



Past - Present - Future



IMPLEMENTATION OF SCHOOL INITIATIVES BASED ON PILOT INVESTMENTS: EDUCATIONAL EXHIBITIONS

Exhibition to bring the topic of Industrial Culture to schools (virtual reality)

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TABLE OF CONTENTS

0. Abstract.....	3
1. Project Context.....	3
2. Introduction & objectives.....	4
3. Applied Approach.....	4
4. Results	7
5. Evaluation/transnational added value	9
6. Outlook and sustainability	9
7. Annexes	10

0. Abstract

The youth of industrial regions is not always aware of the values of their existing industrial culture. Especially for young people, knowledge about industrial culture and its means should be presented in an attractive and modern way. To reach this aim a concept was prepared for the mining and metallurgic region Styrian Iron Route to meet this demand in form of a VR (virtual reality) installation and the production of a 3D video clip. It allows a sophisticated insight in the industrial culture of the region Styrian Iron Route in the dimensions past - presence - future and can be extended in future with further content. Presented in the VR presentation are living-industry as well as industrial heritage sights.

1. Project Context

The Central Europe Project InduCult2.0 (www.inducult.eu) addresses Central European regions mono-focused on industrial production. Through InduCult typical regions utilise the tangible and intangible cultural assets of their industrial past, present and future in a synergetic way for positioning their regions as attractive places for working, living and recreation. Together with local stakeholders, they rediscover and develop the positive elements of industrial communities. Specifically, the partnership intends to:

- promote and establish the idea of Industrial Culture in Central Europe;
- strengthen the distinct culture of industrial regions and utilise it as location factor;
- empower industrial regions by re-activating their pioneer spirit.

Involved are eight representative regions from Germany, Austria, Belgium, Italy, Czech Republic, Slovenia, Croatia and Poland. They are supported by two scientific partners from Germany and Austria.

Each of the regions has prepared an “argumentation paper” on their specific industrial culture and its benefits. This provides the basic frame for developing and implementing actions in the field of Industrial Culture and therefor for promotion of a Central-European (respectively European) Industrial Culture.

Actions are to be developed by the regions in three fields (work packages): Actions on ...

- ... cultural measures for fostering regional identity (T2)
- ... cultural initiatives influencing industrial labour market and company commitment (T3)
- ... cultural measures promoting creativity and pioneer spirit (T4).

In work package T3 project partners examine how industrial culture could provide an input to secure labour force and to strengthen the regional ties of companies. This includes measures for raising interest of the youth in industrial culture and work options, and for binding work force and companies through industrial culture. One activity is the preparation of school initiatives promoting industrial culture. 7 regional InduCult partners develop such initiatives promoting the attractive/historic dimension of industrial work, jointly with their industrial museums, companies and schools.

2. Introduction & objectives

Industrial Culture (IC) is a young member of the European culture family. Its roots can be found in many European regions, which 200 years ago were not only cradles of industrialisation, but have been up to now sites of industrial production. A typical representative is the region “Styrian Iron Route” and the adjoining Mur-Mürz-valley. Over the centuries the hegemony of industrial production and mining has created a specific cultural climate, which - apart from visible monuments and artefacts - can be experienced in specific values, traditions, skills and a distinctive way of living.

Pupils and students are not always aware of the strengths and potentials of existing industrial culture. Increasing the capacities of schools as main multipliers towards the young generation with a focus on linking industrial work options with cultural aspects therefore seems to be quite important. To reach this aim knowledge about industrial culture and its means should be presented in an innovative way. Based on a concept to showcase industry and its cultural offers in form of VR (virtual reality), implementation of the conceptual approach should prove that this approach works well in practice.

3. Applied Approach

The aim of the work package is to create a pedagogical multimedia exhibition feature to teach pupils about industrial culture. In the concept phase we were thinking of having a container outside of the Museumscenter in Leoben and equip it with different features to show industrial culture. After discussions and evaluations with focus group members and local politicians we came to the conclusion that this service would bind a lot of resources (financially and human resources). Since we were not able to realize it, we tried to find something new and innovative to show industrial culture to pupils.

In cooperation with local and regional companies, education facilities and museums we decided to produce a 3D video clip - „a pedagogical journey through the Styria Iron Route“ that shows industrial culture of the past, presence and future. It should give pupils an idea of industrial culture in a modern way.

After an internet research that was conducted to find producers of 3D video clips, we invited 5 companies to make a tender. Following the meetings with 3 of the invited companies, 2 companies provided offers (aaa - all about apps GmbH and Junge Römer GmbH). After an evaluation process we decided to work with the company „Junge Römer GmbH“ because they could provide a special 3D camera and already have gathered experience in similar projects.

Unternehmen	Sitz	Kontakt Daten	Ansprechpartner	Leistung
CodeRabbit	Dorfstrasse 9 8700 Leoben UID Nr.: ATU 69007905	www.coderabbit.at/ office@codeRabbit.at 0676/9384759	DI Murat Sari - office@codeRabbit.at	App + Video
App Monkey Development Studio, GmbH	Rosenberggasse 2 8010 Graz	www.appmonkey.at hello@appmonkey.at 0316 / 232012 0699/14098689 (Hr. Deutschmann)	hello@appmonkey.at	App + (Video)
aaa - all about apps GmbH	Siebenbrunnnergasse 17/TOP3 1050 wien UID Nr.:ATU 66391736	www.allaboutapps.at office@allaboutapps.at 01 547 12 73	norbert@allaboutapps.at	App + (Video)
Cyberith GmbH	Seegasse 3 1090 Wien	www.cyberith.com info@cyberith.com 01 890 17 13	h.hager@cyberith.com	VR - virtuelle Fortbewegung mittels "Laufband"
Junge Römer GmbH	Loquaipplatz 11/1c 1060 Wien UID Nr.: ATU 66333568	www.jungeroemer.net office@jungeroemer.net 01 954 11 29 0699/11393119		App + Video

For the production of the video clip and for the pedagogical journey of industrial culture of the past, presence and future along the Styrian Iron Route we chose 3 locations. The first location was the museum „Radwerk IV“ where a historical iron melting process is shown and explained. The second site was the Erzberg, where the company „VA Erzberg“ is still active in mining ore. In this sequence pupils experience a blast at the Erzberg. After seeing the mining process, pupils step into the world of modern industry at the „Voest Alpine Donawitz“. At Voest Alpine Donawitz pupils virtually visit the newly implemented world's most advanced wire rod mill. At this place they get an idea of industry 4.0 and modern production.





4. Results

The advantage of the 3D video clip and virtual reality goggles that have been bought as tool for the presentation of the 3D video clip is that the goggles are portable and can be used in the Museumscenter in Leoben or the museums along the Styrian Iron Route (Museumsverbund) as well as in schools and at school events. Another positive aspect is that the goggles can also be used for showing more movies after the test phase and assessment.



The googles have been presented at the InduCult2.0 project meeting in Sisak and have been presented and tested at a meeting with employees of the municipality of Leoben and politicians. The test was successful and the mayor decided to get 8 more google additionally to the 2 test googles for the Museumscenter Leoben to provide enough equipment to show the video clip to school classes during their visit at the Museumscenter Leoben.

The 3D video clip and the virtual reality googles had also been presented at the focus group meeting in November and the feedback from focus group members was very positive as well. They also were very interested in producing similar 3D video clips to foster regional identity about industrial culture and to use virtual reality features. Further cooperations with the Regional Management Obersteiermark Ost and/or the chamber of commerce are in discussion.

The assessment of the 3D video and the use of the virtual reality googles had been made with 18 pupils and 4 teachers.

The following questions have been answered:

21 out of 22 stated that they liked the video clip very much.

How much did you like the video	pupils	teacher
very much	17	4
much	1	
in between		
not so much		
not at all		

10 out of 17 pupils could imagine working for the VA Erzberg or the Voest Alpine Donawitz.

Can you imagine working for VA Erzberg or Voest Alpine Donawitz?	pupils
yes	10
no	7

15 out of 18 pupils would like to visit the Erzberg, the museum „Radwerk IV“ or the Voest Alpine Donawitz with their family or the school.

Would you like to visit the Erzberg, Radwerk IV or Voest Alpine Donawitz with your family?	pupils
yes	15
no	3

14 out of 22 persons think that the length of the video was just right, 8 think that it was too short.

The video was:	pupils
too short	8
too long	
just right	14

All pupils want to see more 3D videos, all 4 teachers would use the video clip in school as introduction for a visit at the Styrian Iron Route. In the teachers opinion the video is a good way to raise awareness for the Styrian Iron Route and industrial culture. They would also include 3D videos in their lessons.

5. Evaluation/transnational added value

The concept of VR (virtual reality) was developed for the region “Styrian Iron Route”/ Austria. Anyway it is easily applicable for other old-industrial regions looking for a new and unusual approach on how to present their industrial culture. The VR-tool can be easily filled with different local and regional information and therefore can be used in any region. It gives partners an idea how industrial culture can be presented with highly technological tools.

Another advantage of such video clips is that the videos could easily be exchanged by project partners. This would offer the opportunity to present other industrial cultural sites to visitors. With the virtual reality googles the users can virtually walk around different places without having to be there physically. Or the user can prepare his visit to interesting industrial cultural sites by getting information about the places in advance.

6. Outlook and sustainability

Since the test phase was successful and the assessment has shown that teachers would like to use 3D videos in class and pupils like the way of receiving information through 3D videos, it is planned to produce more 3D videos that can be additionally used with the VR googles. The video clip can be seen at the Museumscenter in Leoben and will be used during the visit of school classes. Additionally it will be used in other Museums of the Styrian Iron Route if they have special events or the googles and the video will be presented directly in schools.

It would be recommended that also other project partners offer 3D video clips that also their interesting industrial cultural sites can be at least visited virtually. It is an effective form to spread information in a modern and futuristic way.

Especially to address pupils new and modern tools have to be used to catch their attention. The investment costs for the googles and the production of the 3D video clip are reasonable and the maintenance is not very time-consuming.

7. Annexes

Questionnaire for assessment of 3D video clip