PRESERVATION, SUSTAINABLE USE
AND REVITALISATION OF THE ROMAN HERITAGE
ALONG THE DANUBE – THE EU INTERREG DTP
PROJECT “LIVING DANUBE LIMES”

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The Interreg DTP project “Living Danube Limes” aims to establish a stepping stone and sound foundation for the creation of a cultural route spanning the whole Danube area. The project identifies the Roman heritage in the Danube Region as unifying, common historical and cultural heritage. Four tiers compose the holistic approach to valorising the Roman heritage along the Danube: archaeology and history, museums and sites, preservation and sustainable tourism solutions, and raising public awareness on the importance of the Roman heritage; the latter is achieved by an authentic reconstruction of a Roman Danube ship.

Keywords: Roman Danube Limes, archaeology, museum, preservation, cultural heritage, UNESCO World Heritage, sustainability, revitalisation, Danube Region Strategy

The Interreg Danube Transnational Programme (DTP) project Valorising cultural heritage and fostering sustainable tourism by LIVING the common heritage on the DANUBE LIMES as basis for a Cultural Route started in July 2020. The project, which is abbreviated as “Living Danube Limes”, aims to establish a stepping stone and sound foundation for the creation of a cultural route spanning the whole Danube area (Fig. 1).1 The goal of the project is to show that by close cooperation between the Danube Region countries and action undertaken as a coherent region, which has a common history and unifying cultural heritage, the economic and political future of the whole region can be made more sustainable. The greatest need is also the greatest challenge identified and addressed by the project: the connection of the

1 This is a target of the European Strategy for the Danube Region, to which numerous Interreg DTP projects contribute and which allows for manifold synergies between funded projects of all calls supporting each other in order to “develop new and support existing Cultural Routes relevant in the Danube Region” and to “develop a Danube Brand for the entire Danube Region based on already existing work”. (Priority Area 3 “To promote culture and tourism, people to people contacts”) (Danube Strategy Point 2021).

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whole Danube Region and the identification of its citizens with the geographical area and its cultural landscape connected by the Danube. The basis of the project is the Roman heritage that is connecting all Danube Region countries by means of a shared history. The remains of the Roman presence along the Danube are still visible today and are a great asset to tighten the connectedness within the Danube Region and to serve as basis for a cultural route spanning the whole area. For this objective, the state of conservation of the Roman heritage is not decisive. The Roman remains range from several storey high buildings to accessible and well visible ruins and structures that are still below ground and known through, for example, geophysical surveys (Fig. 2).

Figure 1. Living Danube Limes project logo

Figure 2. Remains of the late Roman *burgus* in Bacharnsdorf, Austria (Anna Kaiser, 2019)
As is the case with the Danube Region countries today, the Roman provinces bordering on the Danube were “characterised by a broad heritage of dense and diverse histories, cultures, ethnicities, religions, markets [and] societies” (European Commission 2020. Chapter 3, 24). In Living Danube Limes the Danube and the Roman remains along the river as northern border of the Roman Empire, the so-called Danube Limes, take centre stage. The remains of the Roman Danube Limes connect Central Europe with South-Eastern Europe, thus geographical areas that are at different levels of economic and infrastructural development as well as at different stages in the European integration process. Every country has differing laws concerning cultural heritage protection, different approaches to the use of cultural heritage sites as well as different standards and aims regarding the sustainable and eco-friendly tourism development. Living Danube Limes considers these differences and develops tailored approaches for various project measures, such as enhancing the visibility of the Roman heritage, green infrastructure measures or the sharing of a reconstructed Roman Danube vessel, which will be the tangible and highly visible sign for connecting the Danube Region through its common Roman heritage.

THE CONNECTING POWER OF THE RIVER DANUBE

The Danube, as the second longest river in Europe with a length of about 2850 kilometres, rises in the Black Forest in Germany and flows into the Black Sea on the border between Romania and Ukraine. It flows through or borders on ten countries, and for considerable sections, it forms the border between two neighbouring states, such as Slovakia and Hungary, Croatia and Serbia, as well as Romania and Ukraine. Despite modern national borders, different languages and lifestyles, the Danube countries are closely connected by their common cultural heritage and can look back on a common history. The Danube itself is no longer a dividing borderline, but rather a connecting element that all Danube countries share and care for. From a cultural and historical point of view as well as in infrastructural and economic terms, the river is a permeable membrane and its adjacent areas have always been connected through a lively exchange.

Also in the Roman times the Danube was not only the (permeable) border between the Roman Empire in the South and barbaric tribes in the North, but also a connecting waterway from East to West and vice versa, accompanied by a connecting route in the hinterland. As a natural river boundary, the Danube Limes existed for about 400 years (1st to 4/5th centuries) in the Western Roman Empire and until the 5th and 6th centuries in the Eastern Roman Empire. Along its southern side were the Roman provinces of Raetia, Noricum, Pannonia and Moesia and for about 170 years the Roman province of Dacia existed on the north bank of the Danube. For most of the time, the Roman Danube Limes was not a hard border, but rather a “wet” border, a permeable membrane, along and over which a lively exchange and trade took place in times of peace. Countless finds of Roman exports to the so-called Barbaricum in
the North bear witness to trade and exchange between the provincial inhabitants of the Roman Empire and the neighbouring tribes north of the river; the trade took place primarily with allied tribes settled on the northern shores of the Danube and representing a buffer zone against hostile tribes (Kunow 1980; Kunow 1983; Erdrich 2001; Moosbauer 2003; Müller-Scheeßel–Voß 2016).

In stark contrast to natural boundaries, like the river boundary along the Danube (which in Latin was called “ripa”, as all fluvial borders, and not “limes”), are artificially drawn boundaries, such as the Upper Germanic-Rhaetic Limes, with its typical palisades construction (Schallmayer 2007; Olshausen et al. 1999. 192–231). Since such man-made boundaries are more difficult and cost-intensive to secure, compared to those that follow natural barriers such as rivers and mountains, both types differed greatly in appearance (Jilek 2009. 42–45). The artificial boundaries tended to be drawn linearly and overlooked vast geographical areas from each point of view; visual contact between the individual watchtowers and forts was standard. Along the Upper Germanic-Rhaetic Limes, for example, a fort was built every ten kilometres, whereas the facilities of the units along the Danube were often up to 30 kilometres apart and, due to the meandering course of the river, they did not have direct visual contact with the neighbouring forts. It has to be assumed, however, that in between the forts a chain of watchtowers kept communications up and running; many of them were built in timber constructions, especially in the early imperial period, and thus are no longer preserved or have not yet been excavated (Schallmayer 2007). The examination of archaeological structures along a river border is often problematic for various reasons. As riverbeds can change their courses over time and since floods and landslides have affected many sites over the past 2000 years, it is often the case that Limes sites are in a very poor state of conservation today. For example, much of the Praetentura of the Carnuntum legion camp in Austria has been demolished by the Danube. In addition to natural erosion, rivers have been increasingly regulated since the 19th century, and in combination with the construction of power plants, archaeological heritage has been damaged or destroyed. Another phenomenon that determines the conservation status and the accessibility of Roman sites along the Danube is the fact that many of the archaeological sites are largely overbuilt with modern settlements. A large part of the Roman legionary camps of the Danube Limes are built over by modern cities, such as Castra Regina/Regensburg (Germany), Vindobona/Vienna (Austria), Aquincum/Budapest (Hungary), Singidunum/Belgrade (Serbia), Durostorum/Silistra (Bulgaria). Sites as these can often only be researched in the context of emergency excavations during urban building programmes (Jilek 2009. 47).

LIVING DANUBE LIMES WITHIN THE EUSDR

Based on the Danube’s highly connecting features in Roman antiquity and in the 21st century, Living Danube Limes follows a holistic approach with four tiers in order to reach its goals and to work within the frame of the EU Strategy for the
Danube Region (EUSDR). The Interreg DTP is one of several funding programmes of the European Territorial Co-operation (ETC) and is primarily funded by the European Union’s European Regional Development Fund (ERDF) (European Commission 2021). In addition to the ERDF, two other EU instruments also finance Interreg programmes. On the one hand, there is the Instrument for Pre-Accession Assistance IPA 2014–2020, or IPA II for short, for potential EU candidate countries, and, on the other hand, there is the European Neighbourhood Instrument ENI, for EU neighbour countries. Interreg DTP includes the states with direct access to the Danube from the Black Forest in the West to the Black Sea in the East (Germany,
Austria, Slovakia, Hungary, Croatia, Serbia, Bulgaria, Romania, Moldova, Ukraine) as well as those countries in the extended catchment area of the river (Czech Republic, Slovenia, Bosnia and Herzegovina, Montenegro) (Danube Transnational Programme 2021). The aim of the funding programme is to strengthen the heterogeneous Danube Region through transnational cooperation in various areas, as well as to identify and address common challenges and needs. The focus of the DTP programme is on four so-called priority axes: innovation, environment and culture, transport and energy, and governance. The Living Danube Limes project is part of the Environment and Culture axis and pursues the specific objective of sustainable use of cultural heritage and cultural resources in this thematic cluster. The Interreg DTP funding programme follows the EUSDR, which was adopted by the European Council in June 2011 as the second macro-regional strategy (after the 2009 EU Strategy for the Baltic Sea Region). The action plan identifies four pillars and twelve priority areas (Fig. 3), within which the EUSDR intends to bring improvements for the Danube Region (European Commission 2020). The four pillars of the EUSDR focus on the connection of the Danube Region, the protection of the environment in the Danube Region, the building of prosperity in the Danube Region and the strengthening of the Danube Region per se. Living Danube Limes contributes to three priority areas (PA) of the strategy, with a central role in the culture and tourism priority area (PA3). The transnational presentation of the Roman Danube Limes in the context of the project activities should help to strengthen the common cultural identity of the Danube Region, identifying and exploiting unrecognized or untapped cultural and social potentials. Another priority area of EUSDR, served by the efforts of Living Danube Limes, is environmental risk management (PA5). A transnational strategy for the protection of cultural heritage along the Danube will be developed, defining precautionary measures to strengthen resilience to extreme weather events due to climate change and, in particular, Danube floods. In addition, research in general, the establishment and expansion of museum networks and living history initiatives in the individual partner countries, as well as the strengthening of tourism in the Danube Region and the preparation of already proven good practice approaches in the mediation and dissemination of the Roman Danube Limes as shared and transnational cultural heritage also take into account the priority area of investment in people and qualifications (PA9) of the EUSDR (European Commission 2021).

THE LIVING DANUBE LIMES APPROACH

The interdisciplinary setup of the partner consortium allows a holistic approach to the multiple issues addressed in Living Danube Limes. 19 project partners from ten Danube Region countries work together and are supported by 27 associated strategic partners from the same area; the consortium comprises universities and research institutes, museums, tourism clusters and tourism companies, monument authorities,
associations as well as authorities and administrative units of various levels. The project’s holistic approach is based on four tiers which are of equal importance and aim at a) fostering a common Roman brand for the Danube countries, b) paving the ground for a cultural route spanning the whole Danube Region, c) developing strategies for preservation and management of cultural and natural heritage and d) fostering green and sustainable tourism. The four tiers (Fig. 4) focus on 1) archaeology and

![Figure 4. The four tiers of the Living Danube Limes project](image)

2 The project partner consortium consists of the Danube University Krems (Austria, lead partner of the project), Friedrich-Alexander University Erlangen-Nuremberg (Germany), Paris-Lodron University Salzburg, Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology (both Austria), Institute of Theoretical and Applied Mechanics of the Czech Academy of Sciences (Czech Republic), Municipal Monument Preservation Institute Bratislava, Slovak University of Technology in Bratislava (both Slovakia), Budapest University of Technology and Economics, DAVINO Supplier, Tourism, Regional Development and Educational Limited Partnership (both Hungary), Institute of Archaeology (Croatia), Institute of Archaeology Belgrade, Faculty of Technical Sciences – University of Novi Sad (both Serbia), National Tourism Cluster “Bulgarian Guide”, Centre for Heritage Interpretation, Association of Danube River Municipalities “Danube” (all three Bulgaria), National Institute for Research and Development in Tourism, University of Architecture and Urbanism “Ion Mincu” Bucharest, Museum of National History and Archaeology Constanta (all three Romania) and District Council of Rezina (Moldova).

history of the Roman Danube Limes region, 2) museum and visitor site clusters, 3) protection of cultural heritage, sustainable use and green tourism, and 4) the reconstruction of an authentic Roman Danube ship. In order to enhance the connection of the Danube Region’s citizens with their geographical macro-region, dissemination of the project results and raising awareness on the importance of cultural heritage (the joint Roman heritage especially), its sustainable use and its protection form an integral part of all four pillars and are strongly supported by the participatory project approach, which aims at making the shared Roman history tangible. The idea behind this approach can be summarised as “use it or lose it”, meaning that cultural heritage needs to be used in our daily lives, or it will be lost sooner or later, because not enough value might be placed on it anymore and thus it might become expendable in the end.

1) The “archaeology and history” tier is the basis of the project. It aims at characterising the Roman Danube Limes as a single, transnational heritage site, in which it follows closely the UNESCO World Heritage nomination process, which is well under its way (UNESCO World Heritage Centre 2021a–f). Every partner country identifies one pilot site, following pre-selected criteria, thus making sure that the combined pilot sites display a big variety in their archaeological and historic value and symbolism, touristic exploitation potential and infrastructure. The selected pilot sites will serve subsequently as role models for the development of sustainable tourism and transnational heritage site management plans, enhanced cooperation between research, cultural heritage management and the tourism sector and form a close link to the museum cluster (2) and preservation (3) tiers of the project. Anchoring these pilot sites in their respective place in a chain along the historic Roman Danube Limes automatically links them with the frontiers of the Roman Empire in general, which span the whole Mediterranean, including North Africa and the Near East, as well as Great Britain. Geophysical surveys at the pilot sites in the eastern part of the Danube Region will also close research gaps in the chain of the Roman archaeological sites along the Danube. This will not only lead to a better understanding of the development of the Roman presence at the individual sites, but also enhance the story telling capacity of the whole project. The story telling approach of Living Danube Limes aims at a comprehensive presentation of Roman life in the Danube provinces, throughout the whole 600-year period of Roman presence (depending on the individual sites) and in geographically and ethnically diverse provinces of the Roman Empire, which belonged together as parts of the same empire, but were by no means identical, a very apt reminiscence of the Danube Region today (Flügel–Kuttner 2016; Croatian Ministry for Tourism 2016).

3 The UNESCO World Heritage nomination process is supported by the Frontiers of the Roman Empire project (FRE). Guides on sites and booklets are available for download online: https://www.univie.ac.at/limes/ html/brochure.php (Accessed 14 January 2021).
2) The “museum and visitor site clusters” tier focuses on knowledge transfer along the Danube. Clusters of museums and visitor centres are either to be established or to be strengthened, and the individual sites to be firmly linked within this chain along the Danube, always with a highlight on their individual peculiarities and specialities, but strongly anchoring them in the context of a) the Roman Danube Limes transnational heritage site and b) the frontiers of the Roman Empire in general. An important focus lies on making the Roman past visible and tangible. This is reached by a focus on living history incentives in all the diverse formats living history can take (Agnew–Lamb–Tomann 2020). The possibility to re-imagine and re-live the Roman history fascinates and captures visitors of all ages. Museums and sites in the project consortium (which also includes the associated strategic partners), but also from the much broader network of Roman heritage sites, share their experiences and good practice examples on how to enliven a site and attract more visitors with living history related activities and reconstructions at the Roman sites (Fig. 5) (Wiltschke-Schrotta 2008; Hogendoorn–Collinson 2015; Meder–Seipelt–Slanitz 2016). Virtual reality reconstructions, based on inter alia the geophysical surveys conducted in the project, give visitors a clear idea of how individual sites looked like at a certain period in the Roman times and living history events, in which living historians and re-enactors try to evoke the past by dressing and living like Romans, support the more permanent visibility measures developed in the project. The development of a common Roman Danube

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**Figure 5.** Reconstructed Roman buildings at the Carnuntum Archaeological Park, Austria
(Anna Kaiser, 2011)
Limes brand strengthens the individual site with marketing the shared heritage; and the joint appearance of all entities related to the Roman heritage will increase the attractiveness of the individual site, whilst at the same time care will be taken to highlight the local unique values.

3) The “protection of cultural heritage, sustainable use and green tourism” tier focuses on preserving the Roman heritage for the next generations to come. The idea is not to preserve it by putting it under a glass dome, but to use the Roman heritage in a sustainable way in order not to lose it. The Danube Limes runs in certain sectors through areas that are composed of swamps or rock, and have almost no infrastructural development at all. In order to develop the high potential of remote areas of the Danube Limes, interconnecting infrastructure solutions along as well as across the Danube are developed. They will focus on green and sustainable as well as visitor friendly tourism possibilities, like cycling lanes along the river, eco-friendly ferries for crossing the Danube or solar powered boats for exploring the marshy parts of the Danube Limes. An eco-friendly tourism infrastructure should, in the long durée, connect all the Roman Danube Limes sites as well as other touristic highlights and cultural heritage in the area, thus playing an important part in creating a holistic experience of the culture in the Danube Region and laying the corner stone for a future Danube Region Cultural Route, in synergy with other projects working towards the same goal.

An important part of this tier is the preservation of cultural heritage, be it archaeological heritage that is already excavated and visible on site, structures that have yet to be explored in detail, museums as structures themselves or the artefacts stored and exhibited by museums and in depots. The application of conservation standards for archaeological sites that are user friendly share good practice everyday measures, and focus on durability, applicability and cost-effectiveness is of immediate importance, as is the linking of these everyday measures to preparedness for calamitous events (UNESCO 2010; Bundesdenkmalamt 2015. esp. 35–38, 278–287; Twigg 2015; Tandon 2016; UNESCO 2017; Tandon 2018). Cultural heritage protection is one of the great challenges in the 21st century and needs cooperation between the heritage and emergency responders’ sides (Fig. 6). Movable, immovable as well as intangible heritage is fragile and threatened by numerous influences, ranging from neglect to natural catastrophes, terrorism and armed conflict (Konferenz Nationaler Kultureinrichtungen 2018; Bonazza et al. 2018). Living Danube Limes will develop a transnational strategy on feasible preparedness measures for improving the resilience of heritage sites and museums from natural catastrophes and man-made threats. Based on the transnational approach, which has been tested successfully in predecessor projects, local strategies will be developed for the individual pilot sites, taking into account national and regional specifics and inviting local and regional first responders for cultural heritage protection to participate actively in the development (Münchner
Fachgruppe Präventive Konservierung 2017; Cacciotti et al.). The cultural heritage protection and preservation plans complete the Living Danube Limes circuit, which reaches from archaeological research to presenting the past and making it visible to keeping it alive and preserving it.

4) The fourth tier is the reconstruction of a fully functional, authentic Roman Danube ship from the 4th century. This extraordinarily tangible project result will not only symbolically link all the Danube countries and their Roman heritage but will sail down the Danube in the final project phase, thus literally linking the Black Forest Region with the Black Sea. During this connecting cruise, the ship will stop in each partner country, contribute to the dissemination of the project results, and play an important role in reaching the interested public, composed of inhabitants of the Danube Region countries and of tourists.

The reconstructed Danube patrol vessel is a military boat of the *lusoria*-type and is based on the Roman shipwrecks 1 and 5 found in Mainz, Germany, in 1981 (Bockius 2006). Both wrecks date to the 4th century but did not belong to the same boat (Bockius 2006. 10–12; 16–52; 160–187). The ship is reconstructed with Roman methods and Roman techniques, following the ancient work process as closely as possible (depending on both the available sources and knowledge on Roman shipbuilding and on modern security and safety
regulations that need to be followed). After the completion of the Living Danube Limes project, the ship will be available in each partner country bordering the Danube for one year, to be used at the project partners’ and their network’s discretion, and serve inter alia as mobile museum that can draw attention and visitors to hitherto underdeveloped, remote Roman sites along the Danube. The Danuvina Alacris, as the ship will be christened, not only continues to spread the ideas and outputs of Living Danube Limes after the completion of the project, but also bears a name reflecting the very idea of the project, with the Latin alacris having the meaning of inter alia lively, racy, joyous, and winged.

The reconstruction of the ship is not only linked to the project’s dissemination and awareness raising goals, but will also provide answers to a number of research questions, thanks to the archaeotechnical approach that is followed in the ship building process and the accompanying research, among them being the equipment and design of late Roman river vessels, the adaptation of Mediterranean shipbuilding techniques in Northern Europe, the painting of ships and the navigability of Danube tributaries in Roman times.

**KEY PROJECT OUTCOMES**

A key project outcome is the Living Danube Limes application for mobile devices, which will be available in the project partner languages and English after the project is completed. The application will comprise historical and archaeological information about the Roman Danube Limes, up-to-date information on events, the current location of the reconstructed ship, museums and archaeological sites, eco-friendly public transport and accommodation in the region. The virtual reconstructions for the identified pilot sites will also be available via the Living Danube Limes application.

Small-scale physical reconstructions and visibility measures are undertaken at the pilot sites. In combination with the virtual reconstructions, they aim at making the Roman remains readily understandable and accessible for the visitors. Local focus

![Figure 7. Living Danube Limes website](image-url)
group meetings of experts will accompany the activities at the pilot sites on national level and visits for the interested public, thus integrating inhabitants and tourists from the very beginning into the project outcomes.

An archaeological summer school, a winter school on cultural property protection and numerous expert workshops on national and international levels will guarantee that the scientific developments in Living Danube Limes are passed on to the next generations of researchers and decision makers. International conferences and educational videos also contribute to this aim. The project progress and the Living Danube Limes outcomes can be followed online; the products are all open access and available for free (Fig. 7).

BIBLIOGRAPHY


Az Európai Unió Interreg Dunai Transznacionális Programja keretében megvalósuló „Elő Dunai Limes”, vagyis „Living Danube Limes” elnevezésű projekt célja, hogy egy kezdő lépcsőfokot, egyúttal szilárd alapot biztosítson egy, a Duna teljes vonalán végighúzódó kulturális útvonal létrehozásához. A projekt a Dunai Régió római kori örökségét egységesíti, közös történeti és kulturális értékként azonosítja. Négy szint alkotja a Duna menti római örökség értékelésének holisztikus megközelítését: régészet és történelem, múzeumok és helyszínek, megőrzés és fenntartható turisztikai megoldások, valamint a római örökség fontosságának tudatosítása a lakosságban. Ez utóbbi cél segíti elő egy római dunai hajó hiteles rekonstruálása.

Kulcsszavak: római dunai limes, régészet, múzeum, megőrzés, kulturális örökség, UNESCO Világörökség, fenntarthatóság, rehabilitáció, Dunai Régió Stratégia