

# OUTPUT T2.2

## Pilot Action (P13)

### Report

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**Title** Output T. 2.2  
Pilot Actions for preserving and management of natural and cultural heritage and resources developed and/or implemented

**Date** 2021 - 2022

**Venue** Archaeological museum Osijek  
Nature park Kopački rit

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**Implementing partner(s)** PP16 IAHR  
Institute of Archeology, Zagreb, Croatia  
AP AMZ  
Archeological Museum Zagreb

**Name of Pilot site** Kopačevo – *Ad Labores* (Cro)

**Project ID** DTP3-1-359-2.2

## General description:

A small village in Baranja region of Croatia named Kopačevo was selected as pilot site. The Roman remains in the village of Kopačevo bear witness to the fact that there was a Roman fort in the northeastern part of the village. This fort was a part of the complex of the entire Roman Danube Limes in today's Croatia. It is assumed that this fort was used to monitor the nearby Roman main road that passed through today's Bilje. This road is evidenced by the very finding of the road that led from Mursa to the north towards Aquincum, today's Budapest. We should also not ignore the vast marshes that certainly dominated the landscape in Roman times, before the construction of large systems of canals and embankments, and this fort could also serve to monitor them. The location of this building is somewhat known to us from the map of the Hungarian geographer S. Pávai in the map *Tractus pratorum terreni Kopacsiensis*, which today is kept in the State Archives in Osijek. Findings of a brick sewage system, several graves and coins are known from this area of today's Kopačevo. The two most interesting finds are the altar, a worked stone block for performing rituals, with a religious text on the front. One altar was found in the village itself, not far from the presumed location of the fort, while the other was found during the construction of the parking lot of the Kopački rit nature park. Both altars date from the 2nd-3rd century. century, while coins date from the 4th century.



Samuel Pávai map showing the remains of a fort in Kopačevo

## Geophysical survey of a pilot site

As part of the Living Danube Limes project, a geophysical survey of the area of the village of Kopačevo was conducted. The fieldwork in Kopačevo was carried out between November 11th and 13th 2021. The area selected as area of interest primarily could not be investigated because the landowner refused to grant permission to enter the area of a Roman fortlet in the village. For this reason, areas around the village and north of the small fortress were examined for two days. A 16 channel GPR system Mala MIRA with a frequency of 400 MHz was used. The fieldwork in Kopačevo was carried out between the 16th and 18th of November

2021. On the first day, GPR surveys were conducted east of the village around the Footballfield (Fig. 1). No permission could be obtained from the landowner for the originally planned investigation area of a Roman fortlet in the northeast of Kopacevo.



*Geophysics survey carried out by LBIArch pro*

In the area of the old football field and the basketball court, the humus overlying the gravel was lifted, so the data measured in the largest contiguous area is the most varied, the different gravel belts are easy to distinguish. A total of around 1.7 hectares were measured on the first day. On the last day, areas north of the small fort in an area of about 0.3 hectares and about 0.4 hectares about one kilometer east of the village were examined. This means that GPR data are available for around 2.4 hectares. Unfortunately, most of the results didn't show a clear picture of Roman habitation in the area of the village.

## Preparatory work and 3D documentation



*Documentation of the stela from Kopačevo*

In late June (29<sup>th</sup> of June) 2021, IARH together with its associated partner AMZ (Archeological museum in Zagreb) visited Archeological museum in Osijek and conducted 3D documentation of 3 monuments from pilot site Kopačevo and its vicinity. Three epigraphic monuments were documented. Out of three two were *stela*e found in the village Kopačevo itself. They were documented as photogrammetric models. This technique was previously used for several monuments that were built into other structures (*spoliae*) so that those monuments could be presented in the various museums and visitors centers. Another monument was a roman milestone found in the nearby village of Bilje. One of the monuments has to be kept in depot of the Archeological museum in Osijek, a mile stone is too bulky to be handled and the third monument is built into the wall of Museum of Slavonia in Osijek. For this reason, it was decided to conduct a 3D photogrammetric modeling of the monuments so they could be used onsite or by other stakeholders included in the presentation of the pilot site itself such as Nature park Kopački rit. 3D models can also be used to work on the monuments from a scientific standpoint without the need to visit the sites on which they are kept. Also any additional physical reconstruction, of which several are planned to be created in the scope of the project, can use this model to make 3D print or any other blueprint of the monuments documented in this technique.

## Implantation

Unfortunately, after the site was surveyed by our project partners LBIArch Pro there was no basis to create any VR reconstructions in comparison to the results of the survey itself. Due to the small scale of the site and a urban development most of the archeological features of the site are now gone. Only chance finds such as coins and pottery sherds are found on the site. This is the main reason why 3D model reconstruction. In conjunction with several of the local stakeholders such as NP Kopački rit, Archeological museum Osijek and DANUBE Parks we have decided to pursue 3D virtual reconstruction implementation which will be a part of upcoming roman permanent exhibit in museum of Osijek as well as part of the permanent exhibit in visitor center of Tikveš castle run by nature park Kopački rit nearby Kopačevo. Both

displays will mention our project and show Interreg logo with the display of roman stone monuments along the description of our project and the way it was funded by our project. Unfortunately both displays are still under construction and the first one is bound to be finished towards the end of the year 2022.



*Newly opened Tikveš castle visitors center*



*Archeological museum Osijek*