

Monographic Publication of ICOMOS Slovenia

Protection and Reuse of Industrial Heritage: Dilemmas, Problems, Examples

ICOMOS Slovenia



Monographic Publications of ICOMOS Slovenia | **02**

**Protection and Reuse of Industrial Heritage:
Dilemmas, Problems, Examples**

edited by Sonja Ifko and Marko Stokin

Publisher: ICOMOS Slovenija - Slovensko nacionalno združenje za spomenike in spomeniška območja
Slovenian National Committee of ICOMOS /International Council on Monuments and Sites/



ICOMOS Slovenija

Editors: Sonja Ifko, Marko Stokin

Design concept: Sonja Ifko

Design and preprint: Januš Jerončič

Print: electronic edition

Ljubljana 2017

The publication presents selected papers of the 2nd International Symposium on Cultural Heritage and Legal Issues with the topic Protection and Reuse of Industrial Heritage: Dilemmas, Problems, Examples. Symposium was 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.



REPUBLIKA SLOVENIJA
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CIP – Kataložni zapis o publikaciji

Kataložni zapis o publikaciji (CIP) pripravili v Narodni in univerzitetni knjižnici v Ljubljani

COBISS.SI-ID=293115904

ISBN 978-961-288-173-3 (pdf)

<https://plus.si.cobiss.net/opac7/bib/293115904>

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Editorial

It gives us a great pleasure to present the second edition of our publication of ICOMOS Slovenia with selected articles they were presented at the 2th International Symposium on Cultural Heritage and Legal Issues, Protection and reuse of industrial heritage: Dilemmas, Problems, Examples, in Bled between the 1st and 3th October 2015.

The Council of Europe's early positions towards industrial heritage were a reaction to the consequences of the industrial decline in western Europe, and the principles were further developed in Recommendations of the Committee of Ministers of the Council of Europe in 1987 and 1990 [R(87)24 and R(90)20]. In 2013, the Parliamentary Assembly of the Council of Europe adopted the Resolution 1924 (2013) on Industrial Heritage in Europe, which draws attention to the most recent issues relevant for the integrated conservation, intelligent rehabilitation and sustainable revitalisation of industrial heritage sites and landscapes of Europe. One should also mention the constant alerts coming from the side of the Congress of Local and Regional Authorities of Europe to strengthen the local authorities' role in the preservation of industrial heritage "in situ". Lately, the initiative about European Industrial and Technical Heritage to be used as one of the central themes of European Heritage Days 2015 was put forward and actually implemented in many European countries. On the other side, ICOMOS Slovenia as an active member of ICOMOS International and ICOMOS Europe has dedicated an important part of its efforts towards international cooperation and pooling forces in the field of industrial heritage protection. Joining forces with the Council of Europe build synergies in following-up the Council of Europe conventions with revisiting these references and taking stock of the new challenges and issues at stake. Our common goal is to integrate innovative ideas, define new positions and open new perspectives with the aim to give this important dimension of our common heritage of Europe the role it deserves in the future multilateral and trans-frontier co-operation.

The present publication brings eleven new articles from different countries, especially focused on south-east Europe industrial heritage, were after the fall of Yugoslavia the new economic order led the collapse of many industrial factories and towns from socialist period and they are now in the process of decline. The nature of economic and political circumstances in south-east Europe are constantly and increasingly challenging the survival of industrial heritage - even "listed" monuments. Public interest is not always sufficiently expressed in decision-making process. The same is true about expectations of heritage communities associated with industrial heritage which still have little means of being expressed and taken on board. There has been an increasing trend of exploitation industrial heritage from which the traditional professional institutions are excluded because they are self-limited to their classical "protection" role instead of developing management approach. The fact is that changes affecting industrial heritage and its role in society require new responses and innovative solutions.

Sonja Ifko, Marko Stokin

Review

The book 'Protection and reuse of industrial heritage: Dilemmas, problems, examples' raises one of the most significant questions of heritage protection that came into the international public eye at the turn of the 20th and 21st centuries. In this period, many international organisations and bodies involved in heritage management have been engaged in various aspects of industrial heritage. Since UNESCO and Council of Europe are the most prominent international governmental organisations, the publication attempts to put stock in standards developed in the framework of UNESCO World Heritage Programme and Council of Europe's activities and confronts them with efforts of major universal non-governmental organisations, such as ICOMOS and TICCIH. The aim of giving an overview of international standards is itself worthy. The book combines them with a selection of analytical articles about the state of statutory protection, public perception, conservation and reuse by analysing cases from Western and South-Eastern Europe. The state-of-the-art comparison between the situation in both groups of countries shows that the South-Eastern countries lag behind the Western ones in every aspect of industrial heritage protection but the academic historical knowledge, the efforts of museum and conservation service experts and civil society activities, mainly organised at local levels.

The articles collected in the publication offer over 140 pages of intensive reading of well-documented overview of the industrial heritage history in selected countries, discuss problems and to some extent also exemplify good practice. The authors are renowned authorities in the field of industrial heritage research and the topics of their presentations cover well the purpose of the book. There are some discrepancies in technical format of individual articles, one could also come across some translation insufficiencies but such minor imperfections cannot override the prevailing positive impression.

The overall evaluation of the publication could be summed up as follows: it is of great value for readers interested in the issues of industrial heritage and also for heritage experts in general. One could only hope that the message of the book reaches decision makers, as well. The tone of some articles is somehow pessimistic but on the other hand authors share the conviction that education, awareness-raising and international cooperation can make headway in improving the situation.

Dr. Jelka Pirkovič



Lakonca Trbovlje, Coalmine LTH. Photo: Sonja Ifko.

Protection of Authenticity and Integrity of Industrial Heritage Sites in Reuse Projects

Summary

This paper addresses the basic but also conflicting starting points that are key to the preservation of industrial heritage. On the one hand, this relates to the preservation of values of important heritage, while, on the other hand, abandoned industry sites have the spatial potential for developing new urban programmes and functions allowing for modern spatial and economic development. Abandoned historical industrial sites are mostly located in urban centres where there is a significant need for new development areas. This is precisely what leads to conflict situations, i.e. where guardians of heritage and designers of the new are in disagreement.

This paper presents a methodology based on a values-led approach, whose basis is to consider, as objectively as possible, all aspects defining reuse or renewal projects concerning heritage sites. It includes the parameters of protection, development, and social requirements to the greatest extent possible to achieve efficient and sustainable solutions of reuse projects. This approach, based on the process developed in the Burra Charter, is mostly used in practice in Anglo-Saxon areas, but less so in Europe; nevertheless, it is increasingly being implemented because of the connection of conservation and development aspects. This paper checks this approach as a starting point for system changes concerning protection of industrial heritage in Slovenia, which would allow for a maximum preservation of heritage attributes precisely through the inclusion of all stakeholders and thus also development parameters in the earliest phases of industrial heritage reuse projects, which require, because of their complexity, different approaches than those conventionally used.

1 Introduction

Nowadays we refer to the social role of heritage not only as the vehicle of identity but increasingly in terms of its economic development component. The essential part of this is the preservation of heritage attributes – its authenticity and integrity, which constitute heritage as such. It is thus necessary to carefully study the characteristics of industrial sites as heritage values and, on the other hand, the development parameters of revitalisation processes to be considered to find an effective synergy of both poles for successful implementations of reuse projects and, in this context, effective protection and presentation of heritage.

First, we present the most important characteristics of industrial heritage sites, their spatial development role and characteristics shaping reuse processes; then we will present a proposal for guiding project approaches that could as far as possible allow us to balance all parameters, both developmental and protective. The symbiosis of both value poles is what enables a long-term success of projects but is the most difficult to achieve due to the wide array of interests. This paper highlights two basic heritage attributes – authenticity and integrity. Their preservation as far as possible is the starting point to guide reuse projects and revitalisation processes in industrial heritage sites¹, in a sustainable

¹ The Nizhny Tagil Charter for the Industrial Heritage defines industrial heritage as: Industrial heritage consists of the remains of industrial culture which are of historical, technological, social, architectural or scientific value. These remains consist of buildings and machinery, workshops, mills and factories, mines and sites for processing and refining, warehouses and stores, places where energy is generated, transmitted and used, transport and all its infrastructure, as well as places used for social activities related to industry such as housing, religious worship

way which consistently considers all aspects – along with protective ones, also social, spatial development, and economic ones. This kind of approach is also mentioned in the Introduction to World Heritage Resource Manual concerning cultural world heritage, stating (p. 14):² “It is essential that the heritage bodies work with other stakeholders as far as possible to develop and implement an agreed vision and policies for managing each heritage place within its broader physical and social context .”

2 Characteristic of industrial heritage

2.1 Complexity of industrial heritage

To guide revitalisation processes in a broad scale, and in this context the individual reuse projects of abandoned industrial sites, it is first necessary to understand the heritage of these sites in all its dimensions. Sir Neil Cossons defined industrial heritage as the most complex heritage category, stating further³ that “Industrial heritage is, arguably, a unique cultural discourse, which brings challenges found nowhere else in the heritage sector and requires new answers.” This relates to the understanding of material remains as an intangible aspect of industrial heritage; these are particularly important and often neglected in the context of reuse projects.

To allow for preservation of basic heritage attributes it is essential that the entire reuse process is appropriately set out. Firstly, it is important to design the appropriate analytical approach used to obtain all the information on heritage, providing the basis for determining the values that are of key importance. Given the complexity of industrial heritage, the research analytical phase must be always carried out in the framework of an interdisciplinary study group composed of various experts, at least experts in history, technical development and science, architecture, sociology, and ethnology. Along the heritage properties it is necessary to study other impacts and interests shaping the future of heritage places, which will be addressed below.

2.2 Industrial heritage values

The understanding of industrial heritage values is essential for their preservation. They are the most comprehensively defined by the Nizhny Tagil Charter whose article 2 proclaims (paragraph ii, iii): 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. It is of technological and scientific value in the history of manufacturing, engineering, construction, and it may have considerable aesthetic value for the quality of its architecture, design or planning.

These values 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.

The same article highlights the significance of the evidence of activities, which had and continue to have profound historical consequences. The motives for protecting the industrial heritage are based on the universal value of this evidence. This is key when speaking of the significance of those sites that lack exceptional characteristics such as rarity and exceptional development, as their testimonial value is often underrated and not researched enough, legally unprotected and thus at the discretion of various real-estate speculations. Of course, this does not mean that we should not stress the heritage that presents exceptional development achievements, as emphasised in the charter.

or education.

² Managing Cultural World Heritage, World Heritage Resource Manual. (2013). The United Nations Educational, Scientific and Cultural Organization, Paris, France: <http://whc.unesco.org/en/managing-cultural-world-heritage/>

³ Cossons, N. (2012). Why preserve industrial heritage? in: Industrial heritage Re-tooled, The TICCIH guide to industrial heritage Conservation. ed. Douet, J. TICCIH by Carnegie Publishing, Lancaster, Great Britain, p 6-16.

2.3 Authenticity and integrity as the fundamental heritage attributes

Due to the intensive social and economic development, we are increasingly becoming aware of the importance of heritage for the society as a whole, for various environments, and for each individual. In 2005 the Council of Europe adopted the Faro Convention on the Value of Cultural Heritage for Society⁴, which stresses the role and significance of cultural heritage as the foundation of our cultural identity and, on the other hand, as development potential of our common future. Industrial heritage is that heritage category that was shaped by the largest mass of people in all human history; it is the key identity maker of practically anyone in the modern post-industrial society. This is why a major part of population identifies with it, understands it, feels it, and thus strives to protect it. Of course, to give it equal status among all heritage categories it is necessary to appropriately present this heritage to the general public and take professional care of its conservation. This is why the definition of its role should be based on the attributes used by the profession when defining heritage characteristics.

Authenticity and integrity are key heritage attributes and as such represent the key of heritage per se. Both elements are the essential criteria in evaluating heritage sites and structures when talking about monuments of the highest significance⁵ and also in the cases of sites of lesser significance, as integrity and authenticity complementarily expose the significance of originality and integrity. These are the key characteristics in preserving industrial heritage as well. They are the basis for its understanding, particularly because this heritage category is highly complex. Appropriate heritage protection is possible only when heritage is appropriately understood.



Fig. 1: The complexity of industrial heritage requires professionals to develop clear conservation guidelines to preserve its authenticity and integrity to the greatest degree possible. An example of an ironworks complex renovation is shown, where part of the building is turned into an exhibition area, while another part is preserved in its original form, Ravne na Koroškem, Slovenia. Photo: Sonja Ifko.

In the past, there were many problems and inappropriate approaches in relation to renovation of industrial heritage sites, which primarily preserved the visually attractive parts of the sites, while the rest was removed without being properly recorded or assessed.

The significance of comprehensive information for heritage protection is addressed in paragraph 9 of the Nara Document on Authenticity⁶, adopted by ICOMOS in 1994. "Conservation of cultural heritage in all its forms and historical periods is rooted in the values attributed to the heritage. Our ability to understand heritage values depends, in part, on the degree to which information sources about these values may be understood as credible or truthful." Article 13 of the Nara document explicitly stresses the aspects of

4 Faro Convention on the Value of Cultural Heritage for Society, Council of Europe (2005). <http://www.coe.int/en/web/conventions/search-on-treaties/-/conventions/rms/0900001680083746>

5 These two elements are clearly defined by the Operational Guidelines for the Implementation of the World Heritage Convention: <http://whc.unesco.org/en/guidelines/>

6 The Nara Document on Authenticity, ICOMOS, (1994). <http://www.icomos.org/charters/nara-e.pdf>

authenticity⁷: “Depending on the nature of the cultural heritage, its cultural context, and its evolution through time, authenticity judgements may be linked to the worth of a great variety of sources of information. Aspects of the sources may include form and design, materials and substance, use and function, traditions and techniques, location and setting, and spirit and feeling, and other internal and external factors. The use of these sources permits elaboration of the specific artistic, historic, social, and scientific dimensions of the cultural heritage being examined.”

Integrity is understood as a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. Only the wholeness of monument or heritage unit allows for a complete understanding of its values. The definition that is also adopted after **The Operational Guidelines for the Implementation of the World Heritage Convention**⁸ is an appropriate starting point for determining the degree of integrity of industrial heritage sites: Examining the conditions of integrity, therefore requires assessing the extent to which the property:

- a) includes all elements necessary to express its (Outstanding Universal) Values;
- b) is of adequate size to ensure the complete representation of the features and processes which convey the property’s significance;
- c) suffers from adverse effects of development and/or neglect.

It is particularly important to define the level to which it is possible to interfere with the integrity of certain sites according to their heritage values and consequently their legal protection status; e.g. sites protected as heritage, local monuments, or monuments of national significance as defined in our case by Slovenian legislation. The fact is that adaptive reuse processes must allow for the functioning of new programmes, while practice shows that efficient projects can be carried out in a coexistence of the old and new, if the interests of those included in the projects are in favour of the heritage.

The Nizhny Tagil Charter also highlights the significance of both attributes stating: “Conservation of the industrial heritage depends on preserving functional integrity, and interventions to an industrial site should therefore aim to maintain this as far as possible. The value and authenticity of an industrial site may be greatly reduced if machinery or components are removed, or if subsidiary elements which form part of a whole site are destroyed.”⁹ Precisely the removal of machinery and infrastructure, which are the necessary elements of an integrated testimonial value of reuse projects, are the main problem in Slovenia as well.

In summary, in the context of preserving authenticity and integrity of industrial sites it is important to preserve the material framework as a starting point of integrated protection, while these processes are made difficult by many characteristics, particularly the complexity of industrial heritage sites and the fact that in most cases it is impossible to fully preserve their integrity, particularly in reuse projects that generally require more intervention. It is therefore the more important to understand heritage, assess it, and direct reuse projects so that both attributes are preserved to a maximum degree possible. Here let us again borrow the words of one of the most prominent experts in the field, Sir Neil Cossons, who wrote: “Industrial heritage demands knowledge, great judgement and real understanding. From understanding grows valuing; from valuing grows caring and from caring grows enjoyment and inspiration.”¹⁰

7 Knowledge and understanding of these sources of information, in relation to original and subsequent characteristics of the cultural heritage, and their meaning as accumulated over time, are the requisite bases for assessing all aspects of authenticity.

8 The Operational Guidelines for the Implementation of the World Heritage Convention, UNESCO (2016). <http://whc.unesco.org/en/guidelines/>

9 The Nizhny Tagil Charter for the Industrial heritage, TICCIH, (2003). <http://ticcih.org/wp-content/uploads/2013/04/NTagilCharter.pdf>

10 Cossons, N. (2012). Ibid.

2.4 Studying the continuity of development, and the design of a 'dynamic methodology'

Considering the multidisciplinary approach of research, while researching industrial heritage the necessity of researching the continuity of development must be emphasised. This was already pointed at by the industrial archaeologist M. Palmer¹¹, and two other important industrial heritage researchers, i.e. M. Stratton¹² and M. Cherry¹³ already two decades ago. This regards the necessity of contextualising the researched structures in time and location of their origin. Hence, the development can be presented comprehensively and comparatively.

In line with the research tendency, we should also draw attention to another assumption in the design of the research and protection methodology, which is relevant for the design of the evaluation method. This is the so-called 'dynamic methodology'¹⁴, i.e. a methodology appropriate for, and adaptable to, the same segment of heritage in all periods of development, e.g. industrial architecture of the 18th and 19th centuries, including the structures built to this day.

3 Characteristic of regeneration processes and reuse of former industrial sites

3.1 Key revitalisation factors of former industrial sites

When talking about the position of the heritage and its reuse in the framework of urban revitalisation we are aware that it depends on many factors, which are often very specific, but generally they can be classified as: economic and financial issues, degree of preservation of built and other structures, environmental conditions of regenerations, social and cultural conditions, provision of a quality living environment, and issues concerning creation of new jobs. The definition of the role of the factors in revitalisation processes must follow sustainable development requirements, where all aspects of sustainability must be considered, including ecological, economic, and social.¹⁵ The fact is that the relationships between the parameters are imposed by the specific conditions of local environments, powers, and interests of those involved, even though high-quality long-term solutions should equally consider all of them.

We should also stress two more important aspects specific to industrial regions, which are often not considered enough. These are ecological remediation of the sites and socio-economic conditions; during the closure and restructuring of production, both aspects are a pressing challenge that local environments must tackle. Ecological remediation is an essential element, but this extensive issue falls beyond the scope of this paper. On the other hand, socio-economic conditions are addressed here; their solving can be directly linked to the planning and implementation of heritage protection at the sites.

3.2 Socio-economic conditions during the closure of industrial plants

Only a small percentage of industrial heritage sites and buildings is inventoried, evaluated, and legally protected when active manufacturing is still under way. In most cases industrial sites are studied, evaluated, and equipped with protection measures only after the

11 Palmer, M. (1998). Answer to the question sent to the industrial Heritage Mailing List, January 1998..

12 Stratton, M. (1995). Evaluating Twentieth Century Sites for Protection: A case Study of the Coventry Motor Industry, *Managing the Industrial Heritage*, Leicester Archaeology Monographs No. 2, Leicester, p. 83-90.

13 Cherry, M. (1995). Protecting Industrial Buildings: The Role of Listing, *Managing the Industrial Heritage*, Leicester Archaeology Monographs No. 2, Leicester, p. 119–124.

14 Cherry, M. (1995). *ibid.*

15 Ifko, S. (2016). Comprehensive management of industrial heritage sites as a basis for sustainable regeneration. in: Drusa, M. (ed.). *World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium 2016, WMCAUS 2016*, (Procedia engineering, ISSN 1877-7058, Vol. 161 (2016)). [S. l.]: Elsevier Ltd., cop. 2016, vol. 161, str. 2040-2045.

production stops. This generally means that a company went bankrupt and people lost their jobs, causing economic and social crisis, to a greater or lesser degree. Even though we cannot directly link heritage protection to the conditions defining the processes connected with the closure of industries, these processes are often extremely linked and correlated. Sites and buildings are mostly included in the insolvent estate and companies want to sell them at an advantageous price to pay their debts. Of course, first it is necessary to ensure the livelihood of laid-off workers and usually there are no funds available for major protection campaigns. Owners generally do not seek legal protection of the heritage as it is then legally binding for them. Industrial heritage is, at least in Slovenia, a protection category that is not valued enough for the investors to see potential in its promotion, and is thus not included in development potentials of the sites, or only rarely. An enormous potential lies in the possibility of connecting the social cohesion policy and industrial heritage protection projects, or at least their inventory.



Fig 2: Inclusion of former employees into the protection and promotion of industrial heritage is an opportunity for heritage and employment of people who lost their jobs in the aftermath of the industry shutting down. Case of miners who now guide tourists around the mercury mine museum, which is inscribed on the UNESCO's World Heritage List. Source CUD Hg, Idrija.

3.3 Evaluation of industrial heritage revitalisation and reuse projects

We have several decades of practical experience with reuse of industrial heritage sites both at the global and European scale. Nevertheless, there have not been many studies that would provide a comprehensive analytical evaluation and the basis for directing future development. In his study *Value and Revitalizing Industrial Heritage*, the Dutch researcher Ruud van der Kemp stemmed from economic parameters of evaluation. Economic indicators are the basic and most widely used way of evaluation and, for many, the only credible comparative criterion of evaluating various investments and cultural heritage regenerations.

In his study, Ruud van der Kemp¹⁶ states: "When using economic indicators in evaluating industrial heritage conservation measures to define the economic value factors we should follow a system that includes all the relevant revitalisation aspects."

He divided the economic values into two groups – "measurable values" (e.g. in Euros, per square meter) which he refers to as "hard" values, and "non-measurable values", which are subjective or not collectively accepted, also called "soft" values.

The analysis helps us to identify the cultural and conservation values of the study area that are irreplaceable and the most difficult to quantify financially. The values that we want to expose in industrial heritage conservation processes belong to the group of non-measurable values, which makes their implementation in urban regeneration processes even more

¹⁶ Van der Kemp, R.J. (2009). *Value and revitalizing industrial heritage*, research report, Technical University of Eindhoven, Faculty construction engineering, Eindhoven. <https://pure.tue.nl/ws/files/46962103/658485-1.pdf>

difficult.

Conservation protection procedures are financially shown as costs whose economic impact, in the medium to long term, cannot be given in the financial breakdown of a project. When establishing a system identifying the project's "soft values" from an economic point of view as well, it is important to analyse all intangible heritage elements as well and take them into account in the evaluation. These characteristics (tradition of knowledge and skills, brand recognisability, etc.) have a large indirect economic potential and are an important element when identifying the "soft values". It is important that they are pointed out in a substantiated manner at the project design stage, as they can play a crucial role in finding new development pathways at the sites, primarily by introducing new programmes in the context of future development and also in reindustrialisation processes. Industrial heritage can become the basis for developing successful economic and cultural tourist models and importantly contribute to the reindustrialisation processes necessary for the global competitiveness throughout Europe. Intensive development of high-technology is necessary for the development of Europe's economy; industrial heritage is both from tangible (abandoned buildings and sites) and intangible (knowledge, tradition in manufacturing) aspects a development advantage that we are not yet able to derive full benefit from.

Even though the economic value of cultural heritage as such is extremely difficult to quantify, with older cultural heritage the costs of conserving its cultural and historical value are borne without major objections by developers, and the costs of cultural heritage conservation interventions are generally accepted; indeed, the investors recognise that in the long term these costs generate added value, even if the impacts are not directly quantifiable.

However, it is felt that there is no such automatic acceptance of conservation costs associated with industrial heritage. Developers mostly seek to minimise project costs, and do not promote the projects based on the heritage of the site, but rather increase their return on investment at the expense of attractive architectural developments increasing the visibility of the sites, using the so-called Bilbao Effect.

3.4 Significance of appropriate programmatic decisions

New programmes are essential for the success of regenerations, so their selection should be well considered and based on spatial developmental strategies and plans, but at the same time we have to find the way how to effectively preserve and promote heritage of the sites.



Fig 3: Heritage of industrial companies is an important part of their identity and a testimony to its tradition as the basis of their success. On the occasion of its 80th anniversary, the company Dravske elektrarne Maribor restored its former hydroelectric power plant Fala and converted it into the company's museum. Photo: Miran Kambič.

In previous years, private investors in Slovenia mostly opted for programmes associated with the construction of housing and commercial centres to provide the highest short-term financial gain. The existing buildings were demolished and replaced by new ones practically everywhere, despite the good opportunities for renovating the existing buildings. Much important industrial heritage is lost in such a way. Linking conservation endeavours and programme design is essential and should be given much consideration, thus encouraging developers and local authorities to find distinct types of public-private partnership.

4 Proposal for a methodology of designing reuse projects concerning industrial heritage, with the starting point of allowing for authenticity and integrity of the heritage

If we want to preserve the authenticity and integrity of heritage sites in the processes concerning their reuse, an efficient management of projects from their beginning onwards is essential. Harold Kalman refers to this as “managing change”¹⁷, i.e. the core of reuse design, which presents a complex process of activities and harmonisations prior to the start of the final project design and implementation. Heritage management starts with the planning of developments at a site and is the key starting point for protection and developmentally successful revitalisation projects.

Nowadays, conditions in heritage management increasingly change at all levels, i.e. from objectives, governance to management techniques. In the study on the changing role of heritage in the society, and in the manner of its management, as published by A. Phillis¹⁸, the contemporary directions in heritage management can be summarised as follows: it is crucial to reach a consensus and to know how to adapt to the conditions; regarding managing skills he says that the new conditions require managing by multi-skilled individuals, which is contrary to the traditional system mastered by experts and scientists.

This is a fact that we should adapt to if we want to achieve successful protection solutions and provide a future to the heritage. This does not mean that protection standards are being lowered but rather this refers to their growth and the overcoming of the conventional divisions and controversies among heritage guardians and development interests. Such an approach requires new starting points and a sincere commitment of everyone to reach all acceptable compromises. Conventional protection processes involve three known steps: identification of heritage characteristics and their documenting, evaluation, and, in the third phase, determination of protection measures that provide the basis for planning; with the increasing complexity of the heritage and the parameters directing its development the values-led approach was introduced, which is based on the inclusion of all interests/ stakeholders that help to shape the future of certain heritage sites. This approach has gained ground in Anglo-Saxon countries and is increasingly being used due to its wide applicability. It is particularly appropriate for industrial heritage sites, as they are extremely complex, while their future depends on many interests.

4.1 Burra Charter Process as a basis for integration of conservation and developmental aspects of industrial heritage sites

Below we present in detail the values-led approach used also in the Burra Charter Process (BCP), which in this paper serves as the basis for finding the way for a more efficient preservation of authenticity and integrity attributes within urban revitalisation processes and reuse projects of industrial areas in Slovenia as well, where in many cases we face problems of improper protection of industrial heritage.¹⁹ BCP was first adopted

¹⁷ Kalman, H. (2014). *Heritage Planning*, Routledge, London and New York.

¹⁸ He wrote about natural heritage sites, but the paradigm is the same. In Phillis, A., 2003, p 8-32.

¹⁹ Many heritage sites are not inscribed due to work overload of professional services. Unfortunately, in Slovenia, the inscription on the Heritage Register under the term “industrial heritage” is not provided for either. The Ministry of Culture’s Register lacks such a register so units are typically inscribed as a “factory”, a “mine”, or a “secular heritage site”. This adversely affects the presentation of their heritage testimonial value, since it does

in Australia in 1979 and presented in The Burra Charter The Australia ICOMOS Charter for Places of Cultural Significance.²⁰ BCP is based on an actual mining historical site Burra and is thus particularly adapted to the specificities of industrial mining areas. It highlighted the “assessment of the significance of the place – based on the values attributed by all stakeholders (not only experts) and the use of a Statement of Significance – as a basis for developing conservation and management strategies,” as is summarized in the manual Managing World Cultural Heritage MWCH²¹, which provides a synthesis of the most important professional findings in the area of managing world heritage sites.

The statement of significance is based on the so-called values-led approach that stresses all values of a heritage site not only the ones that highlight the significance of the heritage, but with inclusion of the heritage in the social development, spatial, and economic sense. In this approach, the significance of a heritage property is first established in a participatory process involving all those who have an interest in it. Having defined the significance (statement of significance), this becomes the framework for developing conservation policy and strategy where the condition of the property, rules and regulations, the needs of the communities, etc., are taken into account.”²²

BCP is methodologically divided into three basic stages: Understand significance, Develop policy, and Manage in accordance with policy. Each stage is structured to allow for updating the information on heritage in the sense of considering new conditions on sites, which require adaptations in management²³. The procedure adapted to the characteristics of the industrial mining heritage for the Trbovlje Mine and the Hrastnik Mine that is closing down was presented at the WMCAUS conference in Prague in 2016.²⁴ In this paper the methodology is generalised and adapted to Slovenian conditions. The first phase of the process is presented in detail; it is decisive from the point of view of preserving authenticity and integrity of industrial sites in reuse processes. The other two phases, which are also essential for successful reuse processes of industrial sites, and management of these sites with additional content, will be, due to their too extensive scope, presented only through the basic characteristics of the process.

4.2 Proposal for an adapted approach to managing industrial heritage sites in reuse projects

4.2.1 The first stage of the process: Understand significance

Understanding of the place

The understanding of the significance of the heritage addressed is the key phase that consists of two steps: the first one is Understand the Place and the second one is Assessment of Cultural Significance. The first step is analytical, while the second one can be compared to evaluating heritage in the traditional protection system.

The understanding of the place requires, firstly, the collection of data for each site/place considered, which are systematically arranged within the following groups of characteristics:

Basic information:

This chapter compiles the basic information on a site: its location, size, list of structures at the site, ownership, cultural protection status, status in spatial planning documents.

History:

not allow for a comprehensive relation treatment, e.g. of production, transport, operating, housing, and business structures, etc., which form a comprehensive image of industrial heritage sites.

20 The Burra charter, (2013). The Australia ICOMOS Charter for Places of Cultural Significance, ICOMOS Australia.

21 Managing Cultural World Heritage, World Heritage Resource Manual. (2013). UNESCO, Paris.

22 Managing Cultural World Heritage, World Heritage Resource Manual. (2013). *ibid.*

23 The Burra Charter (2013). *Ibid.*

24 Ifko, S. (2016). *Ibid.*

To present history of the place it is important to prepare a systematic summary of development characteristics from the lists of all sources; regular updating of information on an internet platform is proposed, which ensures access for all.

To understand the historical significance, it is necessary in the first place to collect data of the heritage itself and in this context, expose all the important elements of its manifestation, i.e. tangible and intangible ones, and to properly analyse each one. These are complex processes, which I discussed in more detail in the paper *Industrial Architectural Heritage – Re-evaluating Research Parameters for More Authentic Preservation Approaches*²⁵. A crucial component of history research is that an industrial production unit – industrial complex /e.g. factory, mine, power plant, etc./ is the basic research unit, researched on three levels: first, the complex in question is analysed as a whole by defining its main characteristics, its component parts – a list and function of all the complex buildings and structures, a functional concept, and the historic and testimonial characteristics. The next level analyses individual important structures and buildings, when the building, construction, technological, and technical characteristics are emphasised. In the third phase, the complex is again treated as a whole, but this time in relation to the wider area it was created in. These characteristics are defined by the spatial and urban development elements of the complex itself and its influence on its surroundings.

To understand the industrial sites, it is important to research the following groups of characteristics:

i. The historical and social characteristics

Seek to define the consequences of industrialisation as they manifested through historic, social, economic and political events, and also through the culture created by these circumstances. In this part we define the impacts of the industrial complex – a company, a mine – directly on all the changes brought about by its presence in space. We address issues such as the impacts on the cultural landscape (how it was transformed over time due to the industry), urbanisation and its development, economy and economic development (what was the impact of the factory and potentially the connecting/supporting industry), what was the significance of the industry in relation to the housing culture (recording of housing stock built by the company), education (recording of the education system within the company, schools if established), and culture and sport in a broad sense (inventory of the societies established within the companies). These characteristics are being addressed at the level of the complex as a whole, in a wider spatial context of the industrial landscape, and only exceptionally in the context of individual structures.

ii. Spatial and developmental characteristics

These characteristics relate to the level of industrial development on the one hand and the direct and indirect influences of the industrialisation process on urban development and urbanisation. These characteristics are addressed at the level of a complex as a production whole – on the outside in the relationship to the cultural landscape and within the complex through relationships between the individual buildings and structures.

iii. Architectural and construction characteristics

Define the development of industrial culture as an autonomous building type, and, at the same time, the avant-garde of modern architecture, since industrial buildings introduced many novelties in the field of construction development and the use of new materials. These characteristics are addressed at the level of individual objects or structures.

iv. Technologic and technical characteristics

The technological and technical characteristics are marked by the development of new technologies and machinery, exemplified in inventions, new devices, patents, and, of course, products, which are the part of industrial heritage most directly indicating the scope of industrial development. These characteristics are addressed at the level of individual objects or structures, and their relations inside the industrial complex and the entire landscape.

²⁵ Ifko, S. (2014). Industrial architectural heritage – re-evaluating research parameters for more authentic preservation approaches, in *Arhitektúra & urbanizmus*, vol. 48, no. 3/4, p. 136–155.

Associations

All relevant associations are described here, relating to other places, people, and events. They need to be systematically represented and a list of sources prepared (references, archives, interviews). Associations are highly important in determining the dimensions and connections of heritage in a wider context.

Use

Use is analysed on two levels: past use and present use.

When dealing with past use of the sites in the case of industrial areas, which are typically complex in terms of use, it is necessary to carefully study the role of all structures and buildings as due to the destruction of parts of production structures and removal of vital elements of equipment we often lose important testimonial elements and thus integrity of the heritage site.

When analysing past use, description of activities and presentation of technological characteristics in the case of production-related use should be prepared for all objects and structures.

Present use: description of the existing use in the place is described.

Fabrics

In this segment, the structure of the materials is described (what are the buildings and structures made of, and how). This part also presents the conditions of fabrics in the sense of their future applicability.

Basic information is presented on a single record sheet, complemented by the most important archive and pictorial materials.

4.2.2 Assessment of cultural significance

After the complex is analysed, it is time to summarize its values. These are evaluated at this level according to the cultural importance. An evaluation for its future potential is not included at this stage. Each complex is evaluated as a basic production and organisation unit and then in relation to the environment, which helps form it. Afterwards, the buildings or structures are evaluated together with their equipment and other material and intangible sources. The evaluation system is following the analytical methodology from the previous step. The exclusion of individual structures from the whole is unreasonable, but still extremely frequent. Indeed, the conservation of entire complexes is in most cases impossible; however, they should be analysed as a whole, while the protective measures should be designed in such a way that their testimonial value is truncated the least. This is why a comprehensive and interdisciplinary research approach is necessary, and hence the cooperation of many experts that can develop, only through teamwork, quality conservation programmes.

A summary of cultural significance is prepared at the end of this segment as a **Statement of Significance**, which stresses the heritage values as the basis for implementing the conservation and management process. The Statement of Significance is structured according to the characteristics of the analytical phase and the phase of identifying values.

4.3.2 The second stage of the process: Develop policy

This is part of the process establishing the methodological basis for efficient management implementation. Importantly, at this stage all factors and issues are defined in detail; they are the key for policy development and management plan preparation, as a result of this

segment. The second stage is divided into three stages as follows.

Identify all factors and issues

In this segment, it is necessary to include the Statement of Significance that was produced in the previous stage; to present information about the owner of the area concerned; to identify the physical, material condition of structures, conservation, level of authenticity; to identify owners' needs – defining the owners' requirements and needs in relation to the area; to describe the potentials of a place under "opportunities"; to describe, under "constraints", the limitations affecting identification of use and management of the place by heritage; to compile a list of all stakeholders' interests for the place.



Fig 4: In planning industrial heritage revitalisations and its integration into the life in post-industrial conditions it is important to include all stakeholders interested in or concerned with the heritage. A stakeholder workshop on the future of the Rudnik Trbovlje-Hrastnik company in Hrastnik. Photo: Sonja Ifko.

Develop policy

The policy development starts when all factors and issues are identified. This is the most important part of coordination, i.e. when all conditions are studied, and the parameters for preparing the management plan are agreed upon; they are developed in three groups: recommended uses - recommendations for the use and the rules for implementing these uses; conservation measures and interpretation - at this stage preservation activities for the whole heritage site, e.g. restoration works, maintenance together with interpretations plans, must be presented; finally, tourist potentials must be defined. In accordance with the development direction of the municipality, for each historic place the potential for use in tourism, direct activities, and possibilities and restrictions regarding tourist use are defined.

Prepare a management plan

Preparation of a management plan is undertaken in three steps that should be coordinated and prepared in parallel. It is necessary to provide a system of prioritised content in the place concerned, which must be coordinated among all stakeholders; the execution schedule of the envisaged activities must be defined. It is important to consider all stages of work on the project, i.e. from data and information acquisition to monitoring. Deadlines should be set to monitor the success of implementing the plan. The new step is a review of resources of programme implementation, and the dynamics in obtaining funding, which is essential for the execution. This is also the phase when the managers responsible for managing the sites need to be determined; these can be legal or natural persons (depending on the owner).

4.3.3 The third stage of the process: Manage in accordance with policy

The essential part of a successful process is its efficient management, which adapts to the new requirements and needs, without putting the heritage at risk in any way, and without reducing its testimonial value.

An important accompanying activity of all stages is monitoring of the process and results. This will be particularly important when dealing with the first cases of industrial sites, as this will help us direct the activities in the individual places and optimise the methodology in the Slovenian context.

5 Discussion and conclusions

The role of the heritage today is changing, while its complexity and development factors help to create a complex system of relationships that require new approaches. In the past, conventional approaches to planning and top-down management were used, while participation is implemented today. Heritage sites are gaining in importance in social cohesion processes, but in practice this is being implemented slowly. These characteristics affect the revitalisation of abandoned industrial areas when production ends, either completely or only partially. If they are appropriately included they can become the key generators of protection of basic heritage values and thus generators of new social values as industrial heritage sites are places of difficult economic and social conditions and in need of ecological remediation. Both processes can include former employees, while naturally the legal basis and methodological frameworks of protection and revitalisation approaches must be provided. These are the key conditions that allow for long-term preservation of heritage, which highlights authenticity and integrity of heritage as the key values and on its basis builds new development stories that are undoubtedly the only key for future survival of complex heritage sites, i.e. industrial heritage sites.

Due to its specificity, industrial heritage allows for and requires the development of new approaches to be followed in Slovenia as well. The key role of interdisciplinary cooperation and inclusion of all interested stakeholders already in the phase of analytical research work should be again emphasised. This does not mean that the significance of heritage attributes is reduced – on the contrary; the knowledge of these values is the basis for a dialogue among all stakeholders from the very beginning of the project design process, which is the basis for integration of heritage in the current life and thus survival under the new conditions.