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Coal Mining Museum in Zabrze, Poland) – portfolio & related projects

The Museum is located in the highly industrialized Silesia region in Poland, where with the use of VR game and 3D visualization and with a special focus on climate change, just and green transformations, local CCIs will support the development of cross-sectoral creative hubs, involving several local actors e.g., ERIH Anchor Point, the historic Guido Coal Mine in Zabrze¹, **Europa Nostra awarded Conservation project 2019**², and chosen by the **European Heritage Hub** as one of the 10 Local Good Practices, for project called "Preservation of the cultural heritage of Silesian industry via the creation of digital artifacts".³



The **Coal Mining Museum in Zabrze** is one of the largest and most frequently visited tourist facilities related to industrial heritage in Poland and a leader in coal mining heritage tourism throughout Europe. It introduces the inhabitants of the region and guests from all over the country and abroad to the valuable heritage of Silesian hard coal mining - both tangible and intangible. Through the history of Silesian mining, it shows the impact that heavy industry had on the development of cities and entire regions. Based on this heritage, it also presents universal stories of the development and transformation of traditional industries that have occurred in many regions of Europe.

³ https://www.europeanheritagehub.eu/european-heritage-hub-announces-open-call-results-selecting-10-innovative-practices-in-citiesacross-europe/













¹ https://www.erih.net/i-want-to-go-there/site/guido-coal-mine

² https://www.europeanheritageawards.eu/winners/queen-louise-adit-complex-poland/







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The Coal Mining Museum in Zabrze is a local government cultural institution co-run by the City of Zabrze and the Silesian Voivodeship. The museum conducts extensive activities in the field of science, research, publishing, and exhibition. At the same time, it also manages unique and exemplary revitalized post-industrial heritage facilities with cultural, tourist and educational functions:

- Guido Mine complex with two levels of sightseeing, including an underground chapel,
- Queen Luiza Adit Complex with a unique water route.

The museum currently has over 30 above-ground facilities, a complex of underground tourist routes with a total length of almost 10 km, and two educational outdoor parks. For its work in the field of preserving and promoting heritage (tangible and intangible), the Museum has received a few awards, including: the title of the Monument of the History of the Republic of Poland, the European Heritage Award - Europa Nostra 2019 for the Queen Luiza Adit in Zabrze, the Sybilla 2016, 2017 awards, 2018, award named after Wojciech Korfanty. The museum also focuses on scientific, research and popularization activities devoted to the cult of St. Barbara cult and mining brass bands.

In 2018, thanks to the efforts of the Museum, which coordinated the activities, Barbórka was included on the National List of Intangible Cultural Heritage. In 2023, the cultural traditions of mining brass bands from Upper Silesia were included on the same list. The institution is one of the leading institutions dealing with the protection and promotion of intangible cultural heritage. The main mission of the Museum will remain unchanged, however, in the light of the investment plans and the results of the completed work of the Museum, the offer has been further defined and diversified, making it diverse and addressed to different groups of recipients. The entire Museum facilities (together with the building at 3 Maja 19 and the Carnall Zone of the Queen Luiza Adit) constitute a unique complex of facilities presenting 200 years of post-mining heritage, the protection and promotion of which is the statutory axis of the Museum's activity. In addition to caring for the post-mining material heritage, one of the most important manifestations of the institution's activities is the care for the preservation of the intangible heritage of mining culture, the protection of which the Museum has undertaken, among others. by digitizing the above-mentioned resources.

In the era of the Green Deal and the closure of hard coal mines, the activities of the Museum seem necessary to preserve the above-mentioned. heritage. In March 2024, a joint application by Poland, Austria and Luxembourg was submitted to the UNESCO Secretariat in Paris for inclusion on the Representative List of the Intangible Heritage of Humanity – St. Barbara cult and mining traditions.

In the situation of restructuring of the mining industry, current socio-economic changes, preserving the Silesian mining heritage for future generations and popularizing the Silesian mining heritage, building conscious recipients and guardians of this heritage, becomes a key task for the Museum. The museum manages two unique post-industrial complexes - the Guido Mine and the Queen Luiza Adit. Extremely rich underground infrastructure, unparalleled anywhere in the world (including over 10 km of routes in underground coal mines with constantly operating machines and the longest underground runoff in Europe) and above-ground infrastructure (over 30 facilities in 4 locations in the city, including the unique Carnall Zone and two outdoor theme parks - Park 12C and Military Technology Park) are the base for conducting extensive tourist activities. The museum actively cooperates with various institutions in Poland and abroad. It develops international cooperation within the European Network of Coal Mining Museums - the Zabrze facility was one of the founders of the network. The museum takes part in the exchange of experiences and good practices with other post-mining regions of Europe. As part of international exchanges, both full-time employees of the institution and guides can learn "from the inside" other objects related to industrial heritage throughout Europe - including Great Britain, Czech Republic, Germany and Belgium, The Museum, as a member of the provincial Trail of Technical Monuments, takes an active part in the development of the Trail (from 2020 as the Trail Operator), and with the status of one of the four















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Technology Stars, it is a model and example of good practices for other facilities of this type in the province. Stars of Technology are anchor points of the Technical Monuments Trail. Here, the customer can expect the highest quality and variety of services as well as high substantive value. It is also a member – and one of the Anchor Points – of the European Route of Industrial Heritage (ERIH).

The museum is associated within the Silesian Cluster of Culture, Tourism and Recreation (which it currently manages) together with other entities providing services in the field of tourism, culture and recreation (including cultural institutions, museums, associations), in cooperation with the tourism-related services industry, advisory services, companies operating in the field of events, promotion and marketing, as well as the R&D sphere, business environment institutions and universities. This cooperation is based on the transfer of knowledge, technology and innovative solutions of Cluster members. The Silesian Cluster of Culture, Tourism and Recreation was established in 2013 as part of a project co-financed by the European Union from the European Regional Development Fund under the Regional Operational Program of the Silesian Voivodeship for 2007-2013. After 10 years of activity, the current formula of activities has exhausted the previously identified areas and no longer brings the expected results. Therefore, it became necessary to redefine priorities, change the approach and formula of activities, with emphasis on technological changes, modern multimedia and the Virtual Reality area. Therefore, it is necessary to strategically involve entities and elements of creative industries in cooperation within the cluster and the development and implementation of new products and services in line with current trends. Given the developed solutions, cultural and tourist products and content will cross the borders of the region and country, which will contribute to the export of values, mainly cultural ones, bringing prestige and income. At the same time, they will attract creative professionals, which will influence the development of local communities, culture and infrastructure. The first and immediate planned project is an interactive multimedia project combining the past of industrial areas with their green heritage and future "Fragments of the Past". The project includes the production of a video, along with an interactive installation, showing the transformation of industrial space (based on a digitized library), with a futuristic vision of how this space will be developed in the future. An element of the installation will be a VR game presenting the fate of a boy who, while exploring a scientific laboratory located in a building converted from a mine infrastructure, comes across an invention that takes him back in time. Now, to return, he must solve several puzzles throughout the complex, all the while having insight into how the mine area from the past will change in the future. Both the past and future infrastructure design will be created from laser scans collected by the digitization team.

Coal Mining Museum, PL – Business competences supporting activities:

Job market & job growth: description of supporting activities of Coal Mining Museum in Zabrze

The Coal Mining Museum has several years of experience in implementing projects in the Silesian Voivodeship to support families of mining industry workers and employees of mining-related enterprises and the local community, including in the labor market and education. Those experiences are enabling the design of relevant INTERREG project milestones, which will directly benefit civil society - in the long-term impact.

MGW in Zabrze has experience in the implementation of projects:

1. Project RESTART RPO WSL Measure 7.4.2

The target group of the project was 40 people - employees of SME sector enterprises; enterprises undergoing restructuring processes; enterprises experiencing the negative effects of economic change; enterprises in crisis; at risk of dismissal, scheduled for dismissal or persons dismissed for reasons related to the workplace. Support was provided only to people who lost their employment within a period not longer

















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than 6 months before joining the project or who were in the notice period of their employment relationship, or employees of enterprises undergoing restructuring processes/feeling the negative effects of a change in the economy. Those in a difficult economic situation Employees or former employees of organizational units of coal companies in the Silesian Voivodeship and enterprises in the Silesian Voivodeship associated with them (cooperating) were treated as a priority.

The aim of the project was to acquire new or increase professional competences and qualifications by 40 participants, to take up/continue employment by 28 participants and to start a business by 12 participants by August 31, 2020.

The project included consulting (professional and business), training, financial support for starting a business, and subsidized employment.

Result indicators:

- Number of people who obtained qualifications or acquired competences after leaving the program:40
- Number of people who started or continued employment after leaving the program: 30
- Percentage of participants who will start work within three months following the day on which they completed their participation in the project (employment effectiveness): 50%.

Implementation: 01/09/2017-31/08/2020.

2. Restart 2nd RPO WSL Action 7.4.2

The target group of the project is 18 people - employees of SME sector enterprises; enterprises undergoing restructuring processes; enterprises experiencing the negative effects of economic change; enterprises in crisis; at risk of dismissal, scheduled for dismissal or persons dismissed for reasons related to the workplace. 5 participants are women. Support will only be provided to people who have lost their employment within a period not longer than 6 months before joining the project or who are in the period of notice of termination of their employment relationship, or employees of enterprises undergoing restructuring processes/feeling the negative effects of economic change/finding in a difficult economic situation. Employees or former employees of organizational units of companies

coal companies from the Silesian Voivodeship and companies from the Silesian Voivodeship associated (cooperating) with them were treated as priority during recruitment.

The aim of the project was to acquire new or increase professional competences and qualifications by 18 SME employees; enterprises undergoing restructuring processes, experiencing negative effects of economic change, being in a crisis situation, persons at risk of dismissal, scheduled for dismissal or persons dismissed for reasons related to the plant in the Silesian Voivodeship, as well as taking up employment by 8 participants and starting a business activity by 10 participants/-check until February 28, 2021...

The project included consulting (professional and business), training, financial support for starting a business, and subsidized employment.

Result indicators:

- Number of people who obtained qualifications or acquired competences after leaving the program: 18
- Number of people who started or continued employment after leaving the program: 18
- Percentage of participants who will start working within three months following the day on which they completed their participation in the project (employment effectiveness): 50%.

Implementation: 01/01/2019-28/02/2021.















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3. Center for Social and Vocational Activation in Zabrze - project implemented under the RPO WSL measure 9.1.1.

The target group of the project is 130 people from the following districts: Biskupice, Centrum Poludnie, Centrum Północ, Guido, Maciejów, Mikulczyce, Zaborze Południe, Zaborze Północ, Zandka - at risk of poverty or social exclusion and their surroundings to the extent necessary to support the above-mentioned. people. These people were the recipients of individualized activities in the field of social and professional activation.

The aim of the project was to increase the level of activation and integration of residents of the following districts: Biskupice, Centrum Południe, Centrum Północ, Guido, Maciejów, Mikulczyce, Zaborze Południe, Zaborze Północ, Zandka, through activities based on self-help and volunteering, local animation, organization of workshops and training for residents, and cultural activities conducted by the Center for Social and Vocational Activation, as well as strengthening the social potential of 130 people at risk of social exclusion and the professional potential of 34 people from the above-mentioned people, groups using individually selected support until June 30, 2023.

Indicators:

- Number of people at risk of poverty or social exclusion supported in the program: 130
- Number of environments covered by Local Activity Programs: 9
- Number of people at risk of poverty or social exclusion looking for a job, participating in education or training, gaining a qualification, working (including self-employed) after leaving the program: 15.

Date: 01/01/2020-30/06/2023.

4. A step forward RPO WSL Measure 7.4.2

The target group of the project consisted of 35 people at risk of dismissal, scheduled for dismissal or dismissed for reasons unrelated to the employee, with particular emphasis on employees or former employees of organizational units of coal companies in the Silesian Voivodeship and enterprises in the Silesian Voivodeship associated (cooperating) with them, as well as people leaving agriculture, with the exception of persons serving prison sentences, with the exception of persons subject to electronic monitoring.

The entire target group consisted of residents or people working in the city of Zabrze. Financial support for starting your own business was addressed primarily to people who had lost their employment within a period no longer than 6 months before joining the project, employees who were in the period of notice of termination of their employment or service relationship, or people leaving agriculture.

The aim of the project is to acquire new or increase professional competences and qualifications by 35 people - employees at risk of dismissal, scheduled for dismissal, dismissed for reasons unrelated to the employee or leaving agriculture, living, or working in the city of Zabrze, and taking up employment by 14 participants and start of business activity by 21 participants by April 30, 2023.

Activities offered in the project: career counseling, psychological counseling, training coaching, business consulting, financial support for starting a business, internships, and job placement.

Result indicators:

- Number of people who obtained qualifications or acquired competences after leaving the program: 33
- Number of people who started or continued employment after leaving the program: 18

Implementation: 01/07/2021-30/06/2023.















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5. "I have an idea - I have a business!"

The Coal Mining Museum provided job-growth activities by several projects, with a flagship called "I have an idea - I have a business". The project is part of the systemic solutions within Just Transition strategies for Silesian region in Poland. Until mid-2026 this project will aim to acquire new or increase entrepreneurial competences, start and run a business for at least 12 months, by persons at risk of planned dismissal from work or dismissed in the period after May 28, 2021, i.e. after the date of signing the Social Agreement regarding the transformation of the hard coal mining sector and selected transformation processes of the province Silesia. The implemented package of activities includes career counseling, training in the basics of entrepreneurship, business consulting - assistance in preparing business plans, non-repayable financial support for starting a business in the implementation period from May 2024 to June 2026. In total 45 new micro-enterprises will be established and operated in the area covered by the project, with emphasis on communes affected by the mining transformation process and losing their social functions.

Coal Mining Museum, PL – Green policies (existing experience in the consortium):





The museum, as part of the Queen Luiza Adit complex and the Guido Mine complex, manages 30 buildings (most of them are historic buildings) along with their parking infrastructure and terrain, 2 large theme

parks, 2 outdoor areas and 2 mining plants, in which more than 10 kilometers of workings (4 mine shafts, underground machinery, energy-intensive technical infrastructure for operation, etc.). The museum plans to expand the C12 park and create a modern demonstration infrastructure related to **renewable energy sources and green-blue infrastructure**, which will be used to conduct educational activities in cooperation with associations conducting educational activities, vocational and technical schools, and universities. A very important element of the activities is the cooperation already implemented and planned to a greater extent - with the CCIs. Ecological education in the field of energy in conjunction with business partners operating in the industry (energy cluster) and the preparation of demonstrative, modern solutions in this area based on the facility's infrastructure will enable the creation of an innovative space for ecological education.

As part of the synergy of the above-mentioned activities with the project, the space of the former <u>Coal Mine KWK Makoszowy is planned to be revitalized</u>. According to the local plans, this space will soon be under the management of the Coal Mining Museum in Zabrze - with a clear strategy towards accommodating a **Creative HUB** there, reinforcing cooperation with creative industries and supporting culture-led development.















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Retention

The rational management of the coal mine water captures the treatment for use as a retention reservoir and for economic purposes. Currently, in the first stage, a reservoir has been built and supplies a fire protection



(retention) reservoir and constitutes a water resource for economic purposes. In the second stage of the Guido Mine, it is planned to build a system for pumping mine water to the surface and use it for the needs of a hostel, catering, employee baths and tourist service buildings. At the same time, the project "Elimination of hazards and harmful emissions generated by the historic mining excavation of the Main Heritage Adit within the City of Zabrze - Stage I" was co-financed by the National Fund for Environmental Protection and Water Management under priority program No. 2.4 "Rational waste management and protection of the earth's surface Reducing nuisance resulting from mineral extraction. It concerned the protection of the surface against the occurrence of sinkholes and the protection of the historic excavation against threats resulting from these shallow postmining voids. The aim is to protect heritage at risk

eliminate the threat this heritage poses on the earth. Currently, stage 2 of work is being prepared. Shallow voids near the GKSD have been located and will be strengthened to prevent sinkholes.

"Green Mine" project (initiated in 2019, completion by 2026)

The aim of the project is to implement and carry out investments that will increase the energy efficiency of the construction and mining infrastructure, devices, installations and processes in the entire tourist complex. This project is a multi-area activity that, apart from energy aspects, comprehensively solves the issues of managing other media (gas and system heat) as well as issues of regulating water management, which are of particular importance from the point of view of effective management, counteracting and limiting negative climate changes. In particular, the project will involve the construction, expansion, purchase, and installation of infrastructure for the generation, distribution and storage of electricity and heat from renewable energy sources, elimination of the causes and effects of the deterioration of natural water conditions by slowing down the outflow and minimizing the effects of drought - construction of retention reservoirs and building systemic solutions in the field of blue and green infrastructure. The investment will allow for the regulation and optimization of business costs in all facilities of the institution, both construction - surface and underground historic mining excavations in the following fields, power infrastructure mainly in the field of replacement and modernization of electrical devices and installations, construction infrastructure mainly in the field of thermal modernization and ventilation systems in facilities, energy generation and distribution systems, replacement of existing obsolete heating systems, heat pumps along with the implementation of media supervision systems, lighting and compressed air systems, ventilation and air conditioning systems, the use of renewable energy sources generating electricity.















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Renewable energy - photovoltaic panels

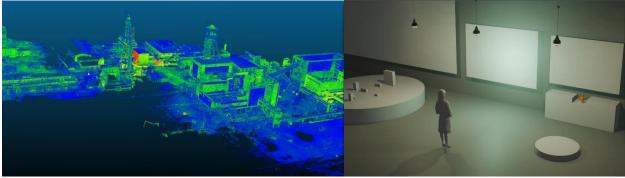


Currently, panels are already installed on 6 facilities under strict supervision of the Conservator of Monuments. In stage 2, they will be installed on another three buildings, while the carports will be placed in a large parking lot at the Guido Mine in Zabrze. Additionally, 2 heat pumps heating the air entering the adit are an element of ecological circulation. It can also function as a pump that ecologically cools the building - with air cooled from the workings. One such pump is already installed; the second one is planned for implementation in 2024.

Main post-industrial site of the gamification activities of the project in Silesia, PL

"Piekary KWK Hard Coal Mine - heritage of the future"

This activity involves preparing, together with creative entities: a mock-up, pre-rendered 3D visualization, mapping, point cloud visualization, and interactive visualization. Visitors to the exhibition will be able to immerse themselves in the past by viewing a model with mapping of an archived mine (made based on a laser scan) watching a narrative video generated in 3D, and watching a clear cloud displayed on the screens.



Early 3D scanning of KWK Piekary and interactive exhibition room - by Coal Mining Museum in Zabrze, Poland, 2023

Visitors can preview this area's future - literally looking into it in VR goggles. To remove the barrier for people unable to use VR, the content would also be displayed to some extent on the screen on the right. Basic goals: collecting qualitative interviews from the target group who will want to contribute to the debate on the transformation of post-industrial areas, presentation of the results of scanning of the Piekary KWK mine, development of a method for processing point clouds into mesh objects, implementation of environmental photographs as a texture source, use of photographic materials in the construction of exhibition elements, research the use of the optimal presentation platform for content, use of laser scanning, voice archive, and field photographs collected during the scanning process, presentation of the results of digitalization of post-mining areas abroad.









