

## Danube Geo Tour

Valorisation of geo-heritage for sustainable and innovative tourism development of  
Danube Geoparks

### **Pilot innovative geoInterpretation methods tested: in-situ interpretation of the Zvečevo geological site /metamorphic rocks/Zvečevo Geological interpretation point**

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www.interreg-danube.eu/danube-geotour

## List of Abbreviations

DTP	Danube Transnational Programme
JS	Joint Secretariat
LP	Lead Partner
PP	Project Partner
WP	Work Package
EGN	European Geoparks Network
GGN	Global Geoparks Network
UGG	UNESCO Global Geopark
TIC	Tourism Information Centre
ICOMOS	International council on monuments and sites
IUCN	International Union for Conservation of Nature
MLA	The Museums, Libraries and Archives Council
GLO	Generic learning Outcomes



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## 1. Introduction

### 1.1. Background information

Danube GeoTour project aims to “improve management capacities and strategies and to develop practical solutions for the activation of geodiversity/geoheritage as well as to seize positive market trends for sustainable tourism development in 8 Geoparks of the Danube region”<sup>1</sup>. One of the specific objectives is to develop, demonstrate and evaluate joint Danube GeoTour comprising innovative interpretation of the geosites of 8 participating Geoparks. Acting in close collaboration with partners, visitors and local inhabitants the project shall create, test and implement a set of modern interpretation methods and techniques.<sup>2</sup>

Objective of the WP5 “Geointerpretation” is to improve the skills and quality of heritage interpretation in participating Geoparks so as to complement the uniqueness and character of the overall Danube GeoTour product. The history of Earth, geology over time, its processes, etc. are difficult to understand and interpret. For Geoparks and Danube GeoTour, it is critical that visitor centres and guides are able to present a true geological story and the value of its geoheritage. Although there is ample of scientific information available, the quality of interpretation among participating Danube Geoparks still lags behind more advanced Geoparks. A screening of the most recent developments, technologies and best practices of interpretative methods applicable to Danube Geoparks was already carried out and shared as part of the geointerpretation training for Geopark staff. This screening and geointerpretation training enabled an exchange of interpretative practices among parks (learning from each other) and allowed them to apply and test different pilot interpretative actions in individual Geoparks. Each Geopark has addressed a different interpretation challenge (problem) so that each pilot interpretation site serves as a reference point for other parks. The process of piloting was documented, continuously discussed and exchanged among partners and evaluated and presented as lessons for others.

Output document represents the evaluation of one of eight implemented pilot actions in the field of interpretation points or centres implemented in our Geopark. This document illustrates how the pilot action was tested and what results were reached from aspect of different reinterpretation methods used, both qualitative and quantitative.

In this way, the newly introduced interpretation will contribute to a smarter presentation and preservation of geoheritage and geodiversity in our Geopark as well as to the quality, visibility and uniqueness of the Danube GeoTour product as a whole. Pilot interpretation actions also add value to or are a part of the innovative geoproduct developed in WP4. Furthermore, they are also in line with the Strategy on Management of Tourism Pressures in Geoparks developed in WP3.

Implemented pilot interpretation sites as a part of Danube GeoTour visitor infrastructure network will serve as a reference and learning points for demonstrations of different interpretation methods for 8 most common geological phenomena and processes in the Danube geological area (tectonics, metamorphic processes and rocks, geology over time, water in time, geomorphology, volcanology, dialogue between earth & humans, geological hazards). This ensures transnational learning and transfer of practices from participating to other geoparks and organisation dealing with heritage interpretation.

<sup>1</sup> Danube GeoTour Application Form

<sup>2</sup> Danube GeoTour Application Form



## 1.2. Methodology

Different methodologies (qualitative and quantitative assessment) concerning Output 5.2 „Pilot innovative geoInterpretation methods tested” were used in order to find out a smarter presentation and preservation of geoheritage as well as to the quality, visibility and uniqueness of the Danube GeoTour product.

For the qualitative assessment of pilot actions a formative evaluation of interpretation methods during the implementation phase was conducted by project partners with geoparks. Within this evaluation each project partner tested reactions within a focus group of potential visitors to the interpretation methods, such as their attention, attitude etc. and collected their opinions.

In the frame of quantitative assessment a self-evaluation questionnaire was developed which helps project partners to assess their pilot actions and interpretation methods. In quantitative assessment also summative evaluation is included, which will be implemented in a form of visitor satisfaction questionnaire. The results are a part of Deliverable 5.3. “Evaluation report on pilot actions with lessons learnt” while findings are integrated in this document as well.

## 1.3. Summary

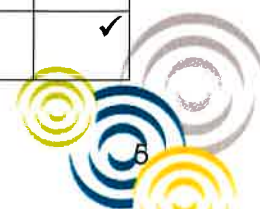
In the frame of WP 5 “Geointerpretation” each Geopark introduced and tested different geointerpretation methods within their pilot action that can be applied in other parks. The geointerpretation methods can be transferred not only to other Geoparks in the region or in the EU but also to other similar territories such as national parks, cultural heritage sites, rural areas or tourism destinations.

Newly developed and demonstrated geointerpretations sites are open to the public and serve as a reference and learning points for demonstrations of different interpretation methods for 8 most common geological phenomena and processes in the Danube geological area. This ensures transnational learning and transfer of practices from participating to other geoparks and organisation dealing with the heritage interpretation. Interpretation methods were carefully and strategically planned, while planning is very important starting phase in developing new interpretation site.

Following pilot interpretation action testing one of the 8 most common geological challenges for interpretation was established by project partners (Table 1):

**Table 1: Pilot interpretation action established in the frame of the Danube GeoTour project**

	<b>Project partner</b>	<b>Interpretation action</b>	<b>Geological challenge tested</b>	
1	LP IHC	Visitor Centre	tectonics	
2	ERDF PP1 Balaton Geopark	Visitor Centre with outdoor sites and interpretation trails	volcanology	
3	ERDF PP2 Eisenwurzen Geopark	Village interpretation points	water	
4	<b>ERDF PP3 GeoPapuk</b>	<b>In-situ interpretation of geological site Zvecevo</b>	<b>metamorphic rocks</b>	✓





5	ERDF PP4 GeoKaravanks	Digital interpretation tool	geotime	
6	ERDF PP7 Železné Hory Geopark	Digital interpretation tool	geo hazards	
7	ERDF PP8 UNIB	Digital interpretation tool	dialogue Earth & Man	
8	IPA PP1 DNP	Geological interpretation point Tekija	geomorphology	

ERDF PP3 Papuk Geopark piloted an interpretation action called “In-situ interpretation of the Zvečevo geological site”, which included setting up an innovative interpretation outdoor point at the Zvečevo site. In our pilot action, the geochallenge concerned metamorphic rocks and processes. The Geological interpretation point “Zvečevo” entails several different segments, such as building a gazebo, educational trail, setting up tables, benches, interpretation panels, educational equipment (meta machine), as well as horticultural equipment. At the Geological interpretation point “Zvečevo” the geochallenge is presented through interpretation tables and educational equipment/a meta machine which explain metamorphic processes in a simplified way.

## 2. Interpretative planning process

Heritage interpretation is about connecting people to places, objects and events. It's about explaining the significance of tangible and intangible heritage and helping visitors – tourists and local people – to engage with and to value heritage site – and to find what it means to them. Interpretation is non-formal education that contributes to lifelong learning. It uses creativity and inspiration while maintaining the integrity and authenticity of the story you have to tell.

Good interpretation widens people's horizons and increases their satisfaction and enjoyment. It can also help to change visitors' behaviour and attitudes. For this reason, it's an important tool in managing sites and encouraging both greater awareness of their significance and support for their protection from local people and tourists. However, it must aim for high levels of planning, implementation, operation and maintenance.<sup>3</sup>

For a successful interpretation it is necessary to be carefully and strategically planned. Only if the themes and objectives of the interpretation are clearly defined, if we know exactly what we want to interpret and to whom, and why, if we carefully choose methods and means of interpretation, we will be able to monitor how successful and effective the interpretation is and, and if necessary, improve the imperfections. In the frame of activity 5.3 “pilot actions: demonstration of innovative methods and technologies of Geointerpretation” “Preliminary concepts and plans of pilot action” was developed following a joint template by project partners with pilot actions.

Planning of the interpretation site is very important starting phase in developing new interpretation site. In the first place an interpretation project should identify and present the most significant themes and stories and set the objectives (what you hope to achieve through interpretation: learning objectives, behavioural, influencing visitor actions; emotional objectives e.g. enjoyment, empathy etc.). Furthermore it is also important to decide how we

<sup>3</sup> Interpret Europe (2016): Engaging your visitors: Guidelines for achieving excellence in heritage interpretation, Witzenhausen.



will interpret heritage by choosing appropriate interpretation methods and outlining the most suitable way of presenting themes and stories so that visitors have stimulating experiences. Each interpretative planning process also define to who will we interpret by identifying future target groups (potential visitors, families, groups, organizations, residents, stakeholders, etc.). In the frame of Interreg Danube GeoTour project the Strategy on Management of Tourism Pressures in Geoparks was developed within WP3 and was considered in planning of pilot actions in order to better understand different impacts on nature and to avoid or reduce negative impacts on nature. It also helped clarified the aspect of nature protection to contribute to the holistic concept of protection, education, public awareness and socio-economic benefits for sustainable local development.

To sum up the following section was included in the interpretative planning process of In-situ interpretation of geological site “Zvečevo”/Geological interpretation point “Zvečevo” pilot action in the frame of Danube GeoTour project:

✓ Why interpret this topic or site to visitors?

Mt. Papuk is comprised of metamorphic and igneous rocks.

The current interpretation of metamorphic rocks and processes in Papuk UGG is lacking and mostly based on traditional interpretation panels. Therefore we have decided to improve interpretation of this theme through the Geological interpretation point-“ Zvečevo”.

✓ What are you interpreting?

On the Geological interpretation point “Zvečevo” we interpret the biological, cultural heritage of area, focusing largely on metamorphic rocks and processes. The Danube GeoTour partners are also represented on the site through the theme of fossils and minerals in Danube Geoparks.

✓ Who are your visitors?

Our visitors belong to the general public, tour groups, school children, as well as hikers and cyclists.

✓ Who is involved in the planning process?

✓ The local SME, the local authorities and the residents were informed of the idea of setting up the Geological interpretation point “Zvečevo” and approved of it. They had an opportunity to contribute their suggestions during the planning process of the interpretation point. This interpretation point improves the local tourism offer.

✓ What are the objectives (management, learning, behavioural, emotional objectives)?

The objectives are: to improve the interpretation of metamorphic rocks and sediments in Papuk UGG, to improve the local tourism offer, to show how geological heritage can be used to develop tourism, to inspire visitors to learn something new about local heritage, to inspire visitors to learn more about geology.

✓ How are you interpreting?

Possible methods applicable for geo-interpretation on the Geological interpretation point “Zvečevo” are personal interpretation, which includes guided tours and workshops for children, and non-personal interpretation, which includes educational trail with interpretation panels, an exhibition of metamorphic rocks and an educational interactive installation.



- ✓ How are you including aspects of nature conservation and sustainable tourism?

Geological interpretation point “Zvečevo” is located in an undeveloped and sparsely populated area. Papuk UUG is trying to develop that space, but also protect it from devastation. Guided tours, especially those involving children, are focused on education on environmental protection and sustainable development.

There are designated garbage disposal units available at the Geological interpretation point “Zvečevo”.

“Meta machine”, an integral part of the interpretation setup, it is not a real machine. It does not need any form of energy to run, other than human handling. The interpretation area is not artificially illuminated because there is no electricity.

Geological interpretation point “Zvečevo” is adapted to the natural environment and does not disturb it visually.

## 2.1. Description of pilot action and interpretation methods

In the frame of Interreg Danube GeoTour project 8 pilot interpretation sites as part of Danube GeoTour visitor infrastructure network were tested and implemented. They serve as reference and learning points for demonstrations of different interpretation methods for 8 most common geological phenomena and processes in the Danube geological area.

ERDF PP3 Papuk Geopark piloted 1 interpretation action “In-situ interpretation of the Zvečevo geological site”, which included setting up an innovative interpretation outdoor point at the Zvečevo site. In our pilot action the geochallenge was to interpret metamorphic rocks and processes. The Geological interpretation point “Zvečevo” includes several different segments such as building a gazebo and an educational trail, setting up tables, benches, interpretation panels, educational equipment (meta machine), as well as horticultural equipment. At the Geological interpretation point “Zvečevo” the geochallenge is presented through interpretation tables and educational equipment that includes an interactive installation (a meta machine which explains metamorphic processes in a simplified way). Geological interpretation point “Zvečevo” is an outdoor interpretation point. Because of that, our interpretation is somewhat limited (no electricity, no multimedia).

The educational trail with interpretation panels is a good non-personal type of interpretation, but requires careful planning of what to put on panels: how much text (“less is more”), simplified information, what pictures to use...

Interactive installations give the visitors and opportunity to see, touch/do and read something. In our case the educational interactive installation will be “meta machine” (machine that makes metamorphic rocks) which will consist of real rock samples and will present the process of metamorphism in a simplified way, showing how one rock becomes another rock.

The exhibition of real rock samples with descriptions on panels is a good option for outdoor interpretation points.







**Figure 1:** Papuk Geopark: Geological interpretation point "Zvečevo"



**Figure 2:** Papuk Geopark: "Meta machine"



**Figure 3:** Papuk Geopark: interpretation panel

### 3. Evaluation process of pilot action

Evaluation is a critical quality assurance measure in interpretation management and should be undertaken throughout the project, not just at the end. Evaluation is also a systematic process of determining 'somethings' value, worth or merit. When you evaluate your interpretation programme or project, it will help you develop your interpretation and to understand whether it is meeting its objectives or not.<sup>4</sup>

Evaluation should be an on-going process and thus it should be an integral part of the regular review of your on-site interpretation. There are a number of ways to divide the stages in the evaluation process, typically however there are five forms of evaluation which can be used to support your interpretation and these are; front-end, formative, remedial (process), summative (outcome) and impact evaluation.<sup>5</sup>

For evaluating pilot actions / interpretative methods in the frame of the Danube GeoTour project ERDF PP4 Geopark Karavanks proposed a qualitative assessment (formative evaluation) as well as quantitative assessment (self-evaluation questionnaire and summative evaluation) of developed pilot actions which was applied as a common approach in all pilot sites.

<sup>4</sup> Colquhoun, F. (2005): Interpretation Handbook and Standard - Distilling the essence.

<sup>5</sup> Dr. Ryland P, Dr. Welch S. (2016): Demystifying evaluation: a brief guide to the evaluation of interpretive media, activities and programmes, AHI Best Practice Guidelines 12.





### 3.1. Criteria for effective heritage interpretation

For evaluation purpose, especially for quantitative assessment in form of self-evaluation questionnaire we defined different criteria which we find important in evaluating of the effectiveness of the interpretation methods used in pilot actions of the Danube GeoTour project.

Firstly, we researched already existed criteria/indicators for assessing the quality and efficiency of different interpretative methods. The ICOMOS, International Council On Monuments and Sites established seven recommendations for effective cultural heritage interpretation: access & understanding, information sources, context & setting, authenticity, sustainability, inclusiveness, research training & evaluation. For example, the IUCN - International Union for Conservation of Nature also developed Criteria for quality assessment of natural heritage interpretation. Furthermore The Museums, Libraries and Archives Council (MLA) came up with a framework called "Generic learning Outcomes" or GLOs to help museums think about the objectives and effectiveness of interpretation projects.<sup>6</sup>

With the respect to all researched criteria, indicators and aspects, and according to the Danube GeoTour project application, we defined our own criteria which we find important in evaluating of the effectiveness of the interpretation methods used in pilot actions of the Danube GeoTour project (Figure 3). When selected the criteria we also took into account objectives of the European and Global Geopark Network (sustainable socio-economic development, education and teaching, preservation of the Earth heritage for present and future generations, ...). Defined criteria for effective heritage interpretation by ERDF PP4 Geopark Karavanks are following:

#### A. INTERPRETATION METHODS

For effective heritage interpretation it is important which interpretation method is used (personal, non-personal interpretation), and if some innovative audio-visual solutions are available. In the case of personal interpretation story telling is an important component of effective interpretation and it is a powerful technique used to conjure up the spirit of place for visitors. Stories should be directly related to the site and linked to what people are likely to know already.

#### B. ACCESSIBILITY / DISABILITY

According to application form of the Danube GeoTour project interpretation should be adapt to the needs of people with disabilities (toilets, wheelchair access, etc.) whenever it is possible. Text, height of the displays, good connection to the public transport network, available parking facilities etc., should be accessible to everyone.

#### C. KNOWLEDGE & UNDERSTANDING

Interpretation should be planned and delivered as a comprehensive programme to explain the site and its heritage to visitors with a range of interests, experiences and educational levels. People of all ages should be treated as equals – do not assume lack of knowledge, but also do not assume a high level of knowledge. Interpretation should give visitors an option to find out more detail, both on-site and through publications and websites, while some visitors like to explore topics in detail and appreciate being provided with appropriate informations. Furthermore multi-lingual

<sup>6</sup> Rowe J., Vigurs K. (2011): 10 Top Tips for Museum Interpretation, MLA.



interpretation will attract a wider range of visitors. It is recommended to research key languages used in the area and provide some translated material.

#### **D. ENJOYMENT, INSPIRATION, CREATIVITY, SKILLS**

By defining indicators for effective heritage interpretation we also consider that interpretation methods within pilot actions should encourage enjoyment, inspiration, creativity by trying to do new things with involvement of visitors to stimulate their interest (asking your visitors questions, using their experiences and encourage them to think with, design of panels, audio visual solutions in way which encourage thinking, discovering etc.). For successful interpretation is also important that visitors can gain new skills, change attitudes and future behaviour in way of developing more responsibility towards geological, cultural and natural sites, adoption of positive attitudes to the geology and other heritage through interpretation. Furthermore techniques which use different senses should be included in the interpretation which encourage visitors to look at, touch, listen to, smell or taste things around them. The senses trigger different parts of the brain and elicit different responses, smell for example is strongly connected with memory.

#### **E. IMPACT ON NATURE**

When planning an interpretative project aspects of nature conservation/preservation should be also consider. In case of Danube GeoTour project the developed Strategy on Management of Tourism Pressures in Geoparks in the frame of WP3 was included in the process of interpretative pilot actions development. The interpretative site has to comply with the principles and standards of conservation of the geological and other heritage and its promotion in order to increase the visibility of the importance of protecting the heritage. The infrastructure and the activities connected to the interpretative places should not have any negative impact on the environment and interpretation should point out the environmental problems related to different activities in nature and suggest to visitors how to behave in nature to avoid or at least to reduce pressures. On the interpretative site there is also important that informations about the nature conservation (statuses, protection regimes) are presented. As the result such way of interpretation can contribute to the promotion of the nature conservation among the visitors.

#### **F. IMPACT ON SUSTAINABLE TOURISM**

The interpretation should have potentially positive effects on sustainable tourism. Gradually, the linkages between interpretation and sustainable tourism have grown and they have begun to be turned from being theoretical ideals into practical reality. Interpretative sites shall support the cooperation and networking of various groups, as well as maintaining traditions of various cultures of the region. They shall help to develop especially local economy and strengthen competitiveness of SME operating in the region and country as the whole. Skilled interpretation can be used to direct visitors and their spending to those local businesses and services which are economically marginal but which are important elements of the local economy and community. These may be local post offices, restaurants, accommodation facilities, local transport services.<sup>7</sup>

Interpretation for visitors can be much more beneficial and sustainable if the local community is actively involved. Wherever possible local people should be involved in

<sup>7</sup> Bramwell B., Lane B. (1993): Interpretation and sustainable tourism: The Potential and the Pitfalls, Journal of Sustainable Tourism, Volume 1, No. 2.



helping to decide whether or not to interpret, what to interpret, who to interpret to, as well as how to interpret. Local residents can take an active part in all the processes of interpretation, including the research and the presentation and celebration of place and people. Such participation can encourage communities to understand, to value and then to sustain their own environment, cultural resources and heritage.

Sustainable tourism should provide a quality experience for visitors, while improving the quality of life of the host community and protecting the quality of the environment. Respect the socio-cultural authenticity of the region, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.



**Figure 4:** Criteria for effective heritage interpretation, Source: Karawanken-Karavanke UNESCO Global Geopark



## Qualitative assessment

### 3.2.1 Formative evaluation of interpretation methods

This type of evaluation typically occurs during the implementation phase to test interpretation project being developed. In the frame of this evaluation each project partner tested visitor reaction to the interpretation methods, for example - their attention or understanding of messages it is trying to communicate, feedbacks, ... Project partners invited small focus group of visitors (approx. 10 potential future visitors). Participants were asked several questions, for example what works and what might need to be changed and gave opinions.

The formative evaluation of interpretation methods on the Geological interpretation point "Zvečevo" was performed in June 2019. The focus group consisted of 10 potential visitors. The members of the focus group were 4 local residents, 1 tourist biologist, 1 tourist archaeologist, 2 outdoor tourists, 2 people who work in the tourism sector. We asked them several questions (in the form of a questionnaire on paper): 1. What they think about interpretation methods used on Zvečevo site, whether everything is easy to understand (the text on interpretation panels, graphics, illustrations), 3. what they think about this educational interactive installation, whether this is a useful way for understanding metamorphic processes and their overall opinion about the "Zvečevo" Geological interpretation point?

The results of formative evaluation shows:

**1. Question: What do they think about interpretation methods used on the Zvečevo site?**

All members of the focus group have a high opinion of the interpretation point, particularly considering the existing limitations (the lack of electricity and an internet connection).

**2. Question: Is everything easy to understand (the text on the interpretation panels, graphics, illustrations)?**

All members of the focus group think that the interpretation panels have clearly displayed graphs and well explained text. People who work in the tourism sector also noted that the text was very approachable to children.

**3. Question: What do they think about the educational interactive installation, is this a useful way for understanding metamorphic processes?**

They consider the "meta machine" useful in interpreting the formation of West Papuk rocks. It describes the conditions under which high pressure metamorphic rocks have formed in the soil.

**4. Question: What is their overall opinion of the Geological interpretation point "Zvečevo"?**

In general, all members of the focus group are satisfied with the interpretation of the geological processes on the Geological interpretation point "Zvečevo". They are satisfied with the location where the Point was built, because it is located at the crossroads of mountain roads that cyclists and hikers pass.

### 3.2. Quantitative assessment

For quantitative assessment of pilot actions we developed self-evaluation questionnaire through which each project partner assessed the newly developed interpretation methods. The self-evaluation questionnaire consists of defined indicators and parameters which we find important in the evaluating the effectiveness of the interpretation methods used in pilot actions of the Danube GeoTour project.

In quantitative assessment also summative evaluation is included, which was implemented in the form of **visitor satisfaction questionnaire**. The results are part of Deliverable 5.3. "Evaluation report on pilot actions with lessons learnt."



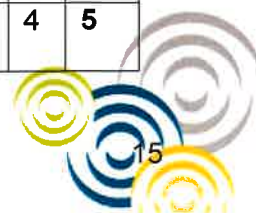
### 3.3.1 Self-evaluation questionnaire

Self-evaluation questionnaire (Table 2) consists of defined indicators and parameters which we find important in evaluating the effectiveness of the interpretation methods used in pilot actions of the Danube GeoTour project.

The questionnaire has six (6) sections from A to F, each section with a set of statement has to be self-evaluated on a scale from 1 to 5. Please select / underline the relevant value for your pilot action. The values are: 1 – low degree; 2 – quite low; 3 – medium; 4 – quite high; 5 – very high degree. Under the questionnaire more specific description of each set of statements from section A to F are given and in two sentences the result of the quantitative assessment for each statement (A1, A2,... to F4) should be discussed.

Table 2: Self-evaluation questionnaire

<b>A. INTERPRETATION METHODS</b>					
<b>A1.</b> Using the combination of personal and non-personal interpretation	1	2	3	4	5
<b>A2.</b> Using of innovative audio-visual solutions (very simple, digital)	1	2	3	4	5
<b>A3.</b> Using of story telling	1	2	3	4	5
<b>B. ACCESSIBILITY / DISABILITY</b>					
<b>B1.</b> Interpretation (text, graphic stylelighting, height of the displays, etc.) is accessible to everyone, so all visitors can experience the whole point of view	1	2	3	4	5
<b>B2.</b> Some aspects of the interpretation are designed for people with disabilities	1	2	3	4	5
<b>B3.</b> Places to have a rest, toilets and wheelchair access for people with disabilities are available	1	2	3	4	5
<b>C. KNOWLEDGE &amp; UNDERSTANDING</b>					
<b>C1.</b> Informations are given in easy to understandable language	1	2	3	4	5
<b>C2.</b> Informations are prepared and given in different languages	1	2	3	4	5
<b>C3.</b> More detailed interpretation for those who want to find out more is available and offer or suggest ways to explore the subject further (hyperlinks in websites, QR codes, etc.)	1	2	3	4	5
<b>D. ENJOYMENT, INSPIRATION, CREATIVITY, SKILLS</b>					
<b>D1.</b> Interpretation encourage visitors to try and do new things and it is stimulating	1	2	3	4	5
<b>D2.</b> Gaining new skills and changing attitudes and future behaviour of visitors	1	2	3	4	5
<b>D3.</b> Different senses are included in interpretation – encourage visitors to look at, touch, listen to, smell or taste the things around them	1	2	3	4	5
<b>E. IMPACT ON NATURE (NATURE CONSERVATION)</b>					
<b>E1.</b> Incurage the individual and to decrease the massive tourism.	1	2	3	4	5
<b>E2.</b> Interpretative places (pilot actions) do not have negative impact on the nature.	1	2	3	4	5



<b>E3.</b> Interpretation explain the impacts of various actions – encouraging visitors to take care about the geosites and to behave responsibly (raising awareness).	1	2	3	4	5
<b>E4.</b> Interpretation include various nature conservation aspects, which are displayed in different ways.	1	2	3	4	5
<b>F. IMPACT ON SUSTAINABLE TOURISM</b>					
<b>F1.</b> Possitive impact on the environment, society and economy	1	2	3	4	5
<b>F2.</b> Support local economy, especially use of local transport and accommodation infrastructure	1	2	3	4	5
<b>F3.</b> Reflecting the needs and requirements of tourists and local inhabitants	1	2	3	4	5
<b>F4.</b> Respect and enhance the historic heritage, authentic culture, traditions and distinctiveness of host communities	1	2	3	4	5

## TOTAL SCORE

**A1.** Personal interpretation means something presented to people by other people. It includes the following: guided tours, storytelling, workshops, etc. Non-personal interpretation means visitors do not have to rely on someone else to present it. It includes some of the most common forms of interpretation such as: leaflets; self-guided trails; taped audio trails; interpretive boards; and information centre exhibits etc.

On the Geological interpretation point “Zvečevo”, personal interpretation is based on guided tours and workshops for children. Non-personal interpretation on the Zvečevo site includes interpretation panels, exhibition of metamorphic rocks (rock boulders) near panels and an educational interactive installation (meta-machine).

**A2.** QR codes are link to further information that people can access using their mobile phone, using of interactive touchscreen technology, tablets, augmented reality, etc.

On the Geological interpretation point “Zvečevo” there is no QR code and there is no internet connection on the Zvečevo site.

**A3.** Storytelling is a powerful technique used to conjure up the spirit of the place for visitors. Stories should be directly related to the site and linked to what people are likely to know already. With storytelling you can also encourage people to take part as characters in the story.

The storytelling technique can be used at the Zvečevo site.

**B1.** The text is clearly printed and legible; is complemented by headings and / or subheadings; is divided into paragraphs and uses correct spelling, grammar and syntax. The text is in a height and angle in which it can be read easily, and do not block views or features of interest.

The text of interpretation panels at the Zvečevo site follow all criteria written in B1.

**B2.** Offering special programmes and guided tours for people with different disabilities (individuals with mobility limitations; individuals who are blind or partially sighted; individuals who are deaf or hard of hearing; individuals with developmental and/or learning disabilities); large print labels, Braille labels and maps, audio guides, audio descriptions, sign language interpretation, etc.



For now there are no special programmes and guided tours for people with different disabilities.

**B3.** Places to sit down, special toilets for people with disabilities and wheelchair access are available. It helps people with walking difficulties and other mobility problems as well as anyone with tired legs and feet.

On the Geological interpretation points “Zvečevo” we set up tables and benches for workshops but also for people who want to rest, but for now we don't have any equipment for people with disabilities.

**C1.** Very simple descriptions. Visitors require well structured and easy-to-digest language. An average visitor might spend as little as 3 seconds looking at a graphic panel before browsing to the next area.

We are careful to put the simplest descriptions we can on interpretation panels. We also put up attractive pictures and graphics to attract visitors.

**C2.** Providing personal (guided tours, etc.) and non-personal heritage interpretation in native and other foreign languages.

The whole interpretation is accessible in both Croatian and English. The texts on interpretation panels are also available in Croatian and English version.

**C3.** Interpretation should be planned and delivered as a comprehensive programme to explain the site and different heritage to visitors with a range of interests, experiences and educational levels. There is an option to find out more detail, for example on the homepage and through other publications.

At present, we don't have that option on the Geological interpretation point “Zvečevo” (no QR code, or hyperlinks to websites)

**D1.** Involvement of visitors and encouragement of interaction to stimulate their interest (asking your visitors questions, using their experiences and encourage them to think for themselves, design of panels, audio visual solutions in way which encourage thinking, discovering etc.).

The interpretation panels and the educational interactive installation on Zvečevo are designed to attract visitors and encourage them to learn something (lots of beautiful pictures, graphics...).

**D2.** Interpretation which can encourage visitors to develop more responsibility towards geological, cultural and natural sites, adoption of positive attitudes to the geology and other heritage through interpretation.

Every interpretation in Papuk UGG pays special attention to geological, cultural and natural sites, encouraging visitors to appreciate the heritage of the place that they visit.

**D3.** Techniques which use several senses (sight, sound, touch, smell and taste). We experience everything through our senses. We use our intellect, memories and assumptions to process the information, but it all starts from the raw materials we receive from looking, touching, smelling, listening, tasting and a whole range of lesser headlined senses. They trigger different parts of the brain and elicit different responses, smell for example is strongly connected with memory.

The Geological interpretation point “Zvečevo” is an outdoor point; there is no electricity and internet connection on site. Visitors can experience everything through looking, touching, listening to the sound of nature because they are in a pristine environment. Apart from the





interpretation panels, where you can read something and see pictures, we also put boulders near panels as an exhibition and an interactive educational installation (meta machine) that gave visitors opportunity to see, touch/do and read something.

**E1.** The infrastructure of pilot action is built for smaller groups and individual visitors.

The infrastructure of the Geological interpretation point "Zvečevo" is built for smaller groups of approx. 25-30 people.

**E2.** The infrastructure and the activities connected to the interpretative places does not have any negative impact on the environment.

No, the infrastructure and activities on Zvečevo site do not have a negative impact on the environment.

**E3.** The interpretation (in visitor centre or info point) point out the environmental problems related to different activities in nature and suggest visitors how to behave in nature to avoid or at least to reduce pressures.

Expert workshop leaders of Papuk UUG introduce children to the code of conduct in the protected area. The guides also inform the adults at the information point or in visitor center about code of conduct. On the Geological interpretation point "Zvečevo". The panel was set up with the code of conduct in the protected area at the Geological interpretation point "Zvečevo".

**E4.** The informations about the nature conservation (statuses, protection regimes) are presented. Interpretation contribute to the promotion of the nature conservation among the visitors.

Educational panels contain information concerning the conservation of nature, with a special focus on protected animal and plant species in the Papuk UUG area. This topic is discussed at children's workshops and during a tour guide.

**F1.** Is your pilot action based on the rules of sustainable development and has no negative effect on our environment, as well as on society and economy? All pilot activities should not lead to pollution of the environment, whether directly or indirectly, and their implementation should be energy-saving, based primarily on renewable energy sources. Pilot action shall support the cooperation and networking of various groups, as well as maintaining traditions of various cultures of the region. And last but not least, it shall help to develop especially local economy and strengthen competitiveness of SME operating in the region and country as the whole.

For all activities in protected areas in Croatia, it is necessary to obtain a permission from the Ministry of Environmental Protection and Energy that contains the requirements of nature protection.

For all activities related to arranging the Geological interpretation point "Zvečevo", Papuk Nature Park obtained a permission containing nature protection requirements that had to be followed when the interpretation point was set up, so avoiding the negative impact on nature was the first step before starting works on interpretation point.

**F2.** Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.





Zvečevo is a rural, sparsely populated place which was severely affected by the war. One of the key objectives of arranging the Geological interpretation point is to improve the tourism offer of the area, which is now in recovery. All of this will help local economy.

**F3.** Provide a safe, satisfying and fulfilling experience for visitors, available to all without discrimination by gender, race, disability or in the way not negatively affects the day-to-day routine of local inhabitants, respecting their needs, habits and culture.

All of the requirements described under F3 are fulfilled at the Geological interpretation point “Zvečevo”.

**F4:** Respect the socio-cultural authenticity of the region, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.

During the visit of the Geological interpretation point “Zvečevo”, visitors listen to the legend of Čaruga, a man who, in the early 20th century, formed a group of robbers on Papuk, which terrorized the locals. The story describes the way of life of the local population about a century ago.

After conducting the self-evaluation questionnaire, the Geological interpretation point “Zvečevo” gained 76 points from the maximum of 100 points. This result shows that there is room for improvement on the interpretation point. As it is evident from the results, we lack interpretation facilities for persons with disabilities. Another problem on the Zvečevo site is that there is no internet connection, which is why we don't have hyperlinks or QR codes on the interpretation panels. This problem can be solved with leaflets that contain more information about topics presented on Zvečevo.

### 3.3.2 Visitor satisfaction summative evaluation

In the frame of quantitative assessment we decided to do as well summative (outcome) evaluation of interpretation methods in developed pilot actions to make sure that visitors are enjoying and learning from interpretation, and to check whether interpretive objectives have been met. This summative evaluation will be implemented in a form of visitor satisfaction questionnaire.

The summative (outcome) evaluation is generally the most widely and regularly used form, it is carried out after the interpretive project has been completed and is most often used to assess its success in relation to its objectives. In this type of evaluation, visitors are typically encouraged to tell staff what they think about their experience often through a questionnaire, interview or focus group.<sup>8</sup>

In the frame of the Danube GeoTour pilot action developed, visitor satisfaction questionnaire was prepared (Annexes 7.2) and each project partner gave this questionnaire to visitors of their interpretative site. The results of visitor satisfaction questionnaire of each project partner will be a part of Deliverable 5.3.1 “Evaluation report on pilot actions with lessons learnt”.

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<sup>8</sup> Dr. Ryland P, Dr. Welch S. (2016): Demystifying evaluation: a brief guide to the evaluation of interpretive media, activities and programmes, AHI Best Practice Guidelines 12.



## 4. Recommendations

This Output document can serve as an example of self-evaluation of information points in the other eight parks participating in the Danube GeoTour project, but also as a model for the self-evaluation of services in other parts of our Park.

The results of the evaluations described in this document will be made publicly available on Papuk UGG website to anyone interested in the quality of service at our Papuk.

## 5. Conclusion

The goal of Output 5.2. was to improve the skills and quality of heritage interpretation in the participating Geoparks so as to complement the uniqueness and character of the overall Danube GeoTour product. This Output document represents the results of evaluation of one of the eight implemented pilot actions with the goal of interpretation points or centres implemented in our Geopark.

The interpretation of the Geological interpretation point “Zvečevo” served as a reference and learning point for demonstration of the interpretation action “In-situ interpretation of the Zvečevo geological site”. In our pilot action, the geochallenge was to interpret metamorphic rocks and processes. To evaluate the quality of the pilot action, a small visitor focus group was surveyed and a self-evaluation questionnaire was conducted.

The Evaluation results were very satisfying, as the focus group reacted well, but there is room for improvement at the interpretative point, in terms of including people with disabilities and an establishing an Internet connection.

## 6. Literature

- Bramwell B., Lane B. (1993): Interpretation and sustainable tourism: The Potential and the Pitfalls, Journal of Sustainable Tourism, Volume 1, No. 2.
- Colquhoun, F. (2005): Interpretation Handbook and Standard - Distilling the essence.
- Danube GeoTour project application form
- Dr. Ryland P, Dr. Welch S. (2016): Demystifying evaluation: a brief guide to the evaluation of interpretive media, activities and programmes, AHI Best Practice Guidelines 12.
- Interpret Europe (2016): Engaging your visitors: Guidelines for achieving excellence in heritage interpretation, Witzenhausen.
- Rowehl J., Vigurs K. (2011): 10 Top Tips for Museum Interpretation, MLA.



## 7. Annexes

### 7.1. Output Factsheet

**Output title:** In-situ interpretation of the „Zvečevo“ geological site

#### Summary of the output (max. 2500 characters)

Following the construction of the Geological interpretation point „Zvečevo“ and its use for educational and tourism purposes, it became necessary to evaluate the way its geological heritage was interpreted.

The goal of the output was to improve the skills and the quality of heritage interpretation in the participating Geoparks so that they complement the unique character of the entire Danube GeoTour product. This Output document represents the results of the evaluation of one of the eight implemented pilot actions with the goal of similar interpretation points or centres implemented in our Geopark.

The Geological interpretation point „Zvečevo“ served as a reference and learning point for the demonstration of the interpretation action “In-situ interpretation of the Zvečevo geological site”. Our pilot action entailed the geochallenge of interpreting metamorphic rocks and processes. To evaluate the quality of the pilot action, a small visitor focus group was surveyed and a self-evaluation questionnaire was conducted.

The evaluation results are very satisfying as the focus group had a very positive reaction, but there is room for improvement, particularly in terms of the inclusion of people with disabilities and establishing an internet connection.

#### Contribution to EUSDR actions and/or targets (max. 1500 characters)

On the Geological interpretation point „Zvečevo“ the biological and cultural heritage of the area is being interpreted, with a special focus on metamorphic rocks and processes.

Our visitors belong to the general public. With that in mind, the evaluation of the kind of interpretation of West Papuk rock metamorphosis that is used at the Geological interpretation point „Zvečevo“ demonstrably contributes to the development of sustainable tourism in the region, since it provides basic information on the importance of nature conservation in general, and the conservation of the biological and geological heritage of Papuk UGG in particular. In situ interpretation enables us to generate the visitors' interest in the topic of the unique geological features of West Papuk, which, in turn, contributes not only to an increased interest in geology, but also helps the understanding of the reasons for the existence of geologically protected areas. The meta machine proves crucial in this regard, as it shows the metamorphosis of volcanic rocks under high pressure and temperature over a long period of time in a simplified way.

In light of the positive results of the evaluation, we believe that the aforementioned method used in the "In-situ interpretation of the "Zvečevo" geological site Zvečevo could be successfully implemented in any of the 8 participating Geoparks of the Danube region.

#### Performed testing, if applicable (max. 1000 characters)



In June 2019, a survey was conducted on a focus group of 10 people of different educational and professional backgrounds, asking their opinions on the methods of interpretation used on the Zvečevo site. The participants in the survey commented on whether they considered the interpretation understandable, as well as what they thought of the educational interpretation installation, and whether they were generally satisfied with the Geological interpretation point „Zvečevo“.

In conducting the survey, positive feedback was received concerning the interpretation of the metamorphosis of the rocks of West Papuk. Visitors expressed satisfaction with the methods of interpretation, given the limitations represented by the lack of electricity and mobile Internet access. They emphasized their satisfaction with the position of the point, at the crossroads of mountain roads, which makes it accessible to individual visitors as well as to tourist groups.

A self-evaluation was also conducted. Reflecting on our own work, we concluded that there was room for improvement in terms of working with persons with disabilities. As in the visitor survey, the lack of Internet access was regarded as a shortcoming.

#### **Integration and use of the output by the target group (max. 2000 characters)**

The results of the visitor survey have implied that, despite the positive feedback, there is room for improvement in interpreting the metamorphosis of West Papuk rocks at our Point. The lack of Internet access represents a serious hindrance to future development, one that cannot be resolved at this time, as it would require vast investments at the national level. This has encouraged us to make our staff more physically accessible at the Point, and we also designed a workshop for elementary school children that we conduct in the area.

#### **Geographical coverage and transferability (max. 1500 characters)**

The Geological Interpretation Point „Zvečevo“ is located in the western part of Papuk UGG, near a village called Novo Zvečevo. Also nearby is the Vile Montis Aurea holiday village, which boasts several luxuriously furnished apartments, as well as a beautiful lake next to which the hotel was located in the past. The hotel has fallen into disrepair over time, but there is potential for its renovation and restoration. Our Point is located there because of its usefulness in the process of rock formation of western part of the Geopark. We considered this to be the best place for in-situ interpretation of the described process. It is accessible to individual visitors as well as groups of tourists because it is located at the crossroads of partially paved mountain roads which are accessible by bus. In addition to the Point, there is an extension on the road that can be used to turn the vehicle.

#### **Durability (max. 1500 characters)**

The Geological interpretation point „Zvečevo“ is built of a combination of natural (sand, stone, wood) and artificial (plastic) materials. We believe those materials are very durable and do not anticipate violent, physical devastation of the Point by some unforeseen forces, although those can never be fully ruled out.

#### **Synergies with other projects/ initiatives and / or alignment with current EU policies/ directives/ regulations, if applicable (max. 1500 characters)**

With the implementation of the Danube GeoTour project, the Geological interpretation point „Zvečevo“ was built in Papuk UGG, which became part of the Geopark infrastructure. The manner of interpretation and education on it have become an integral part of our tourist offer and they are in synergy with other projects carried out at the Papuk Nature Park. In particular, we would like to point out a link to the Geostories UNESCO Geopark project, which also



constitutes one of the goals of developing sustainable tourism. By implementing projects, mostly funded by the European Union, Papuk UGG tries to raise the awareness of the local population and its daily visitors of the importance of nature conservation, as well as the fact that tourism does not have to result in the devastation of geological, biological and cultural heritage. Due to the implementation of such projects Papuk UGG recently received the Croatian National Tourist Board award for sustainable tourism.

**Output integration in the current political/ economic/ social/ technological/ environmental/ legal/ regulatory framework (max. 2000 characters)**

This output document was used by Papuk UGG as an example for conducting self-evaluation, in general. After analyzing the results of the self-evaluation of the West Papuk rock metamorphosis interpretation at the Geological information point Zvečevo, it was concluded that such evaluations would be useful to other interpretation points located in the Papuk UGG area.

Therefore, the results of this output document will become an integral part of the annual report on the work of the Public Administration of the Papuk Nature Park/ Papuk UGG.



## 7.2. Visitor satisfaction questionnaire

### VISITOR SATISFACTION QUESTIONNAIRE

#### WE NEED YOUR OPINION!

About the presentations & experience on your visit

Dear visitor,

We would like to thank you to give us the opportunity to serve you with our product/services. The purpose of this short questionnaire is to find out how you feel about the presentations or experience with our product/services and if there is something to be improved. Please know that there are no right or wrong answers to the questions, nor are some responses better or worse than others. We simply want to know your honest opinion about your experience today.

THE QUESTIONNAIRE WILL TAKE LESS THAN 5 MINUTES OF YOUR TIME.

THANK YOU!

**1. Where did you hear about our product/offer? (You can pick more than one answer.)**

- a.) Newspaper, magazine, radio
- b.) Brochure, internet
- c.) On someone's recommendation
- d.) Other (specify where): \_\_\_\_\_

**2. Did you know something about the presented topic before the visit?**

- a.) Yes
- b.) No

**3. Which new informations have you gained or learned during your visit ? (You can pick more than one answer.)**

- a.) more about our Geopark
- b.) more about Geoparks in wider area
- c.) geological, natural and cultural heritage



d.) important of heritage preservation

e.) sustainable geotourism

f.) Other: \_\_\_\_\_

**4. How would you rate your experience/satisfaction with following aspects of the offer/product? The values are: 1 – very dissatisfied; 2 – dissatisfied; 3 – neutral; 4 – satisfied; 5 – very satisfied.**

	dissatisfied <-----> satisfied				
Quality of the presentation	1	2	3	4	5
Amount of the information provided	1	2	3	4	5
Ability to hold your interest	1	2	3	4	5

**5. Please read carefully following sentences and rang them in a scale from 1 to 5. The values are: 1 – very dissatisfied; 2 – dissatisfied; 3 – neutral; 4 – satisfied; 5 – very satisfied.**

	1	2	3	4	5
Place is accessible, places to have a rest, toilets, etc. are available					
Information is understandable and in different languages					
The presentation made me curious and encouraged me to try and do new things					
The presentation made me think and to talk about the topic					
The presentation was enjoyable and interesting					
Innovative audio-visual solutions (very simple, digital) were available					
The presentation made me understand the importance of the protecting heritage					

**6. Please indicate how much you are inclined to tell another person each of the following things about this place. In this 7-point scale, please tick the choice of your preference:**

a.) You should visit (7) \_\_\_\_\_ (1) You should not visit

b.) The place is interesting (7) \_\_\_\_\_ (1) The place is boring

c.) Coming here is enjoyable (7) \_\_\_\_\_ (1) Coming here is *not* enjoyable

d.) Coming here is worth the time (7) \_\_\_\_\_ (1) Coming here is *not* worth the time

**7. How would you rate the presentation overall?**

The values are: 1 – very low quality; 2 – low quality; 3 – medium quality; 4 – high quality; 5 – very high quality.

Low quality <-----> High Quality				
1	2	3	4	5

**8. How satisfied are you (please circle)? The values are: 1 – very dissatisfied; 2 – dissatisfied; 3 – neutral; 4 – satisfied; 5 – very satisfied.**

dissatisfied <-----> satisfied				
1	2	3	4	5

**9. What can we do to improve your experience?**



**Demographics of the person who completed the questionnaire:**

**10. Age:** \_\_\_\_\_ years old

**11. Gender (circle):** MALE          FEMALE

**12. Country of origin:** \_\_\_\_\_

**12. Education** (What is the highest degree you have completed? If you are currently enrolled in the school, please indicate the highest degree you already received.):

- a. Less than a high school diploma
- b. High school degree or equivalent
- c. Bachelor's degree (e.g. BA, BS)
- d. Master's degree (e.g. MA, MS, Med)
- e. Doctorate (e.g. PhD, EdD)
- f. Other (please specify): \_\_\_\_\_

**Thank you for taking your time!**

