

# DELIVERABLE D.T4.1.4

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Report on the results from the pilot action 4 -  
Emergency plans for heritage sites involved in  
Slovenia.

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## I. PLANNING ACTIVITIES

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

**Checking the suitability and effectiveness of evacuation plans in emergency phase - “Fire order” of the Regional museum of Kočevje**

### 2. Specific objectives:

- a) checking the cooperation of departments,
- b) checking the knowledge of procedures of the persons in charge,
- c) checking if there is enough light for evacuation activities without electricity,
- d) checking the usefulness of only one emergency exit from the attic.

\* 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.)

We will be checking the suitability and effectiveness of evacuation plan that is part of the “Fire order”. This is a general document that the Regional museum of Kočevje has on this matter. It primarily covers fire that is a danger that is most present in the museum. The Fire order includes chapters on:

- preventive measures
- protection measures
- evacuation measures
- removal of combustible substances
- types and methods of training for staff
- adequate heating system
- adequate lighting system
- lightning installations
- visible markings
- means of hazard detection
- concrete fire escape plan for every floor

Main resources that are covered in the document are:

- **employees** who have their responsibilities and obligations in case of an emergency



- contracted private **security company** that is a first responder
- **firefighters** who act upon their obligations and protocols
- private companies that **inspect fire extinguishers and smoke alarms**

Upon this document there are mandatory fire inspections and evacuation exercise every year. A concrete fire escape plan is placed in all halls of the building. All new employees get acquainted with the Fire order and get basic trainings upon starting their new job in the museum. There is regular inspection of the condition of all fire extinguishers in the building and also smoke alarms that are placed in the rooms and are connected with the hired security company. The fire order has an existing plan of evacuation that focuses on evacuation of people - employees and visitors.

In case of any emergency the employees first contact the security company who comes to the building as soon as possible. They have keys of all the doors. In case of fire they try to extinguish it. If they are not successful or they need help, they call the firefighters, wait for them at the entrance, explain the situation and open the doors. The security company responds to all alarms triggered by smoke alarms in the premises of the building and in the majority of cases these are false alarms. The firefighters don't need to wait that the security company calls them but can also be activated in case a private person reports there is an emergency.

#### 4. Characteristics of the facility.

- a) Name and address of the place of exercise / pilot site: REGIONAL MUSEUM OF KOČEVJE, Prešernova street 11, 1330 Kočevje, Slovenia
- b) Number of floors 2 including those underground: no underground floors
- c) Number of emergency exits in the facility 2 for ground floor and first floor, one for the attic floor
- d) Access to the facility enabling the use of fire-fighting equipment: Easy to the ground floor, hard to the first floor and attic floor
- e) Does the facility meet the technical (legal) requirements for evacuation: Yes

#### 5. Situation description:

Our exercise will include removing movable objects of cultural heritage from the attic where there is a damage on the roof because of heavy rain. The museum has a big



storage in the attic and it is very vulnerable. There is only one access and we will try if it is enough to use it in case movable heritage needs to be evacuated. The museum has a plan to install a lift to the attic but has not raised the needed funds yet.

The evacuation plan that we will be testing will cover the possibilities of a leakage through the roof of the Museum that occurred due to damage to the roof done by heavy rain. The museum has a big storage space in the attic that will need to be evacuated because of the water leakage and moisture. The plan is to put off the electricity and try to work in the attic in the dark - only with torch lights.

The plan has two phases:

1. In the first phase only objects that are most vulnerable will be removed from the storage room in the attic: objects made of paper, wood, textile or similar vulnerable material. All object will be brought from the attic to the ground floor through the only emergency exit - steps of the museum.

For the purpose of this evacuation plan special container will be rented and placed outside of the museum near the emergency exit in the ground floor. All the cultural heritage objects will be put in the container as a safe storage place. In case of real emergency also the hall and other rooms in the ground floor of the museum could be used as a temporary storage place.

2. In the second phase all the cultural heritage objects in the attic storage room (made of metal, stone, glass and other materials) will be removed from the attic so the renovation of the roof, ceiling, walls and other parts of the building can start. All the cultural heritage objects will be placed in the container that will be just outside the emergency exit on the ground floor (the same container as in phase 1).

Regarding forces and resources needed:

- 7 staff of the Museum will be included in the exercise.
- local fire brigade will be included in the exercise.

## 6. Concept / assumption for exercises:

- a) Evacuation of people: No
- b) Evacuation of movable cultural heritage: yes, from part of the facility
- c) Evacuated property (what and how much?): movable heritage will be moved from the storage in one room in the attic.



In the first phase of the exercise approximately 150 objects made of fabric, approximately 1000 objects made of wood and 50 running meters archive material will be evacuated.

In the second phase of the exercise approximately 500 objects made of glass, stone and metal and 300 archeological boxes will also be evacuated.

d) Assumed duration of evacuation: evacuation will last one day:

- 1 hour for the initial phase
- 6 hours for the first phase of evacuation
- 4 hours for the second phase of evacuation

Hour	Description of the situation's development	Action taken	Other info
5:00	A heavy rainfall and wind around the pilot site.	-	-
6:00	The intense rainfall persists. The roof gets damaged because of the heavy wind. Water runs down in the attic of the museum damaging the CH objects in the storage room.	Report to the director of the museum and to the fire brigade.	The local firefighter's unit sent their firefighter team.
6:10	Local fire brigade team arrives and assess the situation.	They place tilt on the ceiling of the attic in order to temporarily secure the attic so that rain and moist doesn't damage the vulnerable CH objects	-
6:30	Director of the museum and head of the local fire brigade team further assess the situation. They decide to evacuate the movable cultural heritage from the attic.	A decision was made to evacuate the movable cultural heritage that is in the storage room in the attic.	
6:40	The staff of the museum arrive at the sight.		
6:40	The director of the museum has the meeting with all the staff and gives them detailed instructions on how to move the CH objects from the attic to the container		



	that is placed outside the museum.		
7:00	The first phase of the evacuation begins	moving the most vulnerable CH objects from the attic to the container that is placed outside the museum.	
13:00	The second phase of the evacuation begins	moving the most vulnerable CH objects from the attic to the container that is placed outside the museum.	
17:00	The work of the staff is finished - they evacuated all the CH objects from the attic to the container.		

## 7. Planned forces and resources:

No	Emergency responders	Vehicle / equipment	Number of equipment	Number of personnel
1	Fire Department – Kočevje	Specialized vehicle	1	6
				-

Other entities planned for exercise: /

The way of alerting / informing emergency forces and resources: The staff of the museum that spot the damage on the roof and the leakage call the local firefighter's unit.

## 8. Significant remarks regarding conducting exercises (field conditions, occurring threats, medical protection, etc.)

The conditions are hard because heavy rain and wind persists.

The rescuers come quickly because their station is very close to the museum and no obstacles are on the road.

## 9. Ways and means of simulation:

We have rented a container where all the CH artefacts will be placed.



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

- a) Date 19. August, hour. 10,
- b) Whom it is directed to (participants): employees of the museum.

## 11. Date of the exercises:

Date: 20 August 2019, Hour started 6:00, Hour completed 17:00

## 12. A sketch of the situational area of the exercises - in attachment

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

- Exercise manager: Nadja Kovačič
- Head of the Rescue Operation: Vesna Jerbič Perko





## 14. Photos from the exercise





## II. ANALYSIS OF EXERCISES

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

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

The first objective was to test if the cooperation of departments will run smoothly. This turned out to be very true and no problems were detected here since all were prepared good.

The knowledge of procedures of the persons in charge was also checked. The exercise revealed there are no problems on this point.

The evacuation exercise gave the team very good answers on needed resources, especially how much time and staff is needed for specific activities and phases. They estimated that they will need more time - the exercise was finished one hour earlier. Now they have concrete data on how much time they need for concrete actions inside the exercise according to the number of staff.

### 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 director of the museum wanted to check if there will be enough light for evacuation activities without electricity. For the purpose of the exercise the electricity was shut down - as could be easily the case in real evacuation situation. The team was wearing head lights and it was ok. Nevertheless, the sun was shining outside so this situation could not be simulated in all the premises nor outside.

There are two staircases in the museum, one leading only to the first floor and it was not used during the exercise. The second staircase is the only emergency exit to/from the attic. It is partly wooden and this could present a serious problem in case of fire in the first floor. A lift to the attic is planned to be built in order to secure the emergency exit from the attic in case of fire but so far the Museum did not secure necessary funding.

During the exercise, the width of the staircase was also tested and- if two first responders going in different directions can meet and pass each other on the stairs. This proved to be ok - rescue workers had no problems passing each other on the stairs while going up and down carrying CH objects in their hands.



Firefighters participated in the exercise but unfortunately they don't have specific tools that would be needed in such emergency events:

- if they had a big tilt they could cover the whole or vital part of the building in order to stop the water coming in the attic - if the roof was damaged.
- using a machine for sucking the water from the floor of the attic could prevent further damage to the floor and the objects placed on the floor.

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

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

One of the first conclusions are that the museum must take better care of the evacuation routes - that they are clear at all times.

Upon this evacuation exercise the museum decided that they need new chapters of the existing document "Fire order" or separate document since important new knowledge regarding evacuation plans in crisis situations is not covered in the existing chapters. The new chapters/document should cover risk assessment and action plan for covering cultural heritage in the museum for different natural disasters that are most probable (besides fire also heavy rain and wind). Regular evacuation exercises and trainings should be predicted for first responders and the knowledge on the specific of handling the cultural heritage objects and buildings should be presented to them.

The existing good cooperation between the firefighters and the Regional museum of Kočevje can be an example for other cities and museum. This voluntary cooperation could be made mandatory for better preservation on movable and non-movable cultural heritage. For now only emergency evacuation exercises of people in case of fire are obligatory by law. It would be useful to expand legal regulations that would impose the obligation to execute emergency evacuation exercises also on cultural heritage. Firefighters and other first responders would benefit and welcome such exercises.

The museum also decided to get better cooperation with the Community of museums of Slovenia, organize common events on the topic of protection of CH against natural disasters. Inside this network of museums they will try to organize workshops with other museums with exchange of knowledge, good and bad experiences,...

The exercise was very useful and the director of the museum decided to organize future events in September and October as a follow-up. The museum will invite all firefighters from the area for a guided tour to the museum so they can get to know better the building and its content. After these guided tours they will organize a meeting with a smaller group of firefighters that are concretely responsible for the protection of the museum. They will also show them the



depot and other parts of the museum that are not seen by the public. They will all give suggestions on how the museum and firefighters can improve their cooperation to gain better preparedness.

A decision was also made to organize a meeting on the local level for example with other institutions having CH objects (like the public library) with the firefighters in order to set closer cooperation and priorities for joint exercises.

On the national level future events could be organized with national organizations like the Union for fire safety of Slovenia.