia-i-wizualizacje-aa-ATd7-pEum-jrwC.html>
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- <http://prawo.sejm.gov.pl/isap.nsf/search.xsp?status=A&title=ustawa+o%20ochronie%20zabytk%C3%B3w>
- [https://www.nid.pl/pl/Informacje\\_ogolne/Zabytki\\_w\\_Polsce/Pomniki\\_historii/](https://www.nid.pl/pl/Informacje_ogolne/Zabytki_w_Polsce/Pomniki_historii/)
- <http://www.mkidn.gov.pl/>
- <http://bip.mkidn.gov.pl/pages/rejstry-ewidencje-archiwa-wykazy/rejstry-muzeow.php>
- [https://pl.wikipedia.org/wiki/Muzea\\_w\\_Polsce](https://pl.wikipedia.org/wiki/Muzea_w_Polsce)





© Vista Alegre

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## INTRODUCTION

The situation of industrial heritage in Portugal has not changed significantly since the previous Report. Successive governments have been dominated by the absence of a global policy for the area of industrial heritage, including its museology. There isn't any concern for the inventory or a national plan for safeguarding the industrial heritage, which is increasingly threatened and disappearing. There are, however, some positive aspects in the academic and associative world and also in the municipalities.

## PUBLIC POLICIES

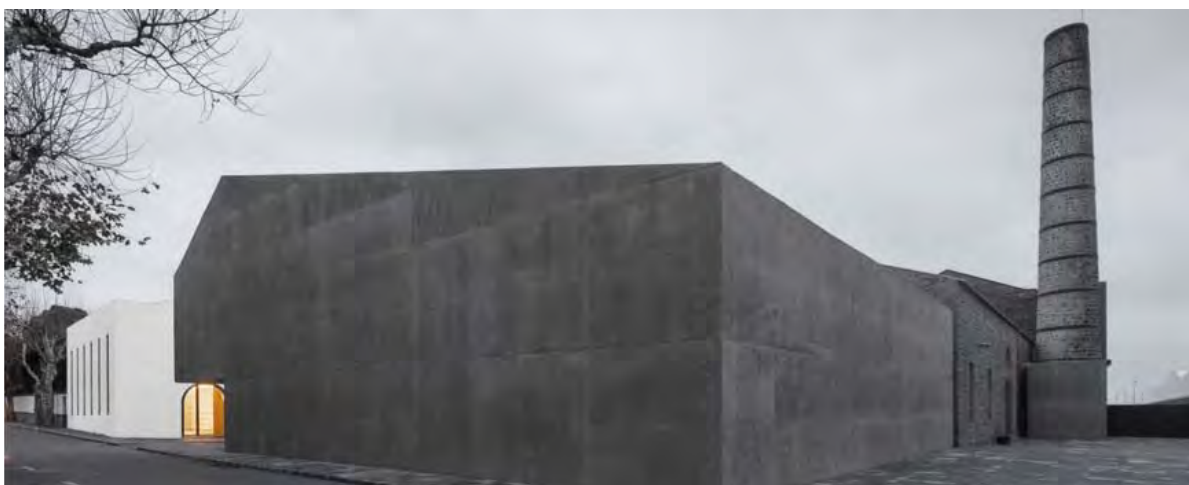
Governmental Public policy for industrial heritage was limited to a few proposals for classifying industrial sites and measures to safeguard the tile heritage. Concerning the municipalities, its action focused mainly on four aspects: regeneration of abandoned industrial areas (including, in some cases, former industrial sites), promotion of industrial heritage, installation of industrial museums and interpretation centers, and creation of industrial tourism projects.

Regarding the classification of industrial heritage, the Government

has opened a number of processes related to sites located in various parts of the country, which are currently in the assessment phase. These include the 'Carpinteira Brook Industrial Complex' in Covilhã, the important 'Barreiro Railway Complex,' the 'Set of properties linked to the industrial activity and social work of Companhia União Fabril,' also in Barreiro, the old flour mill 'A Napolitana' in Lisbon, or the 'Fábrica do Inglês' in Silves, a centenary cork factory transformed into a museum, which in 2001 scooped the prize for best European Industrial Museum (Luigi Micheletti Award).

As for the municipalities, the Covilhã Municipal Council classified the 'Escadinhas do Castelo wool drying ground,' a historical symbol of great relevance for a city that had its main activity in the wool industry, and the Santiago do Cacém City Council classified the former 'São Domingos Flour Mill,' now the Flour Museum. The Municipal Council of Guimarães proposed to UNESCO to duplicate the classified area, inscribing the 'Leather Zone' in the indicative list to obtain the status of World Heritage. The Town Councils of Porto and Vila Nova de Gaia are part of a European project to classify the Bridges Maria Pia and Luís I, together with the bridges of Münstener (Germany), the Ponte San Michele (Italy) and the Garabit viaduct (France), as World Heritage Sites.

In March 2017 Parliament unanimously adopted a resolution to establish the date of May 6th as National Tile Day. In addition,



© Arquipélago – Contemporary Art Center

in August 2017 a law was passed prohibiting the demolition or removal of façades covered by tiles throughout the national territory. An online archive with thousands of photographs and drawings of tiles and ceramics, [DigiTile](#), was also created.

The Portuguese Post Office have regularly edited series of stamps dedicated to industrial heritage, namely the philatelic series 'EPAL, 150 years,' commemorating the sesquicentenary of the company that started the distribution of water in Lisbon, or the series 'Electricity in Portugal,' on the history of electric power in Portugal over the last hundred and fifty years. Worthy of mention is the 'Fish Canning Industry' philatelic series, which won the WIPA 2017 Grand Prix, conferred by the Vienna International Philatelic Exhibition, and having been voted the most beautiful in the world among those produced in 2016. This issuance of six stamps was the first ever to be sold to the public inside a real tin of canned fish (without fish, of course).

## MAIN PROJECTS OF CONVERSION OR REHABILITATION

The St Vincent Shaft, from the former coal mining complex of São Pedro da Cova, Gondomar, abandoned for decades, was finally rehabilitated. Deactivated 50 years ago, the São Domingos Mine, in Mértola, will be environmentally requalified. The Lisbon City Council will rehabilitate 34 former workers dwellings, to promote affordable housing there, especially for young people. The Municipality of Sintra has recovered an old Lime Kiln, contemplating the consolidation of the walls and the treatment of the floor, as well as of all the surrounding space. On the São Miguel island, Azores, a former alcohol and later tobacco factory in Ribeira Grande, was fully recovered and reused for the installation of the 'Arquipélago – Contemporary Art Center.' The former Gaivotas Glass Factory, in Lisbon, was recovered and reused as a student residence with a capacity of 100 rooms. In S. João da Madeira, the emblematic building of the former Gold Garage will be requalified and adapted to receive a modern clinic. In Leiria, the facilities of the former Leiriense Flour Company underwent an ambitious recovery project

to its conversion into a luxury condominium. The Santa Maria da Feira municipal slaughterhouse was recovered and reused, with the installation of 'Imaginarius Creation Center - Art and Public Space.' The historic Ginjal Pier in Almada is undergoing a reuse plan that will destroy the existing industrial heritage on that riverfront to allow the construction of housing, hotels, commerce and services.

## NEW SITE MUSEUMS

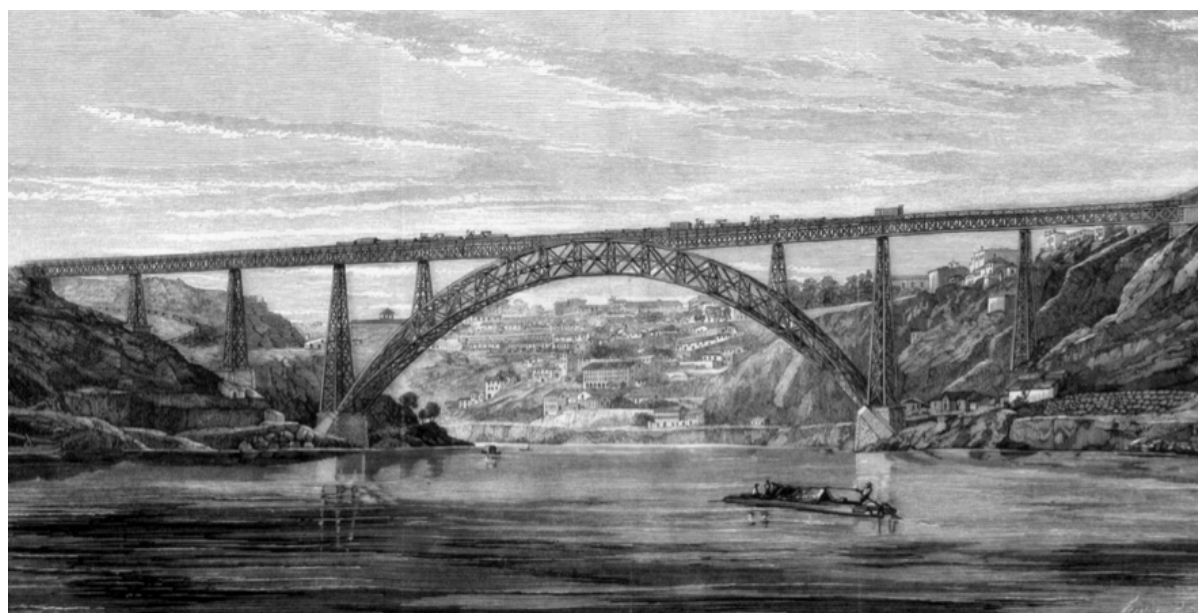
The National Railway Museum, in Entroncamento, was inaugurated on May 18, 2015. The Municipality of Vimioso inaugurated the Mines of Argozelo Interpretive Center, a space where the history of the exploitation of wolfram will be preserved, and the the Borralha Mines Interpretive Center was inaugurated in August 2015 in Montalegre. The 'A Vianense' 'Chocolates Factory, in Viana do Castelo, operating since 1914, has inaugurated a small interactive museum. The Municipal Council of Freixo de Espada à Cinta, inaugurated a new museum dedicated to silk craft production.

The Porto Tram Museum, closed for three years for rehabilitation works, reopened in November 2015. The Vista Alegre Museum, in Ílhavo, reopened in February 2016 after enlargement and renovation works, now assuming as its mission the safeguarding, investigation and interpretation of the industrial heritage of the Vista Alegre Porcelain Factory. The Sever do Vouga Municipal Museum, with a strong component dedicated to the local industrial and mining heritage, was inaugurated in March 2016. The Sesimbra Maritime Museum, inaugurated in May 2016, devotes a special attention to the history and evolution of fishing, its social importance, and its techniques. The Footwear Museum, in S. João da Madeira, opened to the public in November 2016. The Textile Museum, installed by the Castelo Branco Municipal Council in the former Corga Wool Factory, in Cebolais de Cima, was inaugurated in July 2017. The Duarte Ferreira Metallurgical Museum, an old historical factory located in Tramagal, was inaugurated on May 1, 2017. After its recent recovery, the former Alcobaça Hydroelectric Power Station has opened to the public as a small museum.





© National Railway Museum



Maria Pia Bridge

## PROGRESS IN INDUSTRIAL HERITAGE

In 2016, the company 'ERA Arqueologia' carried out an important archaeological excavation in the former 'Vulcano e Colares' metallurgical workshops, in Lisbon. This project, still in progress, will preserve the exhumed pieces, with a view to the scientific publication and preservation / musealization of the results of the excavation. 'Traditional lime kilns in Portugal: a contribution to their record, inventory and divulgation' is a scientific project of archaeological excavation, with national scope, that counts on the

approval of the General Direction of the Cultural Heritage. The National Railway Museum announced the signing of a contract with the British company 'Heritage Traction Rail Services Ltd,' for the complete restoration of two emblematic vehicles of the Portuguese railway history. The tile heritage of Caminha Railway Station, on the Minho Line, is already recovered, as are the tiles from the Oeste Line stations.

During the period under review several important exhibitions were held. The Sacavém Ceramics Museum (EMYA Award in 2002



in the category of Industrial and Technical Museum) organized two interesting exhibitions on two already disappeared factories, the Olaio Furniture Factory and the Sacavém Tableware Factory. The River Ave Valley Textile Industry Museum, in Vila Nova de Famalicão, celebrated its 30th anniversary in 2017 with the exhibition 'Francisco Inácio da Cunha Guimarães (1864-1947): a pioneer in the Ave Basin textile industry.' The Municipal Council of Ovar organized two excellent exhibitions, one on rope and another on cooperage. The Matosinhos House of Design presented an exhibition on 'Portuguese motorcycles,' in which the history of motorbikes produced in the country was revisited. The Amadora Municipal Museum of Archeology also presented the exhibition 'The Santos Mattos Corsets Factory,' founded in 1895.

There were also important congresses, organized by APPI - Portuguese Association for Industrial Heritage/TICCIH Portugal: in 2016, in Lisbon: 'Reutilization of industrial sites: a challenge for heritage conservation' as the main theme, and in 2017 in Guimarães, the IV International Meeting on Industrial Heritage and its Museology. In addition to these initiatives, APPI has developed numerous activities in the safeguarding of industrial heritage (as in the case of the Tua Railway or the Robinson cork factory), intervening in the media, or publishing, including the only review in Portugal devoted to industrial archeology.

During the period under assessment, numerous Master's and PhD dissertations were defended on many aspects of industrial heritage: rehabilitation of plants, industrial museology, industrial tourism, mines or industrial architecture.

## OBSTACLES TO THE PRESERVATION OF INDUSTRIAL HERITAGE

Nevertheless, the destruction and threats to the industrial heritage remain. The public rail operator has sold to private parties a Mallet steam locomotive, as well as the historic Neapolitan carriages, in the latter case to carry out tourist trips in Spain. A small railway museum located in Lagos containing some of Portugal's oldest and rarest trains has been left abandoned for years, with the authorities admitting that they do not have funds to reopen it.

Despite an international campaign developed by APPI, it was not possible to save the Tua Railway, which was partially submerged by a controversial hydroelectric dam. An industrial bakery in Vila Real, projected by Nadir Afonso is at risk of demolition, despite the numerous protests and the Docomomo International statement on its outstanding importance and meaning.

The Maria Pia Bridge between Porto and Gaia, a remarkable work by Théophile Seyrig classified as International Historical Civil Engineering Landmark, remains without preservation solution more than 25 years after its deactivation. The project currently under way to transform former Port Wine warehouses in Gaia, covering an area of 30 thousand square meters, has raised concerns, including from ICOMOS, which has given it harsh criticism.

The former Medical Office of Companhia União Fabril, in Barreiro, was demolished despite its patrimonial value and a public petition for its recovery and musealization. Several historical factories of the Portuguese industrialization are threatened, among them the Robinson Cork Factory, founded in 1837 in Portalegre, the Radio Marconi Portuguese Company, founded in 1925 in Vendas Novas to explore the radio-telegraphy and wireless telephone, which is abandoned and without a safeguard project, the 'Confiança' Soap Factory, founded in Braga in 1894, which is in danger of being demolished, or the Devesas Ceramics Company, founded in Gaia in 1865, that is in a state of total degradation despite the successive announcements of its rehabilitation.

## INDUSTRIAL TOURISM

In recent years industrial tourism has attracted a great deal of interest, although concrete projects are still small in numbers. The Portuguese Quality Institute published in 2017 the 'Industrial Tourism. Industrial Tourism Services' Standard which is intended to provide common quality services to all industrial tourism sites. With regard to industrial tourism itineraries, the already established 'S. João da Madeira Industrial Heritage Circuits' expanded the offer to the graphic arts and the bedding industry, with the integration of the following factories: Bulhosas (1935), Molaflex (1951) and Flexitex (1964). In 2017, the 'Circuits,' as well as the National Railway Museum (in Entroncamento and Lousado), joined the European Route of Industrial Heritage as Anchor Points. Recently, the establishment of the Portuguese Industrial Tourism Network was announced. As for new projects, Seia Town Hall has created an industrial tourism network in the municipality, called 'Routes of Electricity,' and Symington Family Estates inaugurated in Gaia a new Cockburn's lodge, with a museum, wine tasting rooms and a working cooperage. The Ave Intermunicipal Community is developing an industrial tourism project for the River Ave Valley region. The Douro Historic Train has also been growing in demand.

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Industrial heritage as an important part of tourism in Mezica. Visit to the underground mine museum is possible by bike and even by canoe. Photo: Podzemlje Pece, d.o.o.

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a web site with the support of the Slovenian National Commission for the UNESCO and ICOMOS Slovenia. Web site: <http://www.slo-ind-ded.si>

Since 2017 we are also on Facebook: <https://www.facebook.com/SLOindustrial.her>

## INTRODUCTION

In May 2016, Patrick Martin, President of The International Committee for the Conservation of the Industrial Heritage (TICCIH) and, Sonja Ifko, President of The Slovenian working party for industrial heritage / Slovenska delovna skupina za varstvo industrijske dediscine (SLO-IND-DED) signed an agreement that Slovenian working party for industrial heritage represents TICCIH in Slovenia. The national TICCIH committee was established in September 2016.

The Slovenian national board of TICCIH has been closely cooperating with ICOMOS Slovenia and other professional organisations in the field of cultural heritage since it was established in 2016. In 2015 The Slovenian working party for industrial heritage launched

## TRENDS AND ATTITUDES TOWARD THE INDUSTRIAL HERITAGE

In the period 2015-18 attitude towards industrial heritage in Slovenia has improved due to several professional activities and promotional actions. Heritage category has become more recognizable among professional and general public, although there are still many tasks and open questions to be solved in the future. More sites got statutory protection, some of them were declared as monuments of local importance. There haven't been any changes in the institutional framework lately, however the existing system is still sufficient. Improvements are needed in the system of classification of industrial heritage sites in the national register of immovable heritage.





The excursion to the Ironworks Jesenice was a part of the symposium Protection and reuse of industrial heritage: Dilemmas, problems, examples, October 2015. Photo: Sonja Ifko.

Besides the Slovenian working party for industrial heritage there is also a museum professional's association related to industrial heritage - Section for Technical Heritage at 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. Several meetings, educational programs and presentations are organized every year as well.

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, the Coal mining museum of Slovenia, City museum of Ljubljana, Gornjesavski muzej Jesenice, Koroski pokrajinski muzej, Muzej narodne osvoboditve Maribor, and Zasavski muzej Trbovlje. Several of those museums organized a 2017 common traveling exhibition on the International Workers' Day - the 1st of May and its celebration in the socialistic times in Slovenia.

#### Links:

- Technical museum of Slovenia: <http://www.tms.si/index.php?&lang=2>

- The coal mining museum of Slovenia: <http://muzej.rlv.si/en/>
- Idrija municipal museum: <http://www.muzej-idrija-cerkno.si>

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 in Heritage interpretation. As part of the last course the students prepared an internet platform 'Nome nest Omen': <https://nomenestomensite.wordpress.com>

## OUTSTANDING PROJECTS AND NOTABLE CASES OF THE REHABILITATION

In October 2015, TICCIH Slovenia participated in the 2nd International symposium on cultural heritage and legal issues 'Protection and reuse of industrial heritage: Dilemmas, problems, examples.' It was organized by ICOMOS Slovenia and The Institute for the Protection of Cultural heritage of Slovenia in the cooperation with The Managing Diversity Division, Directorate for the Democratic Governance of the Council of Europe.

National and international experts discussed problems and poten-



Renovated Hg Smelting plant in Idrija in 2017. Photo: CUD Hg Idrija.

tials of preservation and revitalization of industrial heritage sites. The special focus was the situation of the industrial heritage in South East Europe region from where most presenters came from.

In May 2016 ICOMOS Slovenia and the Council of Europe organized a meeting 'Opportunities and challenges of industrial heritage in Europe: integrating experiences' at The Faculty of Architecture, University of Ljubljana to discuss the possibilities of better cooperation among experts in the field of industrial heritage. Representatives of TICCIH Slovenia, Sonja Ifko and Irena Marusic, were invited to the meeting. Several European experts were invited too, among them the general secretary of TICCIH and vice president of ICOMOS UK Stephen Hughes and the President of the National Scientific Committee ICOMOS Ireland, Executive Member of the Industrial Heritage Association of Ireland, and Irish National Representative of TICCIH Mary McMahon.

In relation to strategies for more effective cooperation on the issues of industrial heritage on the European level, Stephen Hughes presented 'TICCIH & The European Industrial Heritage', whereas Mary McMahon presented a contribution entitled 'ICOMOS - Review of Operational Arrangements for Industrial Heritage.'

In the ensuing debate proposals arose to strengthen the cooperation on the European level, especially in the SEE region, but also

beyond. They underlined the importance of presenting the successful practices to the wider audience as promoters of industrial heritage.

In 2017 a renovated Hg Smelting plant was opened in Idrija. It holds an interactive exhibition 'From Ore to Mercury Drops' where visitors can learn about the unique liquid metal mercury and trace the development of smelting furnaces through five centuries.

Hg Smelting plant is a part of World heritage property 'Heritage of Mercury. Almadén and Idrija' which includes the mining sites of Almadén (Spain), where mercury has been extracted since antiquity, and Idrija, where mercury was first found in AD 1490. Project was financed by EEA Grant. About project: <http://www.cudhg-idrija.si/en/idrija-topilnica/>

The Technical Museum of Slovenia opened a temporary exhibition 'Knowledge without Frontiers' in March 2018, which highlights the fact that migrations of scientists and knowledge profoundly affects achievements in science and technology. The selected stories overlooked positive impact of migration on our society.

The exhibition presents 14 individuals whose achievements went beyond what is ordinary and known – some of these achievements retained such status to the present day. Exhibition coincides





Meeting Opportunities and challenges of industrial heritage in Europe: integrating experiences, Ljubljana, May 2016. Photo: Sonja Ifko.

with the European Year of Cultural Heritage and underlines how science and technology are also an important part of our heritage. About exhibition: [www.tms.si](http://www.tms.si)

In March 2018, ICOMOS Slovenia and TICCIH Slovenia organized, in collaboration with Associations of Municipalities and Towns of Slovenia, University of Ljubljana Faculty of Architecture and Slovene Museum Association, a conference 'Innovative cultural tourism - Opportunities and challenges of revitalizing industrial heritage areas.' The conference was financially supported by the Ministry of Culture.

It was organized as part of the 2018 European Year of Cultural Heritage activities with the intention to present the importance of the industrial heritage areas for the development and to show their hidden potentials. Some of them have already been recognized and successfully developed as innovative centers of cultural tourism.

Several positive experiences, by different stake holders (owners, experts, professionals, public, local community...) were presented. Among them Slovenian world heritage site Idrija and museum

mine Podzemlje Pece, formerly known as 'Zinc and lead mine Mezica.' The conference has enabled a network of all those working in the field to work together more efficiently. It was very well visited, delegates from more than 50 municipalities came.

## SIGNIFICANT PUBLICATIONS

In 2017 a monographic publication 'Protection and reuse of industrial heritage: Dilemmas, problems, examples' was published by ICOMOS Slovenia. It presents selected papers of the symposium with the same name, organized in October 2015 by ICOMOS Slovenia with the support of the Directorate General of Democracy/DG2/ Directorate of Democratic Governance, Culture and Diversity of the Council of Europe, Institute for the Protection of Cultural Heritage of Slovenia, Ministry of Culture of Republic Slovenia and TICCIH Slovenia. The publication is available at: <http://en.icomos.si/publications/publication-icomos-slovenia-2/>





Historical complex in Reunión Mines (Minas de la Reunión) in Villanueva del Río (Seville), which now lodges a Laboratory of applied investigation on industrial heritage.

**Miguel Ángel Álvarez Areces** - President, TICCH Spain;  
[incuna@gmail.com](mailto:incuna@gmail.com)

## ACTIVITIES OF TICCIH ESPANA 2015-2018

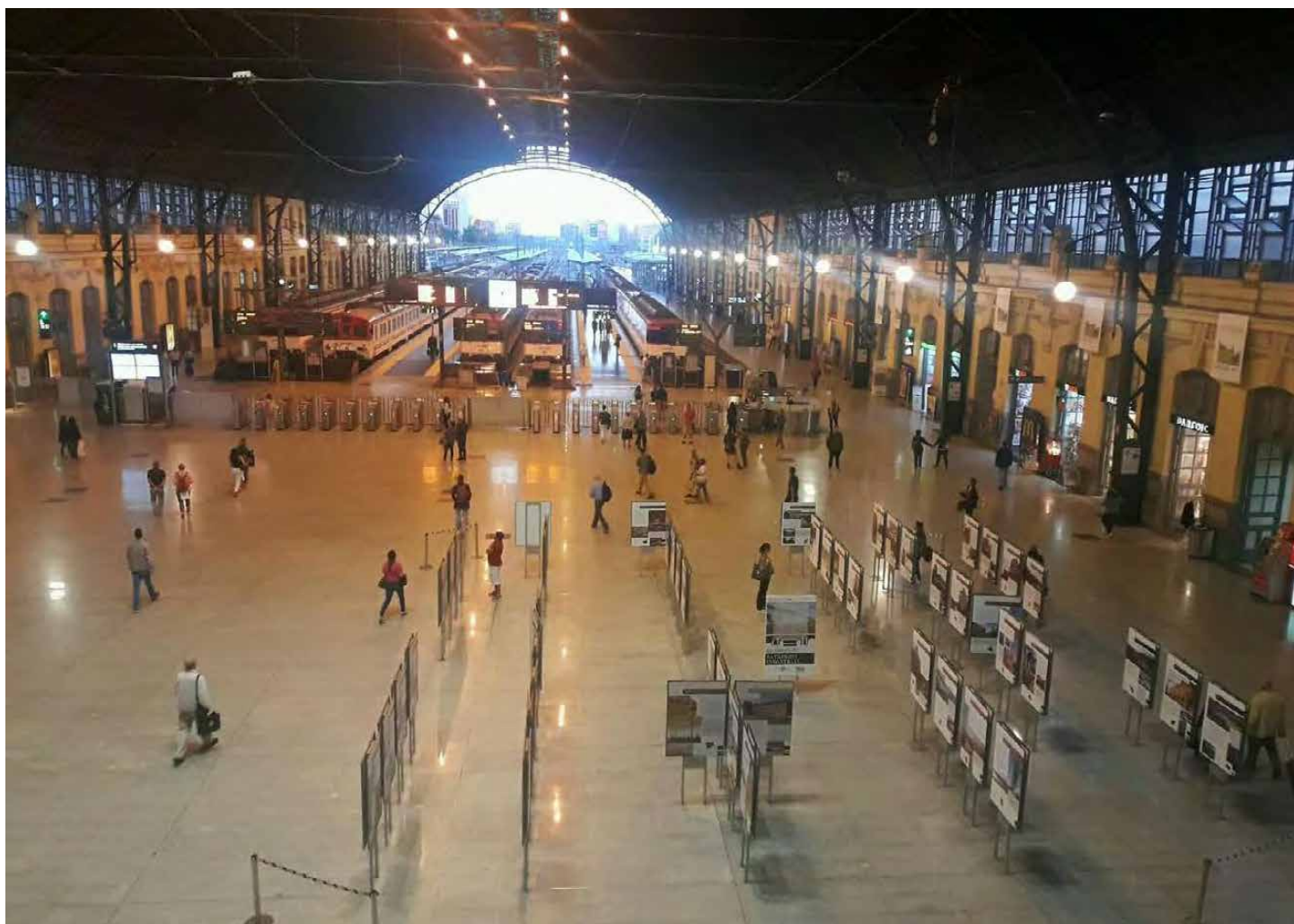
National congresses have been customarily held every three years, and so the highly successful 7th National TICCIH Spain Congress was held from 5th to 8th July 2017, on 'Industrial Heritage, environmental impact and territorial regeneration strategies' in As Pontes de García Rodríguez (Galicia), with the support of the local Town Council, Galician Universities and some other public and private institutions.

As Pontes is home to the biggest open-air coal mine in Spain. The company has recently invested in its environmental regeneration, by shaping up a big lake and natural wildlife areas next to an active thermal power station, which include spaces for cultural, social and sport uses. There is also a Mining Museum and a peculiar company town, both run by the town council after ENDESA, the former owner of this outstanding industrial heritage complex, handed it over.

Over 80 remarkable papers were presented to a large audience during the congress. The high-quality academic, methodological and informative contents ranged from 'open air landscapes' and industrial tourism, to territorial regeneration strategies, corrective mechanisms and effective protection policies against environmental impact and consequences.

The 7th TICCIH Spain Congress also presented some relevant investigations and proposals for the regeneration of industrial landscapes, along with the environmental sustainability of industrial heritage.

The publishing of the minutes for this 7th TICCIH Spain Congress follows up on the editorial policy of the latest congresses, seminars and conferences, like the one on 'Working Class Lodging and Industrial Towns in the 20th century.' The books published by TICCIH have become basic referents on national libraries and documentary centres as regards training and knowledge of industrial heritage and public works in our country.



Valencia North Railway Station (Estación de Ferrocarril del Norte en Valencia) at the time of the opening of the '100 elements of industrial heritage in Spain' by TICCIH,

## EDUCATION AND TRAINING

TICCIH, as an institution, and the members of its board and partners have taken part in the most important events on industrial heritage academic training and dissemination. They cooperate with and support the 20th INCUNA (Industria, Cultura y Naturaleza) International Industrial Heritage Congress to be held this year 2018 on 'Resilience, Sustainability and Innovation.'

TICCIH also takes part in the International Seminar on architectural heritage held in Madrid by UPM, whose 5th edition dealt with the management of industrial heritage in contemporary cities. It extends its support and counsel to some other events held by various archaeology associations, foundations or Universities such as Friends of Mnactec Association (Asociación Amigos de Mnactec) in Catalonia, la Sierra Minera Foundation (Fundación Sierra Minera) in Murcia, Basque Association for industrial heritage and public works (Asociación Vasca de patrimonio industrial y obra pública) or Valencian Association for industrial heritage (Asociación Valenciana de patrimonio industrial).

Worth mentioning as well is the Investigation Seminar 'Considering industrial heritage. 21st century challenges' ('Pensando el Patrimonio Industrial. Los Retos del Siglo XXI') sponsored by the Andalusian Studies Centre (Centro de Estudios Andaluces) of the Junta de Andalucía, the ETSAM of Seville University, Villanueva del Río town council and the cooperation of TICCIH Spain.

The seminar sessions took place at Seville Higher Technical Architecture School on 17th and 18th May 2018, leaving that Saturday for an experience workshop to the mining complex in Villanueva del Río, now turned into a Laboratory and a guided visit to the exhibition 'Southern factories' ('Las Fábricas del Sur'). The seminar coordinators were Julián Sobrino and Marina Sanz, who chaired the debates and drew up summaries and conclusions after the speeches and the intense discussion and reflection activities carried out by nearly thirty experts and investigators from universities, institutions and associations on industrial heritage from all over the country. This innovative seminar will surely become a reference in the near future, not only for civil society approaches and activities, administration managers and politicians, but also as regards aca-





View of the mining village complex in Bustiello (Asturias), declared an Item of Cultural interest in 2017

demic investigation methodology and approach. All of it will gain visibility in a book which collects the lectures and speeches by the participants, as well as the publication of a Chart or Resolution of the conclusions and summary of this important meeting in Seville.

Within the framework of the training programs in the Heritage School (Escuela de Patrimonio), dependant on the Spanish Cultural Heritage Institute (Instituto del Patrimonio Cultural de España – IPCE) several seminars are held every year, some of them with the participation of TICCIH members. We would like to highlight 'Industry in the landscape: heritage in isochrony and memory' ('La industria en el paisaje: patrimonio en isocronía y memoria') held in Nájera in June 2015, and its recent publication.

The president of TICCIH Spain, Miguel A. Álvarez Areces, also directed a Congress on 'Inventories and new technologies in industrial heritage management' ('Inventarios y Nuevas Tecnología en la gestión del patrimonio Industrial'), at the IPCE headquarters in Madrid in June 2016, whose objective was to get to know the state of the question and the methods and tools used when elaborating registries and inventories in the different Spanish regions, including the updating of computing and digital tools and programs.

Another course, this time in Basque Country and Valencia was the one on 'Good practices in Industrial Heritage' ('Buenas Prácticas

en Patrimonio Industrial') in 2017, with the participation of IPCE technicians and TICCIH experts.

TICCIH has kept up the exhibition circuit for '100 elements of industrial heritage in Spain' ('100 elementos del patrimonio industrial en España'), which opened in 2016 at Asturias Railway Museum in Gijón and Oviedo University in Mieres (Asturias) and was presented in 2017 at the old Railway Station in Valencia in collaboration with the regional government. Said exhibition has proven really effective in disseminating the important heritage from Spanish industrialization to a wide range of citizens. Up to now, it has been exhibited in 17 venues and visited by some 75,000 people all over the country.

## PROMOTION AND SUPPORT

As regards the National Plan for Industrial Heritage (Plan Nacional de Patrimonio Industrial - PNPI), TICCIH experts take part in its follow-up commission, which has produced some remarkable study and investigation contributions, among them the 'Census of hundred-year-old companies' ('Censo de Empresas centenarias'), which includes and elaborates on Spanish companies which have been in operation for over one hundred years and remain as 'alive industrial heritage.'

The 'Catalogue of Spanish dams prior to 1926' ('Catálogo de pre-





As Pontes de García Rodríguez. Open air landscape, Paisaje a cielo abierto. Thermoelectric station and coal mine turned into a lake, This town held the 7th TICCIH Spain Congress in July 2017.

sas españolas anteriores a 1926') was compiled and presented in 2017 at one of the meetings of said follow-up commission. It includes waterfalls which produced electricity for industrial purposes and is now also available online.

The resulting list compiles an important group of dams built since the 19th century up to 1926, including some representative medieval barriers and constructions from between the 15th and 18th centuries which were later re-used in modern or contemporary times for industrial purposes. This catalogue comprises information on the industrial hydraulic system: the dam itself, the industrial element it provides for and all necessary components for its operation, therefore making it possible to understand how the industrial complex works as a whole from an extensive point of view which includes the territorial and spatial relationships of said systems.

A group of investigators from the UPM Higher Technical Architecture School in Madrid and some TICCIH partners have carried out an interesting documentary compilation of industrial architecture in Spain between 1940 and 1975.

The IPCE and some other organs in the Administration is studying the design of a SIG system as an instrument of dissemination

of heritage in general and industrial heritage in particular; those items listed as highest- protection BIC (Items of Cultural Interest); it would also promote the publication of studies on industrial heritage. Those items of industrial heritage were selected in the study carried out for the SIPIE data base in 2014 by a team which included members of TICCIH Spain.

The First INCUNA Film Festival about Industrial Heritage and Cultural Landscapes will be held in Asturias from 20th September 2018, with the collaboration of public and private Spanish institutions. It will be the first event of its kind, where such an important tool as film will systematically be used to raise awareness on and disseminate the heritage of industrialization. 112 films from 38 different countries have been selected to compete for the Festival awards.

## PROTECTION, SAFEGUARD, ENDANGERED HERITAGE AND 'GOOD PRACTICES'

In the past three years, around 30 industrial heritage items and complexes have been listed as highest protection Items of Cultural Interest (BIC) in Spain: the Santa Eulalia colony, Sax-Villena in Alicante; the Silo in Córdoba, the Mariola Banyeres in Alicante, the San Isidro Sugar Factory in Granada, a portion of the Cartagena Mountain Range and La Unión Mines in Murcia; also, the protec-

tion has been increased in the Almadén complex which is now part of UNESCO world heritage; the piers and docks in Barakaldo, Biscay; the historical complex of Bustiello mining village in Asturias, the Monegros Flour Factory in Sariñena (Aragón), Eugi Gun Factory in Navarra, the chimneys in San Adriá de Besós, Barcelona, the mining complex in Almadenejos in Castilla La Mancha or the Textile Factory in Sóller, Majorca, among others.

Although this advancement in the legislation for the preservation of industrial heritage elements and complexes in Spain is positive, we consider that, at the same time, the situation of abandonment, vulnerability and destruction of most of the historical heritage of our country's industry has also worsened.

This lack of protection is due to the lack of action by the Public Administration, who do not follow up on the effective implementation of those laws in the face of the continuous attacks on and the abandonment of the industrial heritage; it also shows the lack of sensitivity and knowledge of wide sectors of the population as regards this kind of heritage, which is another factor in the way preservation policies handle the problem of deterioration.

The costly processes for the integral recuperation of original elements of industrial heritage are behind the lack of interest to preserve it, and the disparity of criteria quite often brings about demolition and destruction. Obsolescence, the lack of projects for alternative uses and the owner's expectations of economic profit also motivates the decision to generate urban land, along with the abandonment in the rural environment, rather than finding any proposals for preservation, refunctioning or new uses.

Heritage is steadily built day by day, it is not only memory, it is also present, and to a certain extent, a project for the future. A real and present danger is to overestimate reality, considering everything as heritage; interventions in times of economic recession must bear in mind the dynamisation of local economies as linked to production, trade and tourism within a process of quantitative and qualitative reordering of heritage actions in the territory, making it clear that heritage is the backbone of society, keeping the verticality of relationships in all heritage interventions, their uses and revaluation by a section of the population.

## NOTES

1 Vv.Aa. 'Industry in the landscape: isochrony and memory,' Ábaco culture and social sciences magazine, n° 86, Gijón 2015.

2 <http://www.mecd.gob.es/planes-nacionales/planes-nacionales/patrimonioindustrial/actuaciones/catalogo-presas.html>

3 García, Rafael, architect and lecturer at ETSAM (Higher Technical Architectures School in Madrid) is the author of this paper on architecture and industry which can be found at <http://www.arquitecturaeindustria.org>

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Falu copper mine world heritage site – one of the sites in focus for the large industrial heritage project 'Bergslagssatsningen'. Photo: Dag Avango.

**Dag Avango, Catarina Karlsson and Magdalena Tafvelin-Heldner**

The organization representing TICCIH in Sweden is Svenska industriminnestföreningen (SIM) / The Swedish Industrial Heritage Association. SIM is a network for industrial heritage professionals with the objective to support research, preservation and conservation efforts within the field of industrial heritage. It cooperates with ICOMOS Sweden, Europa Nostra Sweden, and other organizations in Sweden dealing with heritage. All members of SIM are members of TICCIH.

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## EXECUTIVE SUMMARY

Industry in Sweden has been dominated by the exploitation of raw materials – mining, forest, energy – but also engineering, chemicals, food and ICT. The country has been subject to de-industrialization in recent decades. Some legacies of former industry have been subject to heritagization processes, official and unofficial. Over the reporting period 2016-18, state agencies and authorities on regional and local levels have been running a number of large projects aimed at promoting IH. The Swedish TICCIH section's work has focused on handing out the annual

prize 'The industrial heritage site of the year'. Universities and industry related research organizations have also started up major research projects on IH.

## INDUSTRIAL HERITAGE

Industry in Sweden has been dominated by branches utilizing raw materials available in the country – mining, steel, other metals industries, pulp-, paper- and saw mills and energy (hydro- and nuclear). Another prominent branch is the engineering industry and in recent decades industries producing hard- and software within ICT. A range of other industries have grown and declined – textiles, chemicals, food, to name three. In a manner similar to the rest of the western world, rationalization and globalization has led to a de-industrialization in Sweden since the mid-1970's, leaving derelict industrial areas and transformed landscapes behind. Many of these have been removed or transformed in regeneration projects, others have simply been left behind while some have been subject to heritagization processes.

## ACTORS

The organizations in industrial heritage (IH) in Sweden can be divided into official and unofficial heritage actors. On the official side, The Swedish National Heritage Board (RAÄ), an agency of





The blast furnace at Långban, an industrial heritage site which municipal and regional authorities have used as a resource for integration of refugees in the local community. Photo: Dag Avango.

the Swedish government, are responsible for all heritage on the national level. They work with industrial heritage under the broader category of 'the heritage of modern society'. They support SIM and other industrial heritage initiatives. On the regional level, the county administrative boards are responsible for heritage preservation. The boards involvement with IH has declined. On the local level, the municipalities are in charge of heritage preservation, including IH, which they conduct as a part of regular municipal planning. Related to this are builders, architect firms and consultancies who deal with industrial heritage through their involvement in various urban and rural regeneration projects. 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 a number of county museums.

There is also various actors in the unofficial heritage sphere who deal with industrial heritage, networks such as Industrihistoria i Skåne and Industrihistoria i väst and various archives. Others are organizations within trade and industry. A vital group are the working life museums, in 2017 about 1500.

## HERITAGE PRESERVATION PROJECTS

In the sphere of official heritage, two major industrial heritage projects stand out. The first is 'Gruvuppdraget' (the mine mission), which RAÄ conducted as a part of the Swedish government mineral strategy. The objective was to develop new ways of using mines listed as cultural heritage, as tools to achieve local development. The project ended in 2017 and generated a collec-

tion of reports (downloadable <http://samla.raa.se/xmlui/discover>). The second is 'Bergslagssatningen' 2007-2017, a large-scale project funded by the county administrative boards in the Bergslagen mining and steel industry region of central south Sweden, and the EU, with the objective to develop heritage tourism, first and foremost involving former industrial sites. The project has also had a R&D group, with representatives from five universities in the region, conducting research and giving lectures. The project generated a number of [publications](#) (a follow up project is currently under way).

Other significant projects in the period are 'Digital Models. Techno-historical collections, digital humanities & narratives of industrialisation' (funded by the Royal Swedish Academy of Letters, History and Antiquities, between 2016-19) – a collaboration between the Swedish National Museum of Science and Technology and the digital humanities hub, HUMlab at Umeå University. Based on selected parts of the museum's collections, the project aims to explore the potential of digital technologies to reframe Swedish industrialization and its stories about society, people and environments (<http://digitalamodeller.se/in-english/>). The museum has also been running a project aiming to develop the remains of the Ågesta Nuclear Plant – the first commercial nuclear plant in Sweden opening 1963 – as IH. The project was exhibited at a joint [TICCIH – ICOMOS](#) conference in 2017 and publications are under way. Other projects at the same museum are the exhibitions 'I'm Alive – Life, Death and Mobile Technology' and 'Digital Now #4: #metoo,' the former exploring refugees usage of smart phones, and the latter an art visualization of social media testimonies in the recent me too movement.

Actors in the heritage sphere in Sweden, including SIM, have also



Carbonic acid factory at the industrial area Lövholmen in southern Stockholm – one of the last industrial areas in coastal location in the Swedish capital, currently under threat of destruction. Photo: Dag Avango.

taken initiatives to save historical remains under threat of being demolished. A particularly important category are 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 EU Water Framework Directive, which requires member states to open up migration routes for fish in inland waterways.

SIM has also taken other initiative over the 2015-18 period, the most important of these being to award the prize 'The Industrial Heritage site of the year'. SIM has awarded this prize since 1995, but over the last two years SIM have developed the criteria for awarding it by putting more emphasis on the way heritage organizations use and narrate their industrial heritage, rather than simply paying attention to the technology and level of preservation. SIM uses the prize as a tool for promoting IH projects which deal with important societal issues, in particular those relating to global goals for sustainable development. The prize tends to draw substantial media attention and the prize ceremony always involve participation from high level officials from regional authorities, making it a valuable tool for the awarded heritage projects in their efforts to raise financial and political support. In 2016 SIM awarded the prize to the paper mill heritage site Lessebo pappersbruk, which has produced handmade paper since the early 18th century, for their successful efforts to combine careful conservation with entrepreneurship. In 2017 the organization awarded the prize to the Långban mining heritage site, for their innovative way of using industrial heritage as a resource for the integration of refugees. Finally, in 2018, SIM gave the prize to a Dalslands kanal (a canal) for not only their impressive way of both using and preserving the canal, but also for promoting water related IH at a time when such sites are under increasing threat from the above-mentioned EU Water Framework Directive.

## INDUSTRIAL HERITAGE SITES

Prominent IH sites in Sweden are available at the Swedish industrial heritage association home page.

## HERITAGE RESEARCH

University based academic research on industrial heritage takes place at divers universities in Sweden – KTH-Royal Institute of Technology, Stockholm University, University of Gothenburg, LTU-Luleå Technological University, Dalarna University, Karlstad University and Södertörn University. In the period 2015-18, KTH has secured some 5 MEUR from funding agencies in the Nordic countries (Mistra, Nordic Council of Ministers, NordForsk, Swedish research council, Formas), for research projects on legacies of industry, dealing with history, heritage, and remediation. The largest initiative is REXSAC – Resource Extraction and Sustainable Arctic Communities – a Nordic center of excellence for Arctic research led by KTH, Stockholm University and Stockholm Environment Institute together with 12 partner institutions in the Nordic countries, North America and Russia ([www.rexsac.org](http://www.rexsac.org)). 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.

Two major research projects have focused on the legacies and heritage of nuclear power. At Södertörns University, the project 'Nuclear legacies: negotiating radioactivity in France, Russia and Sweden', has explored different ways of understanding and dealing with closed nuclear power stations (<https://nuclearlegacies.wordpress.com/>). At Stockholm University, the project 'Atomic Heri-





At the award ceremony of TICCIH Sweden's annual prize 'The industrial heritage site of the year' at Långban, 2007. Photo: Eric Juhlin.

tage goes Critical: Waste, Community and Nuclear Imaginaries' is under way, exploring atomic power as heritage from a critical heritage perspective.

Other projects have studied the role of industrial heritage in urban transformation. Two of those at Gothenburg University have explored the role of industrial heritage in urban re-generation in Gothenburg (Visionens makt: Industrimiljöer, integrerade kulturarv och stadens omvandling) and related challenges with gentrification. One, based at LTU, has focused on heritagization and de-heritagisation in the transformation of the Arctic mining town Kiruna.

A number of research projects have dealt with IH related tourism. Dalarna Högskola is running 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 digitalization – 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 overriding aim is to stimulate new knowledge,

interaction, generation of ideas and synergy effects between academia and industry through development and innovation processes (<https://www.kau.se/en/centre-regional-studies>)

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.

In addition, there are several actors outside of academia, professional organisations conducting research and publishing in books and pamphlets – working life museums and popular history authors.

## PUBLICATIONS

The list of publications on IH in Sweden 2016-2018 is long and available the Swedish industrial heritage association [home page](#).





Harland & Wolff Shipyard, Belfast in 2016. The fabrication shops are film sets for *Game of Thrones*, two gantry cranes are now scheduled monuments and the Drawing offices era a hotel. The floating caisson gate at the Hamilton dry dock is original. © Mark Watson

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The UK joined the European Union in 1973 and voted in 2016 to leave that union, but has yet to work out its future relations with Europe and the world. Significant changes reported in 2015 were those to national public bodies responsible for the historic environment. These are now bedded in:

In England, [English Heritage](#) is a charity that directly looks after 400 sites. Its most substantial capital investment in this new form has been to repair the 1777 Iron Bridge. [Historic England](#) is a government service, the public body that champions and protects England's historic places, with statutory functions of listing, planning, grants, heritage research and advice.<sup>1</sup>

In Scotland, [Historic Environment Scotland](#) covers both functions.

In Wales, [Cadw](#) is the conservation body within the Welsh Assembly government and the [Royal Commission on the Ancient and Historical Monuments of Wales](#) is the investigation body and national archive for the historic environment of Wales since 1908.<sup>2</sup>

In Northern Ireland the Department for Communities has responsibility through its Historic Environment Division.<sup>3</sup>

The [Newcomen Society](#) covers the history of engineering and technology. Since 1920 it has published an invaluable archive of original research material. The [Association for Industrial Archaeology](#) (AIA) promotes professional standards in the archaeology of the industrial period. It publishes research (*Industrial Archaeology Review*) and supports conservation of industrial heritage through campaigns and restoration grants.



The UK government nominated Jodrell Bank Observatory to the World Heritage List by in 2018. The Lovell space telescope (1957) has also been the backdrop to the Blue Dot festival. © Miles Oglethorpe

## PUBLIC POLICIES

World Heritage Sites of a primarily industrial nature are Ironbridge Gorge, Blaenavon Industrial Landscape, Derwent Valley Mills, New Lanark, Saltaire, the Cornwall and West Devon Mining Landscape, the Forth Bridge<sup>4</sup> and Pontcysyllte Aqueduct and Canal. There are industrial components within the world heritage sites in Liverpool, Bath, the Old and New Towns of Edinburgh, the Lake District and Georgetown, Bermuda.

The scattered nature of the serial site Cornwall and West Devon Mining Landscape has been brilliantly brought together by the giant mechanical 'Man Engine.' In 2017 he toured the Cornish property and in 2018 other significant industrial landscapes in England and Wales, drawing large crowds.

The UK has slowed its pace of nominations to the World Heritage List, having had greater success with industrial than other types of heritage. The UK tentative list, from which properties may be nominated to the World Heritage List, revised in 2012, includes Chatham Dockyard and the Slate Industry of North Wales (in preparation). Jodrell Bank Observatory was nominated to UNESCO in 2018.

National systems of designation are well-established. Scheduled monuments are mostly not in use whereas listed buildings are expected to have a use, but not necessarily that for which they

were built. Conservation Areas are designated by local authorities. These designations, tied into the UK planning system, are geared towards achieving sustainable development. Industrial 'heritage assets' are 4% of the designated assets in England.

Large numbers are not now being added, but one or two notable additions to the list include the Humber Bridge in England, which had the world's longest span from 1981 to 1997. There are now eight listed gas holders in Scotland, but others are under threat and continue to be removed across the UK. Unusual examples of scheduled monuments are the Samson and Goliath cranes in Belfast that belonged to Harland and Wolff Shipyard, 1969 and 1974. They are still occasionally used over the huge Thomson dry dock. The adjacent fabrication shop is a film studio for 'Game of Thrones' and the listed drawing offices are now a hotel.

The All-Party Parliamentary Group<sup>5</sup> on Industrial Heritage collected evidence and published a report concluding that:

1) Industrial heritage is highly valuable in the UK's contemporary society as a source of economic potential and proved integral in the formation of local and national identities.

2) Whilst many of the challenges faced in industrial heritage are fiscal, other challenges to be conquered include improving the inclusivity of industrial heritage to different age, ethnic and gendered demographics; offering more training programmes in order to in-





The 'Man Engine' was first unleashed on the public in 2016 as a way of connecting the many locations in this serial mining property. Photo © Mike Thomas for the Cornish World Heritage Site Office

crease the number of skilled workers in this sector; how best to preserve the historical site and adaptively redevelop.

3) There are sites across the UK, which have creatively overcome issues of inclusivity and training through industry-sponsored apprenticeship schemes and projects; reduced costs through commercial approaches to redevelopment; improved community engagement through heritage adoption schemes.

4) The evidence found in surveys and by experts in the sector indicate strong support and interest in industrial heritage from the public. Many of those who strongly engage within the sector are not having their voices heard.

The Heritage Lottery Fund (HLF) distributes 20% of the UK's National Lottery income that is allocated to good causes, but the total

available is falling. Some recent beneficiaries are Brymbo Ironworks in North Wales (£5 million awarded in 2017) and the Black Country Living Museum in Dudley, England (£10 million awarded in 2017). Engineering structures have also benefited like Newport Transporter Bridge in Wales (£9 million grant announced in April 2018). The Canal & River Trust, former British Waterways, has 3,000 designated 'heritage assets' in England and Wales. Waterways in Scotland are in public ownership of Canals Scotland, which has a heritage strategy for 2013 to 2038. The Waterways Trust continues as a charity only in Scotland.<sup>6</sup>

Former railway viaducts passed in 2013 to 'Highways England' although in this respect it manages property across Britain. The Railway Heritage Committee advises on portable artefacts, administered by the National Railway Museum.

The Railway Heritage Trust supports conservation work on active railways managed by Network Rail, for example groin vaults in Leeds and London Bridge stations. Its Conservation Award went to Corroir Station and Signal box for repairs to it in 2016. Access is only possible by rail or on foot. The Art Line in Fife shows how to adapt small premises like signal boxes into a chain of artists' studios.<sup>7</sup> Work is underway to repair turntables at Blazey in Cornwall and at Ferryhill, Aberdeen, extending the reach of steam hauled special trains that are increasingly taking main line routes.

An industrial heritage support officer, located at Ironbridge Gorge Museum, helps 650 English sites managed by volunteers or local authorities and giving some public access: a direct outcome of Sir Neil Cossons's STIR campaign and 'Industrial Heritage at Risk'.<sup>8</sup> A Flickr site 'industrial heritage at risk' has 6000 images.<sup>9</sup>

## ADVOCACY

Historic England has launched Heritage Action Zones in e.g. Stoke-on-Trent for ceramic heritage and along the route of the Stockton and Darlington Railway (1825).<sup>10</sup>

Presentations given at a conference in Manchester in December 2015 are now online.<sup>11</sup> This was an outcome from European Year of Industrial Heritage.

Ironbridge hosted a conference on Bridges in 2017, which was well-attended and interpreted the word bridge in many ways.

Elsecar near Barnsley, Yorkshire is benefitting from one of the Historic Area Action Zones introduced by Historic England. A coal mine pumping engine installed in 1795 is the oldest in situ Newcomen (atmospheric) steam engine (see 2015 National Report). Papers from the inaugural International Early Engines Conference held there in 2017 are now published by the Newcomen Society.<sup>12</sup>

The Association of British Transport & Engineering Museums (ABTEM) guidelines provide practical conservation advice on operating industrial and transport collections. They update standards



Queen Street Mill in Burnley, the last steam driven weaving shed. © Mark Watson

first published by the former Museums & Galleries Commission in 1994 and offer a structured approach to acquisition, research, significance assessment, conservation and maintenance.<sup>13</sup>

James Watt: 2019 will mark the 200th anniversary of Watt's death and the 250th anniversary of the patent for his separate condenser. Watch for events in Scotland and Birmingham.<sup>14</sup>

## MAIN ISSUES, THREATS AND OPPORTUNITIES

- Asset transfer from public bodies to the voluntary sector
- Running costs are difficult to cover.
- Succession planning is needed to involve younger generations
- Local government spending cuts threaten a lot of industrial heritage once thought 'saved.' So Helmshore and Queen Street Mills, presenting cotton spinning and weaving by water and steam power, were closed for over a year, but have recently been reopened by Lancashire County Council.
- VAT is levied on new work to existing buildings, but not on newly-built homes.
- Pressure grows to destroy buildings not considered energy efficient.

- River restoration to a state before mankind introduced river management impacts upon weirs for mills and canals.
- Impact of climate change. For example, severe flooding in 2015/2016 in Scotland and Yorkshire damaged some bridges that have had to be repaired (at Ballater and Tadcaster) or replaced (Elland).

## NOTABLE SUCCESSES

- English Fine Cottons Ltd started spinning cotton in 2016 in Tower Mill Dukinfield, near Manchester. Built in 1885 it had closed in 1955 but now is the only cotton spinning mill operating in the UK.
- Ditherington Mill, Shropshire, 1797, the world's first iron framed building, was built as a flax spinning mill. Historic England is directing its repair and adaptive re-use.
- The Piece Hall in Halifax has reopened after refurbishment, along with Calderdale Industrial Museum in 2018.
- Nucleus, the archive for the UK Atomic energy industry opened in 2017 in Wick.
- European Route of Industrial Heritage (ERIH) has a new an-





Cambus o'May Suspension Bridge, Aberdeenshire, damaged by floods in 2016  
© Mrak Watson

chor point in Scotland, Stanley Cotton Mills, and three other sites that are also managed by Historic Environment Scotland. The South Wales ERIH Route reports considerable impact.

## SOME CHALLENGES

- The last deep coal mine left in the UK, Kellingley in Yorkshire, closed on 19th December 2015.
- Whitechapel Bell Foundry, founded in 1570, closed in 2017. Taylor of Loughborough is now the only founder of large bells
- Coalbrookdale Foundry closed in 2017, after substantial investment. Thus ends a continuous history of iron working in the Ironbridge Gorge since the 17th century. The oldest continually operating industrial sites now appear to be textile mills (Smedley in Derbyshire and William Clark at Upperlands, Northern Ireland).
- Grimsby Ice Factory (1900) became a World Monuments Fund 2014 watch site and one of seven most endangered sites

identified by Europa Nostra in 2018. The designation of a Kasbah conservation area and the announcement of a Heritage Action Zone gives hope.<sup>15</sup>

We mark the passing of some people prominent in their support for industrial heritage and are grateful for their continuing impact:

David Crossley, Sheffield, archaeology and historical metallurgy, 2017

Sir William McAlpine, chair of the Railway Heritage Trust, 2018

Mark Sissons, AIA; North Yorkshire Moors Railway 2018  
John Powell, Librarian at Ironbridge Gorge Museum Trust, 2018

## TRAINING PROGRAMMES

The Institute of Historic Building Conservation (IHBC)<sup>16</sup> maintains standards in conservation and the Chartered Institute for Archaeology (CIfA)<sup>17</sup> likewise for professional archaeologists.

The Institute of Mechanical Engineers gives Engineering Heritage Awards that raise public awareness of the vital role mechanical engineering plays in modern life.<sup>18</sup> The Institution of Civil Engineers (ICE) has initiatives to get historic materials included in civil engineering courses in universities. ICE publishes History Heritage and Engineering. The Scottish Engineering Hall of Fame makes Rock 'n' Roll style awards through the Institution of Engineers & Shipbuilders in Scotland.<sup>19</sup>

## PUBLICATIONS

The Association of British Transport & Engineering Museums 'Guidelines for the Care of Larger and Working Historic Objects'<sup>22</sup>

Byrom, R, William Fairbairn: the experimental engineer. A study in mid-19th-century engineering (Railway and Canal Historical Society, 2017)

Giles, C, Williams, M. Ditherington Mill and the Industrial Revolution (Historic England, 2015)

Holden, R, Manufacturing the Cloth of the World (2017)<sup>21</sup>

Palmer, M, West I, Technology in the Country House (2016)

## NOTES

1. <http://historicengland.org.uk/> and <http://www.english-heritage.org.uk/>

2. The historic environment records are online at [www.coflein.gov.uk](http://www.coflein.gov.uk)

3. <https://www.communities-ni.gov.uk/topics/historic-environment>
4. <http://forth-bridges.co.uk/forth-bridge/world-heritage.html> and [www.worldheritageuk.org](http://www.worldheritageuk.org)
5. <http://www.nickthomassymonds.uk/wp-content/uploads/2018/05/APPG-on-Industrial-Heritage-Report-Digital.pdf>
6. <http://scottishwaterwaystrust.org.uk/>
7. <http://railwayheritagetrust.co.uk>
8. <http://historicengland.org.uk/advice/heritage-at-risk/industrial-heritage/>
9. <https://www.flickr.com/groups/industrialheritageatrisk>
10. <https://historicengland.org.uk/services-skills/heritage-action-zones/>
11. <https://brick-work.org/industrial-heritage-conference-1-2-december-2015/>
12. <https://www.tandfonline.com/toc/yhet20/87/2?nav=tocList>; <http://www.elsecar-heritage-centre.co.uk/>
13. [www.abtemguidelines.org](http://www.abtemguidelines.org)
14. <https://jameswatt.scot/>
15. <http://www.ggift.co.uk/> and <http://7mostendangered.eu/2018-list/>
16. <http://www.ihbc.org.uk/>
17. <http://www.archaeologists.net/>
18. <http://www.imeche.org/engineering-heritage-awards> and <http://imeche-heritage-book.co.uk/preview.pdf> for Institution of Mechanical Engineers, Engineering Attractions: Visiting Britain's Best Industrial Heritage Sites (2014)
19. [www.engineeringhalloffame.org](http://www.engineeringhalloffame.org)
20. <https://abtemguidelinesorg.wordpress.com/>
21. <http://www.lulu.com/shop/roger-holden/manufacturing-the-cloth-of-the-world/paperback/product-23159670.html>



Coalbrookdale Foundry in 2016, the year before it closed © Mark Watson





Museum entrance of the National Museum of Industrial History, the NMIH, officially opened on August 2, 2016 in Bethlehem, Pennsylvania.

**Bode Morin** - *United States Representative [SIA], Pennsylvania Historical and Museum Commission, Site Administrator, Anthracite Heritage Museum and Eckley Miners' Village*

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## INTRODUCTION

The United States has continued to promote, document, educate about, and conserve industrial heritage. Despite a strong commitment from a broad population, US Federal government support for heritage has not been steady or clear since the end of 2016 and the commitment to international cooperation has declined significantly with the US withdraw from UNESCO scheduled for the end of 2018.

## UNESCO

Citing policies opposed to the current federal administration, effective December 31, 2018 the United States will withdraw from the United Nations Education, Scientific, and Cultural Organization (UNESCO) for a second time since its founding. The US was

one of thirty-seven original nations to form UNESCO in 1945 and was a signatory to the World Heritage Convention in 1972. Despite continued support for the UN broadly, the US has since the 1980s claimed politicization, oppositional direction, and management issues as reasons for discontentment. Often these issues stem from oppositional support for for state actors in the Israeli-Palestinian conflict.

Ronald Regan first cited political and management conflicts before pulling the US out of UNESCO in 1984. George H.W. Bush who followed Regan, maintained the withdraw claiming an inherent political bias, and Bill Clinton cited budget constraints for not returning in the 1990s. Despite the formal withdraw through this period, the US still maintained a strong commitment to the World Heritage Convention and hosted the committee in 1992 and nominated several sites for inscription.

In 2002, after eighteen years of political separation, George W. Bush rejoined UNESCO claiming that the organization had responded to US concerns and demonstrated support for international directions favorable to his administration. Unfortunately, full US participation did not last. The US, whose financial contributions amounted to 22% of the UNESCO budget, stopped funding in 2011 citing a familiar political argument related to Middle Eastern



National Museum of Industrial History. The NMIH, officially opened on August 2, 2016 in Bethlehem Pennsylvania in the former electrical shops of Bethlehem Steel plant. Photo of the exhibit hall.

politics. Although the US stopped payments, the nation continued to participate in UNESCO until then US Secretary of State Rex Tillerson announced on February 13, 2018 the second US withdraw effective at the end of the calendar year. The US status on January 1, 2019 will become non-member observer. While relinquishing full-member status, the US will continue to participate in the World Heritage Convention and submit nominations as it has in the past although it will not serve on the World Heritage Committee.

## WORLD HERITAGE TENTATIVE LIST

Preceding the current political climate against international participation, the US Dept. of the Interior, through the National Park Service (NPS) released the revised US World Heritage tentative list on December 9, 2016 following a year of consultations with ICOMOS and topical experts including members of USICOMOS, the Society for Industrial Archaeology and TICCIH. While earlier 2016 studies including the USICOMOS Gap report and internal and external consultations indicated a strong need for more industrial and technology sites on the list, the NPS Tentative List committee faced some challenges fulfilling that charge but did put forth the Brooklyn Bridge and Chicago skyscrapers, both considered for their significant technological advancements. Other recent activity includes the approval for a draft submission for Hopewell Ceremonial Earthworks and the addressing concerns with an earlier submission for Frank Lloyd Wright buildings with an intended resubmission planned for 2019.

## SOCIETY FOR INDUSTRIAL ARCHAEOLOGY [USA]

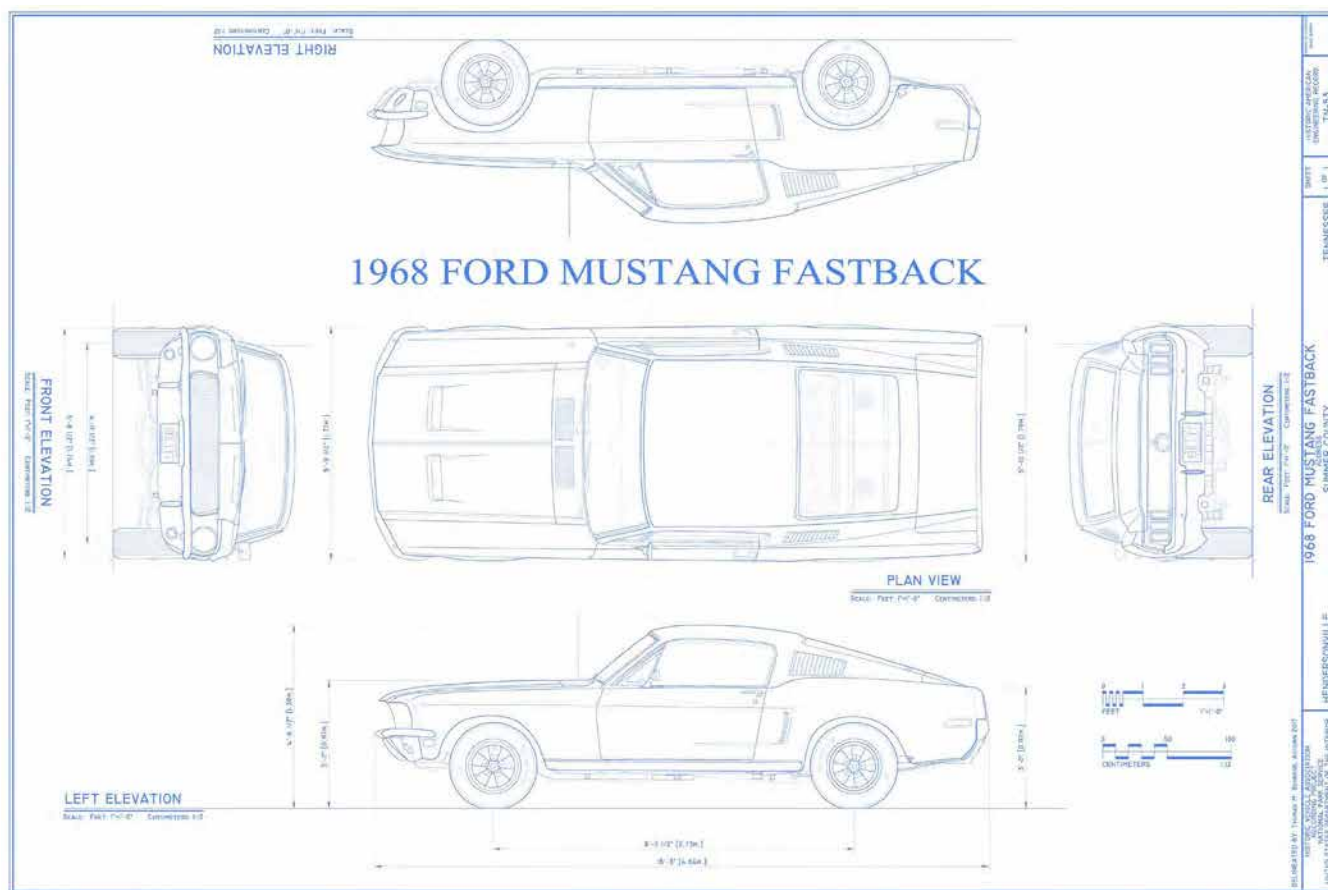
### *Maryellen Russo, SIA past president*

In recent years, the Society for Industrial Archeology (SIA) has seen a significant shift in the membership and the operations of the organization. Overall, the SIA has struggled to recruit new members, especially students and young professionals. Membership drives and other membership initiatives have proved to be moderately successful; however, they have not resulted in a significant increase in numbers. The organization's Membership Committee is leading a new charge in 2018 to increase SIA's membership by polling the current membership and asking them to seek members in their communities. Additionally, increasing the society's presence on the internet and on social media is a renewed focus. Also in the last few years, the organization's administration has changed in nearly every position, mostly due to staff retiring. As a result, SIA has a new Executive Secretary, new headquarters office manager, new editor of SIA's peer-reviewed publication (IA Journal), new editor of SIA's quarterly newsletter (SIAN), and a most recently in 2018, a new events coordinator. These changes reflect a new era for SIA, as the organization continues to adapt and grow in the years to come.

## ACADEMICS

Michigan Technological University continues to be the primary degree-granting institution for industrial heritage in





Thomas Behrens, '1968 Ford Mustang Fastback' (drawing). The Historic American Engineering Record has expanded traditional documentation projects to include significant American vehicles, ships, and locomotives. This drawing is of an iconic Ford Mustang that was used in Bullitt, a 1968 film starring Steve McQueen.

the United States. MTU awarded several master's degrees in industrial Archaeology and PhDs in Industrial Heritage and Archaeology.

## NATIONAL PARK SERVICE

NPS administers National Parks, National Historical Parks, the Historic American Engineering Record, the federal list--the National Register of Historic Places, and the list of sites of greater national significance elevated to National Historic Landmark. Responding to current political upheaval within the government, the entire US National Park Service advisory board resigned in January 2018, and the administration has put a hold on all citizen advisory committees. While this has not affected National Register nominations, it has affected review of National Historic Landmark nominations and none have been forwarded for consideration since 2016. In 2016, only the Brookline Reservoir of the Cochituate Aqueduct (MA), the California Power Works Bridge (CA), and the SS Badger car ferry (MI), Omaha Union Station (NE), the New York State Canal system (NY), W.A. Young & Sons Foundry and Machine Shop (PA), the Eldean Bridge (OH), and West Union Bridge (IN) have been awarded NHL status for industrial heritage. No new industrial National Historical Parks have been designated since 2015.

## HISTORIC AMERICAN ENGINEERING RECORD

**Christopher Marston, Justine Christianson, Todd Croteau, Thomas Behrens, Dana Lockett**

US Maritime Administration's (MARAD) Historic Ships Recording Project. The Historic American Engineering Record (HAER) is documenting six ships slated for decommissioning. These include: GTS Admiral William Callaghan (1967), a roll-on/roll-off ship with a pioneering gas-turbine propulsion system; SS Petersburg (1963), the last Offshore Petroleum Distribution System tanker in the Ready Reserve Force; MV Cape Ray (1977), a roll-on/roll-off and container ship; SS Cape Inscription (1975), an example of a domestic, contemporary roll-on/roll-off vessel; and SS Keystone State (1965), one of three T-ACS-I class vessels that were modified breakbulk-container ships rebuilt as cellular container ships in the 1970s.

The United States Coast Guard sponsored the documentation of the Reliance class, the first new class built by the US Coast Guard after World War II. The ships were used in search and rescue operations and law enforcement. The famed Raymond Loewy Associates designed the interiors. The unique features of the class in-

cluded the exhaust system, which was vented horizontally rather than through the more typical horizontal stack. This allowed for a helicopter landing pad on deck and a 360-degree view from the pilothouse. The first ships built in the class also used a combination diesel and gas propulsion system. HAER produced large-format photographs and historical reports for the class, and individual ships including: USCG Reliance, USCG Diligence, USCG Vigilant, USCG Active, USCG Confidence, USCG Resolute, USCG Valiant, USCG Steadfast, USCG Dauntless, USCG Venturous, USCG Dependable, USCG Vigorous, USCG Decisive, and USCG Alert.

Historic Vehicle Association. HAER is continuing to work with the Historic Vehicle Association (HVA) to create a comprehensive record of the most historically significant vehicles in the US. HAER is using high-definition laser scanning to capture accurate dimensional data from the vehicles and high-resolution photographs to capture details to produce measured drawings. This continuing work will serve as a foundation for a best practices guide for the scanning and production of HAER drawings for historic vehicles. Recent significant vehicles HAER staff has scanned and drawn include the 1968 Mustang Fastback 'Hero' car from the movie Bullitt, President Ronald Reagan's 1962 Willys 'Jeep' CJ-6, and the 1911 Marmon 'Wasp', winner of the first Indianapolis 500.

Heritage Documentation Programs New Technologies Initiatives. The Heritage Documentation Programs are successfully keeping in step with the development and integration of new survey and 3D visualization technologies. HAER continues to survey sites with the latest terrestrial laser scanners to achieve highly accurate 3D point clouds from which smart 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 of historic resources including 360-degree pano-photos, 3D video animations, 3D mesh models, and virtual tours that integrate all of these elements into online web based interactive explorations. Providing the public virtual access to these sites has been overwhelmingly embraced by project sponsors and the National Parks as a supplementary tool to disseminate the importance of our architectural heritage.

## SIGNIFICANT PUBLICATIONS

Dixon, Kelly J. (2018) *Landscapes of Change: Culture, Nature, and the Archaeological Heritage of Transcontinental Railroads in the North American West*. In *Chinese Railroad Workers in North America*, edited by Gordon Chang, Shelley Fisher-Fishkin, and Roland Hsu. Stanford, CA: Stanford University Press.

Gallamore, R.E. and Meyer, J. R. (2016) *American Railroads: Decline and Renaissance in the Twentieth Century*. Cambridge, MA: Harvard University Press

Lindner, C.L. and Rosa, B. 9 eds. (2017) *Deconstructing the High*



John Reap. Society for Industrial Archaeology visiting the Schlumberger Genesis Test Rig During the 2017 SIA conference in Houston, Texas. Photo by John Reap.

Line: *Postindustrial Urbanism and the Rise of the Elevated Park*. New Brunswick, NJ: Rutgers University Press

Obermayr, E. and McQueen, R.W. *Historical Archaeology in the Cortez Mining District: Under the Nevada Giant*. Reno, NV: University of Nevada Press, 2016

White, Paul (2017) *The Archaeology of American Mining*. Gainesville, FL: University Press of Florida.





Sala de compresores de amoníaco, generadores de frío para las enormes cámaras que tenían capacidad para 18.000 toneladas de carne.

**René Boretto Ovalle** - Corresponsal desde el año 1990, historiador e investigador en patrimonio industrial y creador del Museo de la Revolución Industrial, con acciones de defensa, conservación, estudio y promoción de los valores patrimoniales del sitio. Integró la Comisión de Gestión que trabajó en la elaboración de la propuesta UNESCO del Paisaje Industrial Fray Bentos, declarado Patrimonio de la Humanidad en Julio de 2015

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Uruguay presenta un conjunto de hechos y actos comerciales e industriales basados en su riqueza y excelencia respecto a la alimentación.

Europa de los siglos XVIII y XIX encontró en Uruguay un país productor y exportador en rubros de la agro alimentación. Importantes exponentes de la industria y el comercio del mundo occidental con fuerte impacto por sus inversiones y asentamiento de tecnología, fundamentaron una historia nacional íntimamente relacionada a la industria, sobre todo con la explotación de los recursos cárnicos y otros, generando un nombre icónico de Uruguay.

Las industrias extractivas jugaron también papeles importantes aunque no desplazando en importancia a lo ya mencionado. Así, la extracción de oro dejó interesante patrimonio industrial en el norte de Uruguay, donde actualmente se trabaja en la puesta en valor, recuperación y reutilización de las.

## POLÍTICAS PÚBLICAS

Uruguay cuenta con una COMISION DEL PATRIMONIO CULTURAL DE LA NACION (CNPCN) , ejecutora de planes y proyectos oficiales, desarrollando planes de acción en conjunto con otros organismos nacionales, impulsando una actividad íntimamente relacionada entre el territorio y los valores patrimoniales.

Entre otros proyectos, se trabaja en la adecuación, puesta en valor y significación de la obra del arquitecto nacional Eladio Dieste, cuyo Sistema Constructivo genéricamente llamado 'Cerámica armada ', cuenta en el Uruguay con excelentes ejemplos y un alto impacto en la arquitectura (algunos de ellos en lo industrial) en otros países del mundo. Como país miembro, Uruguay se apresta a nominar la Candidatura de la obra de Dieste para la Lista de Patrimonio Mundial de UNESCO.



El Sistema Patrimonial e Industrial Liebig's – ANGLO es la parte esencial del Paisaje Industrial Fray Bentos. Las ex instalaciones fabriles de las dos grandes empresas conforman el núcleo de lo declarado como Patrimonio de la Humanidad por UNESCO.=

Amparados en la trascendencia inmediata de la reciente designación de UNESCO del 'Paisaje Industrial Fray Bentos (2015)', se está proponiendo y apoyando eventos técnicos y científicos que llamen la atención al tratamiento preferencial del patrimonio industrial, tal como lo fue el V Encuentro de Gestión de Patrimonio organizado por la Universidad de Alicante, la Universidad Autónoma Metropolitana de México, y el Ministerio de Educación y Cultura de Uruguay (2017).

También ya se ha fijado a la ciudad de Fray Bentos como sede de un primer acercamiento entre investigadores y autores en el tema 'Los Saladeros y la Sal' para 2019, en especial porque ambos elementos se imbrican intensamente con la relación comercial, industrial y política entre los países de la cuenca del Río de la Plata y Europa.

## PRINCIPALES PROYECTOS DE RECONVERSIÓN Y REHABILITACIÓN

El principal de los proyectos de rehabilitación de espacios ex industriales se ha desarrollado en la ciudad de Fray Bentos, donde desde 1863 a 1979 funcionó sin interrupciones la Liebig's Extract of Meat Company (1865) y después la Anglo del Uruguay (1924-71) que fueron grandes exponentes de la explotación del rubro cárnico y en algunos momentos históricos también los enlatados de corned beef, frutas, verduras, hortalizas y animales de granja.

Las instalaciones fabriles de estos emprendimientos no sufrieron deterioro importante ni intervenciones posteriores al cierre de

su acción productiva (1979), por lo que los grandes espacios, asignados como propiedad al gobierno municipal, permitieron realizar un proyecto para resguardo, recuperación y puesta en valor turístico-cultural de aquellos espacios fabriles con un circuito guiado y después un proceso de musealización que culminó su primera etapa en el año 2005.

Este último proyecto fue el de mayor éxito y sostenido ininterrumpidamente desde 1987, convocando, interesando y haciendo adherir a empresas, instituciones y embajadas para llegar a buen fin. La conservación de documentos, maquinaria, información gráfica y la totalidad de libros y papelería administrativa, el ordenamiento y clasificación primaria de mapas, planos y publicaciones técnicas, permitió darle un valor especial a este conjunto, ya que los restos de los grandes volúmenes de uso industrial, se veían complementados con una riqueza patrimonial documental sin precedentes en el Uruguay.

En el año 2008, el Ministerio de Educación y Cultura mediante su Comisión de Patrimonio Cultural, el Ministerio de Ordenamiento Territorial y Medio Ambiente en conjunto con el gobierno municipal local, conformaron una 'Comisión de Gestión' cuyas principales prioridades fueron decidir normas, procesos y protocolos de actuación para la defensa del patrimonio, inclusive su declaración como Patrimonio Histórico Nacional, la principal figura jurídica protectora existente en el Uruguay.

También se promovió un posicionamiento internacional para este complejo ex industrial, incluyéndolo en la Lista Indicativa de





El barrio 'Anglo' es la company town creada por la Liebig's company entre 1887 y 1920. Se mantiene con sus rasgos más típicos.

UNESCO en nombre de Uruguay (2010) y posteriormente obteniendo la declaración como patrimonio de la Humanidad con la figura de 'Paisaje Industrial Fray Bentos' (Julio 2015).

El sitio en la actualidad, se encuentra regido por una 'Comisión de Sitio' que procura asegurar la sustentabilidad y la apropiación social de esta enorme riqueza patrimonial. Se trabaja en proyectos de mediano y largo alcance que permitan cumplir con compromisos contraídos al presentar el plan de gestión a UNESCO.

En una experiencia de reciclaje y reocupación de edificios, se ha puesto en funcionamiento un Polo Tecnológico-Educativo a través de tres universidades públicas ya instaladas en el sitio patrimonial en una actividad no contaminante vinculada a la actividad educativa, formativa y de tecnificación de personal que ya está rindiendo sus frutos.

Teniendo en cuenta el impacto socio-cultural y de implementación de nuevas actividades de turismo en torno a la resolución de UNESCO, se espera que la ciudad de Fray Bentos (uno de cuyos sectores costeros forma parte del área buffer) reciba también el impacto benéfico del aumento en el flujo turístico.

## OTROS EJEMPLOS DE RECUPERACIÓN Y VALORACIÓN

Mediante esfuerzos muchas veces particulares, encontramos en Uruguay algunos ejemplos de testimonios reales de industrias hoy desaparecidas, como los casos de la TEXTIL DE JUAN LACAZE

(Departamento de Colonia), la USINA MINERA DE CUÑAPIRU (Departamento de Rivera) donde se procesó cuarzo aurífero desde 1867; el CASCO HISTÓRICO DEL POBLADO FERROVIARIO DE PEÑAROL (MONTEVIDEO), un antiguo complejo industrial destinado a la logística y el mantenimiento de la red ferroviaria del país con un área residencial circundante.

## ACTIVIDADES ESTRATÉGICAS

Actualmente se prevé la firma de convenios de mutua cooperación entre la Comisión de Patrimonio Cultural uruguaya y su similar de la República Argentina, para apoyar, auspiciar y desarrollar planes y proyectos de estudios e investigaciones conjuntas donde los valores del patrimonio industrial son trascendentes.

A través del Corresponsal de TICCIH en Uruguay, se está trabajando en la utilización del software OMEKA para insertar en una base de datos simple pero extensiva, toda la información posible de digitalizar referida a sitios de valor patrimonial industrial.

La INTERACCION BINACIONAL Y TRANSFRONTERIZA es un amplio tema que ha interesado a TICCIH URUGUAY y ARGENTINA para trabajar en conjunto, dado que prácticamente todo el sector inferior del río Uruguay (límite entre ambos países) tiene un perfil histórico idéntico, lo que permitiría relacionar las investigaciones en ambas márgenes, así como procurar comprensiones del territorio como región y no como pertenecientes a países distintos.

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## INSTITUCIONES COMPROMETIDAS EN LA VALORACIÓN DEL PATRIMONIO INDUSTRIAL

En el ámbito nacional y como parte de sus acciones educativas, de formación y de investigación, la Universidad de la República es destacable y en algunos casos puntuales y específicos, como las Facultades de mayor relacionamiento con los estudios históricos o de la historia de la técnica y la tecnología, como las de Ingeniería, la de Arquitectura, la de Química y la de Ciencias Sociales.

El Centro Internacional para la Conservación del Patrimonio (CICOP) institución no gubernamental promueve foros de investigación a nivel internacional, posibilitando un nexo muy fuerte con actores relevantes, vinculados a la reflexión y a la actuación en el patrimonio. Actualmente CICOP se ha adherido a la idea de conformación oficial del TICCIH URUGUAY.

La Universidad Centro Latinoamericana de Economía Humana (CLAEH) ha desarrollado una labor más o menos sistemática en difusión del patrimonio industrial a partir de algunos de sus proyectos. Ejemplos de éstos son: la participación en el trabajo de relevamiento, planificación estratégica y propuestas de difusión (desarrollo de sitio web y edición de un libro) del proyecto de revalorización de los talleres ferroviarios de AFE en el Barrio Peñarol y su entorno de company town; varios proyectos de desarrollo local que, enfocados a diversas propuestas de dinamización de comunidades locales de distintas ciudades y poblados del país, articulan proyectos de reutilización social de equipamientos industriales en desuso, recuperándolos para uso de la comunidad detentora (en proyectos culturales innovadores, como sedes de colectivos productivos, como emprendimientos turístico-patrimoniales, etc.)









