

# DELIVERABLE D.T3.2.1 ANNEX

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Transnational Strategy part CZECH REPUBLIC

Final  
06 2019

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# 1. CHARACTERISATION OF THE PILOT SITE

The Historic District of Prague Troja, situated north of the Prague City Centre rises on the iconic and important river Vltava, characterized by shallow banks smoothly continuing in the adjacent urban areas dating back to medieval times. The settlement is featured by natural heritage, hosting the Prague Zoological and Botanical gardens, and protected cultural monuments, namely the Baroque Chateau Troja, Historic Brewery and Troja Mill.



*Early Baroque Chateau Troja, built in 1679-1691. On the left, aerial view; on the right internal ceiling richly decorated*

In Prague Troja the iconic and important river Vltava conserves its natural white water character with shallow banks smoothly continuing in the adjacent urban areas which have historic roots long back in the medieval times. The settlement is organically pervaded with rather dramatic natural heritage creating a geo-park situation exploited for expositions of the Prague Zoological and Botanical gardens. The contact of the district banks with the river reaches several kilometres and the territorial protection of Troja has been built only along a part of it. Large part of the Troja territory is not protected, which creates specific socio-economic problems in the community. The case study is therefore focused not only on physical protection of cultural and natural heritage but also on creation of a management policy acceptable for all stakeholders - in this case inhabitants but also managers of important cultural and entertainment facilities (ZOO, Sport clubs). Currently the City of Prague is preparing the study of possible scenarios of additional flood protection of the Zoological garden together with valuable and protected cultural monuments, namely the Baroque Chateau Troja, Historic Brewery and Troja Mill. The aim is to prepare relevant material for decision making process for the most suitable technical and architectural solution, respecting the cultural, historic, urban and landscape values of the locality.

The main risks posed to Troja are floods by the Vltava river. Fire is also recognised as risk.



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

### A. Threat analysis

<b>Conducted</b>	Miloš Drdáký, Riccardo Cacciotti	yes
<b>Communicated to</b>	Owners / curators of cultural heritage	yes
	Local stakeholders	yes
	Policy makers	ongoing

### B. Emergency responders for cultural heritage protection

Contact to possible emergency responders <b>established with</b>			
Emergency responders	Troja Municipality crisis committee	Local level	Yes
	Crisis management department Prague 7	Regional level	Yes
	Crisis management department of the City of Prague	Regional level	Yes
Academia	Charles University	Local level	Yes
	Czech University of Life Science	Local level	Yes
NGOs	Sporting club Sokol Troja	Local level	Yes
	Quido Schwank Foundation	Local level	Yes
	Troja Basin Periurban Park Association	Regional level	Yes
Else	Prague Institute of Planning and Development	Regional level	Yes
	National Heritage Institute	National level	Yes



## C. Resilience of built environment

Developments and guidelines ProteCHt2save communicated to		
D.T1.2.1 Risk Assessment of Cultural Heritage in Central Europe in facing Extreme Events	Owners / curators of cultural heritage	Ongoing
	Local stakeholders	Yes
	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	Yes
	Local stakeholders	Yes
	Policy makers	Ongoing
D.T2.1.3 Decision Support Tool	Owners / curators of cultural heritage	Yes
	Local stakeholders	Yes
	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	Yes
	Local stakeholders	Yes
	Policy makers	Yes



## D. Emergency plans

<b>Developed</b>	Troja Château	Flood		Ongoing
		Fire		Yes
		Movable cultural heritage		Ongoing
	Troja Mill	Flood		Yes
		Fire		Yes
		Movable cultural heritage		No
	Troja - Podhoří Site	Flood		Yes
		Fire		No
		Movable cultural heritage		No
<b>Implemented</b>	Troja Château	Flood		Ongoing
		Fire		Yes
		Movable cultural heritage		Ongoing
	Troja Mill	Flood		Yes
		Fire		Yes
		Movable cultural heritage		No
	Troja - Podhoří Site	Flood		Yes
		Fire		No
		Movable cultural heritage		No
<b>Tested / Trained</b>	Troja Château	Flood		No
		Fire		Yes
		Movable cultural heritage	Internal	No
			With emergency responders	No
	Troja Mill	Flood		Yes
		Fire		Yes
		Movable cultural heritage	Internal	No
			With emergency responders	No



	Troja - Podhoří Site	Flood	Yes
		Fire	No
		Movable cultural heritage	No

## E. Education and training for cultural heritage protection

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

### 3. THREAT ANALYSIS

Likelihood	Almost certain			Climate Deterioration / Wear and Tear		Flood
	Likely	Light	Pests and mold	Vandalism Pollutants	Severe weather	
	Possible		Theft			Fire
	Unlikely		Accident/mal function			
	Rare	General security Violence	Earthquake			
		Insignificant	Minor	Moderate	Major	Severe
Impact						

The analysis is based on the SiLK Guidelines and takes the whole area of pilot site Troja into account. The Troja Chateau and park are located in the inundation zone frequently flooded, it houses permanent and temporary exhibitions of cultural heritage artefacts (paintings, furniture, statues, china) collections. The rest of the pilot site (Podhoří) is mainly represented by historic dwelling houses or villas.

The biggest threats are fire, flood and severe weather. Fire is recognised as a big risk because the real estate is dispersed in a dense urban forest. The fire brigades are well established and trained. Floods by the river Vltava are certain and rather frequent in recent years. A part of Troja is protected by means of combined permanent and mobile walls, however, a part of the houses in the floodplain are exposed to high water risks. Severe weather together with long term climate deterioration effects represent less



visible but creating moderate to major impact. Air pollution in Prague contributes to the degradation of historic materials. Pests and mold were rated as likely and having a minor impact. Earthquakes as well as violence and general security problems are rare. Troja site is an important recreational area with high numbers of visitors which increases a danger of wear and tear, vandalism and theft.

## 4. RESPONSIBILITIES IN CULTURAL HERITAGE PROTECTION

Risk preparedness in the territorially non protected area has been adopted in a form of hierarchical structure. The lowest level of emergency plans for individual objects is elaborated in cooperation between the object owners or managers and the Troja District Municipality emergency officer. This level is connected via local broadcast (SMS) transmission with the Troja District Municipality emergency committee which ensures in-time warning and coordination. For the cultural heritage buildings the risk management plans have been prepared with the ProteCHt2save project's results contributions. The plans include mainly the Troja Chateau, Troja historic Mill, Troja historic brewery and historic residential objects. Special attention on this lowest level is paid to protection of so called "family heritage", for which a special manual will be developed in the extended last tasks of the ProteCHt2save project.

The second level emergency planning covers all Troja District and from the cultural heritage point of view the main tasks are related to the coordinated evacuation of the areas in danger in emergency situations. For this task Troja District Municipality emergency committee has been established, which coordinates preparedness actions as well as all activities during and after any disaster.

The third level represents the relation to the Prague emergency system developed in another two levels - the Prague Districts and the metropolitan planning. The Troja District non-protected area involves also natural heritage and a part of the Prague ZOO which represents a special challenge covered with a special emergency plan with a rather complex issue consisting in evacuation and temporary accommodation of some animals.

## 5. RESILIENCE OF BUILT ENVIRONMENT

Firefighting plans are valid and exist. 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. 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 actions taking into account deliverables from WPT1, WPT2 and the "Manual for vulnerability self-assessment, criticality identification and resilience focused measures in emergency and disaster situations".

## 6. EMERGENCY PLANS

Troja District is a part of Prague which adopted and materialized measures reducing impact of flood which is the major threat in this pilot site. The whole area is divided into two parts with different emergency planning tools and measures.

The major residential area is protected against flood with a combined stable and temporary barrier as a part of the Prague overall emergency system. The barriers are erected in emergency situation by professionally trained troops with a limited involvement of local government. The district plays in this part well defined roles and tasks for which it is systematically trained. Next to the above mentioned





structural measures, the local community is trained for involvement in disaster preparedness for a necessary interaction with the second - non protected area.

## 7. EDUCATION AND TRAINING

The Municipality of Troja together with ITAM and Pilot site managers are planning a series of events involving the local community with the scope to develop appropriate emergency plan and train non-technical stakeholders to basic emergency and rescue operation in case of flooding. In particular the rescue of family heritage is considered.

The public involves community members, professionals, volunteers and for their training the memory from previous events is massively exploited, because it is closely related to the site. The memory is the best basis for successful community resilience. In order to improve the Troja District community resilience a special manual will be distributed among the stakeholders.