

## DELIVERABLE D.T4.1.6

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Report on the results from the pilot action 6 -  
Emergency plans for heritage sites involved in  
Hungary.

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## Spis treści

<b>I. PLANNING ACTIVITIES.....</b>	<b>2</b>
1. Topic (main objective of the exercises): .....	2
2. Specific objectives: .....	2
3. Characterize the evacuation plan being tested .....	2
4. Characteristics of the facility. ....	2
5. Situation description:.....	3
6. Concept / assumption for exercises: .....	3
7. Planned forces and resources:.....	4
8. Significant remarks regarding conducting exercises.....	5
9. Ways and means od simulation: .....	5
10. Training briefing regarding involved organization and course of the exercises: .....	5
11. Date of the exercises: .....	5
12. A sketch of the situational area of the exercises.....	6
13. List of functional persons of the exercises: .....	6
<b>II. ANALYSIS OF EXERCISES.....</b>	<b>7</b>
1. Notes on the implementation of the assumption.....	7
2. Assessment of the preparation of the place / facility in the event of a crisis situation .....	10
3. Comments and final conclusions regarding the suitability and effectiveness of evacuation plans in crisis situations .....	11



## I. PLANNING ACTIVITIES

### 1. Topic (main objective of the exercises):

**Checking the suitability and effectiveness of evacuation plans in emergency phase -**

Fire and Technical Rescue Plan of

a, Cella Septichora (CS) and

b, Zsolnay Muzeum (ZsM)

*(the name of the evacuation plan being tested)*

### 2. Specific objectives:

a) checking the knowledge of procedures of the command members

b) checking the cooperation of intervention units

c) defining the capabilities to be developed (gaps)

\* for example, checking the cooperation of departments, checking the knowledge of procedures of the persons in charge, etc.

### 3. Characterize the evacuation plan being tested

(What does it involve? What forces and resources it involves?, etc.)

a) Characteristics of the museum (address, contact, building property, number of visitors, etc.)

b) identification of primarily intervention firefighting forces (vehicles, tools, etc.)

c) basic tactical instructions (flood and fire fighting, life saving, rescue, etc.)

### 4. Characteristics of the facility.

a) Name and address of the place of exercise / pilot site:

1. Cella Septichora (CS): H-7621 Pécs, Sétatér - (46° 04'40.0"N 18° 13'28.6"E)

and

2. Zsolnay Muzeum (ZsM): H-7621 Pécs, Káptalan str. 2 - (46.0790° N, 18.2269° E)

b) Number of floors: 3 - including those underground: 1

c) Number of emergency exits in the facility 4

d) Access to the facility enabling the use of fire-fighting equipment: Easy / Hard

e) Does the facility meet the technical (legal) requirements for evacuation: Yes / No



## 5. Situation description:

The one area is affected by heavy rain, the other area is affected by stormy winds. CS; The **flashflood** break into the exhibition area. A small group of (injured) visitors are inside the facility.

ZsM; Lightning (thunderbolt) caused a **fire** in the roof structure, and parts of the building (walls) are sinking.

## 6. Concept / assumption for exercises:

- a) Evacuation of people: Yes / No - if so, how many?: 2-5 ps
- b) Evacuation of movable cultural heritage: from the whole facility / part of the facility
- c) Evacuated property (what and how much?): large number of models (ceramic, paper and smaller objects)
- d) Assumed duration of evacuation: 3 hours

Hour	Description of the situation's development	Action taken	Other info
9:00	A heavy rainfall around the pilot site.	sharing meteorological alerts	<a href="https://www.met.hu/idojaras/veszeljelzes">https://www.met.hu/idojaras/veszeljelzes</a>
9:20	The area is affected by stormy winds and heavy rain. CS; The flashflood break into the exhibition area. A small group of (injured) visitors are inside the facility. ZsM; Lightning (thunderbolt) caused a fire in the roof structure, and parts of the building (walls) are sinking.	Report this event to emergency number 112 - in fact the county dispatcher phone!!! (+3672 587115)	The central on-call service alerts police and professional fire brigades and volunteer firefighter units.
9:30	<b>Example:</b> The primary interveners arrive at the scene.	Firefighters begin their reconnaissance and life-saving tasks.	The police provide the scene.
9:40	The Defense Committee (Disaster Working Group and Facility Managers) evaluates the events on the spot and decides to; the CS is protected, the ZsM is evacuated.	A decision was made to evacuate the movable cultural heritage. The Local Monuments Conservator was notified with a simultaneous request for support.	The Working Group will be supported by an expert from the heritage protection authority.
9:50	Life saving	After first aid, rescued persons are handed over to the emergency services.	First aid is provided by local volunteers.
10:00	Alerting additional police force.	Support rescue work, and to preserve evacuated monuments.	mobilizing reserve forces
10:00	CS: first response	CS: Cleaning of fallen glass panes, foil cover, water removal with pump, water steering with sandbag	protection of values that remain on the place



10:00	ZsM: first response	ZsM: Preventing the spread of fire, saving movable valuables and moving them to a safe place, supporting loose wall structures	saving movable cultural heritage
13:00	Closing	Quick evaluation of exercise	-
14:30	Evaluation	„hot wash” : good practice - areas for improvement	Team and unit leaders

## 7. Planned forces and resources:

No	Emergency responders	Vehicle / equipment	Number of equipment	Number of personnel
1	Professional (state) fire brigades	Specialized vehicle	1	2
		Fire truck	4	24
		Pumps	2	-
2	Volunteer rescue teams “Mecsek Mentőcsoport”	Specialized vehicle (tools)	3	18
		Car/minibus	3	16
		Boxes	10	-
		sandbags	50	-
		foil, shoring timber	10	-
3	Police	Car	3	12
4	Security guard	Car	2	10
5	Facility managers	Car	3	15
6	Disaster Management Department	Command vehicles	2	6
7	University of Pécs	first aid equipment	1	12

A tabletop exercise (TTX) for leaders will be arranged before the pilot action (FSX).

Other entities planned for exercise:

Authorities involved to the protection of cultural heritage

Members of the defense management (Disaster Management Task Force)

Members of the Police Force

Paramedics/Emergency Care technicians from Medical University



Invited members of the ProteCHt2save project

Other invited guests (VIP), eg. authority of protection of Cultural Heritage

Media/Press

The way of alerting / informing emergency forces and resources:

On the general emergency call system through the county dispatcher service (+3672 587115)

## 8. Significant remarks regarding conducting exercises

(field conditions, occurring threats, medical protection, etc.)

Not relevant - historic downtown environment

## 9. Ways and means of simulation:

CS: Real glass debris,

Blue mark on accumulated water

Injuries - Imitators,

The color of the water flowing to the surface is blue

ZsM: Lightning strike simulation of fire with red light and stripes

Marking of damaged wall section (stabilization) - ruins, debris

## 10. Training briefing regarding involved organization and course of the exercises:

a) Date; Pécs, 26.09.2019. 10:00 am,

b) Whom it is directed to (participants):

Executives of participating organizations, organizers, project coordinators

## 11. Date of the exercises:

Date TTX; Pécs, 15.10.2019., Hour started 09:00, Hour completed 13:00

Date FSX; Pécs, 16.10.2019., Hour started 09:00, Hour completed 16:00

## 12. A sketch of the situational area of the exercises



## 13. List of functional persons of the exercises:

- Exercise manager - Gábor DOMJÁN lut.col.,
- Head of the Rescue Operation - István Tibor SZÚCS lut.col.

## II. ANALYSIS OF EXERCISES

### 1. Notes on the implementation of the assumption

(compare the assumption with the actions taken during the exercise)

The implementation was very successful. The planned tasks were implemented, Cella



Septichora was damaged by the debris due to the heavy rain. In the other Cultural Heritage venue was Zsolnay Museum where a fire was imitated and numerous arts should have been evacuated. The evacuated Arts were transport to the other venue where those were packaged for protection.

During the exercises we:

#### a) checked the knowledge of procedures of the command members

- Prior to the field exercise we held a separate theory (TTX) exercise for the leaders of the organizations participating in the rescue tasks. This is a decision support body which analyses-assesses the occurring events and arranges the performance of operative tasks.
- In addition to the leaders of responding organizations, an expert from the conservation authority also supports the decisions in the task force.

In the course of the exercise, at damage site no. 1, at the Cella Septichora, in order to provide the on-site protection of immovable assets:

- Exploration, saving lives (disaster medic), lifting the injured victims over the ruins of monuments - without causing damage to them
- Collecting and sorting the debris, remains of buildings and placing them outside the site
- Spreading foil over the ruin of the building, creating a sump from sandbags, pumping out water







- At the relief, preventing flooding by the downpouring water with sandbags (building a temporary diversion dam)



**At site no. 2 at the Zsolnay Museum:**

- Allocating a safe location for the storage and wrapping of recovered objects - preparing them for transportation
- Salvage of assets from the loft storage area (marking the border of danger zone)



- Supporting, shoring damaged parts of the building (the arch of the main entrance doorway) with DOCA elements
- Salvage of assets from the exhibition area - with the guidance of the museum experts and by employing the methods defined by them - practicing the recovery procedure of artefacts of various types (furniture, painting, leather, textile, china, paper....)
- Pumping out water from the basement
- Salvaging a heavy artefact from the Lapidary.

In Hungary at a damage site the head (corresponding to the classification - level of the event) of the responding professional firefighting body is entitled to control the firefighting and rescue operative tasks. In order to maintain plausibility, we did not derogate from this rule during the exercise - the Disaster Management Operational Service (KMSZ) was the incident commander.

**b) checked the cooperation of intervention units:**

- During the exercise the professional firefighters did not arrive from one single fire department, but from the firefighting units of other cities. In Hungary the control and order of response of the professional firefighters is completely unified, both the leaders of the subunits and the incident commander know the order of response, so their cooperation was sound.





- The capabilities of the Voluntary forces are not so standardized, so the definition of the tasks allocated to them needs to be more detailed.
- The briefing (information) of the Voluntary rescue forces arriving at the site was incomplete.
- The police closed off the area, they performed the diversion of traffic and provided the security and protection at the temporary storage of the recovered assets. They could not take part in the rescue operations as the liability insurance of the police does not include highly valuable assets (in case of incidental damages occurring during the rescue operation).

**c) defined the capabilities to be developed (gaps):**

- The training curriculum of firefighters and volunteers does not contain topics concerning the recovery procedures for CH. It is necessary to instruct them on the activity of the museum institution in the course of informative training, exercises providing the knowledge of the site.
- The regulations containing the nationally uniform rules of rescue organizations (Firefighting and Technical Rescue Regulations) do not contain the tactical rules and the rules of rescue operation organization concerning the recovery of CH (not even at the level of recommendations).
- The improvement of communication between the volunteer units, museum employees, civil organizations and professionals (recommended radio traffic plan)
- Uniform protective clothing, protective equipment and marking are necessary for the employees of museums, institutions
- The fire engines can only contain the uniformly packed equipment, they cannot include any equipment, materials necessary for the recovery of monuments. These must be kept on stock and available by the manager of the monument in a way that





the responding forces can immediately have access to them (packaging, storage and binding equipment , record sheets, etc.).

- At the damage site there is no authority supervision (in Hungary) during the rescue operations - an amendment of legislation is necessary to determine the public powers.
- The buildings are not fitted with the blue-white CH logo (as defined by the Hague Convention).
- The rescue plans do not list the objects to be salvaged in hierarchical order - the rescue plans must be prioritized in advance.
- The placement conditions of the objects exhibited, stored in the institution should be changed (“recovery-friendly” viewpoint)
- Developing the way of the swift documentation of the recovered objects (handling plan - inventory)
- Due to the large number of participants and the complex nature of the rescue forces, the security officer was not able to follow the register of the persons entering and leaving the damage site.



## 2. Assessment of the preparation of the place / facility in the event of a crisis situation

(possibilities and conditions for carrying out rescue operations)



The sites are open to the public and their use does not conflict with religious or ethnic considerations, so the practice were only limits to the opening hours. The places (Cella Septhicora nad Zsolnay Muzeum) were prepared themselves for pilot action. The venues were closed for action time. The surrounding streets were closed as it used to be in real

emergency. Police forces controlled the traffic.

Due to the real environment, tasks must have been carried out very carefully during preparation and during practice so that the cultural heritage did not be damaged at all. In the Zsolnay Museum, a room was selected where the practice was done and shoring location was



selected in a building as well (in the entrance). The rescued values transported to a safe place during the exercise. Before the exercise this place was chosen with helping the experts.

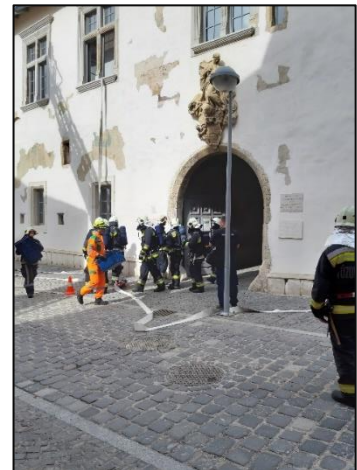
Each location and their environment, and each situation requires different organization, measures, so - in our opinion - these details must be developed in advance, at the site, within the rescue plan. At the pilot site the rescue plans were prepared before the exercise, and a preliminary site inspection was carried out - with the involvement of the responding personnel.

The concept of rescue includes 2, or rather three different cases - based on timing:

1. during the ongoing incident - immediate evacuation
2. after the occurred incident or before its secondary impact - plannable rescue
3. predictable event (flood, non-natural disaster, war period) - evacuation of the site

There are different possibilities of rescue in each case.

The exercise was held on a weekday due to limiting the possibility of visiting the site, but this way the audience of the exercise was also limited, and it also caused more difficulties for the volunteers due to their obligations at work. Parking the vehicles of the guests invited to the exercise proved to be difficult in the city centre.



### 3. Comments and final conclusions regarding the suitability and effectiveness of evacuation plans in crisis situations

(which information should be changed, corrected, added, etc.)



Unfortunately, there are no crisis plans for protect and preserve cultural heritage in Hungary. Thanks for the ProteCHt2save project the management decided that samples (pilot plan) plans will be elaborated for these 2 venues.

The evacuation plans and plan sheets prepared for the 2 pilot sites (Cella Septichora, Zsolnay Museum) as samples are available for responding firefighters. These contain all the basic information that must be known at the site (floor plan,

contact, evacuation priorities, other dangers, locally available resources, evacuation route, etc.). These models will be very effective samples for other plans related to CH. Besides, a training curriculum on which the exercise based, was developed for firefighters.

During the exercise, we were able to define the most appropriate methods for evacuating the different objects in case of immediate (direct danger) and secondary danger, and that tools (packaging) that can be used for them.

The exercise provided an opportunity to define the human resource and other requirements (e.g. how many sandbags are needed to build a diversion dam and how many people are required to build it within optimal time).

At the quick assessment held at the end of the exercise the heads of the participating organisations were satisfied with the results and values of the exercise and with the cooperation among the different actors.

Thanks to the exercise, the managers of cultural heritage institutions can prepare a strategic plan based on the risk assessment which is suitable for planning the protection costs in their budget and the establishment of inventories for the future.

It is useful to emphasize the importance of the communication among the cooperating organisations. Without internal communication of each unit, the coordination in the emergency situation would be slower and not efficiency.

The exercises provide an opportunity to increase the knowledge of firefighters and other parties who involved in the evacuation for more effective results of evacuation.

The exercise prioritized the protection of Cultural Heritage that issue was in the background until now. This exercise was very useful for every organization for raises their awareness and knowledge about protection of cultural heritages, the importance of the protection and highlighted those areas which need to be developed in the future.



After the exercise the rescue plans created to the exercise will be corrected due to the results and these plans will be the base of the other plans of further Cultural Heritages in our region.