

## Article

# Industrial Heritage Tourism as a Driver of Sustainable Development? A Case Study of Steirische Eisenstrasse (Austria)

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**Abstract:** The valorization of cultural heritage for regional development (“Conservation 3.0”) has been a widely used concept in the last decade. Heritage institutions and the European Union have advocated and fostered the view of cultural heritage as a place-based development potential. Therefore, this article investigates the impacts of such approaches in the context of sustainable development. It does so with a specific focus on more peripheral, (old) industrial regions in Central Europe, where industrial heritage and industrial tourism play an important role. Based on this background, this article highlights the difficulties of establishing a tourism product based on industry-related features. The product mainly serves a niche market, thereby not helping to overcome structural disadvantages of peripheral regions. The economic impacts of industrial heritage tourism on the transition towards a more sustainable regional development are rather low. Nevertheless, the case study highlights the social benefits that industry-related tourism yields in regions in transformation, forming an important pre-condition for any future development. However, ecological aspects are not widely addressed in heritage tourism in this region. Policy-wise, stakeholders in peripheral regions should be more aware of the different limits and opportunities cultural heritage utilizations can bring in terms of achieving a more sustainable regional development.

**Keywords:** regional development; sustainability; (old) industrial regions; small (peripheral) towns; cultural heritage; tangible and intangible heritage; industrial heritage tourism; industrial tourism; EU place-based development strategies; network-based management strategies



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## 1. Introduction

The academic discussion on the utilization of cultural heritage as an important element of regional development is not a new topic, but research interest in this area has gained additional momentum in the last decade [1]. This research has addressed natural [2], material [3], and immaterial heritage sites and practices [4].

This academic interest is mirrored by a flurry of papers by heritage institutions, which, since the late 2000s, have primarily explored the connection between cultural heritage and regional development [5–7]. This paradigm shift of heritage institutions from conservation to a more development-oriented approach [8,9] is sometimes also referred to as Conservation 3.0 (see [10]). This development is also highlighted by new policy responses on the topic. For example, the Council of Europe’s Framework Convention on the Value of Cultural Heritage for Society (Faro Convention, ratified in 2011) emphasizes the social and economic benefits of preserving cultural heritage as a prerequisite for achieving sustainable development, as was also discussed by the European Union (EU) in [11]. The convention’s ground-breaking character triggered a range of strategic policy responses around the field of cultural heritage (e.g., [12,13]), which mainly centered on its economic valorization (see [14] for a critique). In the previous EU programming period (2013–2020), cultural heritage and its valorization played an important role in many EU-funded projects (e.g., ESPON HERITAGE and HERIWELL) and other projects (e.g., Cultural Capital Counts,

funded by Interreg CE), just to name a few. Cultural heritage has thereby been integrated into the overall “place-based” approach of European cohesion policies and is increasingly being seen as an important part of smart specialization strategies as well as a key tool of EU cohesion policies for the new programming period (2021–2027) [15].

Against this background, this article discusses the utilization of cultural heritage for sustainable regional development in the context of the Steirische Eisenstrasse (Styrian Iron Route), a peripheral, (old) industrialized region in Austria. It does so from a regional development perspective based on the notion of place-based development potentials in peripheral regions. This is a necessary viewpoint, as debates on cultural heritage and smart specialization are often very much connected to urban centers and cities, marking a clear conceptual gap in the academic discussion [16]. Additionally, despite being burdened with various sustainability issues (e.g., brownfields [17]), (old) industrial regions do not feature prominently in discussions on sustainable development. The analysis of this specific regional context is thus currently missing in the academic sustainability discourse.

Therefore, this article analyzes the benefits for sustainable development delivered by the utilization of cultural heritage as an endogenous potential for regional development, mainly by concentrating on valorizations connected to industrial tourism. Thereby, the main research focus in the context of this article is if and how cultural heritage tourism based on industry can create a more sustainable regional development path for such regions. Sustainable regional development in this context is built around the pillars of economic growth, social cohesion, and environmental aspects [18]. To realise this main focus, this paper analyzes the concrete valorization of industrial cultural heritage in the form of industrial tourism and how cultural heritage tourism can be managed in more peripheral regions.

The article is structured as follows. After the introduction, Section 2 explores challenges and opportunities in the development of peripheral (old) industrial regions before discussing specific, place-based elements of cultural heritage relevant in terms of regional development. In addition, the terms industrial heritage tourism and sustainability are briefly introduced. Based on this conceptual background, Section 3 presents the research design and methodology as well as the case study region. Section 4 analyzes assets and utilizations of cultural heritage—especially in the field of industrial heritage tourism—as well as the regional management approach in this field. The findings of the main research focus are discussed in Section 5, and Section 6 concludes the paper by discussing some lessons learned for the utilization of cultural heritage in the context of sustainable development in peripheral (old) industrialized regions in Europe. The research presented here was partly conducted as part of the EU’s SPOT project, funded by the EU Horizon 2020 programme for research and innovation under grant agreement no. 870,644 ([www.spotprojecth2020.eu/](http://www.spotprojecth2020.eu/), accessed on 24 February 2021).

## **2. Peripheral Industrial Regions and Industrial Heritage Tourism—Challenges and Opportunities**

This section frames the article by merging three theoretical approaches. First, it discusses the general development problems of (old) industrialized regions in Europe and their specific needs in order to create a more sustainable development path. The second subsection provides a general overview of the possible valorizations of (industrial) cultural heritage and culture within tourism. The third part defines the term sustainability as used in the context of the article and provides a short review on the academic discussion of industrial heritage tourism and its connection to sustainable regional development.

### *2.1. Regional Development of Peripheral, (Old) Industrial Regions in Europe*

A variety of literature has addressed the outcomes of structural changes in (old) industrialized regions around the world (e.g., [19,20]). Western Europe has seen waves of de-industrialization across various sectors [21,22], while in Central and Eastern European countries, heavy industries began to shrink in the 1990s after the fall of the Eastern Bloc [23]. Despite these processes taking place under different conditions, the situations in the affected

regions have been quite similar: declining economic roles, rising unemployment, shrinking tax bases, and outmigration, especially of the skilled labor force. Additionally, the processes of industrial closure and restructuring have been accompanied by the discovery of risky environmental legacies at former production sites [24,25].

Based on this background, this article focuses on small and medium-sized industrial towns, here understood as settlements with a population ranging from 5000 to 100,000 inhabitants and which are situated outside major agglomeration regions. Such towns are highly diverse, reflecting their historic development and their various economic and social compositions [26]. They generally provide a range of important functions, serving as local hubs for surrounding areas, supplying jobs and services as well as fostering social interaction and regional identities [27,28]. As pointed out by Hoekstra [29], while such regions often have (or had) a core industrial activity, they are now undergoing major economic transformations, causing them to fall behind agglomerations with stronger innovative potential [30].

In general, there is a tendency in the literature and public narratives to depict the (post) industrial futures of these (old) industrialized regions as entailing decay, disinvestment, and polluted industrial wastelands (e.g., [31,32]). In many ways, their former development paths are seen as non-viable and therefore requiring the creation of new, more sustainable development options. Among many assets connected to their former development path, the utilization of industry-based cultural heritage is often explored [33]. These valorizations are discussed in the following section.

## 2.2. Elements of Industry-Based Cultural Heritage

Cultural heritage can be seen as one element of place-based potential, which is now deeply embedded in EU strategies and is one of the main rationales in many sub-policies of the EU's Cohesion policies [34,35]. In this context, this article focuses on cultural, industry-based heritage as a specific, place-based resource of (old) industrialized regions, which is especially important for many peripheral regions. There is also a wide range of literature highlighting possible utilizations of cultural heritage in regional development and addressing its elements and functions across various geographic scales (e.g., [36,37]).

In regard to this specific cultural heritage, two basic elements of heritage—tangible and intangible potentials—can be distinguished (see [38]). Tangible potentials refer to the concrete, material legacies of human activity connected to industry in settlements and landscapes; intangible potentials refer to individual experiences, skills, knowledge, and other competences as well as cultural and social aspects of human existence present in the regions. The latter aspect is also referred to in some literature as “Industrial Culture” [39]. Non-material potentials especially serve to anchor local people to their industrial heritage and cultural values as well as to maintain traditions that shape the lives and identities of the inhabitants [40,41]. Obviously, it is generally harder to operationalize immaterial factors for place-based development. Only a few projects outside the tourist sector have attempted to exploit such potentials [42], whereas there are many instances of old industrial sites being converted to new purposes [43,44]. Overall, it is important to note that whether and how these potentials are valorized and turned into place-based development strategies largely depends on the preferences, perceptions, and capacities of local and regional actors as well as on the frameworks of European and national policies [34]. The utilization of such cultural heritage potentials can be an innovative element of regional development. Positive economic and social impacts can be found in the fields of creative industries, re-industrialization, identity, social cohesion, and (outward) image (see [45]).

## 2.3. Sustainable Development and Industrial Heritage Tourism

To better understand how cultural heritage can function as a driver for more sustainable regional development, this text briefly examines the concept of sustainability. Originating from the forestry industry, this term has recently become widely (mis)used and now constitutes an association with policy goals (see [46]). Since the appearance of the

term sustainable development in the Brundtland report (see [47]), the most well-known model of capturing its essence has become the three pillar model, which consists of ecologic, economic, and social components (see [48]). Overall, this model stems from a process of “various critiques in the early academic literature of the economic status quo from both social and ecological perspectives . . . and the quest to reconcile economic growth as a solution to social and ecological problems on the part of the United Nations” [49] (p. 681). This article follows this common understanding, thereby not prioritizing the analysis of different approaches and critical reviews. Thereby, sustainable regional development in this context takes into account (and fosters) development along these three pillars, aiming jointly for economic development, social cohesion, and ecological aspects [18].

As stated already, the utilization of cultural heritage can serve many different goals. While this article predominantly focuses on the role of industrial heritage in tourism, it is important to note here that industrial heritage not only constitutes an important element in tourism and image creation, but must also be seen as a decisive factor of identity, place attachment, and regional awareness [39]. In this regard, industrial regions do stand out by a special identity and value system reflected in their customs and traditions. A strong feeling of belonging can be observed in terms of close family circles, the community, and the industry itself [50,51]. Hereby, the region’s industrial past and present is a common ground to which the locals can refer. If this is the case, positive effects can be found in the residents’ commitment, satisfaction, and intention to stay, making cultural heritage a highly desirable regional development goal [52].

In the literature, there are different definitions of industrial tourism and industrial heritage tourism. In general, the first term is commonly more focused on factory visits [53], whereas the second, with the addition of heritage, is a much discussed topic representing a broader definition. The development of this term was decisively influenced by Europe’s exhausted coal mines and the desire to develop a new tourism product that would positively influence the image of industrial areas [54,55]. In this article, industrial heritage tourism can be understood as an enterprise that “offers visitors an experience with regard to products, production processes, applications, and historical backgrounds” [53] (p. 1).

How and if industrial heritage tourism can contribute to sustainable regional development is an especially relevant topic for (old) industrialized, peripheral areas, which are characterized by demographic change and high outmigration. Here, tourism seems to often be the only economic sector with a prosperous future in terms of economic growth. Tourism is also credited for creating new job opportunities and improving these regions’ image, consequently convincing locals and especially younger people to stay [56]. Nevertheless, (old) industrial areas often suffer from a (persistent) negative image associated with pollution and dirt (see [53]) and therefore have a difficult starting point in comparison to other areas and forms of cultural heritage. In addition, research has questioned the direct connections between tourism, (economic) growth, and improved socio-economic conditions. These easily made connections are rather dependent on local characteristics and regional economic interactions and thus may not result in the desired regional development outcomes [57–59]. In general, the estimation of concrete benefits (e.g., jobs) and the monetary value of cultural heritage remain difficult to quantify [34]. To ensure a contribution to sustainable regional development, tourism should be focused on added value creation, cross-sectoral cooperation, and a wide range of local offers and products as well as long-term strategies [18,60].

To achieve a more balanced developmental approach based on tourism, the inclusion of all three sustainability components is stressed as a crucial precondition [37]. For example, the conversion of an industrial heritage site could serve all three dimensions of sustainable development jointly by creating a new tourism attraction (generating economic gains), preserving a heritage item (reinforcing local identity and pride), and rehabilitating and converting a brownfield site (creating ecological benefits). In reality, though, many regional strategies tend to focus on economic growth, neglecting the ecological and social impacts of tourism [56,61]. Furthermore, in terms of place branding and tourism, community

involvement is key, as inhabitants crucially contribute to a place brand's success by acting as ambassadors [62,63]. Sharing a clear common culture—in this case, industrial heritage—is therefore a true asset. How it is used in the context of sustainable regional development is analyzed in the following case study.

### 3. Materials and Methods

The following description of the case study and the presentation of the results both rely on a mixed-methods research approach (see [64]). In accordance with the main focus of the article—if and how cultural heritage tourism based on industry is capable of creating a more sustainable regional development path for such regions—the analysis focuses on the concrete valorization of industrial cultural heritage in the form of industrial tourism and how cultural heritage tourism is managed in the case study region.

#### 3.1. Methodological Approach

The authors of this article were involved in regional development-related research engagements in the case study region, providing them with in-depth knowledge on the actors and their aims. For the course of this article, a mixed-methods approach was chosen to focus specifically on the utilization of industrial heritage tourism.

First, desk-based research was conducted, which included reading the literature and reviewing data about the region and its tourism infrastructure. This was necessary to place the region and its industrial heritage and tourism offers in a wider Austrian and European background.

Additionally, the authors conducted surveys with tourists and residents within the aforementioned SPOT project. The surveys took place in the course of the summer of 2020, being part of a transnational, comparative research approach to cultural tourism (see [www.spotprojecth2020.eu](http://www.spotprojecth2020.eu), accessed on 24 February 2021). Due to COVID, non-representative, online-based surveys were used to gather information and assessments on regional cultural tourism offers, tourist profiles, and travel behavior, as well as the impacts of the COVID pandemic. The survey will be repeated in 2022, thus offering an enhanced picture of the dynamics of the pandemic. Overall, the surveys and the desk research provided an important view on the infrastructure and perception of tourism in the case study region, which can be used for comparison to similar regions.

Furthermore, the authors assessed different strategy papers from regional development organizations in the area (LEADER, Regional Development Agency, Tourism Management, etc.) to determine how these documents envisage the valorization of cultural heritage and its role in regional development. This analysis was necessary to identify regional policies and actors in the field, to understand the horizontal governance arrangements, and to provide a clearer picture of the management approach to industrial heritage (tourism) in the case study region.

In a final research step, regional stakeholders were interviewed in order to check the results of the previous research steps as well as to obtain a better understanding of the actors' perspectives and aims connected to the valorization of cultural heritage potentials in the context of regional development. The interviews were conducted in person with semi-standardized lead questionnaires. Interviewees came from local and state administration, business organizations, and enterprises. This set of methods allowed for a unique and in-depth picture of industrial heritage tourism and its role in sustainable regional development within the case study region.

#### 3.2. Case Study—Steirische Eisenstrasse (Styrian Iron Route)

The Steirische Eisenstrasse (Styrian Iron Route) is an (old) industrial region in the state of Steiermark (Austria). The region was shaped over centuries by mining and steel production. From the 19th century onwards, it was one of the industrial centers of Austria. Today, it is still the location of Europe's largest operating iron ore mine (Figure 1) ([www.vaerzberg.at/](http://www.vaerzberg.at/), accessed on 10 January 2021). Its impressive silhouette has become a

national symbol for reconstruction after the Second World War [65] and is now also being exploited for tourism ([www.abenteuer-erzberg.at/](http://www.abenteuer-erzberg.at/), accessed on 10 January 2021). Today, the region is also home to the VOEST Alpine steel production site in Leoben-Donawitz and remains a major globalized research and development center in the metallurgy and metal processing industries. Nevertheless, due to globalization and modernization processes, industrial production has steadily lost its importance for the region since the 1960s, especially in terms of employment [66]. This economic transformation has brought about a variety of social changes, most notably profound demographic changes in the region, especially the outmigration of younger people [67].



**Figure 1.** Erzberg and the town of Eisenerz (Picture: Fischer).

Against this background, the region has tried to reinvent itself over the past 20 years as a tourism-friendly area based on its natural landscape in addition to promoting its industrial heritage. In the case of the Steirische Eisenstrasse, this industrial and mining heritage was identified by relevant stakeholders as an asset early on, with mainly tangible elements being used to alter the image of a rusty and dirty place [68]. Within this process, the legacies of the industrial past and present play an important role in the region's modern tourism strategy [69].

#### 4. Results

This section is structured in three parts according to the research topics of this article. The first part focuses on the practical valorizations of industrial heritage for tourism, while the second section provides an analysis of the governance arrangement around the topic, highlighting actors and their strategic visions. The main research focus—if and how cultural heritage tourism based on industry is capable of creating a more sustainable regional development path—is reflected upon in the third section of this chapter based on the previously presented results.

#### 4.1. Tourism and Industrial Heritage Assets

This section focuses on the utilization of the region's industrial heritage assets in connection to tourism, thereby addressing the first sub-topic of the article—the forms of concrete valorization of industrial cultural heritage that exist in the region.

##### 1. Tourism Profile

Overall, the region (all data refer in the following to the district of Leoben) counted 265,362 overnight stays in 2019, which was a 36.0% increase from 2009, being well above the overall average Styrian increase (23.8%). However, in comparison, Styria recorded approximately 13.2 million overnight stays in 2019, with the district of Liezen having the highest share (4.9 million). Therefore, Leoben had some of the lowest numbers for overnight stays in the state, despite its annual growth. Leoben had 106,431 arrivals in 2019, which was a 34.0% increase from 2009, though this was less than the Styrian average (37.9%). Compared to the other districts, Leoben recorded the third smallest number of arrivals in the state [70]. The region's hotel infrastructure is mainly based on family-run, private accommodations (58%) and smaller inns or hotels (25%), none of which have a five-star rating. The 187 accommodation facilities have a combined total of 3500 beds, reflecting the small scale of the tourism sector, which has an occupation rate of just 20% [71].

Generally speaking, the Steirische Eisenstrasse was (and still is) a popular hiking and skiing destination—especially for Styrian day tourists—thanks to its close proximity to the city of Graz. Accordingly, domestic tourists account for the most domestic overnight stays [71]. Set in a scenic alpine landscape, the region boasts a wide network of thematic hiking routes, some skiing slopes around the mountain Präbichl, and an important Nordic skiing facility. The city of Leoben has a modern spa and is a well-known Meetings, Incentives, Conferencing, and Exhibitions (MICE) destination. Nevertheless, much of the tourism infrastructure in the region has not seen major investment in recent decades, and abandoned buildings and ski-lift facilities are commonplace in the more rural areas [72]. With an altitude of 1100–1608 m, the skiing sites around the Präbichl Mountain are also not snow-safe in mild winters. Given these aspects, the region has very low standing on the highly competitive Austrian tourism market [69].

The region is part of the umbrella brand Hochsteiermark, but its share of overnight stays within this brand (7.6%) makes it one of the smallest players in the state of Styria [73]. Only 8% of the region's workplaces are directly connected to tourism, whereas top destinations in Styria reach nearly triple this figure [74]. Furthermore, the number of local employees in the tourism sector declined by 12% from 2009 to 2018 (with just 1,356 remaining in 2018) [75]. Nevertheless, tourism is perceived as an important element both by the region's inhabitants and companies [76].

##### 2. Leoben, MuseumCenter, and the Montanuniversität

Situated in the district capital of Leoben, the MuseumCenter regularly features exhibitions with national outreach. The center offers insight into the region's history and industrial past and is, together with the Kunsthalle, the most visited museum in the region (33,000 visitors in 2019 [71]). Interconnected with these two flagship institutions is the Museumsverbund Steirische Eisenstrasse, which unites 12 previously independent local museums in the region ([www.eisenstrassenmuseen.at/](http://www.eisenstrassenmuseen.at/), accessed on 23 January 2021). These museums cooperate in the fields of fundraising, marketing, and human resources [72].

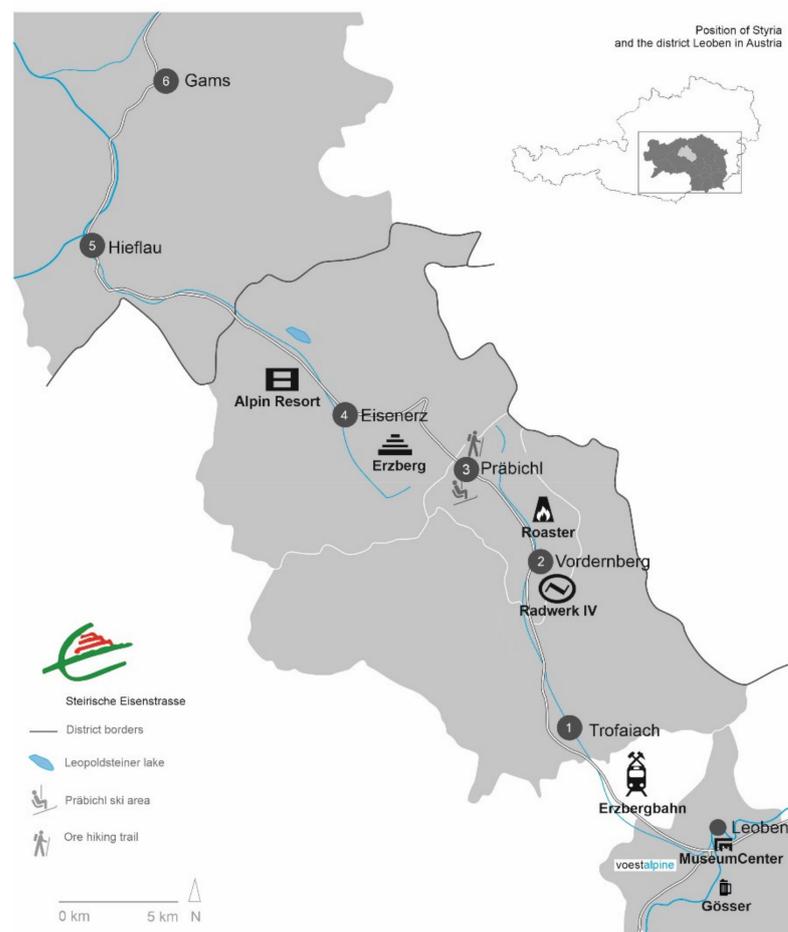
In addition to these heritage institutions, the Mining University in Leoben offers a unique education in material science and metallurgy, passing on many of the traditions and customs to its students, thereby ensuring the continuation of mining traditions. These mining customs and traditions were also certified as an intangible world heritage element by UNESCO in 2018. The annual Saint Barbara celebration and miners' parades have an especially important social and networking function within the region.

### 3. Eisenerz and Erzberg—Flagship Projects

The scenery in and around the active ore mining site Erzberg is the major unique selling position in the case study area [69]. Situated near the town of Eisenerz, this site functions as an ambassador for the whole case study area. It pursues its own branding strategy that—in addition to touristic valorization—aims at fostering the image of a modern raw materials industry, drawing a wide range of visitors (approximately 53,000 in 2019 [71]). Continuous efforts and investments have been made to upgrade the experience, providing features such as open air exhibitions, a show mine, improvement of visitor programs, and new visitor infrastructures ([www.abenteuer-erzberg.at/](http://www.abenteuer-erzberg.at/), accessed on 10 January 2021). For this purpose, the mining company VA Erzberg GmbH founded a tourism company, which—in partnership with the local tourist associate Erzbergland—is responsible for the touristic product around the Erzberg. Furthermore, the Erzberg hosts a world-famous annual motor sport event—the Erzbergrodeo—as well as other sporting events.

### 4. Other Industrial Heritage Sites and Events

Vordernberg's most-visited tourist site is the (recently modernized) blast furnace museum from the 19th century ([www.radwerk-vordernberg.at](http://www.radwerk-vordernberg.at), accessed on 5 February 2021). A private association runs the Erzbergbahn, a local museum railway line set in an impressive mountain panorama with high touristic potential [68]. Additionally, the local Gösser brewery runs a small brewing museum at its production site in Leoben (for a geographical overview, see Figure 2).



**Figure 2.** The region's industrial tourism highlights (Source: own design, Sandriester; based on Simic, in [68]).

Besides teaching about mining traditions and customs in museums, the connection of heritage, industry, culture, and art has become very popular, offering the opportunity for economic and social transformation [77]. The region features the cultural initiative eisenerZ\*ART, which aims to discover the special essence of the place and its inhabitants by connecting traditional cultural forms with modern art ([www.eisenerz-art.at/](http://www.eisenerz-art.at/), accessed on 20 December 2020). Another good example is the annual festival Rostfest, the goal of which is to cultivate an alternative subculture in the town of Erzberg by making use of abandoned property and fostering local involvement together with local entrepreneurs ([www.rostfest.at/](http://www.rostfest.at/), accessed on 18 December 2020). Another heritage valorization is the conversion of a former mining settlement in the town of Eisenerz into holiday apartments ([www.erkberg-alpin-resort.com](http://www.erkberg-alpin-resort.com), accessed on 28 February 2021).

Many of the region's smaller heritage features are run by volunteers, underlining the inhabitants' commitment to preserving the region's heritage. However, this sometimes results in limited opening hours and visitor capacity. Figure 3 displays the major industry-related tourism features in the region, most of which are connected to industrial heritage tourism.

	Industrial tourism	Industrial heritage tourism
Tangible	Erzberg exhibition mine Adventure Erzberg VOEST factory tour Gösser Brewery Museum Erzbergbräu	<i>Industry-related exhibitions in:</i> Erzberg Railway and Museum Radmer copper mine Salzer leather tannery Radwerk IV - blast furnace museum Vordernberg Raithaus Trofaiach City Museum Shift tower Austrian Postal and Telegraph Museum Museum in the old town hall Eisenerz Museum of local history Mautern Museum Kammern Montane and foundry Museum Gusswerk Art Gallery & MuseumsCenter Leoben
Intangible	Gösser Brewery Museum Erzberg-Bräu brewery	Miners' dances, music and songs Leather jump for admission to the (honorary) miners' rank Mountain student customs of the University of Leoben (leather jump, philistine, beer extract) Barbara customs Rostfest

Figure 3. Industrial tourism and industrial heritage tourism elements (own design).

#### 4.2. Valorizing Industrial Heritage via Network-Based Management

This section addresses the second sub-topic of this article, namely how the cultural heritage tourism is (strategically) managed in the case study region and which stakeholders are involved. Within the region, there are three institutions actively dealing with cultural heritage and tourism.

First, the Association Steirische Eisenstrasse e.V. is an important driver for regional development. As a non-profit organization founded by 16 municipalities, it coordinates and

facilitates a variety of activities connected to industrial heritage, tourism, and fundraising ([www.eisenstrasse.co.at](http://www.eisenstrasse.co.at), accessed on 10 February 2021). Its organizational structure does not follow the administrative units of Styria but is instead built on the idea of a region with a common past and common understanding ([www.steirische-eisenstrasse.at](http://www.steirische-eisenstrasse.at), accessed on 10 February 2021). The association is also active in keeping mining traditions and customs alive and has been actively seeking transnational knowledge exchange on the heritage topic, participating in a range of European projects dealing with the utilization of the industrial past (e.g., the INTERREG projects ReSOURCE and SHIFT-X). It is also an active member of the European Route of Industrial Heritage Network. The association has initiated and co-financed several cultural festivals focusing on social aspects and arts (e.g., the Rostfest) as well as supporting art as a way of displaying and experiencing mining traditions through a number of initiatives and events. The organization also has good connections with regional economic decision makers as well as the two leading universities in the wider area—the Montan-Universität Leoben (industry-related focus) and the University of Graz (regional development competence). These co-operations provide the association with a wide range of practical and academic expertise [78].

The second important organization is the LEADER region Steirische Eisenstrasse, which covers almost the same geographic area as the Association Steirische Eisenstrasse; there is also a great deal of overlap in the persons involved in these two organizations. Here, the approach to industrial heritage tourism has been strategically enshrined in consecutive regional LEADER strategies [69,79]. The most recent LEADER strategy (2014–2020) highlighted resources and cultural heritage as one of the three priorities and viewed culture as a driver for regional development. Yet this priority does not explicitly link tourism with this potential, as this sector is addressed in the field of rural value creation [79]. For this organization, culture is rather associated with strengthening the sense of community, increasing the quality of life, and being a potential (internal and external) image creator. The general aim is to diversify products, encourage inter-regional cooperation, and position and communicate the Styrian Iron Road thematic areas. The organization's overall objective is enhancing the region's image by modernising traditional mining culture, making it more appealing to youth and women and therefore creating an external perception as a cultural region [79].

The third institution—the regional management agency Upper Styria East—is responsible for a wide area that includes the Steirische Eisenstrasse. Its strategy does not address industrial heritage tourism as a cornerstone. Instead, one of the organization's strategic goals is to sustainably valorize the region's natural and cultural resources by creating partnerships and value chains. Therefore, culture and sport are included as a category, which can optimally support the transformation from an industrial-heavy region to a modern high-tech one. In this context, culture is embedded as an overall concept, where it functions mainly as a tool for a more positive image by addressing different target groups—such as youth, young adults, women, and qualified employees—via targeted image campaigns like Obersteierstark (<https://regionalmanagement.obersteiermark.at>, accessed on 10 February 2021).

In addition to these three institutions, the tourism association Hochsteiermark has served as a regional umbrella brand for tourism marketing since 2003. Created in order to gain competitive advantage on the global market, umbrella brands are a promising option for smaller, not-well-established regions with a limited budget to increase their reach and visibility among tourists (see [80]). As an umbrella brand, the tourism association faces problems of co-opetitions, which are cooperations formed to gain competitive advantage while still maintaining competition among partners [81]. Its geographical outreach incorporates 11 local tourism associations serving smaller regions or municipalities—for the case study area, the two local tourism associations of Leoben and Erzberland are mainly responsible. Under the Hochsteiermark brand, the region's industrial roots play an important role as one of the three core values of the region. According to this organization, mining technology, a wild romantic nature experience, and holistic balance are all connected via

“heart-refreshing originality” ([www.hochsteiermark.at](http://www.hochsteiermark.at), accessed on 10 January 2021, see Figure 3).

## 5. Discussion—Impacts of Cultural Heritage in Sustainable Regional Development

Based on the results, this discussion section addresses the main research focus of if and how cultural heritage tourism based on industry is capable of creating a more sustainable regional development path in more peripheral regions.

### 5.1. Utilizations of Industrial Heritage

In general, the case study underlines a strong impetus for utilizing material heritage elements connected to industrial buildings and infrastructures. These are mainly preserved in the form of museums and visitor sites (e.g., Radwerk IV and the museum association) but are also being converted into holiday homes. While immaterial heritage items—such as traditional miners’ parades, brass bands, and Saint Barbara celebrations—have always played a crucial role in the social life of the region, there has recently been a stronger focus on these customs (also via the UNESCO title), a shift also documented within the heritage literature in general [38]. This might indicate a greater awareness of their value and a desire to preserve these traditions as fewer and fewer people in the region actually work in the industry in which these traditions are rooted. Unlike similar regions, active industries are also included as a tourism element, although this is not as widespread [53]. In the case of the Erzberg mining site, these active industries act as *the* unique selling proposition of the wider region and the defining element of its iconography. As an additional element, regional stakeholders connect the region’s industrial heritage with a range of different elements—including sport events, arts, recreation activities, and subculture—which are all embedded in the region’s industrial background.

### 5.2. Governing Industrial Heritage (Tourism)

The involved stakeholders span across different organizations and institutions, with some historically grown overlaps in geographical scope and tasks. Nevertheless, the core group of actors remains relatively small. The pursued activities were not created ad-hoc but rather anchored in both regional development and tourism strategies, which demonstrate clear and far-reaching aims and the influence of transnational knowledge transfer. The analysis of the different strategy papers shows a clear embeddedness of cultural heritage as a thematic priority, yet this is often not well-connected to tourism. Heritage rather tends to be used in the context of social cohesion as a basis of place-based identity and a tool for image transformation. The target audience for the proposed actions is therefore often defined as internal rather than external. Mirroring this, the umbrella tourism brand tries to cover rather diverse regions and regional highlights, fuelling “co-opetition”, where small stakeholders pursue their own strategies. However, a uniform presence and a communication of core tourism products is missing. In addition, some projects, such as the Erzbergbahn or the new visitor center for the VOEST steel mill, have not yet been realized to their full potential, depriving the region of further industry-related highlights. Additionally, many smaller tourist offerings are operated by volunteers, demonstrating the regional commitment, but also limiting touristic services and full (economic) valorization.

### 5.3. Industrial Heritage Tourism and Sustainable Regional Development

To address the core focus of this article regarding the connection between industrial heritage tourism and sustainable development, the case study shows rather interesting results. The three dimensions connected to sustainable regional development are discussed along the economic, social, and ecological dimensions.

Economically, the case study supports the observation made in Section 2.3, which is that growth in tourism (via overnight stays and visitors) does not necessarily lead to better economic development. In this case study especially, the shrinking number of employees in the tourism sector and the rather poor structural indicators (e.g., occupational rate)

describe a sector in crisis, despite rising visitor numbers. Nevertheless, what this article did not aim to assess is the local and regional value creation through tourism. In this area, tourism could potentially play a much bigger role in the economy, although the authors doubt this given the overall economic structure of the region. To analyze this impact, a deeper economic analysis of local value chains would need to be performed. This could yield interesting results, as case-based studies for these kinds of regions are lacking in the literature (for an exception, see [82]).

Socially (and this was a surprise in the analysis), the greatest strategic importance of the utilization of industrial heritage as viewed by stakeholders is fostering social cohesion. This is a particular interesting result that was not expected at the outset of the study. This might reflect the situation of structural change in (old) industrial regions, where traditional elements of identity (i.e., industrial work and community) are being called into question by changes in labor markets and wider social transformations, forcing a policy response. This has been observed in some other similar regions of Central Europe [39], but a broader analysis across the European context would be helpful and could create an interesting, emerging research field.

Finally, for the *ecological* dimension, the analysis revealed that this component of sustainability has hardly been touched upon in the provided case study area. It is not addressed in the strategy papers (apart from some general references to sustainable and green tourism) and was not highlighted by the stakeholders as an important issue. These findings could be case study specific (e.g., the region has very few brownfields, with land demand by current industry being high) or could reflect a general industrial mindset of stakeholders in such regions, pushing ecological aspects to the background of regional development. A comparative analysis between case studies could yield better explanations as to why this dimension remains rather unaddressed. Nevertheless, in regions with more polluted industrial sites and brownfields, this dimension may be emphasized to a greater extent, as shown in other research [17,83].

Overall, the discussion clearly shows the imbalanced impact that the utilization of industrial heritage tourism can have on different dimensions of sustainability. These results call into questions some long-held assumptions that tourism has the potential to create more sustainable regional development by replacing other economic structures in regions of transition, an observation recently made in other more peripheral places [84,85]. The results of this article rather emphasize that despite efforts to utilize industrial heritage for tourism purposes via cross-sectoral cooperation, diversified products, and stakeholder agreement, the road towards a more sustainable development pathway remains an uphill struggle. This is mainly due to the fact that the region cannot escape its peripheral character, which has direct and negative impacts on important elements of the tourism product (e.g., low-quality infrastructure, lack of service mentality, poor outside image, and low investments), all of which prohibit deeper tourism development. Nevertheless, as a market niche, industrial heritage tourism can gain regional importance and have important social impacts within the region itself.

## 6. Conclusions

This article explored the relationship between cultural heritage and sustainable development in the context of a case study region from Austria. The discussion of its results enabled a more general reflection on the relationship between industrial heritage tourism and sustainable development in more peripheral, (old) industrial areas across Europe.

The academic interest (i.e., Conservation 3.0 [10]) in new types of heritage development falls together with a range of policies at the EU level, mainly under the concept of place-based potentials. During the previous European programming period (2013–2020), practical experiences were gathered via ERDF- and LEADER-funded projects, which provide a rich pool of experiences for research and future policies. There is still a need to reflect on these efforts and provide some comprehensive lessons learnt from this wide range of projects—preferably using cross-regional comparisons—to shape a better understanding of

actors' aspirations for utilizing cultural heritage assets and the impacts of these assets on regional development. Single case studies, such as the one presented here, are an important step for understanding local and regional choices but need to be empirically widened to help with academic theory building and to support national and European policy making. Such generalized results are still missing—an observation previously made by Pereira Roders and Van Oers [86] in 2016—besides some notable exceptions (e.g., [61]).

As shown, place-based potentials in (old) industrial regions are often utilized and can have important impacts on regional development paths, generating necessary capacities and innovative ideas [34]. In the case of industrial heritage tourism and (to a lesser degree) industrial tourism, these impacts and results have not been clearly explored. Thus, a better assessment of the potentials and limits of industrial heritage tourism, especially in more peripheral regions, is needed (see [43] for an example). This is even more important in the case of cultural heritage items based on an industrial past and present, which are widely used with the overall aim of not only economic gain (i.e., tourism) but also often for other expected (social) benefits. To assess the impact of such initiatives, more transdisciplinary research and evaluation of existing practices is crucial to provide better guidance for regional policy makers about the risks and opportunities of such approaches (see [87]).

Overall, the utilization of industry-related cultural heritage tourism in this case study for more sustainable regional development shows rather sobering results, raising immediate questions about other similar regions. With some research on peripheral regions pointing to similar results [43,84,85], it can be concluded that industrial heritage tourism is not the solution for many problems facing (old) industrial regions. On the contrary, it is a rather difficult starting point. The preservation and development of industrial heritage might strengthen internal identity and cohesion, which is an important precondition for any sustainable development, but as a niche market, industrial heritage tourism does not seem to have an economic impact on important regional development issues, an assumption previously made by Hospers in 2002 [55]. It is therefore important for regional stakeholders to form a realistic picture of the potentials and limitations of industrial heritage tourism in regard to creating an overall sustainable development strategy.

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