

# DELIVERABLE D.T3.1.2

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Transnational Strategy part HUNGARY

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## 1. CHARACTERISATION OF THE PILOT SITE



Fig. 1: View of Pecs from the background of the Mecsek Mountains.

Pécs is located in the Carpathian Basin, in the southern Hungarian county of Baranya, near to the border of Croatia. Its southern part is rather plain whereas its northern part belongs to the slope of the Mecsek Mountain (400-600 meters high). Pécs has a significant mining past. It has a very favourable climate, being located on the border of a still flourishing woody area. During the hot summer nights a cooling air streams down from Mecsek to clean the air of the city. Mecsek dolomitic water is famous for its high density of minerals at constant poise. Woody areas generally start from about 300 m height. Mecsek is divided by several valleys which play a key role in ameliorating the climate of the city without lakes and rivers. Waters coming down from Mecsek are collected by Pécsi water leading them eventually to the Danube.

The city Sopianae was founded by Romans at the beginning of the 2<sup>nd</sup> century, in an area inhabited by Celts and Pannonic tribes. By the 4<sup>th</sup> century, it became the capital of Valeria province and a significant early Christian centre. The early Christian necropolis is from this era and became a UNESCO World Heritage Site in December 2000.

The historical centre of Pécs basically has a rainfall collection network. During heavy rainfall this system becomes saturated (especially when the sediment is accumulated), and water penetrates the spaces below.



## 2. OVERVIEW ON EXISTING AND PLANNED MEASURES FOR DISASTER RESILIENCE

### A. Threat analysis

Conducted		yes
Communicated to	Owners / curators of cultural heritage	yes
	Local stakeholders	yes
	Policy makers	yes

### B. Emergency responders for cultural heritage protection

Insert possible emergency responders for cultural heritage for the pilot site. Adapt the table as you see fit according to the structure of responsibilities in your country respectively the pilot site.

Contact to possible emergency responders <b>established with</b>			
Emergency responders	Fire fighters	Local level	Yes
	Disaster Management	Regional level	Yes
	Police	Regional level	Yes
	Hungarian Army	Regional level	Yes
Academia	University of Pécs	Local level	Yes
NGOs	Pécsi Search and Rescue Team	Local/ National level	Ongoing
	Voluntary Fire brigade	Regional level	Ongoing
Else	Janus Pannonius Museum	Local level	Yes

### C. Resilience of built environment

Developments and guidelines ProteCHt2save <b>communicated to</b>
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D.T1.2.1 Risk Assessment of Cultural Heritage in Central Europe in facing Extreme Events	Owners / curators of cultural heritage	Ongoing
	Local stakeholders	Ongoing
	Policy makers	Ongoing
D.T1.2.3 Elaboration of Maps with hot-spots of extreme potential impacts on cultural heritage	Owners / curators of cultural heritage	No
	Local stakeholders	No
	Policy makers	No
D.T1.3.1 Manual for Cultural Heritage Managers containing mitigation and adaptation Strategies to face up future climate change pressures	Owners / curators of cultural heritage	Ongoing
	Local stakeholders	Ongoing
	Policy makers	Ongoing
D.T2.1.3 Decision Support Tool	Owners / curators of cultural heritage	Ongoing
	Local stakeholders	Ongoing
	Policy makers	Ongoing
D.T2.2.1 Manual of good and bad practices for disaster resilience of cultural heritage risk assessment	Owners / curators of cultural heritage	Ongoing
	Local stakeholders	Ongoing
	Policy makers	Ongoing

## D. Emergency plans

If you decide to develop emergency plans for single buildings / parts of the pilot site, fill in the developed / implemented / tested and trained parts for every one of them. Or just make one for the whole pilot site. For example, we separated Krems and Stein since there are two medieval city centres that are some kilometres apart.

<b>Developed</b>	Pécs	(Flash)flood	Yes
		Fire	Yes



		Movable cultural heritage		Ongoing
Implemented	Pécs	(Flash)flood		Yes
		Fire		Yes
		Movable cultural heritage		Ongoing
Tested / Trained	Pécs	(Flash)flood		Yes
		Fire		Yes
		Movable cultural heritage	Internal	No
			With emergency responders	No

## E. Education and training for cultural heritage protection

Heritage side	Theoretical	Ongoing
	Practical	Ongoing
Emergency responder side	Theoretical	Ongoing
	Practical	Ongoing
Collective	Theoretical	Ongoing
	Practical	Yes

## 3. THREAT ANALYSIS

Likelihood	Almost certain		Deterioration / Wear and Tear			
	Likely				Climate, Extreme Weather (Flash)flood	
	Possible	Accidents	Theft	Pests and Mold		Fire
	Unlikely		Light			



	Rare	General security, Violence	Pollutants	Vandalism	Earthquake, Landslide	
		Insignificant	Minor	Moderate	Major	Severe
		Impact				

The analysis is based on the SiLK Guidelines and takes the city centre of Pécs into account.<sup>1</sup> The centre of Pécs carries the cultural and architectural memories of more than a thousand years of history. The selected pilot site and its environment also represent monuments above these underground memories.

It is due to the water relief function of the area that the main threat is caused by flash floods caused by heavy rainfall.

Due to the abundance of bedrock (tufa) underground spaces are also at risk due to access to water. Under these circumstances the construction of the drainage system and the construction of insulation are a major architectural task. In previous years, the drainage system's reconstruction began.

There is a deterioration of the walls on the ground floors of buildings and below. Due to climate change not only the intensity of rainfall and its drainage is a problem, but also the stormy wind which damages the roof structures of older buildings.

Pécs is relatively distant from the boundaries of tectonic plates, so the risk of earthquakes is lower. On the other hand, the movement of the subsoil, the slip and the bursting of the ancient cellar systems under Pécs have an impact on the surface structures.

Unfortunately, the biggest challenge is the difficulty of financing obsolescence. Maintenance of old buildings, electricity, heating and ventilation would require considerable financial effort, but they were not or only partially met in the past. For example there is no full fire alarm system in the museums, no fire extinguishing system, no cushion safe, packing materials for evacuation, no designated temporary storage.

<sup>1</sup> SiLK - Sicherheitsleitfaden Kulturgut, <http://www.konferenz-kultur.de/SLF/EN/index1.php?lang=en> (accessed 03.07.2019).



## 4. RESPONSIBILITIES IN CULTURAL HERITAGE PROTECTION

On local level the museums themselves are responsible for the conservation of their objects and buildings, the alarm chain and the immediate actions to be undertaken during a catastrophic event threatening their objects. They are also responsible for storing special material needed for the recovery.

The fire brigades are the usually the first responders for primary intervention, they take care of rescue procedures and evacuation if necessary. Human lives come always first, only then can the saving of real values be taken into account.

The police close off the site, control it, document damage and contribute to the rescue of human beings.

Official experts are brought in for professional management, documentation and initiation of the proper proceedings concerning the safeguarding and recovery of cultural heritage.

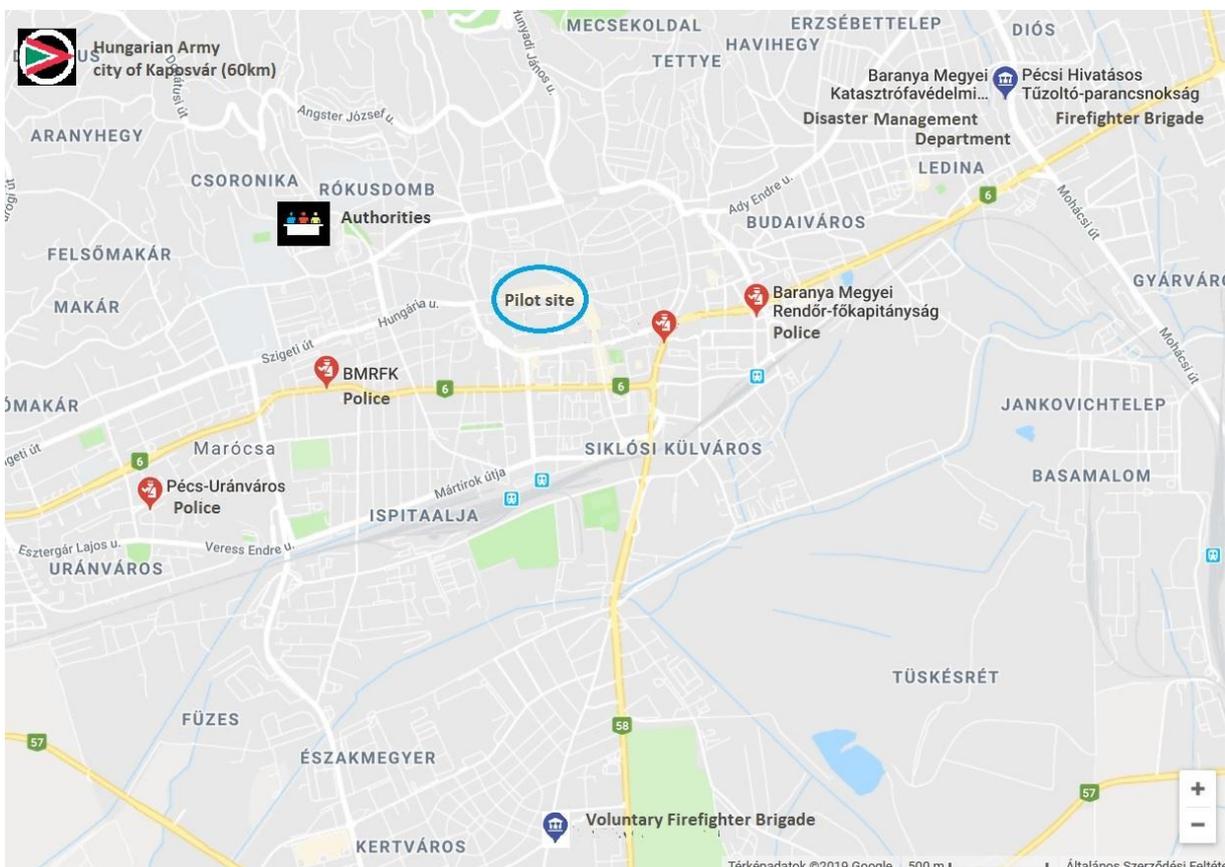
Elaborate briefly on the responsibilities in cultural heritage protection at local and regional level, taking into account everyone who could assist during an emergency.

Voluntary organizations and NGOs contribute to the recovery of cultural heritage.

The mechanisms on the regional level are based on the local level sketched above. On the 2<sup>nd</sup> day after the disaster struck the army could be called in for contribution to the procedures if necessary.

The defence management would direct and organise the work and efforts of the first responders if the event requires such high-level interaction.

The ministry as the national focus point would provide further national resources if needed and request international assistance if necessary.







## 5. RESILIENCE OF BUILT ENVIRONMENT

As of today the cultural heritage institutions like museums, archives, and sites, are not obliged to prepare emergency plans for the cultural heritage they manage. Currently available plans are basically fire evacuation plans. The preparation of firefighting and tactical rescue plans is mandatory only for community sites with a large permanent population (e.g. hospitals, kindergartens), but not for cultural heritage objects.

## 6. EMERGENCY PLANS

The main contents of the Fire and Technical Rescue Plan (TMMT) in existence are:

- Details of the facility (title, activity, values to be protected, responsible persons, staff)
- Definition of force needed, device (planned alarm level, list of special agents)
- On-site technical equipment, materials (i.e. crates, containers, packer), and personnel (staff, civil protection organization)
- Access route information,
- Tactically important features of the facility's firefighting (public utility network, building structure, built-ins),
- Classification of fire hazard
- Description of values to be saved, methods, protected rooms, area definitions
- Description of major hazards, predictable tasks of prevention (e.g. smoke-free, elimination of explosion hazard)
- Sources of extinguishing agents (diameter, pressure, other extinguishing agents)
- Indication of the location of firefighting, technical rescue (control mode, saving of life and value)

## 7. EDUCATION AND TRAINING

Pécs will work on existing training and training planned during ProteCHt2save to be implemented in the future.