

# DELIVERABLE D.T3.1.2

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Transnational Strategy part AUSTRIA

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# 1. CHARACTERISATION OF THE PILOT SITE



Figure 1: Panoramic view of Stein an der Donau.<sup>1</sup>

Krems and Stein are twin towns on the north bank of the Danube. Both owe their development and historic significance to their location along the main route from East to West along the Danube and their function as a point of reloading from river to land traffic, the cultivation of grapevine and the resulting trade. Krems and Stein, which is part of the municipality of Krems but a former independent city, both have old towns that date back to the Middle Ages, complete with parts of the old city walls and gates. Krems and Stein are also part of the UNESCO World Heritage Region Wachau, and lie in its buffer zone.<sup>2</sup>

The main risks posed to Krems and Stein are floods by the river Danube and by rivers and rivulets flowing into the Danube. Fire is recognised as big risk for the old towns since the roofs of the buildings often are immediately connected.

<sup>1</sup> K. Bauer, 11.10.2010, Panoramaansicht von Stein an der Donau (Stadt Krems an der Donau), Austria, Niederösterreich: [https://de.wikipedia.org/wiki/Datei:Stein\\_a\\_d\\_Donau\\_Panorama.jpg](https://de.wikipedia.org/wiki/Datei:Stein_a_d_Donau_Panorama.jpg) (accessed 04.07.2019).

<sup>2</sup> Bonazza et al D.T1.3.2 Pilot Sites Identification.



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

### A. Threat analysis

Contact to possible emergency responders <b>established with</b>		
Conducted		yes
Communicated to	Owners / curators of cultural heritage	yes
	Local stakeholders	yes
	Policy makers	yes

### B. Emergency responders for cultural heritage protection

Contact to possible emergency responders <b>established with</b>			
Emergency responders	Fire fighters	Local level	Yes
	Austrian Army	Regional level	Yes
Academia	Danube University Krems	Local level	Yes
NGOs	Notfallverbund	National level	Partially / ongoing
	Denkmalwerkstatt	National level	Yes
	Team Österreich	National level	Ongoing
Else	Cultural Heritage Rescue Team	Regional level	Ongoing

### C. Resilience of built environment

Developments and guidelines ProteCHt2save <b>communicated to</b>		
D.T1.2.1 Risk Assessment of Cultural Heritage in Central Europe in facing	Owners / curators of cultural heritage	Ongoing



Extreme Events		
	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

<b>Developed</b>	Krems	Flood		Yes
		Fire		Yes
		Movable cultural heritage		Ongoing
	Stein	Flood		Yes
		Fire		Yes



		Movable cultural heritage		Ongoing
<b>Implemented</b>	Krems	Flood		Yes
		Fire		Yes
		Movable cultural heritage		Ongoing
	Stein	Flood		Yes
		Fire		Yes
		Movable cultural heritage		Ongoing
<b>Tested / Trained</b>	Krems	Flood		Yes
		Fire		Yes
		Movable cultural heritage	Internal	No
			With emergency responders	No
	Stein	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					
	Likely		Deterioration			
	Possible	Accidents, Pollutants	Theft	Climate, Pests & Mold	Extreme Weather	Fire, Flood
	Unlikely		Light			
	Rare	General Security, Violence	Vandalism		Earthquake	
		Insignificant	Minor	Moderate	Major	Severe
		Impact				

The analysis is based on the SiLK Guidelines and takes the whole area of Krems-Stein into account.<sup>3</sup> The two historic city centres of Krems and Stein house numerous museums and collections in their historic building structure which is under monuments protection. Therefore pests and mold were rated as possible and having a moderate impact, since the whole site with its different cultural heritage items, built and movable was taken into account. Earthquakes are rare, but Krems-Stein is in an earthquake zone.<sup>4</sup> Extreme weather events like heavy rain or storm in intensities that result in major damage to cultural heritage are possible. The biggest threats however are fire and flood. Fire is recognised as big risk for the old towns since the roofs of the buildings often are immediately connected. The fire brigades are well established and are currently reworking their firefighting plans for the old towns and following the fire in Notre Dame in Paris they want to extend their knowledge and expertise on and into cultural heritage protection. Floods by the river Danube und rivulets flowing into the Danube are certain, but hitherto the mobile flood protection has withheld all the water masses, even if in 2013 sand bags had to be put on top of the metal structures in order to keep the water out. The threat analysed above explicitly regards floods which the mobile flood protection cannot withstand, wherefore such an event was rated as possible only. The impact on cultural heritage would be severe in any case.

<sup>3</sup> SiLK - Sicherheitsleitfaden Kulturgut, <http://www.konferenz-kultur.de/SLF/EN/index1.php?lang=en> (accessed 03.07.2019).

<sup>4</sup> <https://www.hora.gv.at/> (accessed 26.04.2019).

## 4. RESPONSIBILITIES IN CULTURAL HERITAGE PROTECTION

As established in D.T3.1.1 in Austria the cultural heritage institutions themselves are responsible for the safety of their cultural heritage. Firefighting plans and plans for evacuating visitors and staff are mandatory, but emergency plans for movable cultural heritage are not. Built cultural heritage is of course taken into account by the firefighting plans.

On the very level of the pilot sites the fire brigades are the most likely emergency responders possible to assist in cultural heritage protection. During big floods the Austrian Armed Forces are usually called in for assistance to the civilian organisations and would also be available for protecting cultural heritage. Since getting the assistance of the army is a procedure that involves two ministries it takes some time and the army will in most cases not be able to assist during a fire, unless it should burn for a whole day.

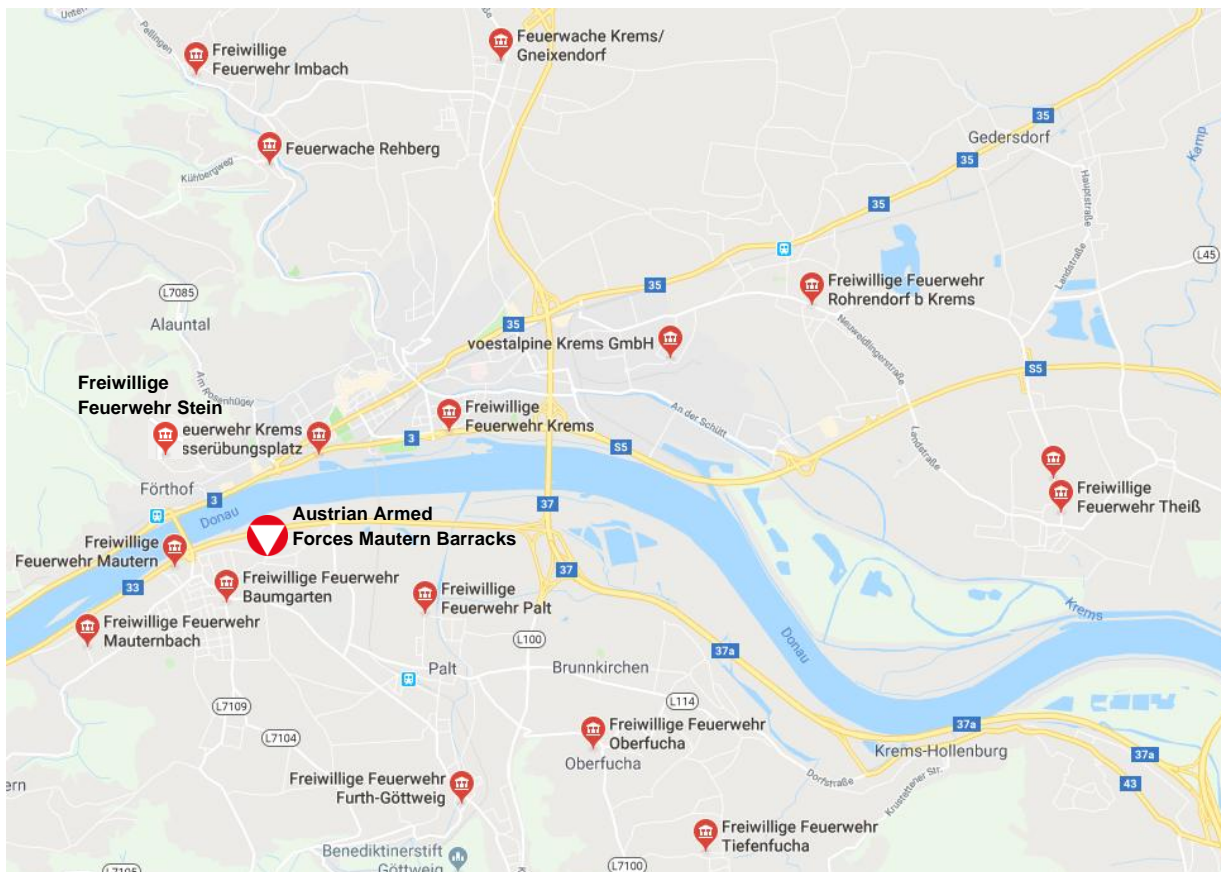


Figure 2: Location of possible first responders for cultural heritage recovery in Krams-Stein. Voluntary fire brigades exist in every bigger village and the Austrian Army has a battalion based in Mautern.<sup>5</sup>

Expertise in cultural heritage protection can be brought in by Danube University Krams which has different academic centres dealing with cultural heritage, its protection, the treatment of materials and collections in general, as well as the local branch of the Federal Monument's Protection Authority that is situated in the old town of Krams itself. Private initiatives like the Denkmalwerkstatt can also

<sup>5</sup> <https://www.google.at/maps> (accessed 26.04.2019), Voluntary Fire Brigade Stein and Austrian Army Barracks Mautern added by the authors.





bring in their knowledge and support. The Austrian Notfallverbund for libraries and museums could be asked for assistance with specialised personnel, but also equipment and restoration facilities. Some of the museums located in Krems-Stein are partners of the Austrian Notfallverbund and thus prone to get any support necessary if requested and available: the Kunstmeile Krems, the Karikaturmuseum and the Forum Frohner are partners.<sup>6</sup>

Volunteers could be an invaluable resource if trained, guided and organised correctly and given only tasks they are able to accomplish. An issue that has to be taken into account is the question of insurance for these volunteers. The Team Österreich does have volunteers aiding during catastrophes and insures them, but an extension into the cultural heritage sector is yet pending.<sup>7</sup> The same can be said for the Cultural Heritage Rescue Team developed and implemented in ProteCHt2save which will inter alia be able to link the heritage and emergency responder sides as well as to briefly train and supervise volunteers. On the CHRT see further D.T3.2.1.

## 5. RESILIENCE OF BUILT ENVIRONMENT

Firefighting plans are valid and exist; the local firefighting command currently adopts the plans for “Case Zulu”, fire in the old towns of Krems or Stein. Besides fire, the responsibility for building resilience lies with the owners. The National Monument’s Protection Authority sets standards for buildings under monument’s protection and may also inspect the premises if need be.<sup>8</sup>

Deliverables dealing inter alia with the resilience of built heritage are currently being brought to the knowledge of the responsible stakeholders, owners and local authorities. The measures will be adapted and implemented for pilot action 2 and deliverable D.T4.1.2 due in September 2019.

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<sup>6</sup> <https://www.notfallverbund.at/> (accessed 26.04.2019).

<sup>7</sup> <https://www.teamoesterreich.at/toe/> (accessed 26.04.2019).

<sup>8</sup> BDA, Standards der Baudenkmalpflege. BDA: 2015.

## 6. EMERGENCY PLANS



Figure 3: Areal view of Stein on the left and Kreams on the right with their medieval city centres and main museums.<sup>9</sup>

Emergency plans like the one outlined above are in development together with the relevant stakeholders. The fire brigades as the most likely first responders will be included into the development. The map above does not take the mobile flood protection into account and shows the flood zones of a HQ 30 and 100 (lighter shade of blue). The mobile flood protection as adopted measure against floods is described in detail in deliverable D.T1.3.2 and highly functional. The biggest risk concerning flood is the possibility that the mobile elements might break when a heavy item brought downstream the flooded Danube crashes into the mobile section or if the water rises even higher than 2013 and the mobile protection is simply not high enough.

## 7. EDUCATION AND TRAINING

Danube University Kreams and the local fire brigades aim at a joint educational module for emergency responders, triggered by the devastating fire in Notre Dame in Paris. Emergency response training for cultural heritage protection will be structured according to the upcoming deliverables D.T3.1.3 and D.T3.2.1. They will feature theoretical parts but also live exercises during which both the heritage side and the emergency response side can learn how best to cooperate and what the other partners need to effectively safeguard cultural heritage.

<sup>9</sup> <https://www.hora.gv.at/> (accessed 26.04.2019) with additions of the authors.