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Reconstruction of former industrial complexes and their utilisation in tourism – case study

Abstract

In the context of industrially developed countries today, there has been an increased interest in tsocalled 'industrial tourism', which aims at exploring technical monuments in a broad spectrum of tourist activities. This form of tourism used to be the domain of a handful of technical enthusiasts but nowadays it is gaining popularity among the broader public. In almost every town it is possible to find an industrial site or at least a few large objects, which, after the cessation of production, were left unused. Even though they are not listed as cultural monuments, these are often remarkable constructions contributing significantly to the local character. This paper contains an outline of the advancement in the conservation and utilization of industrial heritage in the region that currently finds itself in the postindustrial era. The issue of the development of the industrial heritage in the Czech Republic is based on the example of the industrial complex in the Lower Area of Vítkovice, which has been converted to the cultural and touristic part of the centre of the Ostrava - a city formerly known as the 'Steel heart of the republic'. It is an example of the successful transformation of the facility that could be compared to the 'European Route of Industrial Heritage' or the transformation of the Ruhr region in Germany. A case study of a new utilization of Vítkovice Ironwork's compound and other facilities can serve as an example for other towns and cities in Europe and beyond.

Key words: *industrial tourism; industrial heritage; ironworks; mining city Ostrava; Czech Republic.*

Introduction

In the past 50 years, tourism has become one of the most dynamically developing domains of the domestic and world economy. Just as industrial production has its outputs in form of its products, the tourism has outputs of its own. A tourism product can be defined as a sum of all supply of private or public entities that are doing business in tourism or coordinating tourism. The beginning of modern tourism can be traced to the 17th and 18th century, however, the opinion that tourism had only developed in the second half of 20th century is also common.

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The question of the complex utilization of industrial heritage (with respect to industrial tourism) in the Czech Republic is not just a response to the newest trends. Already in 1987, a Section for the Preservation of Industrial Heritage (SIHP) was established by profesor Emil Hlaváček at the National Technical Museum, which is dealing with this matter in a professional way. The theoretial basis of SIHP activities was influenced by actions taking place in Great Britain, Germany or France, the countries where industrial transformation started a few decades earlier. Since the end of the 1970s, these countries have experienced significant structural changes charaterised by heavy industry and mining. Heavy industry was partly restructured by the implementations of new technologies and the abandoned buildings began to be used for industrial tourism, congress tourism, exhibitions, fairs, as well as the entertainment industry.

Industrial heritage thus consists of many unusual and unique technical monuments that represent important historical periods. They also often represent a certain economic and social level of development of the region. It is worth mentioning that the meaning of the term monument was defined just recently, as it was necessary to express recognition for the importance as well as value of the features, which previous generatons passed on to its offsprings. Therefore a monument is considered to be a work of human hands made in order to keep a living memory of a certain human action for the future generations (Januszewski, 2004; Orsillo, 2007; Tomíšková & Šimková, 2008).

Industrial heritage – its protection and utilization in post-industrial era

Technical progress accompanies society since the beginning of human existence. From the first inventions of sophisticated tools to large industrial complexes, society is now standing on the edge of postindustrial age. The path of science, production and technology is flanked by a series of preserved buildings or machinery, often unexplored and unmapped. The central register of cultural monuments of the Czech Republic lists over 40 000 entries these days, out of which 2800 objects and complexes have a technical heritage character. They represent different stages of industrial development from the middle ages until the 20th century. Czech is geographically located in the middle of Europe at an important international crossroads, which made it possible to participate on technological progress and utilize new findings of science and production.

As early as the 1950s, a new branch of science termed industrial archeology was established in England (the cradle of industrial revolution). It uses interdisciplinary approaches to study both tangible and intangible evidence, which gave rise to urbanized landscapes as a means for the realization of industrial processes. This scientific discipline increases the position, meaning, role, and understanding of technical monuments and emphasizes the influence of technology on the development of human society (Orsillo, 2007; Ferris, 2010).

At the end of the 1970s, fundamental structural changes in the industry of the Ruhr region (Germany) took place, as coal mining became uneconomical. Heavy industry was restructuralized through the adoption of new technologies and it started to be successfully replaced by tourism, congress tourism, exhibitions, fairs and entertainment industry. During that time, new universities were formed in Essen

and Bochum. In the miners district, three thousand new apartments were built within the frame of this project (Lange Detlef, 2006). In 1989, the regional government of North Rhine-Westphalia adopted a ten-year conceptual programme "International construction exhibition Emscher Park" (IBA), which included 17 towns affected by decline in industrial production, with the total area of 800 km2. During these ten years 120 projects were implemented in social, cultural, ecological and construction areas, which created a base for economical and cultural transformation of this region. Within the frame of IBA, 150 industrial monuments were preserved and newly employed. Based on this programme a "Route der Industriekultur" was created with the help of many cultural institutions and government authorities. It is a 400 km long route connecting 25 industrial locations as well as industrial panorama. The uniform marking of this route can already be encountered on highways and then, on all the regional roads. The trail marking consists of 1500 traffic signs (Zaspal, 2008; Matěj, 2006).

During the last 15 years, industrial tourism has creeped into the sphere of interest of European community. In July 2003 a congress of The International Comitee for Conservation of Industrial Heritage (TICCIH) took place in Nizhny Taigil (Russia), where The Nizhny Tagil Charter for the Industrial Heritage was proclaimed by the delegates. This document briefly summarizes the essence of industrial heritage, it draws attention to its values for society and it defines the main priorities and ways of protecting and preserving this part of our cultural legacy (Fragner, 2008).

One of the ways of presenting the values of European continuity would be the connection of industrial heritage sites by tourist routes across the continent. The basic material in a form of three branches follows an appeal of professor Ebert presented on 19.9.2007 at the 4th international biennale called "Industrial footprints". Professor's Eberts' appeal was presented at a lecture, of which the topic was the European Route of Industrial Heritage (ERIH). The ERIH project was founded in 1999, at first as an initiative of INTERREG II C project in northeastern regions of Europe, i.e. the historical heart of industrial revolution. Partners from Great Britain, Netherlands, Belgium and Germany developed a baseline plan as a concept for the project and in the year 2001, the works on turning the concept into reality started by implementation of action programe within the frame of INTERREG III B project. ERIH was officially launched in September 2005 at a conference in Ironbridge (Fragner, 2008; Fragner, 2005).

The European network of industrial heritage was established within the frame of this project, the aim of which is to contribute to assessment, understanding, protection and promotion of industrial history, which is common for the whole of Europe. European route of industrial heritage is a network of the most important monuments of this kind in Europe. It encompasses formerly abandoned factories and industrial landscape as well as interactive technical museums (Chorzepa, 2007).

Industrial tourism

Abandoned industrial sites and specific infrastructure surrounding them became an object of interest not only for professionals working in monument conservation, but because of their unique genius loci they also attract a broader public. As a result, a very peculiar branch of tourism – industrial tourism – is developing. This type of tourism enables people to experience typical industrial environments of different kinds and broadens their knowledge of the development of the industry. Thus the experience

shows, that after a certain industrial production ceases, there is no need to eliminate the existing production facilities and machinery. In times when people are losing contact with industrial production, this technical equipment is a source of knowledge and also a testimony of technical progress and creative abilities of our ancestors. Conservation of these monuments should therefore not be considered a duty of a handful of professional institutions, but rather an important objective of society. Saving the monuments represents only the first step on the way. The second step consists of their conservation, renovation and preservation. Afterwards the third following step is the opening of these sites to the general public (Januszewski, 2004). This is where the efforts of monument conservationists meet with tourism, because visiting technical monuments serves as an enriching activity attracting the public.

Development of tourism and a need to constantly innovate business activities led to an surprising interest of regional companies. It is worth mentioning that movable technical monuments, which are now overcoming a profound change in their role, have already attracted attention in the past. These mobile technical monuments are not only presented as collection items in museum expositions but are becoming active parts of functional expositions as well as demonstrations of old ways of industrial production (Tomíšková & Šimková, 2008; Fragner & Šenenberger, 2007).

Problems of industrial heritage in the Czech Republic

Society has only recently started to perceive industrial heritage as a part of cultural heritage. This is supported by the fact that most industrial buildings have been proclaimed cultural monuments in the 1990s. Industrial heritage has not only a cultural value, but it is also a witness of expansion of many Czech and Moravian towns. It is important to realize that many cities in the Czech Republic have expanded thanks to the developments of the industry.

For example the growth of the city of Brno was caused by the development of the textile and mechanical industries around the Svitava River. The rapid expansion of industry enabled the construction of new factories around the city center. Electrification went hand in hand with industrial expansion, its outcome was a construction of the first powerplants and transformers and even tramways later. Thanks to the industrial expansion, the city became a modern center of the region and its importance grew. Industry played an even more obvious role in the development of Ostrava. Ostrava was founded in the 13th century on the Amber Road, being just a small town in the vicinity of regional center at that time which was the city of Opava. In the 19th century began the construction of the Emperor Ferdinand Northern Railway. At the same time the large coal deposits were discovered and first blast furnaces for steel production were constructed. This is the time when Ostrava started to grow significantly and is became one of the largest cities in the country.

Former industrial sites (often considered as brownfields) in the Czech Republic are quite often situated near the city centers. These are usually large areas waiting for new utilization. Finding a new purpose for these buildings can be more difficult than a new green-field investment at the expense of arable land. However, after appropriate conversion, it is possible to obtain spaces with unique atmosphere in attractive locations. Thus, the perception of these industrial sites needs to be changed in order to make more use of them.

One of the main problems associated with industrial heritage preservation is that it is concentrated in large sites that often change owners and therefore have unclear property rights. The proprietor can frequently be a company which is non existant, the owner unfindable and the estate under lease. These factors make saving technical monuments much more difficult. Other significant obstacles in the alternative usage of industrial sites is the old toxist waste, which need to be remediated beforehand. Their remediation can be such an expensive process, that unless investor manages to find funding from public budget, he will often reject the project.

In general, the preservation of technical monuments, which predate the industrial revolution, is much less problematic. It is because not much evidence of human ingenuity has survived to this day and are therefore unique and rare. In the Czech Republic these are for example: horse-drawn railway, watermills, covered wooden bridges, splash dams for floating logs, coin mint or blacksmitheries. Monuments of traffic infrastructure are also taken good care of, for they are used to this day and therefore they have to be in a good condition such as some remarkably constructed bridges and railway stations (Folwarczná, 2008; Wirth, 2010).

Case study – an example of industrial site conversion in the center of Ostrava

Ostrava is an administrative center of the Moravian-Silesian Region, in the northeast of the Czech Republic, close to the polish border (fig. 1). By population (over 300 000) as well as areal extent, it is the third largest city in the Czech Republic, the second largest city in Moravia and the largest city in Silesia. Ostrava is an important industrial and university center.

At first a small settlement was founded upon the Ostrá (today Ostravice) River, which gave the settlement its name, and to this day it separates it into two parts – the Moravian Ostrava and the Silesian Ostrava. The first written accounts are from the year 1229, when the settlement (Silesian) Ostrava is mentioned in a letter by Pope Gregory IX. Settlement (Moravian) Ostrava is mentioned for the first time in 1267 in the last will of Bruno, the archbishop of Olomouc. Ostrava received its town privileges around the year 1279.

The town is located on a regional border and on the Amber Road, which connected the Mediterranean region with lands around the Baltic Sea. This led to the growth of the town in the Middle Ages, but after the Thirty Years' War Ostrava lost its importance. Only in the year 1763, when a large deposit of high quality bituminous coal was found in the Burňa valley in Silesian Ostrava, was there a marked change in the town, connected with the increase of coal mining in the 1840s. In the year 1828, metallurgical works were founded by the local landlord the Archbishop of Olomouc Rudolf Jan, which were named after him. Later, these metallurgical works came into possession of the Rothschild family and their name was changed according to their location Vítkovice. They became the core of a large industrial development of the town, which was reflected in its nickname (in the second half of 20th century) – *the steel heart of the Republic* (Matěj, Klát, Korbelářová, 2009; Janata, 2009).

Figure 1
Location of Ostrava

Source: www.google.com.

The Lower Area of Vítkovice – industrial site in the city center (short history)

The ironworks in Ostrava (Vítkovice) were founded in 1828, when a decision was made by the Archbishop of Olomouc to build the first puddling furnace, which became operational in 1830. Significant expansion took place in 1835, when the Vítkovice Mining and Metalurgical Company (Vítkovické horní a hutní těžířstvo), controlled by a banker S. M. Rothschild, took ownership of the Ironworks; Already in the year 1836, the first coke-fired blast furnace was put in operation; this was the first furnace of its kind in the Austro-Hungarian Monarchy. One of the most important contracts at that time was a supply of rails for the Emperor Ferdinand's Northern Railway, which connected the capital city Vienna with Krakow and salt mines in Bochnia and Wieliczka. In order to satisfy the rising amount of contracts, a new cogging mill (Anselmova huť) was put into operation in 1847 and in the year 1857 the Hlubina mine was opened right next to the Ironworks. This mine became a source of high quality coal for all ironworks' operations in the years to come; overall, more than 47 million tonnes of coal had been mined here. In this manner, an industrial complex, which doesn't have analogy anywhere else in Europe, was created – the whole production flow was continuous within one enterprise. Conveyor belts, boxcars and cargo bridges provided connections between different operations. Another important expansion took place in 1873, when S. M. Rothschild created a joint venture together with brother Gurmann's Company, whereupon Vítkovice and Mining Company (Vítkovická a hornická společnost)

was formed. Consequently, the armaments programme was expanded to produce armored plates for Austro-Hungarian warships (Valchářová, 2003).

After the formation of independent Czechoslovakia (1918), most of the production consisted of seamless containers, boilers, ship shafts and powerplant equipment. As time passed, Ironworks has grown into an indusrial giant, which was also engaged in machinery production. Further development took place after the Second World War in the 1950s when some of the operations were reconstructed and the company was renamed Klement Gottwald's Vítkovice Ironworks.

It is difficult to find a town or village in the Czech Republic, that lacks a bridge, silo or other industrial building crafted in Vítkovice Ironworks. However, this tradition has been discontinued. Vítkovice Ironworks were unexpectedly closed in 1998, when, due to heavy industry closure in Ostrava, most of the operations were closed and moved to a less advanced ironworks of Nová Huť, in spite the fact that after the reconstruction in the 1980s, Vítkovice Ironworks were European leader in its field (Šírová Motyčková & Šír, 2012; Volf, 2013).

Mining in the Hlubina mine, which was one of the deepest mines in Ostrava-Karviná Basin (depth of 1022,6 m), was already brought to a halt in 1992. What was left after the closure of mines and ironworks was a large, deteriorating industrial zone slowly turning into ruins. Luckily, the idea of revitalization of some of its parts prevailed over the idea of its destruction, so that the future generations can discover their industrial history.

Revitalization of the Lower Area of Vitkovice – vision and realization

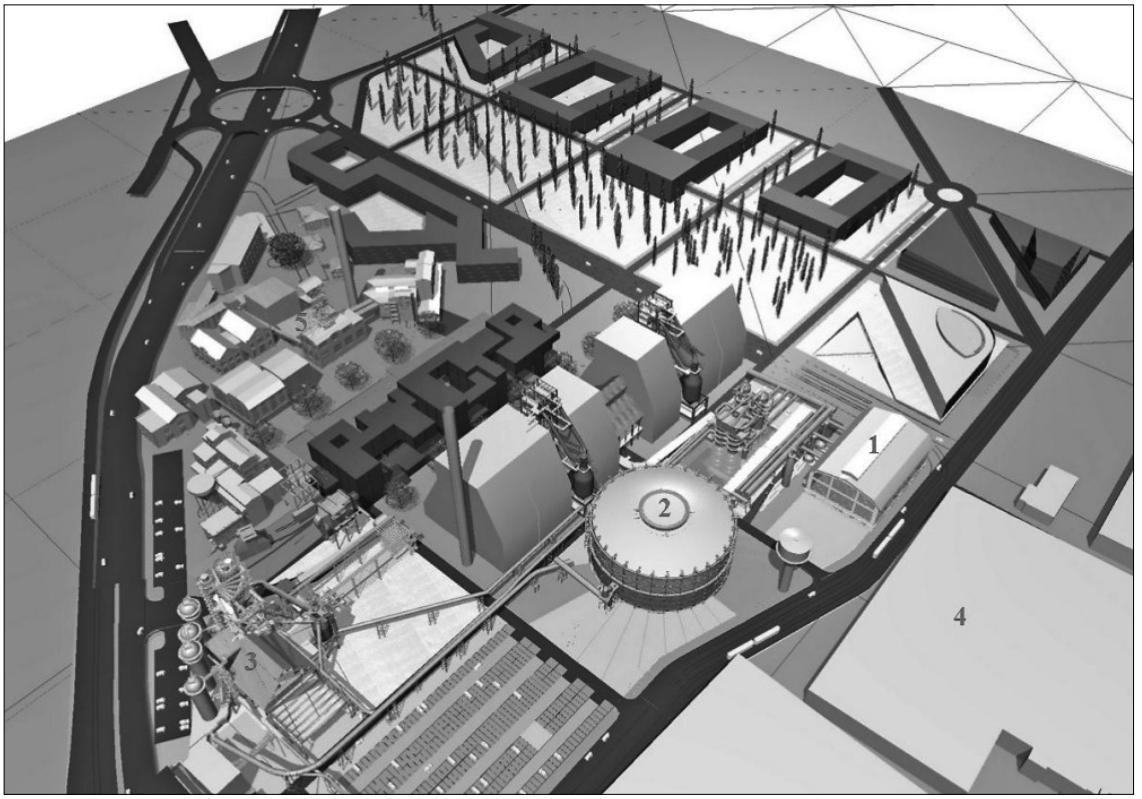
Ján Světlík, a CEO of Vítkovice a.s. company, presented his vision at the IV. Bienniale conference "Industrial footprints" in 2007. In his speech he said: "Even before the termination of production, at the turn of the years 1994/95, the whole site was declared a protected monument area. In the year 2000, the Hlubina Mine, Blast Furnaces and the Coking Plant of Vítkovice Ironworks were proclaimed Cultural Monuments (CM) by the Ministry of Culture. Consequently, when in 2002, the Area was proclaimed a National Cultural Monument (NCM), it was decided that a part of the area would be have a tour route and the rest would have a character of controlled ruin. In 2004, already privatized Vítkovice a.s., refused the scenario of controlled industrial ruin. Therefore, since the second half of the year 2006, plans for the preservation of the whole Lower Area of Vítkovice were made. The vision of Vítkovice a.s. company is to bring life back to the Lower Area – a part of Ostrava city center". After the consideration of all the arguments, a key strategy for the utilization of the northern part of Lower Area where the national cultural monument is located, was developed by Jan Světlík (Světlík, 2012; Pleskot 2013). Among the preserved protected objects, a research and university campus will be placed. An industrial zone in the middle and southern part of the Lower Area will be adjusted for engineering businesses with high added value. These businesses will complete the supply chain, which Vítkovice a.s. needs for its further development. The Lower Area of Vítkovice should also serve for housing and leasure time. Since 2008, the NCM is also listed among the monuments of European heritage.

The Lower Area of Vítkovice Association also takes care of the cultural monument Landek Park with the Anselm mine in Ostrava-Petřkovice (the biggest mining museum in the Czech Republic. These

above mentioned monuments together with the national cultural monument Michal Mine in Ostrava-Michálkovice has been nominated for entry in the list of UNESCO World Heritage Sites.

In September 2009, a project for the recovery and new utilization of the Blast Furnaces and other protected objects received a funding of 500 million CZK from the European Union and the Czech Republic. The main goal of the project "Opening and new utilization of the NCM Vítkovice" is a reactivation of the main parts of NCM Vítkovice, its opening for the general public and consequent use of its potential for educative and cultural activities. The aim of the project is therefore not just to preserve memories of the past, but to newly capitalize this valuable asset, a remnant of the industrial era (Fig. 2).

Figure 2
3D model of the Lower Area of Vítkovice



1 – Energy Central (today the Small World of Technology); 2 – Gasholder (today the multifunctional hall "Gong"); 3 – Blast Furnace (today the tourist route with an observation tower); 4 – new building of the Big World of Technology; 5 – Hlubina Mine area (today revitalized for alternative scene)

In the year 2012, the first part of the project was finished and three crucial objects were opened: Blast Furnace no. 1 (today transformed into a tourist route with an exclusive view of the city), Gasholder (transformed into the multifunctional hall "Gong") and the building of the VI. Energy Central (today the Small World of Technology). In 2014, a new building of the Big World of Technology was finished in the Area. Both Worlds of Technology follow a contemporary trend to attract younger generations to study technical subjects in a creative manner. These days, the revitalization of Hlubina Mine is taking

place, where spaces for alternative and community culture are being planned. It is worth mentioning that the Lower Area is the biggest industrial heritage area in the Czech Republic, where educational, recreational, congressional and cultural activities intertwine. Examples of the above mentioned buildings after reconstruction are shown on figures 3-7.

Figure 3
Blast Furnace with an observation tower

Figure 4
Former Gasholder (now multifunctional hall "Gong")

Figure 5
Former VI. Energy Central (now small World of Technology)

Figure 6
Big World of Technology

Figure 7
Hlubina Mine area

Conclusion

The Lower Area of Vítkovice is experiencing unprecedented visit rates. Statistics show that the Blast Furnace no. 1, multifunctional hall Gong, Small World of Technology and Landek Park have attracted almost 680 thousand visitors in 2013. This is almost 150 thousand visitors more compared to the previous year.

The public is particularly interested in social events, which often take place in the Lower Area and Landek Park. These include international conferences with topics ranging from engineering to medicine, or annual music festivals, such as Colours of Ostrava (the biggest open air festival in Czech Republic), Beats for Love (for Drum and Bass, Techno and House fans), Rocková Ostrava and the student festival Majáles. These festivals are frequently visited by world class musicians like Phillip Glass, Gregory Porter or Robert Plant, to name a few.

Technical monuments have several types of potential tourists. Not only nostalgic "steampunk" fans or all kinds of technological enthusiasts, but also students of technical subjects who are interested in experiencing the things that form the basis of their fields of study. There is a possibility of cooperation between different organizatons of the public sector. So what is the term steampunk? It is a literary subgenre of science fiction, which draws its inspiration from the 19th century industrial era when the western world was ruled by steam machines. The culture of steampunk has also influenced films, music and popculture in general. It is no wonder that people are getting tired of ever-present high technology, and they are finding a way to its romantic beginnings. This trend shows what tourist potential is hidden in our technical monuments. A way from a closed factory or mine to a successful product of tourism is long and expensive but nevertheless worth a try. The Czech Republic has a great potential in this area.

References

Chorzepa, J. (2007). *Fortyfikacje. 1. vyd*. Warszawa: PWN, CARTA BLANCA.

Ferris, B. (2010). *Preservation and Re-use/Chatham Historic Dockyard Trust. Sborník mezinárodní konference „Industriální stopy"*. Praha: ČVUT.

Folwarczná, H. (2008). *Industriální dědictví České republiky – diplomová práce*. Brno: Masarykova univerzita.

Fragner, B. (2005). Postindustriální krajina. Vesmír, 84, 178.

Fragner, B. (2008). *Průmyslové dědictví/Industrial Heritage. Sborník příspěvků k mezinárodnímu bienále Industriální stopy*. Praha: ČVUT.

Fragner, B. & Šenberger, T. (2007). Stavební fond průmyslového dědictví – potenciál udržitelného rozvoje. Č*asopis Stavebnictví*, 11-12.

Janata, M. (2009). Průmyslové dědictví může být katalyzátorem rozvoje *4. Konference CONSTRUCTION* (stavební informace, práce, inzerce).

Januszewski, S. (2004). *Technika w dziejach cywilizacji – z mysla o przyszlosti. 1. Vyd* (p. 314). Wroclaw: WPW.

Matěj, M. (2006). Praktické příklady zachování průmyslového kulturního dědictví a jeho animace v oblasti Porúří ve Spolkové republice Německo. *Zprávy památkové péče, roč*, 66.

Matěj, M. & Klát, J. & Korbelářová, I. (2009). *Kulturní památky Ostravsko – karvinského revíru, Národní památkový ústav*. Územní odborné pracoviště v Ostravě.

Lange Detlef. (2006). Entdeckerpass Route Industrikultur.

Orsillo, N. (2007). On the Concept of Cultural Landscape and Methods for Protectings Ostrava ´s Post – Industrial Mining Cultural Landscape. *Sborník příspěvků z mezinárodního kolokvia a odborných seminářů TECHNÉ OSTRAVA* (pp. 36-40). Ostrava: Dům kultury Poklad.

Pleskot, J. (2013). *Ostrava je město srovnatelné s Prahou, rozhovor – Exkluzivně na ČT24*.

Šírová Motyčková, K. & Šír, J. (2012). *Technické památky České republiky*. Olomouc: Rubico.

Světlík, J. (2012). Revitalizace Dolní oblasti Vítkovice – vize. *Urbanismus a územní rozvoj, ročník XV*, 1.

Tomíšková, M. & Šimková H. (2008). Trasy industriálního dědictví. Úkol Czech Tourism B.2/CR. Ústav územního rozvoje Brno.

Valchářová, V. (2003). Industriální stopy, Zachráněné plány industriální architektury. *ERA 21 III*, 4.

Volf, P. (2013). *1492: Příběh Dolních Vítkovic*. Praha: Prostor – architektura, inetriér, design.

Wirth, P. (2010). Small is successful? How small mining towns tackle the problems left by mining. *Bulletin The International Commitee for the Conservation of the Industrial Heritage*, 47.

Zaspal, A. (2008). Využití industriálních památek v Porúří (Německo). *Sborník ke konferenci Havířov a rozvoj jeho industriálního dědictví*. Havířov: MKS.

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