Heritage+: Digital Innovation of Cultural Heritage

Introduction and Challenge

Heritage+ is programme was developed by high-tech company Arctur. The projects held under its auspieces addresses Slovenian immovable cultural heritage, registered in the Register of Slovene Cultural Heritage, specifically the Registry of Immovable Cultural Heritage. With more than 30,000 entries, the register systematically identifies the protected and most important immovable cultural heritage in Slovenia. From a tourism development point of view, each of the entries presents an opportunity and a potential source of new digitally enriched interpretation and (tourism) experiences.

Cultural heritage as a starting point of sustainable tourism development is characterized with deep roots in local culture and the life of local communities, is a reflection of local, regional, national and cross-border identity and symbolic DNA, as well as relatively evenly dispersed across the country, thus "resisting" the agglomeration effects in tourism (leading to over-tourism, iconisation and over-commercialization/Disneyfication).

Slovenia is not amongst the best countries as it takes 17th place in Europe, which is actually after the average (Source: https://link.springer.com/chapter/10.1007/978-3-030-65687-4_17, 2019). Before the national Digital innovation of Cultural Heritage project, Slovenia was also among the worst ones in the area of the digitization of cultural heritage. **However, with the project's implementation and 100+ digitized units of cultural heritage, Slovenia become one of the best - top 5 countries in Europe and is expanding its work and experience abroad.**

Each registered object of immovable cultural heritage conveys a value and learning that could be interpreted digitally – and thus presented to new audiences in new engaging ways. However, tourism management organizations are typically not engaged in the creation of new complex tourism products on cultural heritage and are even less incorporating new digital interpretation technologies. The sectors of tourism (tourism providers, tourism destination management organizations) and cultural heritage (GLAM and regional offices of institute for heritage protection) have – despite having many touchpoints and common aims – very seldom cooperated in co-creative processes. Moreover, **digital interpretation technologies – such as Virtual Reality, Augmented Reality, holographic projections, video mapping, mobile and web apps** – have not been common at leading tourist destinations, especially due to a lack of knowledge, skills and dedicated funding.

Solution

This was to be changed in 2019 with the Ministries mission to become the leading European country in digitally enriched experiences of tourism and thus combine tourism development with cultural heritage protection and interpretation aims. **The goal was to develop new tourism products that take inspiration in cultural heritage, engage new audiences and stakeholders through digital and hybrid interpretation and thusly contribute to interpretation, awareness-raising and documentation of (immovable) cultural heritage.**

The purpose of the tender was to promote the development of the tourist offer, promote digital innovation of Slovenian cultural heritage and strengthen the competencies of employees in the field of tourism in leading destinations in Slovenia.

The main purpose of the project was to enable/promote the development of the tourist offer, digital innovation of Slovenian cultural heritage and strengthen competencies of employees in the field of tourism in leading destinations in Slovenia.

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The prime objectives were:

• raising the quality of the tourist offer of the leading destinations of Slovenian tourism,

• creating immersive, local 5-star tourist products, experiences,

• Slovenia to become the leading country in Europe, which will create unique tourist experiences through systematic digital innovation of cultural heritage,

• digital innovation of Slovenian cultural heritage,

• improving the competencies of employees in the field of heritage, hospitality and tourism,

• further enhancing tourist satisfaction,

• raising the competitiveness of Slovenian tourism both at the level of destinations and at the national level.

5-star tourist products were of central importance in terms of the impact on the image/visibility of macro destinations as well as their future growth potential in terms of attractiveness of this market and competitiveness of Slovenian products in this market.

The mission of the project was that Slovenia becomes the leading European country in digitally enriched experiences of tourism. This would be achieved by making a profound change with regard to 3D digitization and digitalization of cultural heritage in Slovenia – and to reach the general population as well as stakeholders that are not commonly engaged in digitalization of cultural heritage projects (creative and cultural industries, tourism providers, tourism destination management, storytelling experts, local NGOs, students, local residents, etc.).

Stages of implementation

1. Publication of the public call

The public call for skills development of leading tourist destinations and development of tourist offers in leading tourist destinations in 2020 and 2021.

2. Trainings and toolkits for leading tourist destinations

The Ministry has organized 3 workshops/trainings that were conducted by Arctur, a high-technology company and initiator of the Tourism 4.0 paradigm with extensive experiences in 3D technologies, digital interpretation and tourism development. The topics were Tourism of the future, Technologies and good practices, Being a digital content creator.

Complementary to this a Toolkit for Digital Innovation of Cultural Heritage has been published, aimed directly at leading tourist destinations engaging in co-creative processes at the intersection of cultural heritage and tourism for the first time.

3. Submission of the proposals by leading tourist destinations

Four deadlines were available.

4. Implementation at destination level

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In two years (2020-2022), over 100 units of cultural heritage were digitized and over 30 5-star tourist experiences were created (in close cooperation with the local community). The main goal is to make cultural heritage accessible to all as it belongs to every one of us.

5. Creation of a unifying web portal

In 2022, a web-portal was developed to gather all digital materials created in the project, share the results, information and access to materials, and inspire other to re-use the digital materials in new and creative ways.

Results and benefits for users

The main result is 100 digitised units of cultural heritage and 30 5-star tourist products - AR app at the Russian Chapel, re-created world of sunken villages, exploring local stories with the help of a web app, e-Castles digital room, interpretation of 7 castles, Winegrowing and winemaking interpretation, etc.

But behind these results are many more. **For the first time, the cultural and tourism sector connected in pioneering the use of advanced technologies.** Many stakeholders – the ministries, national heritage institutions (e.g. Institute for the Protection of Cultural Heritage, National Gallery, UNESCO), local heritage institutions (museums, galleries), public institutions (local tourist boards, regional development agencies, tourist org., etc.), local heritage and tourist providers (tour guides, craftsmen, seamstresses, cooks, restorers, carpenters, winemakers, historians, etc.), NGOs and associations (theatre groups, youth clubs, etc.) – were working together, seeking for synergies and developed a long-lasting partnership. Many were developed also on an international level as many stakeholders have partners abroad and disseminated the project with them. A lot of people – experts from tourism, heritage and other sectors, governmental representatives, educators, pupils, students, municipality representatives, journalists, influencers, companies, local residents, etc. now have the knowledge and practical examples of what digitisation is and what is its value. The local providers and institutions have created new tourist offers and started to make new revenue or are achieving higher added value by offering new, immersive, unique, local 5-star experiences.

Tourism development has finally begun to see the value of cultural heritage. They became more aware of their heritage, their feeling of belonging to the local community has raised.

All the 30 tourist products have roots in the local community, history. They have drawn stories from their own DNA, local identity and are passing them to the other local residents and tourists. Following Tourism 4.0 vision - if the local residents are proud and aware of their own heritage and are taking care of it with great care, the tourists will follow that good example – a strong social value. All the included destinations did not want to import »successful« stories (e.g. thematic parks) from abroad but have taken their own, genuine reality, that they know and have grown up with and also have proofs of. The main focus was on the heritage values, how to present it in an interesting way. This raises the local awareness even more and brings the local community together.

The project significantly contributes to the preservation of historical and cultural heritage as the digitised units will make it timeless. Positive impacts are also on the environment with offering the digitised units online and using it for immersive digital tourist products. That way the negative environmental impacts, e.g. raising the CO_2 concentration because of the large number of tourists, raise of the temperature damages the heritage.

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The project provided priceless educational value with:

- **Offering new competencies about advanced technologies**, creation of 5-star experiences, etc. to various stakeholders on a local level, primarily from Heritage and Tourist sector and in addition also for other connected sectors; the high-quality digitised units and the innovative 5-star experiences are a clear result that the experts really understand what digital innovation of cultural heritage is and how it can be used and valorised.

- **Organized national conferences with the presentations of Digital Innovation of cultural heritage** to experts and other public.

- **Offering 5-star experiences to local residents** (schools, families, etc.) and other tourists with the focus on local history, traditions.

- **Sharing the experience, knowledge and good practices** on international conferences, workshops, lab-days; with partners on EU projects, based on the Digital Innovation of cultural heritage project.

Impact

The project was well recognised on a national and international level.

Arctur is extremely proud of the ECTN award in 2021 - the category Cultural and Creative Industries, 2nd place for the project Digital Innovation of cultural heritage.

Moreover, **the project has been chosen as one of Slovenia`s lead areas of the presentation in Expo 2020 in Dubai.** Millions of visitors (domestic and foreign tourists), formal delegations, heritage and tourist experts, etc. Digital innovation of cultural heritage around Slovenia was presented on a special panel with the promo video, available on YouTube.

The project partners and other included organisations have organized and participated in many events in Slovenia and abroad with thousands of participants, e.g. in August 2021 the project and the project partners were presented at the Conference »The Footsteps of the Tourism 4.0 Innovations«. They participated in the international LabDays, workshops about cultural heritage and shared their own experience and the impact that the project has on their local community.

Project partners and other included organizations have established wide partnerships on a local level and around Europe and together created new cultural heritage projects focusing on advanced technologies, new tourist products, VET learning, etc. As a result, many of the projects connect the public cultural heritage and tourist sector, private tourist companies (SMEs) and high-tech companies as the technology providers.

The project does not have its own web page or social media accounts as it included 35 tourist destinations from Slovenia who separately published articles and social media posts about their heritage. However, Tourism 4.0 and the Ministry have posted many information about the project through their media channels.

The dissemination of the Cultural Heritage projects is an ongoing process, still taking place.

Slovenia set high standards in the digital innovation of cultural heritage and became one of the pioneers in Europe. The innovative aspects, that could be followed on an EU level, are:

- Giving public funds to the heritage and tourism sector (+5 million EUR),

- Connecting cultural heritage sector with the tourism sector (from the first look – completely opposite intentions),

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- Bringing high-technologies in the cultural heritage sector, where mostly the cultural heritage experts are rarely fans of advanced technologies,

- Educating heritage and tourism experts, local community stakeholders about digital innovation of cultural heritage, advanced technologies,

- Performed High – Quality Digital Innovation of 100 units of cultural heritage in 2 years and created 30 5-star experiences including digitised units,

- Established long-lasting partnerships in the local community by including local residents, providers, institutions to work together for a better result/impact.

The project inspires European citizens to admire and appreciate Europe's vast cultural treasures by using advanced technologies.

About Arctur and Tourism 4.0

In early 2018, Arctur embarked on a journey at the intersection of tourism and advanced technologies. The company noticed a gap in the tourism sector: while cutting-edge tech could transform the industry, only a handful of businesses were reaping the benefits. **Starting the Tourism 4.0 initiative, a mission is to unlock innovation potential by fostering collaboration among stakeholders in the smart tourism ecosystem.** The goal? To create enriched experiences using the key enabling technologies from Industry 4.0.

Arctur is actively involved in many facets of cultural heritage related ICT, and is collaborating with several leading research and academic organizations from this field. Arctur is equipped and provide services of data acquisition, **from 3D scanning and photogrammetry of both movable and immovable items to aerial photogrammetry and multispectral sensing.** Arctur provides software tools and computational infrastructure for modelling (point cloud, polygonal models, textures) to support the recording the current state of the cultural heritage, often including the data pertaining to material sciences, and to enable planning and evaluation of the conservation interventions.

Besides technological aspect Arctur team is also engaged in developing innovative new uses of cultural heritage in tourism, education, creative industries, ect., involving cutting edge immersive visualization and augmented reality technologies.

From 2019 to 2022, Arctur worked on projects that **blended product development, storytelling, digital interpretation of cultural heritage and cutting-edge technologies such as 3D digitisation, AR/VR, holographic projections, touch-screens, mobile and web apps, and video mapping.** The focus on user experience design and collaborative co-creative processes resulted in inspiring results **- take a look at some of Arctur´s projects**.

While Arctur has been engaged in site-specific projects, the team have also always kept the bigger picture in mind. Mindful of the importance of reuse, **Arctur created an online platform showcasing 114 units of digitised cultural heritage objects and 31 unique local tourist experiences**.

Find more about Digital innovation of Cultural Heritage in the booklet **DIGITAL INNOVATION OF CULTURAL HERITAGE: Handbook for tourist destinations and cultural heritage institutions**.

Enjoy your digital exploration of valuable Slovenian heritage!

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Dediščina+: Digitalna inovacija kulturne dediščine

Uvod in izziv

Visokotehnološko podjetje Arctur je razvilo program Heritage+. Projekti, ki potekajo pod okriljem Heritage+, obravnavajo slovensko nepremično kulturno dediščino, vpisano v Register nepremične kulturne dediščine. Register z več kot 30.000 vpisi sistemsko opredeljuje zavarovane in najpomembnejše nepremične objekte kulturne dediščine v Sloveniji. Z vidika razvoja turizma je vsak od vnosov priložnost in potencialni vir novih digitalno obogatenih interpretacij in (turističnih) doživetij.

Kulturna dediščina kot izhodišče trajnostnega razvoja turizma ima značilno globoko zakoreninjenost v lokalni kulturi in življenju lokalnih skupnosti. Kot taka je odraz lokalne, regionalne, nacionalne in čezmejne identitete ter simbolnega DNK, pa tudi relativno enakomerno razpršena čez celo državo, s čimer se »upira« aglomeracijskim učinkom v turizmu (ki vodijo v pretirani turizem, ikonizacijo in prekomerno komercializacijo/disneyfikacijo).

Slovenija je na področju digitalizacije kulturne dediščine v 2019 zasedla 17. mesto v Evropi, kar je pravzaprav pod povprečjem (Vir: https://link.springer.com/chapter/10.1007/978-3-030-65687-4_17, 2019). Tudi pred nacionalnim projektom Digitalne inovacije kulturne dediščine je bila Slovenija med najslabšimi na področju digitalizacije kulturne dediščine. Vendar pa je Slovenija z izvedbo projekta in več kot 100 digitaliziranimi enotami kulturne dediščine postala ena izmed najboljših – trenutno sodi med prvih 5 držav v Evropi in širi svoje znanje ter izkušnje v tujini.

Vsak evidentiran predmet nepremične kulturne dediščine prinaša vrednost in učenje, ki bi ga bilo mogoče digitalno interpretirati – in tako predstaviti novemu občinstvu na inovativne, privlačne načine. Vendar pa se organizacije za upravljanje turizma običajno ne ukvarjajo z ustvarjanjem novih kompleksnih turističnih produktov na področju kulturne dediščine in še manj vključujejo nove tehnologije digitalne interpretacije. Sektorja turizma (turistični ponudniki, organizacije za upravljanje turističnih destinacij) in kulturne dediščine (GLAM in območne službe zavoda za varstvo dediščine) sta – kljub številnim stičnim točkam in skupnim ciljem – zelo redko sodelovala v soustvarjalnih procesih. Poleg tega tehnologije digitalne interpretacije – kot so navidezna resničnost, obogatena resničnost, holografske projekcije, video kartiranje, mobilne in spletne aplikacije – niso bile razvite ali dostopne v sklopu vodilnih turističnih destinacij, zlasti zaradi pomanjkanja znanja, veščin in namenskega financiranja.

Rešitev

Leta 2019 naj bi se z digitalizacijo kulturne dediščine zgoraj naštete pomanjkljivosti odpravile z misijo ministrstva **postati vodilna evropska država na področju digitalno obogatenih turističnih izkušenj in tako združiti razvoj turizma z varovanjem kulturne dediščine in cilji interpretacije.** Cilj je bil razviti nove turistične produkte, ki se zgledujejo po kulturni dediščini, z digitalno in hibridno interpretacijo pritegniti novo občinstvo in deležnike ter tako prispevati k interpretaciji, ozaveščanju in dokumentiranju (nepremične) kulturne dediščine.

Glavni namen projekta je bil omogočiti/spodbujati razvoj turistične ponudbe, digitalno inovativnost slovenske kulturne dediščine in krepitev kompetenc zaposlenih na področju turizma v vodilnih destinacijah v Sloveniji.

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Glavni cilji so bili:

• dvig kakovosti turistične ponudbe vodilnih destinacij slovenskega turizma,

• ustvarjanje poglobljenih lokalnih turističnih produktov s 5 zvezdicami, izkušenj,

• Slovenija postane vodilna država v Evropi, ki bo s sistematičnim digitalnim inoviranjem kulturne dediščine ustvarjala edinstvena turistična doživetja,

• digitalna inovativnost slovenske kulturne dediščine,

• izboljševanje kompetenc zaposlenih na področju dediščine, gostinstva in turizma,

• nadaljnje povečevanje zadovoljstva turistov,

• dvig konkurenčnosti slovenskega turizma tako na ravni destinacij kot na nacionalni ravni.

Turistični produkti s 5 zvezdicami so bili osrednjega pomena tako z vidika vpliva na prepoznavnosti makro destinacij kot tudi njihovega prihodnjega potenciala rasti z vidika privlačnosti tega trga in konkurenčnosti slovenskih proizvodov na tem trgu.

Namen projekta je bil, da Slovenija postane vodilna evropska država v digitalno obogatenih izkušnjah turizma. To bi lahko dosegli s korenitim preobratom s 3D digitalizacijo in digitalizacijo kulturne dediščine v Sloveniji – in dosegli širšo populacijo ter deležnike, ki se običajno ne ukvarjajo s projekti digitalizacije kulturne dediščine (kreativne in kulturne industrije, turizem).

Faze izvedbe

1. Objava javnega razpisa

Javni razpis za razvoj veščin vodilnih turističnih destinacij in razvoj turistične ponudbe v vodilnih turističnih destinacijah v letih 2020 in 2021.

2. Usposabljanja in orodja za vodilne turistične destinacije

Ministrstvo je organiziralo 3 delavnice/usposabljanja, ki jih je izvedel Arctur, visokotehnološko podjetje in pobudnik iniciative Turizem 4.0 z bogatimi izkušnjami na področju 3D tehnologij, digitalne interpretacije in razvoja turizma. Teme so bile Turizem prihodnosti, Tehnologije in dobre prakse, Postani ustvarjalec digitalnih vsebin.

Poleg tega je bil objavljen komplet orodij za digitalno inovacijo kulturne dediščine, ki je neposredno namenjen vodilnim turističnim destinacijam, ki se prvič vključujejo v soustvarjalne procese na stičišču kulturne dediščine in turizma.

3. Oddaja predlogov s strani vodilnih turističnih destinacij

Na voljo so bili štirje roki.

4. Implementacija na ravni destinacije

V dveh letih (2020-2022) je bilo digitaliziranih več kot 100 enot kulturne dediščine in ustvarjenih več kot 30 turističnih doživetij s 5 zvezdicami (v tesnem sodelovanju z lokalno skupnostjo). Glavni cilj je narediti kulturno dediščino dostopno vsem, saj pripada vsakemu od nas.

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5. Izdelava povezovalnega spletnega portala

V letu 2022 je bil [razvit spletni portal](), ki združuje vsa digitalna gradiva, ustvarjena v projektu, objavljenimi rezultati, informacije in dostop do gradiv ter navdušuje druge za ponovno uporabo digitalnih gradiv v nove in kreativne namene.

Rezultati in koristi za uporabnike

Glavni rezultat projekta **je 100 digitaliziranih enot kulturne dediščine in 30 turističnih produktov s 5 zvezdicami** - AR aplikacija o Ruski kapelici, poustvarjen svet potopljenih vasi, raziskovanje lokalnih zgodb s pomočjo spletne aplikacije, digitalna soba e-Gradovi, interpretacija 7 gradov, Vinogradniška in vinarska interpretacija itd.

Toda za temi rezultati je še veliko več. **Prvič sta se kulturni in turistični sektor povezala v pionirski uporabi naprednih tehnologij.** Številni deležniki – ministrstva, nacionalne ustanove za varstvo dediščine (npr. Zavod za varstvo kulturne dediščine, Narodna galerija, UNESCO), lokalne ustanove za varstvo dediščine (muzeji, galerije), javne ustanove (lokalne turistične zajednice, regionalne razvojne agencije, turistične organizacije itd.), lokalni dediščinski in turistični ponudniki (turistični vodniki, rokodelci, šivilje, kuharji, restavratorji, mizarji, vinarji, zgodovinarji itd.), nevladne organizacije in društva (gledališke skupine, mladinski klubi itd.) – so sodelovali in iskali sinergije ter razvili dolgotrajno partnerstvo. Mnogi so bili razviti tudi na mednarodni ravni, saj imajo številni deležniki partnerje v tujini. Ogromno ljudi – strokovnjakov s področja turizma, dediščine in drugih sektorjev, predstavnikov vlade, izobraževalcev, dijakov, študentov, predstavnikov občin, novinarjev, vplivnežev, podjetij, lokalnih prebivalcev itd. ima zdaj znanje in praktične primere, kaj je digitalizacija in kaj je njena prednost. Lokalni ponudniki in institucije so ustvarili nove turistične ponudbe in začeli ustvarjati nove prihodke oziroma dosegati višjo dodano vrednost s ponudbo novih, poglobljenih, edinstvenih lokalnih 5-zvezdičnih doživetij.

Turistični razvoj je končno začel spoznavati vrednost kulturne dediščine. Bolj so se zavedali svoje dediščine, bolj se je dvignil tudi njihov občutek pripadnosti lokalni skupnosti.

Vseh 30 turističnih produktov ima korenine v lokalni skupnosti, zgodovini. Zgodbe so črpali iz lastne DNK, lokalne identitete in jih posredovali drugim lokalnim prebivalcem in turistom. Produkti so bili razviti v skladu z vizijo Turizma 4.0 – če so lokalni prebivalci ponosni in se zavedajo lastne dediščine ter zanjo skrbno skrbijo, bodo turisti sledili temu dobremu zgledu in močni družbeni vrednoti. Vse vključene destinacije niso želele uvoziti »uspešnih« zgodb (npr. tematskih parkov) iz tujine, ampak so vzele svojo, pristno realnost, ki jo poznajo in imajo na voljo evidence. Glavni poudarek je bil na vrednotah dediščine, kako vrednote predstaviti na zanimiv način. To še bolj dviguje lokalno zavest in povezuje lokalno skupnost.

Projekt pomembno prispeva k ohranjanju zgodovinske in kulturne dediščine, saj jo bodo digitalizirane enote naredile brezčasno. Pozitivni vplivi na okolje se poznajo s ponudbo digitaliziranih enot na spletu in njihovo nadaljno uporabo za poglobljene digitalne turistične produkte.

Projekt je zagotovil neprecenljivo izobraževalno vrednost z:

- **Ponudbo novih kompetenc o naprednih tehnologijah, ustvarjanje 5-zvezdičnih izkušenj** itd. različnim deležnikom na lokalni ravni, predvsem iz sektorja dediščine in turizma ter poleg tega tudi za druge povezane sektorje. Visokokakovostne digitalizirane enote in inovativne izkušnje s 5 zvezdicami so jasen rezultat, da strokovnjaki resnično razumejo, kaj je digitalna inovacija kulturne dediščine in kako jo je mogoče uporabiti in ovrednotiti.

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- **Organizirane nacionalne konference** s predstavitvami Digitalnih inovacij kulturne dediščine strokovni in drugi javnosti.

- **Ponudba doživetij s 5 zvezdicami lokalnim prebivalcem** (šole, družine itd.) in drugim turistom s poudarkom na lokalni zgodovini, tradiciji.

- **Izmenjava izkušenj, znanja in dobrih praks** na mednarodnih konferencah, delavnicah, laboratorijskih dnevih; s partnerji na EU projektih, ki temeljijo na projektu Digitalne inovacije kulturne dediščine.

Vpliv

Projekt je bil dobro prepoznaven na nacionalni in mednarodni ravni.

Arctur je izjemno ponosen na nagrado ECTN v letu 2021 - kategorija Kulturne in kreativne industrije, 2. mesto za projekt Digitalne inovacije kulturne dediščine.

Poleg tega je bil **projekt izbran za eno izmed vodilnih področij slovenske predstavitve na Expo 2020 v Dubaju.** Milijoni obiskovalcev (domačih in tujih turistov), formalne delegacije, dediščinski in turistični strokovnjaki itd. so si v Slovenskem paviljonu lahko ogledali izjemne rezultate. Digitalna inovativnost kulturne dediščine po Sloveniji **je bila predstavljena na posebnem panelu [s promo videom, dostopnim na YouTubu.](#)**

Projektni partnerji in druge vključene organizacije so organizirale in sodelovale na številnih dogodkih v Sloveniji in tujini z več tisoč udeleženci. Avgusta 2021 so projekt in projektne partnerje predstavili na konferenci »[Po stopinjah inovacij Turizem 4.0](#)«. Sodelovali so na mednarodnih LabDays, delavnicah o kulturni dediščini in delili lastne izkušnje ter vpliv, ki ga ima projekt na njihovo lokalno skupnost.

Projektni partnerji in druge vključene organizacije so vzpostavile široka partnerstva na lokalni ravni in po Evropi ter skupaj ustvarile nove projekte kulturne dediščine, ki se osredotočajo na napredne tehnologije, nove turistične produkte, poklicno izobraževanje in usposabljanje. Kot rezultat, številni projekti povezujejo javne kulturne dediščinski in turistični sektor, zasebna turistična podjetja (MSP) in visokotehnološka podjetja kot ponudniki tehnologije.

Projekt nima lastne spletne strani ali računov na družbenih omrežjih, saj je vključil 35 turističnih destinacij iz Slovenije, ki so ločeno objavljale članke in objave na družbenih omrežjih o svoji dediščini. Sicer pa sta Turizem 4.0 in ministrstvo veliko informacij o projektu objavila prek svojih medijskih kanalov.

Promocija projektov kulturne dediščine je konstanten proces, ki še vedno poteka.

Slovenija je postavila visoke standarde digitalnega inoviranja kulturne dediščine in postala ena pionirjev v Evropi. Inovativni vidiki, ki bi jim lahko sledili na ravni EU, so:

- Dajanje javnih sredstev dediščinskemu in turističnemu sektorju (+5 mio EUR),

- Povezovanje sektorja kulturne dediščine s sektorjem turizma (na prvi pogled – povsem nasprotni nameni),

- Uvajanje visokih tehnologij v sektor kulturne dediščine, kjer so večinoma strokovnjaki za kulturno dediščino redko ljubitelji naprednih tehnologij,

- Izobraževanje dediščinskih in turističnih strokovnjakov, deležnikov lokalne skupnosti o digitalni inovativnosti kulturne dediščine, naprednih tehnologijah,

- Izvedli visokokakovostno digitalno inovacijo 100 enot kulturne dediščine v 2 letih in ustvarili 30 izkušenj s 5 zvezdicami, vključno z digitaliziranimi enotami,

- Vzpostavitev dolgotrajnih partnerstev v lokalni skupnosti z vključevanjem lokalnih prebivalcev, ponudnikov, institucij za sodelovanje za boljši rezultat/vpliv.

Projekt navdihuje evropske državljane, da z uporabo naprednih tehnologij občudujejo in cenijo evropske kulturne zaklade.

O Arcturju in Turizmu 4.0

V začetku leta 2018 se je Arctur podal na pot na stičišču turizma in naprednih tehnologij. Podjetje je opazilo vrzel v turističnem sektorju: medtem ko bi najsodobnejša tehnologija lahko preoblikovala industrijo, je koristi izkoristila le peščica podjetij. **S pomočjo iniciative** [Turizem 4.0](#) so zagnali poslanstvo sprostitve inovacijskega potenciala s spodbujanjem sodelovanja med deležniki v ekosistemu pametnega turizma. Cilj? **Ustvarjanje obogatenih izkušenj z uporabo ključnih omogočitvenih tehnologij iz industrije 4.0.**

Arctur je aktivno vključen v številne vidike IKT, [povezanih s kulturno dediščin](#)o, in sodeluje z več vodilnimi raziskovalnimi in akademskimi organizacijami s tega področja. Arctur nudi storitve zajemanja podatkov, od 3D skeniranja in fotogrametrije premičnih in nepremičnih predmetov do aerofotogrametrije in multispektralnega zaznavanja. Zagotavlja programska orodja in računalniško infrastrukturo za modeliranje (oblak točk, poligonalni modeli, teksture) za podporo evidentiranju trenutnega stanja kulturne dediščine, pogosto vključno s podatki, ki se nanašajo na materialne vede, ter omogočajo načrtovanje in vrednotenje konservatorskih posegov.

Poleg tehnološkega vidika se Arctur ukvarja tudi **z razvojem inovativnih novih uporab kulturne dediščine v turizmu, izobraževanju, kreativnih industrijah** , ki vključuje vrhunsko poglobljeno vizualizacijo in tehnologije obogatene resničnosti.

Od leta 2019 do 2022 je Arctur delal na projektih, ki so združevali **razvoj inovativnih produktov, pripovedovanje zgodb, digitalno interpretacijo kulturne dediščine in najsodobnejše tehnologije, kot so 3D digitalizacija, AR/VR, holografske projekcije, zasloni na dotik, mobilne in spletne aplikacije ter video mapiranje.** Osredotočenost na oblikovanje uporabniške izkušnje in sodelovalne soustvarjalne procese je privedla do navdihujočih rezultatov, **ki si jih lahko** [ogledate v video predstavitvi tukaj](#).

Medtem ko se je Arctur ukvarjal s projekti, specifičnimi za mikro lokacijo, je ekipa vedno imela v mislih širšo sliko. Zavedajoč se pomena ponovne uporabe [**je Arctur ustvarili spletno platformo, ki prikazuje 114 enot digitaliziranih predmetov kulturne dediščine in 31 edinstvenih lokalnih turističnih doživetij**](#).

Več o digitalnih inovacijah kulturne dediščine lahko preberete v knjižici **DIGITALNE INOVACIJE KULTURNE DEDIŠČINE:** [Priročnik za turistične destinacije in ustanove kulturne dediščine](#).

Uživajte v digitalnem raziskovanju dragocene slovenske dediščine!

Avtorji: Matevž Straus, Katarina Ceglar, Tina Črnigoj Marc

Foto 1: Zajemanje podatkov in fotografiranje na Veliki Planini

Image 1: Data collection and photography on Velika Planina
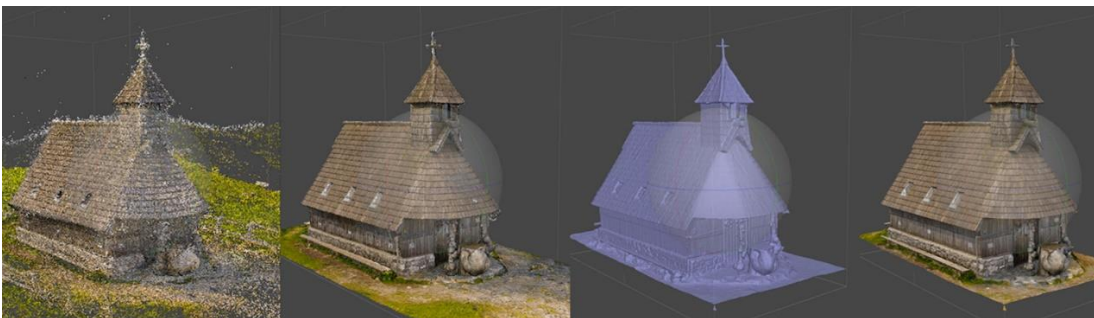
Avtorstvo / Source: Arctur d.o.o.

Foto 2: Postopek izdelave 3D modela kaplice Marije Snežene na Veliki planini

Image 2: The process of making a 3D model of the Mary of the Snow chapel at Velika planina

Avtorstvo / Source: Arctur d.o.o.
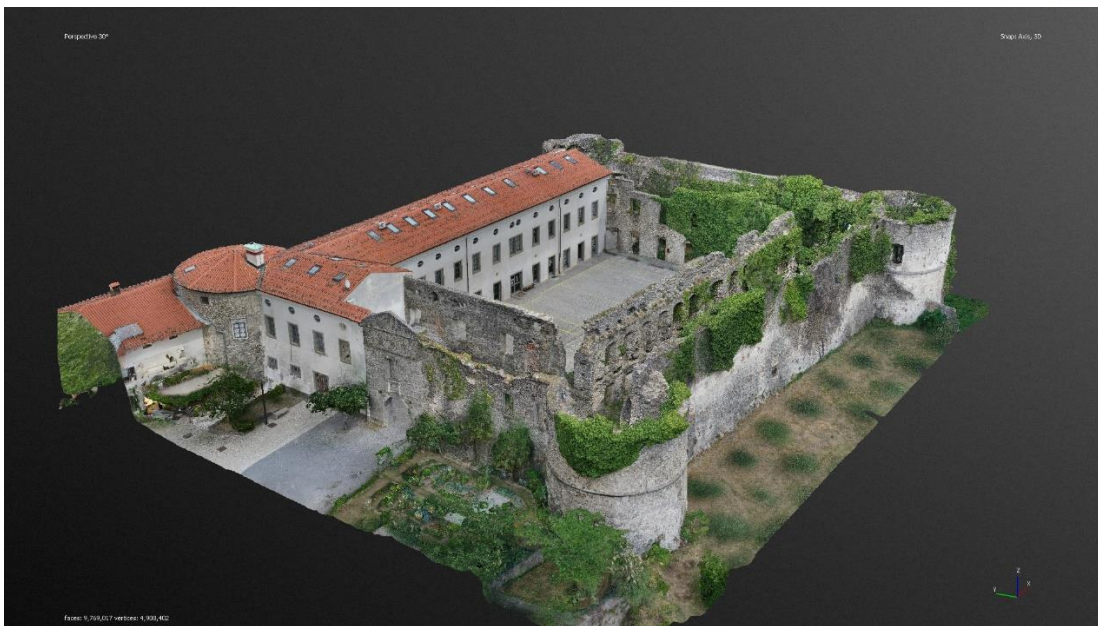
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Foto 3: 3D model gradu Vipavski križ

Image 3: 3D model of the Vipavski križ Castle

Avtorstvo / Source: Arctur d.o.o.

Foto 4: Digitalna grajska sobana veličastnih sedem gradov Posavja v Termah Čatež

Image 4: Digital castle room of the magnificent seven castles of Posavija in Terme Čatež

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Avtorstvo / Source: Arctur d.o.o. in RRA Posavje / : Arctur d.o.o. and RRA Posavje

Foto 5: Tursitčna VR izkušnja potopljenih vasi na Velenjskem jezeru
Image 5: Touristic VR experience of sunken villages on Lake Velenje
Avtorstvo / Source: Arctur d.o.o. in Visit Šaleška / Arctur d.o.o. and Visit Šaleška

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