LOCAL WORKING TABLE

YEAR 1

Template for Reporting (D.C.7.1)

Name of PP(s):

DUK & Sistema

Date and Place of Event:

November 2nd 2020, from 10:00 – 12:00 (MEZ, UTC+1h) at the Danube University Krems, Room SEW 1.06, Dr. –Karl-Dorrek-Straße 30, 3500 Krems.

Report on Local Working Table – Year 1

Date: November 2nd 2020, 10:00 – 12:00 (MEZ, UTC+1h)

Place: Online & Danube University-Krems, Room SEW 1.06, Dr. –Karl-Dorrek-Straße 30, 3500 Krems.

Number and categories of participants / target groups

1) **Danube University Krems** (Host)

2) **Sistema GmbH** (Project Partner STRENCH), **IIT Centre for Cultural Heritage Technology**, **UPC Barcelona** (International Experts Affiliated With Sistema)

3) **The Wachau World Heritage Association (Local Stakeholder)**, **Austrian Armed Forces (National Stakeholder)**, **Abby Melk (Local Stakeholder)**, **The Salzburg Mozarteum Foundation**, **Esterházy Private Foundation**

Topics tackled & links to deliverables/outputs

Part 1: Introduction and presentations by the participants:

1) **Danube University Krems**, Anna Kaiser & Thomas Horak-Thurwachter: (Danube University Krems, Center for the Protection of Cultural Property As primary spokesperson of the Danube University Krems and Host of the STRENCH *Local Working Table Year 1* Ms. Kaiser initiated the meeting with a presentation on the STRENCH Interreg Project. The presented content included the structure, timetable, project partners, work packages, capitalized projects, as well as the channelling of these resources into cultural property protection and disaster management in accordance with the Sendai-Framework. Further emphasis was laid on the STRENCH pilot site "Wachau" in context with climate modelling and the Web-GIS Tool. The further development of these systems and usage for protection strategies is kept open for discussion. (WP A.C.7, D.C.7.1 Local Working Table)

2) **Sistema GmbH**, represented by Stefano Natali & Clemens Rendl: Sistema is specialized in processing satellite data, climate indicators etc. Their aim is to enrich the Web-GIS Tool for better usability, accessibility and further tailoring for the specific needs of local decision makers.

3) The **Wachau World Heritage Association**, Ms Ingeborg Hödl MA (Executive Director of the Wachau World Heritage Association) is interested in the use of the Web-GIS Tool as a monitoring asset and seeks cooperation with STRENCH Project Partners (PPs) for Cultural Heritage (CH) Protection programmes.

4) **Austrian Armed Forces** represented by Maj. Hannes Schramm an expert on military CH protection. The Web-GIS Tool is viewed as valuable asset for the decision making process of

military and civilian emergency responders and CH protection units. Further use is seen as training asset to conduct exercises as well as for raising awareness on CH protection and climate change issues that "*will hit us hard in the future*". (Schramm, STRENCH Local working table year 1, Nov 2nd 2020, Krems, Austria)

5) **IIT Centre for Cultural Heritage Technology**, Director Arianna Traviglila PhD (Online participant via Zoom App). Situated in Venice Italy at one of the hotspots of future climate problems attacking CH Ms Traviglia held a presentation on satellite based costal warning systems. The merging with satellite data from for example the Copernicus-Program with data from the national monument service and archaeological heritage registers combined with sea-movement and weather data such as wind and precipitation enable the creation of target based alert systems for CH sites. This data can be used to alert the population in an area in which CH sites will be hit by an extreme weather event laying the basis for an easily accessible citizen's science platform. (WP T1, D.T1.1.2 Exploring Copernicus programme for safeguarding Cultural Heritage at risk)

6) **UPC Barcelona**, Associate Professor Ramiro Marco Figuera, specialist for remote data analysis and GIS (Online participant via Zoom App). In his presentation Mr Figuera gave the participants an overview on the use of climate indicator based data solutions and the various modes of graphical presentation. Further details on the climate indicators used in the Web GIS tool such as ERA5 (data from 1979 to 2019) and ERA5 Land (greater resolution data from 1981 to June 2020) were presented to the audience. Questions on the various climate indicators such as "tropical nights (temp> 20C°), soil moisture, sea level rise and sea level anomaly were discussed and answered. Data sources such as IMERG (earth observation data) were briefly explained. (WP T1, A.T1.3 "Development of a WebGIs tool for Management of cultural heritage at risk")

7) **Abby Melk**, (Benedictine Monastery & Cultural Heritage Site & Museum), CH Security Officer Mr Gerhard Schreiber security manager for Melk Monastry with > ½ million visitors annually joined the discussion. (Online participant via Zoom App)

8) **The Salzburg Mozarteum Foundation**, Ms Maria Erker, museum´s educational program director, host of cultural heritage exhibitions attracting up to 180.000 visitors joined the discussion. (Online participant via Zoom App)

9) **Esterházy Private Foundation**, Department of Historical Collections, Director Florian Bayer, joined the discussion. (Online participant via Zoom App)

Part 2: Anna Kaiser PhD invites the participants to join an open discussion on use of the presented technology for the Wachau region and especially for stakeholders in decision making position such as politicians:

Hödl: Climate change is an important issue especially regarding the historic buildings and viticulture dominating the landscape of the Wachau. For the Wachau World Heritage Association it is important to know how they can obtain the presented GIS data.

Sistema: Inquires on what indicators are most important for local stakeholders in the Wachau region and stresses the need to make the delivery easy for the end-users of the Web-GIS Tool. The creation of plots (drop down list) with indicators needed are discussed.

Schramm: In ProteCHt2save a project capitalized in STRENCH we realized, that problems in the usage of such data arose. The knowledge on using this data and tools was identified as crucial. Instructions on handling the presented tools and what can be concluded from the data itself is seen as an extremely valuable assed for training CH protectors from a military point of view and for civilian pendants such as the Wachau World Heritage Association.

Example made by Schramm: "*(…) if data indicates that the climate in the Wachau area is getting more humid. The real challenge is the interface to translate what this means for historic buildings and the traditional wine farming which are integral to the Wachau landscape.*" (Schramm, STRENCH Local Working Table Year 1, Nov 2nd 2020, Krems, Austria)

Traviglia: Unfortunately most decision makers do not have technological expertise. Our main problem was/is to find ways to give them information in a conclusive manner. One work around is to create an alert system for the end users. It is important to tailor the information to the stakeholder, to give clear simplified information.

Schramm, Erker, Bayer, Hödl etc.: Agree that simplification is key. Civilian, state, military, cannot use raw data. They are limited in their capabilities and resources. The Web-GIS Tool should be able to focus data on specific points on for instance the map (data and resolution) which are defined by the stakeholders on site.

Traviglia: Thinks that is a good idea, and stresses the involvement of local citizens. One possibility discussed is the gamification (cell phone or computer/laptop app) involving the local population asking them for example to take pictures of the situation at hand and possibly to check certain sites from a safe distance. Answers given can be analysed in order to identify interested and avid participants for further involvement.

The participants unanimously agree that a citizen involved application would benefit the overall goals of STRENCH and CH protection greatly. Coming changes in climate in the Wachau area could be monitored on the ground from the perspective of the inhabitants of the region in a more tangible way. This would enrich the pool of information which traditionally is composed of more abstract data. Ms Hödl points out that an easy to use application be especially attractive towards stakeholders such as local schools. By involving younger generations in the gathering of information using modern and upcoming technology such as drone flights an effective monitoring of the effects of climate change, changes in settlement

and landscape as well as the effects of mass tourism in the area can be well monitored whilst fostering awareness for the stakeholders most severely affected from these future changes and challenges.

Figuera: Citizen science creates a lot of useful data. This however may results in a great deal of problems since a lot of manpower would be required to analyse the gathered data. In practice budgetary constraints often restrain the potential of such gathered data.

During the course of the discussion Ms Traviglia points out the different approaches taken by the local working table partners regarding the effects Climate Change and CH protection. While Arianna´s work could be described as being conducted in a more reactive method such as after anticipating an event (strong storm) and then subsequently gathering more data. Other participants require data for long term analysis and protection measures.

The participants agree that citizen science in the Wachau area should be conducted by the locals living in the area. Offering such an application for tourists may very well raise awareness but would not be beneficial in gathering consistent data. Also the value of further emotionally investing the local populace is perceived as more effective.

The discussion further concludes the importance of embedding younger generations into such projects in order to ensure a high degree of sustainability.

Kaiser, Hödl, Scheiber see the Melk Abbey´s gymnasium a Benedictine-run public high-school as a good candidate for involvement in STRENCH as they have been involved in similar topics in the past. However STRENCH is limited for a two year duration a more sustainable project and/or partnership with an equally sustainable tool for long term usage is required to achieve a sustainable impact.

Sistema: Once a Tool is set up there is little cost in maintaining it and to keep it running. One goal could be to find a funding source to create a long lasting tool for this purpose. EU-funds would be essential in creating the main system. After completion the services could be stripped down to pure maintenance which would minimize the yearly costs.

Schramm, Hödl, etc.: Emphasise the need to involve the younger generations. Therefore a simplification and further user adaptation towards user friendliness of the Web-Gis Tool is needed. Raising awareness on the topic of "what is culture, the worth of culture and what culture means for them individually" is seen as a prerequisite to ensure a sustainable impact.

Ms Hödl presents the option of involving "World Forum of Democracy" (9th World Forum for Democracy to be held in Strasbourg November 8-10th 2021). In her experience projects which include an involvement and/or the education of local youth are well received by local decision makers such as majors of municipalities and generally generate good support. There are many overlapping topics between our work and the work seen in STRENCH. In addition the Web-Gis Tool may be of great importance for the regional wine farmers who maintain the local cultural heritage landscapes and who are greatly affected by the current climate change. Ms Hödl states

that the major difficulty will be to bring these key local stakeholders together due to the current (pandemic) events in the region.

(WP T2, D.T2.1.2 Sustainable risk management Strategies for CH protection)

(WP T2, D.T2.3.2 Recommendations for Integration of risk management strategies into territorial policies)

<u>Conclusion</u>:

Effective CH protection and climate change observation for building resilience require modern technology as a basis for effective decision making and awareness raising. The Web-Gis Tool and other remote data analysis tools as presented by Ms Traviglia and Mr Figuera have the potential to fulfil this requirement. Further simplification in the usage and further tailoring to the specific needs of decision makers and other stakeholders (especially youth) has been identified as a key need. External funding such as EU-funds would be of great benefit for creating a sustainable tool tailored towards tackling the current and future challenges arising in the face of drastic climate change. (WP T2, D.T2.1.2 Sustainable risk management Strategies for CH protection)

The further introduction of citizens based science and gamified apps have the potential in bringing communities together enabling the local population to become involved in talking climate change and to assist in CH protection. Additional funding for the creating of such apps and the subsequent data-management are a pre-requisite with great potential for constructive data output, citizen involvement and climate change induced disaster preparedness. (WP T1, T1.3.1 Tailoring ProteCHt2save on line tool for further implementation)

Special attention must be given towards the involvement of local schools and other youth organizations in order to achieve sustainability. Attractive easy to use state of the art technology is a requirement to ignite interest and subsequent participation for this specific target groups. (WP T1, D.T1.1.1 Stakeholder Consultation and user requirement identification.)

Expected effects and follow-up

Capitalization of the Web-GIS Tool for heritage protectors, emergency response organizations, local decision makers, youth and other stakeholders in the Wachau area.

Further networking of the STRENCH Local Working Table participants with the aim to create sustainable risk management strategies for CH protection.

Side programme (if conducted)

If relevant, annexes (e.g. pictures, media coverage web-links etc.)

Web-GIS Tool, Link: https://www.protecht2save-wgt.eu/

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