

DELIVERABLE 3.1.5

Report on tangible and intangible cultural heritage of involved ports

LP – CENTRAL ADRIATIC PORTS AUTHORITY

Work Package	3 “Preservation of tangible and intangible cultural heritage of Adriatic Italian and Croatian ports
Activity	3.1 Preservation of the maritime cultural heritage of Adriatic Italian Croatian ports
Phase Leader	PP1 - NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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1) The cultural heritage of the port city

- The city-port: brief history of the relationship between city and port,
- The development of Culture in relation to the port.
- Description of the main assets of tangible and intangible cultural heritage generated or closely related to the port, its traffics on the Adriatic, its relations with the surrounding inland areas.
- The routes of the past and of today: the contribution of the circulation of goods, ideas and people to the definition of a cultural identity.
- Existing cultural relations with other REMEMBER partner cities
- Possible visions of the future

The port of Ancona is a natural gulf comprised between two hills. It has been a safe refuge for sailors since the Mycenaean time. The findings show that commercial activities with Greece were already in place in the 13th century before Christ. The Picenes extended trading to the Istrian and Dalmatian coast, and in the 6th century before Christ the Dorians settled down in the port and its surrounding territory. They founded the city with the name of Ankòn, a Greek word that means “elbow” with reference to the morphology of the promontory that protects the Gulf of Ancona. The Romans completed the work of their Greek predecessors: in the 2nd century Anno Domini Emperor Trajan ordered important maritime works and chose the harbour as departure place for the wars against the Dacian. As a tribute, the Senate of the city erected the monumental arch that can be still admired today in its magnificence. In the 9th century, the Saracens laid siege to the city, which was almost completely destroyed, together with its port.

Between the 13th and the 14th century, Ancona reached its maximum splendour and became one of the most important ports of the Adriatic Sea. The city lived under the Papal States with alternate fortune until the 18th century.

The 20th century opened with World War 1 and with the air bombings that partially destroyed the city. The port structures were damaged, although the Trajan Arch, the building complex called “Mole” by Gianluigi Vanvitelli - also known as Lazaretto - and a portion of the ancient city walls were miraculously spared. After the war, works were started to recover the

docks and the wharfs. The shipyards were rebuilt and the maritime trade were slowly resumed, thanks to the city's position in the middle of the Adriatic Sea. The Dorian Port is the pulsing heart of Ancona, and the morphological conformation is its distinctive unique original feature. The port is situated in the centre of a waterfront whereon the monumental town rests, with the landmarks of the civic, economic and confessional communities – Palazzo degli Anziani (Elders' Palace), Duomo (Cathedral), Chiesa del Gesù (Church of Jesus), Loggia dei Mercanti (Merchants' Loggia) and Mole Vanvitelliana (Vanvitelli's Building Complex). The archaeological findings of this *urban embrace* include the Roman Amphitheatre and its itineraries; the signs of the multi-confessional spirituality with the Jewish Cemetery in Parco del Cardeto, the churches of Saint Cyriacus and Saint Gregory the Illuminator. The shipyards preserve the wisdom of the hands and the value of intelligence under the iconic solemnity of Fincantieri's huge gantry crane and the new production compounds that extend towards the new dockyard. All around the Mole, the fishing boats and the clam trawlers with the Fish Market are the centre of the fishing economy, which is strictly related with the food processing industry.

The Dorian Port is the most powerful accelerator of modernization for the “new” Ancona, which is hinged around this pivot - along the *continuous* line between the two sea promenades, with a new functional design, the new docks and the refurbished areas for commercial trade. The port is also the privileged door for a renovated centrality towards Eastern Europe, the Adriatic-Mediterranean space, the epicentre of cultural and commercial relations in a European cross-border dimension. The space of influence includes the entire Marche region and the multi-regional Adriatic backbone, along a coastal landscape where Ancona communicates from its central position with the ports of Pesaro and Fano, San Benedetto and Porto San Giorgio, reaching the Abruzzo region with Pescara and Ortona. It is an articulated competitive reality that is in charge of renovating the protagonist role that has always exerted throughout history with alternate fortune. This is the port of Ancona in the Central Adriatic area: a port between memory and perspective, between conservation and enhancement, in the Adriatic trade landscape between creative economic communities, a high-quality manufacturing pole with luxury yachting and shipbuilding industry with related services. It is a sensitive point of the sea economies that become economies for development with a cultural driving force. This proximity creates projects, in communication with the city and the territory, with the places of academic knowledge, acting as a hinge between the port and the city and between the coast and the inland with activities that have structural relations with the harbour companies. The mechanization of the port activities, the organisation of the logistic cycle and the international security rules of the new Millennium had contributed to slow

down the relation between the port and the city. The dialogue was symbolically reconstructed by demolishing the fences and was resumed thanks to a joint initiative between the administrations - the Port Authority, the Customs, the Customs Police, the Border Police and the regional and municipal administration.

The year 2015 saw the reorganization of the space of the Clementino and Rizzo docks, where the majority of the historical and monumental heritage is situated: the Clementine Arch by Vanvitelli and the Trajan Arch, the medieval walls and the base of the old lighthouse. It is a spectacular area that reaches the sea with the northern Dock and a view of the Red Lantern. It is a new hinge with the city, a junction of social regeneration, a bridge towards the future. This is the scenario of the transformations contained in the 2025 strategic plan. The aim is to design new accesses, new functions, new experiences, and new meanings by means of sharing and participation processes that accompany the transition. A plan of public and private investment will give a concrete reality to the assets that maximize the attractiveness of the area. The commitment of Ancona 2025 is to become the capital of the extended regional area and to play a new role in the Adriatic area. It goes along with the strategies and projects of the Ionian Adriatic Macro Region that finds its leadership in Ancona and the Marche region at macro regional and Mediterranean level. Such an impressive transformation relies on the accessibility of the intangible heritage, on the networks of knowledge, on the dissemination of historical and cultural contents shared by the stakeholders and the local and international community. The main assets for development are the historically good relations with the Adriatic ports of the Adriatic and the Dalmatian backbones. Interconnections are not limited to the activities of ferry boats and shipping lines. They are founded on synergies and consolidated partnerships that affect economy, sustainable development and culture.

2) The project choices

- Strategic objectives of the valorisation intervention for the PP
- Description of the main cultural contents we chose to enhance, and why.
- Identification of priority user targets: citizens, tourists, schools, etc...
- Partnerships and relations to be activated with the territory and / or with other cultural institutions

The main goal of the virtual museum is to give value to the tangible and intangible historical heritage and to the cultural traditions of the port of Ancona. Its diversified professional composition, which is the result of the modernization of traditional sectors and of the affirmation of new economies and new business models, is a mine of knowledge founded on the memory of formal and specialized knowledge. The sector articulation of the port ecosystem needs specialized skills to support the regeneration of some sectors and the development of other areas. The acceleration is given by the transformation in progress and is shared by the main socialization agencies of the regions - technical and vocational schools, universities, specialized schools, dedicated training activities organized by stakeholders, with the support of the networks of the economic and institutional port community. In the urban regional Adriatic scenario, the port of Ancona is today a place of temporary and permanent citizenship for tourists/travellers/operators, residents and citizens of the territory, with the addition of the target groups of the professional communities that belong to the port economies and networks. The presence, the commitment and the investments of such a rich infrastructure of relations are a stock of transverse cognitive capital that can contribute knowledge related to culture and projects, to the managerial, administrative and normative dimension of control bodies, military institutions and technical-commercial enterprises. These contents and competences are a driver for the sectors of development. The complex network of multi-level transverse dialogues represents the **Port** as a *Door* that receives and releases, a *Community of Communities*, an *Agora* of citizenship and public life. This is the perspective of the strategic partnership with ICCD - Istituto Centrale per il Catalogo e la Documentazione (Central Institute for Cataloguing and Documentation) of the Ministry of Cultural Heritage in order to give value to a plurality of sources with ad hoc projects and campaigns.

3) The hypothesized implementation path

- Outline the features of any fittings in physical locations and / or digital environments that you plan to use
- In relation to the technologies expressed in the 3.1.3 deliverable, sketch the main technological choices by putting them in relation to the type of users, the places and the contents presented

Describe how users will experience VMs.

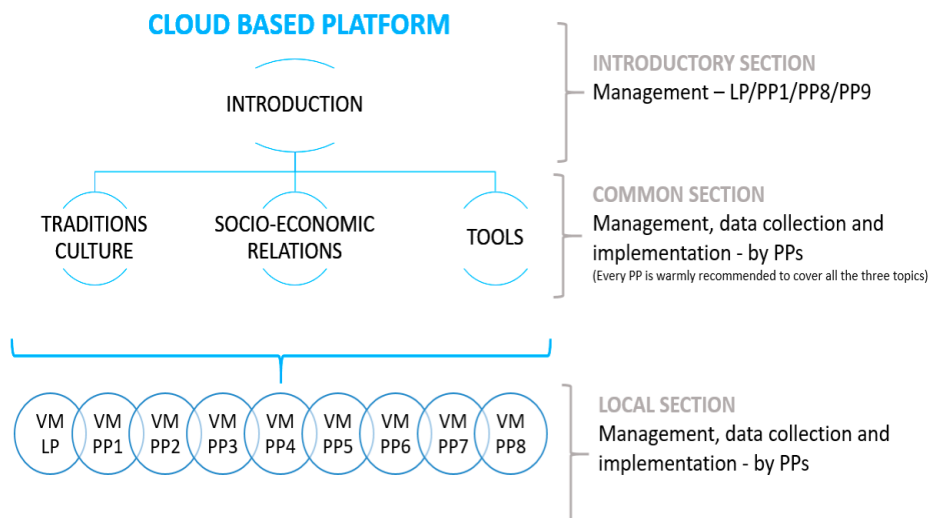
- Indicate ways to monitor the effectiveness of the interventions that will be carried out.

The **languages** of the thematic sections and the representation of the port ecosystem will be oriented to the dialogue with the civic community, with the professional communities, and with the local, national and international target groups. Communication will mainly use **Words, Images, and Sounds**, and will be organized retrospectively as an archive document with different interpretations and perspectives as a new production in the form of dedicated artistic/authorial works.

Namely:

- * **Words** - documents, quotes, info sheets, descriptions, sediments, essays, histories, cross-references to traditions and consolidated identities, texts, narrations, and papers.
- * **Images** - fixed and moving images - photos, videos, documentaries, videoclips, and infographics.
- * **Sound** - voices/languages/interviews/mini-stories, environmental sounds, and audio clips.

The Virtual Museum will be fully developed online with offline initiatives/temporary events in dedicated spaces in the old harbour area. It will represent a potential hypertext across millenniums, stories, and geographies. Several applications will be used, including the augmented reality and a virtual tour of the port marked with POIs.



WHAT'S IN YOUR VM?

A		TEXTS	IMAGES	SOUNDS AND VIDEOS	3D MODELS	DIAGNOSTIC DATA
1	TRADITIONS & CULTURE – Intangible heritage					
1.1	competences, job profiles	X	X	X		
1.2	Visual art	X	X	X		
1.3	Crafting, tools					
1.4	literature, proverbs, languages					
1.5	religions, gods, sea mythology, fairy tales	X	X	X		
1.6	sustainable behaviors / greening					
1.7	food and recipes					
2	SOCIO-ECONOMIC RELATIONS – Intangible heritage					
2.1	inland /City port relations	X	X	X		
2.2	import/export of goods, traffics					
2.3	routes, maps	X	X	X		
2.4	immigration/emigration of people					
2.5	Sailing activities, cruises					
2.6	Tourism	X	X	X		

2.7	Sailing techniques, winds, on board tools and technologies					
2.8	Fishing					
3	PHYSICAL HERITAGE (ARTCRAFT, BUILDINGS, ETC) – tangible heritage					
3.1	Port authorities headquarter and premises					
3.2	architecture	X	X	X		X
3.3	lighthouses					
3.4	dams					
3.5	ship design, shipbuilding, ship maintenance	X	X	X		
3.7	relicts					
3.8	sustainable power and environmental solutions					
3.9	other monuments	X	X	X		

ABSTRACT OF SPECIFIC LOCAL CONTENTS (minimum 9 for each PP)

1. PP(LP)-(1.1)

Title: competences/Job Profile

Abstract (max 1000 characters)

The coexistence of different economic vocations has created a professional composition that is based on sailing tradition and is at the same time large and diversified, being formed of technical, designing and managerial know-how. The production chains include shipyards, shipping agencies, services of trade companies, reception activities and cultural programs for tourism and cruise sectors. The fishing sector is professional and diversified according to the type of fish, the size of the boats, with new experiences, such as fishing tourism. The emerging services with a multidisciplinary approach go side by side with the traditional formal culture linked to harbour

regulations, administrative management, operating functions - from technical jobs, as mooring operators, pilots, tug-boat operators, to the patrolling functions of military corps. The recent re-organization of the harbour activities, with a view to sustainable development and green economy with its manufacturing activities, has generated a real professional channel, which ranges from dedicated design activities to product manufacturing and to the management of international specialized production protocols.

Video: interview with Fincantieri/Women of the fish market

Authorial texts, stories: Central Adriatic Port Authority, Ancona Coast Guard; mooring workers; pilots of the port

Photos: Shipyards; fish; building of the pilots and mooring experts

2. PP(LP)-(1.2)

Title: Visual Art

Abstract (max 1000 characters)

The harbour of Ancona is an eco-system where different cultures coexist. It is a stratified context, with traces and signs of the past, which has always been characterized as a park for contemporary individuals. Several millenniums coexist with the Trajan Arch, the walls with the harbour warehouses, the Clementine Arch protected by the Cathedral dedicated to Saint Cyriacus. The building complex called “Mole Vanvitelliana” acts as hinge between the town and the sea, overlooking the fishing docks. Walls with street art and works of famous maestros are a poetic note in front of buildings devoted to working activities - the fish market, the pavilion of fishing net makers, roads and viaducts, and a miscellaneous fishing environment. Contemporary art with *Fontana dei due soli* (The Fountain of Two Suns) by Enzo Cucchi lives together with urban tattoos, half way between function and cultural representation. It is a highly symbolic and cognitive landscape, where the dialogue between temporary and permanent architecture is designed and re-designed hour by hour. It is a real and virtual landscape that can be enjoyed online thanks to the virtual tour experience and the editing work of social platforms that represent a socialization front at local, national and international level. The professional, vocational stratification of economies corresponds to meanings and uses, to a tangible and intangible heritage, to signs of belonging for the harbour communities and for the community that meets the infrastructure.

Foto: park of contemporary, street art works, Fontana dei due soli (fountain of the two suns) , San Ciriaco and Mole Vanvitelliana

Authorial texts, stories: the port for the Ancona people

Video: interview with Run – street artist; old port

3. PP(LP)-(1.5)

Title: religions, gods, sea mythology, fairy tales

Abstract (max 1000 characters)

The centrality of the harbour – historically a primary point of departure and arrival in the Adriatic Sea - has generated consolidated cross-border relations, multicultural and multi-confessional dialogues, histories and traditions that are handed down from generation to generation, while maintaining the permanence of the sense and the memory of the place. This recognized/recognizable space is the foundation substrate of a tangible and intangible heritage that not only refers to the past, but also to contemporary cultural production. The stable relations with the three major monotheistic religions are a legacy that is transferred to the harbour communities: they are inclusive, emancipated and integrated, just like the new confessions brought by the recent migrations that have redesigned the anthropological archipelago, in addition to the professional one. Together with religions, also the heritage of stories, legends, and dialogues between the two coasts of the Adriatic Sea and the Apennines represent a heritage of knowledge and visions with a poetic, foreseeing content. In particular, the Jewish culture is found in the cuisine, in the unique Parco del Cardeto, and in the activity of the local Community. The economist Sergio Anselmi dedicated himself to the Adriatic/Balkan dimension as a horizon of natural relation and formation of perspectives, to the story of the Adriatic Sea and of the connections between populations and cultures.

Photos: Park of Cardeto and Jewish presence in Ancona; Saint Francesco quay

Authorial texts/stories: contribution from the Central Institute for Catalogue and documentation (Italian Ministry of Cultural activities) ; Jewish community

Video: connections between the two promenades

Sounds: the multi-ethnic and multicultural linguistic Babel of the port

4. PP(LP)-(2.1)

Title: INLAND/PORT CITY RELATION

Abstract (max 1000 characters)

The architectural elements over the harbour of Ancona define the modern and contemporary monumental dimension of the city. They are laid on the chains of design, production and trade collaborations with the enterprises of the inland and with the ship and yacht shipyards. The networks are linked to architecture and design: wood, interior decoration, lighting, special components and parts and technological services. Other professions are linked to contemporary projects: events, reception, promotional services and entertainment. The relation between the harbour and the city is a point of strength in the development of the regional capital. The enjoyment of the old harbour and its improvement affect the representation of the entire region, which has recognized this infrastructure as the most valuable asset for future development. Development also includes the management and care of old and new symbols of belonging and identity. This is the aim of the future initiatives related with the refurbishment of some areas, the restoration of buildings and historical places, and the construction of new structures.

Authorial texts: Central Adriatic Ports Authority; anthropologies in the port areas, sociality and welcoming

Video: Contemporary architectures; Shipyards – Fincantieri and super yacht; the runners at the old port, Bareto de la scojera; the history of silos

Sounds: Mooring and leaving of the ships

5. PP(LP)-(2.2)

Title Roads and Maps

The consolidated routes of the harbour are in the Adriatic Sea. The historical navigation routes, which are based on seasonal strategies for some destinations, include ferry-boats to Croatia – Split and Zadar and Greece – Igoumenitsa and Patras. The relation with Albania – Durres has become stable for the regular frequency of the connections and for the commercial and economic dialogue with the country. The presence of these navigation routes has generated a cognitive and relational capital, with the creation of dedicated shipping companies (which belong to the regional and local economic system, with a primary role in terms of capacity and reputation) and service structures for the transportation of goods and passengers.

The transformation of the harbour, which has freed spaces and docks and has attracted new investments, has triggered an incremental development of the commercial routes for goods, containers, and bulk cargo with worldwide destinations. The double interconnection front is designing the port of the future, with more and better services, more connections, and more routes in and out of the Adriatic Sea.

Photos: Ferries arriving and leaving the port; boats and freight ships

Authorial texts: Along the routes on board of ferries and freight ships

Video: Containers and cargo ships; Bulk, the cranes landscape; companies and entrepreneurs

Sounds: voices from the cranes; sounds of industrial manoeuvres

6. PP(LP)-(2.6)

Title TOURISM

Abstract (max 1000 characters)

The port of Ancona is the first tourism hub of the Marche region and a fundamental point of exchange for incoming and outgoing activities, thanks to investments in structures, communication and services. The ferry-boat passenger traffic is a valuable segment that has learned to recognise the city with its peculiarities, resources, heritage of different kind, in addition to the technical functions of the port. On one hand, the cruise traffic has decisively contributed to perceiving Ancona as a destination for a quality stop and stay. On the other hand, it has generated the creation of dedicated packages that need to be improved and diversified in order to give value to the entire regional territory. For its consolidated traditions and relations in the Adriatic Sea, the yachting industry is experiencing a time of development, with projects related to sports, social aspects, maritime culture and sailing activities.

Photos: the arrival in Ancona, the departure from Ancona, cruises and their passengers; Marina Dorica, the leisure port

Authorial texts: the embarking observatory; histories of the port

Video: Tourists at the gate; leisure port tourists

Sounds: Tourists at the embark; the sounds of Marina Dorica

7. PP (LP)-(3.2)

Title: Port Waterfront and the port seen by the sea

Abstract (max 1000 characters):

Avant-guard buildings – like the venue of the Bank of Italy and the wholesale fishing market by Gaetano Minnucci – rest on millennium-old findings, with a strong identity marked by architecture. The cruiser and yacht shipyards emerge from the city skyline, marking the vision from the shore and the sea. The lighthouse tower and the venue of pilots and tug-boat operators reach out into the sea, creating another sign amongst signs. It is a highly symbolic and cognitive landscape, where the dialogue between temporary and permanent architecture is designed and re-designed at every arrival and at every departure. It is a real and virtual landscape that can be enjoyed online thanks to the virtual tour experience and the editing work of social platforms that represent a socialization front at local, national and international level. The several forms, stories and meanings go side by side with proximity. The old harbour and the new buildings: this is the challenge chosen by the city for its strategic plan, putting the urban regeneration of the harbour in the centre of its future attractive capacity.

Photos: Fish Market, building of the Banca d'Italia

Authorial texts: The mythic Stamura Circle

Video: Waterfront, the port seen by the sea; Shipyards – Fincantieri and Super yacht; the runners at the old port; the Fish Market by night

Sounds: men and women at work at the port

8. PP(LP)-(3.5)

Title: SHIP DESIGN, SHIPBUILDING, SHIP MAINTENANCE

Historically, all maritime cities in Italy had a port area called “Arsenale” (Dockyard). Somebody still uses this term today, but everybody calls it “Fincantieri”. It is a state-of-the-art shipyard, a machine with thousands of workers, hundreds of companies, an aggregate of capabilities and skills for the construction of cruisers, in a continuous dialogue with the shipyards of Venice and Monfalcone. The Fincantieri network is an excellence of Made in Italy with world-level reputation. The huge white-and-red gantry crane is a city icon that welcome travellers who reach the port. It is an identity place for the community, for the trade-union struggles, and for the central role that has always played on the territory. From Arsenale to shipyards, a plural and diversified

reality is founded on local knowledge and skills, and is open to the networks of cross-border formal knowledge. The shipyards of extra-luxury yachts are a segment with high-quality production facilities, advanced supply chains, and top players involved in large, valuable orders, alongside with the shipyards that design and produce boats for activities dedicated to the green economy. The shipyards industry has created specific professional competences, maintenance workshops with land and sea services.

Photos: Working activities and working spaces

Authorial texts: Entrepreneurs and design experts

Video: Various

Sounds: sounds of the work spaces

9. PP(LP)-(3.9)

Title: Temporary architecture

Abstract (max 1000 characters)

The welcoming embrace of the port corresponds to the public intimacy of the signs. The city enters the dockyards, and the ferry-boats penetrate the historical town centre. The vast, diversified heritage of the port lives a continuous exchange with the urban fabric. The physical and morphological configuration of the port of Ancona favours an irreducible dialogue, a unique way of enjoying the spectacular visual quality. Proximity converts the dialogue between temporary and permanent architecture into an opportunity for the construction of a shared, stable relation between the port and the city. The renovated attitude of the city and of the communities that reach Ancona has converted the Port in the centre of future development strategies with a strong cultural driving force.

Photos: Archi Suburb and the view on the port of the fishery; urban tattoos; summer events

Authorial text : dialogue between the port and the Passetto

Video: temporary architettura; the Passetto lift

DELIVERABLE 3.1.5

Report on tangible and intangible cultural heritage of
involved ports

PP1 - NORTH ADRIATIC SEA PORT AUTHORITY

Work Package	3.1.5
Activity	3.1.5
Phase Leader	PP1-NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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THE SPECIFIC LOCAL CONTENTS of PP1 NORTH ADRIATIC SEA PORT AUTHORITY'S VIRTUAL MUSEUM

THE CULTURAL HERITAGE OF THE PORT CITY

Today as well as in the past, the Port System of the Veneto Region, is composed by the two Ports of Venice and Chioggia. It is strategically located at the top end of the Adriatic sea, at the intersection of the main European transport corridors (the Mediterranean and the Baltic-Adriatic one) and of the Motorways of the Sea (MoS).

The Port of Venice's position means it can act as the main entry point to a vast area of Central Europe, an European gateway for trade flows to and from Mediterranean Africa, Asia and Middle East.

It is the only port in Italy to benefit from a river port providing freight transport by barge along the Po river: an inland navigation line that connects Venice to Mantua and Cremona along the Fissero Tartaro Canalbianco navigable canal. The line enables the transport of bulk and containers.

The Port System of the Veneto Region has a specific multipurpose vocation: no area prevails predominantly, but the different sectors and skills and they are equally balanced: agribusiness, steel, chemical, energy, cargo and tourism. Analyzing the entire port system, and therefore also including the Port of Chioggia, the fishing industry is also involved.

The Veneto Region port system is historically among the most relevant in the Italian context, starting from sectors such as fishing for the Port of Chioggia, to cruise tourism and cargo/bluk traffic for the Port of Venice.

THE PORT OF VENICE

The ancient root of Venice's splendor lies in its relation with the sea: the main engine of its economy, culture and art for a long time.

The famous shipyard called “Arsenale”, the powerful ships known as “Galere”, the “Spice Routes” and the “Silk Road” traced by its brave Masters gave to the Serenissima the name “Queen of the Seas” over the centuries.

And all that was due to its strategic location at the center of the Venice lagoon, separated from the sea by a long narrow strip of land, at the entrance of the Po valley, not far from the Alpine passes that connect the Mediterranean world with central Europe.

The Republic of Venice lasted from 697 AD until 1797 AD, growing into a trading power during the Middle Ages and strengthened this position in the Renaissance when it dominated trade on the Mediterranean Sea, including commerce between Europe and North Africa and Asia as well. Goods from all over the world have been shipped through Venice, since long before it became the starting point of the journeys of Marco Polo and the ending point of the Silk Road, thus bridging countless markets, different cultures, and new continents.

The Venetian Navy was very famous and powerful to such an extent that it was used in the Crusades, most notably in the Fourth Crusade.

However, Venice perceived Rome as an enemy and maintained high levels of religious and ideological independence represented by the Patriarch of Venice and a highly-developed independent publishing industry that served as a haven from Roman Catholic censorship for many centuries.

This was another source that made Venice an incredible generator of culture: not only for the Adriatic Macro-region, but also for the Mediterranean Basin and many other markets and communities.

Thanks to the traffic by sea, Venice became the first and primary home to an extremely wealthy merchant class, who patronized renowned art and architecture along the city's Lagoons. Venetian merchants were influential financiers in Europe. The city was also the birthplace of great European explorers, such as Marco Polo, as well as Baroque composers such as Vivaldi and Benedetto Marcello and many other artists.

The opening of new trade routes to the Americas and the East Indies via the Atlantic Ocean marked the beginning of Venice's decline as a powerful maritime Republic. The city state suffered defeats from the navy of the Ottoman Empire. In 1797, the Republic was plundered by retreating Austrian and then French forces, following an invasion by Napoleon Bonaparte, and the Republic of Venice was split into the Austrian Venetian Province,

the Cisalpine Republic, a French client state, and the Ionian French departments of Greece. Venice became part of a unified Italy in the 19th century.

During the first half of the nineteenth century, the situation in the Port of Venice became increasingly difficult, due to the absence of road and railway connections with the hinterland. The railway bridge was opened in 1846. In 1880 was set up a new port structure at the extreme West side of the City, connected to the mainland through an iron-road bridge that led to the Railway station operational from 1860.

The commercial traffic of the port was shifted from the Saint Marc basin to this new area putting an end to the long nineteenth-century stagnation of the City economy. Once again the direct connection between marine traffic, port development and richness of the City and its hinterland was clear and confirmed.

Twenty years later, again, the port infrastructure becomes insufficient to cope with the growing size of the vessels necessary to serve both the factories located in the West side of Venice and the augmented commercial traffic.

Marghera was the area identified in the mainland in order to accommodate the new port facilities set up in 1917 to serve the industrial plants by the handling of imported raw materials.

In the 1960s, the growth in industrial traffic gravitating on Porto Marghera required the start of a further phase of interventions.

In 1966, a port suitable to serve oil tankers was built close to one of the three entrance of the Lagoon; three years later, the excavation of the Malamocco-Marghera Canal was completed connecting the oil platform with the Industrial area and avoiding ships to pass through the San Marco basin and the historic center of the city.

At the end of the nineties, the new Venice Port Authority, public body managing the Port of Venice development, decided to invest in the specialization of the three areas of the port: in the West side of the City center will be set up a passenger port, following the new development of the cruise traffic, in the mainland will be transferred the commercial port concentrated in a specific area, called commercial island and in the wide industrial area of Marghera remain the industrial traffic.

THE PORT OF CHIOGGIA

The two islands that make up Chioggia were a safe refuge for the Veneto population when they were subjected to barbarian invasions in the 5th century.

Chioggia and Sottomarina were not prominent in antiquity, although they are first mentioned in Pliny as the fossa Clodia. Local legend attributes this name to its founding by a Clodius, but the origin of this belief is not known. The name of the town has changed often, being Clodia, Cluza, Clugia, Chiozza and Chioggia

The port role explains the origin of the city and the reasons for its significant development between the 11th and 12th centuries when it had already assumed the role of an important port city, developed around the salt, trade salt, fishing and other economic activities related to its the sea.

Chioggia was recognized by the Serenissima Republic a specific level of managerial, administrative and legal autonomy. This role was punctually reflected in the Pactum Clugiae, a document which guaranteed the city by the government of the Republic also its own well-defined territory. Venice enhanced the port activities of the city, and especially its defensive structures facing the sea - the direction from which most threats would arrive.

But the aggression of the Serenissima against the Clodiense maritime trade, after a few centuries, forced Chioggia into an alliance with Genoa.

The economic rivalry between those two great medieval maritime republics was resolved by the Naval War of Chioggia (1378–81), and formally ended in 1381 with the Peace of Turin.

This maritime war, with the victory of Venice, for many centuries still bent the commercial vitality of Chioggia, reduced to a fishing port Salt producer and small traffic with the Istrian and Dalmatian shores.

The Venetians rebuilt the town immediately and they strengthened it with even more defensive works, many by Michele Sanmicheli (1484-1559), who built walls and fortifications. These include the 14th century Forte di San Felice.

The Chioggia war constitutes the real historical watershed that separates the "rich city of salt" from the destroyed and depopulated city. Unlike Venice, Chioggia did not quickly recover its prosperous pre-war conditions and throughout the 15th century it was engaged to implement an economic-social and demographic recovery.

The rebirth of the city gradually became problematic, especially due to the negative economic situation that troubled the production of salt Clugie (produced at Chioggia).

The number and size of the salt pans of Chioggia, which previously occupied very large lagoon spaces, decreased.

In this period, lagoon fishing acquired a very important role in Chioggia and the city gradually developed an ever better propensity for maritime trade in the eastern Mediterranean. Thanks to the increase in a suitable and well-prepared flotilla, maritime traffic became increasingly intense and profitable, in the wake of the great traders of the Venetian Republic. The flourishing in Chioggia of traffic and maritime trade also corresponded to the birth of great navigators and traders, like Giovanni Caboto and Nicolò de'Conti. It should also be remembered that in Chioggia the construction of boats has an ancient and glorious tradition that has historically found a prestigious social and religious response in the *Mariegola dei Calafati*, a statute which, dating back to 1211, represents in Italy of the municipal period one of the most ancient and complete corporate systems of arts and crafts.

During the seventeenth and eighteenth centuries Chioggia had another period of intense building activity, especially the reconstruction of old buildings such as the Cathedral and the town hall.

With the fall of Venice (to Napoleon) Chioggia was then subjected to French rule (1797) and after to Austrian, until 1866, when it became part of the Kingdom of Italy. The beginning of Venice's decline as a powerful maritime Republic was the end of the Port of Chioggia.

Fishing is historically the livelihood of the port, but the Port of Chioggia, besides being the seat of the main fishing port of Italy (ranking second after Marzara del Vallo), with a lively wholesale market, has achieved good levels of productivity and competitiveness also in break bulk, project cargoes and in the passenger traffic with small-sized cruise ships.

THE PROJECT CHOICES

CONTENTS

The general objective of the project is to enhance the port activities as a whole, highlighting their cultural, economic, employment and social contribution to the territory and the entire Adriatic basin.

The VM related to the Veneto Port System should tell the heritage, tangible and intangible of the ports of Venice and Chioggia and their hinterlands (just think to the town of Adria 20 km far away from Chioggia, where the Po river discharged its water into the Adriatic sea. The town had the honour of giving its name to the Adriatic sea).

The activities will be coordination, collection and production of historical and cultural contents, development of a storytelling that contributes to enhancing the tangible and intangible cultural heritage of the two ports.

The VM will have to involve users in a narrative that presents the context of the Adriatic, enhances and relates the parallels between past and present of the Venetian port and the maritime-port culture of Venice and Chioggia and its role in the Adriatic, as well as foreseen by the REMEMBER project.

The general objective is to develop an experience for the visitor that relates the contemporary culture to the past, tells about activities and crafts, illustrates routes and economies connected to the ports, taking into account the common cultural heritage of the Adriatic.

The leitmotif of the requested contents must be the narration of the role of the two Ports (Venice and Chioggia) over the centuries - for example as a: place for the development of seafaring culture; economic development engine; gateway for transit for goods, people and ideas; workplace; architectural and artistic heritage.

The thematic focuses must allow the visitor to enjoy both; ad hoc produced contents and images and videos of the Venetian port system already available by the Port System Authority.

Throughout the History, some crucial places and moments for the setting up of the Virtual Museum have been identified, and will be related from at least 20 Point of Interests (POIs). Here after some examples:

- (1) The origins of the 2 ports and their development and transformations over the centuries;
- (2) the parallelism between the shipbuilding in the past (the Venetian Arsenal) and the shipbuilding at present Fincantieri;
- (3) the parallelism between special cargo handled in the past (Saint March Columns as a sort of project cargo in 1200) and special cargo handled today (project cargo and break bulk at present)
- (4) the agribusiness industry and traffic in the past (Molino Stucky) and the same at present (Grandi Molini Italiani and Cereal Docks)
- (5) specific trades in the past- spices in Venice and salt in Chioggia in the past and other today
- (6) Jobs – Fishing in the past / Fishing at present by the port of Chioggia; Pilots in the past in Venice and Pilots today
- (7) warehouses and Fondaci in the past and today

TARGETS

In the development of the VM, in the planning of the methods of involvement and narration, the developed contents may have a double selectable narrative register - children and adults- and must be accessible in Italian and English.

Tourist Cruisers will be a privileged user base.

In some Points of Interest there may be a double level of explanation: a more generalist, for all users, and a specialist in-depth study for the most interested, selectable.

The goal is to enrich the visitor's experience with a reading that connects the contemporary to the past, tells about activities and crafts, illustrious routes and economies connected to the port.

The VM will have to give the user the opportunity to enjoy different types of information in an immersive environment.

Cultural heritage gamification models will be applied for greater involvement and educational purposes, to learn through progress.

The fruition will take place on the territory, outdoors, or within cultural and tourist bodies with which specific agreements will be made.

The user will be allowed to:

- explore the VM remotely, from the web or with a mobile application;
- have independent access POIs when they are on places, by previously installing a free mobile application on their device;
- visit the VM in a physical installation, in a place chosen among the Port of Venice local partners.

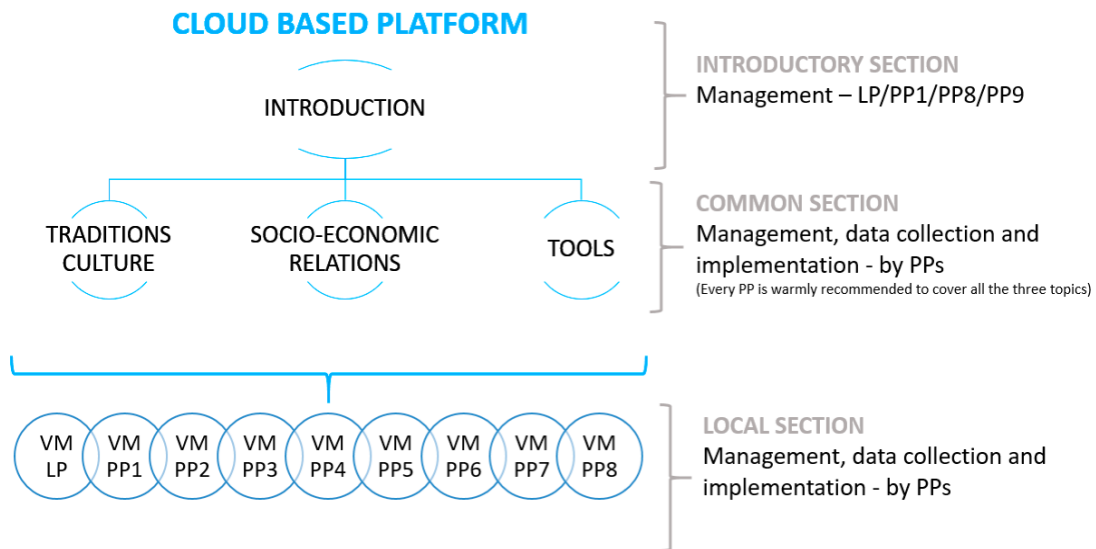
THE HYPOTHESIZED IMPLEMENTATION PATH

The implementation process for the VM related to the ports of Venice and Chioggia should include, at a minimum:

1. digital contents for at least 20 POIs, which through the narration enhance the parallels between the port's past and present;
2. the POIs must be activated on the mobile visitor's devices with solutions such as, for example, markers, georeferencing, QRCode or other;
3. the POIs will be enriched with digital content in the chosen forms such as, for example: textual, audio, video, photographic, digital reconstructions or other;
4. realization of all contents in Italian and English.

The Veneto Port System VM will directly put the content of POIs into the user's hands, who must be able to use them both remotely, while visiting the port or in spaces set up.

In the Venice Virtual Museum some POIs back in time thanks to the 3D virtual reconstruction of landscapes, architectures and artifacts from the past.



CITY PORT PRESENTATION



WHAT'S IN YOUR VM?

A		TEXTS	IMAGES	SOUND S AND VIDEOS	3D MOD- ELS	DIAGNOS- TIC DATA
1	TRADITIONS & CULTURE – In- tangible heritage					
1.1	competences, job profiles	x	x	x	x	x
1.2	Visual art					
1.3	Crafting, tools					
1.4	literature, proverbs, lan- guages					
1.5	religions, gods, sea mythol- ogy, fairy tales					
1.6	sustainable behaviors / greening					
1.7	food and recipes	x	x	x	x	x
2	SOCIO-ECONOMIC RELA- TIONS – Intangible heritage					
2.1	inland /City port relations					
2.2	import/export of goods, traf- fics					
2.3	routes, maps	x	x	x	x	x

2.4	immigration/emigration of people					
2.5	Sailing activities, cruises					
2.6	Tourism					
2.7	Sailing techniques, winds, on board tools and technologies					
2.8	Fishing	x	x	x	x	x
3	PHYSICAL HERITAGE (ART-CRAFT, BUILDINGS, ETC) – tangible heritage					
3.1	Port authorities headquarter and premises	x	x	x	x	x
3.2	architecture	x	x	x	x	x
3.3	lighthouses					
3.4	Dams					
3.5	ship design, shipbuilding, ship maintenance					
3.7	relicts					
3.8	sustainable power and environmental solutions					
3.9	other monuments	x	x	x	x	x

ABSTRACT OF SPECIFIC LOCAL CONTENTS (minimum 9 for each PP)

1) PP1 – concept 1.1 - TRADITIONS & CULTURE – Intangible heritage (competences, job profiles)

SHIPBUILDING AT THE ARSENALE (16TH CENTURY) vs FINCANTIERI SHIPYARD

The origins of the Arsenale date from around 1150 – 1200. The first famous reference to the Venice Arsenale is by Dante, who describes the frenetic activity of the place even in winter. When he was writing, in the early 14th century, the original 12th-century yard had already been enlarged with the creation of the Arsenale or Darsena Nuova (new dock or basin). Between 1473 and 1573 there was further substantial enlargement, with the creation of the Arsenale Novissimo, the construction of the Gaggiandre by Sansovino, and the addition of the Darsena delle Galeazze. Venice's sea power was at its height, due in part to its shipyards, which anticipated modern industrial methods by several centuries: from the design, jealously protected by very strict laws, to the launch of a ship, every area was devoted to a specific activity. Whether making ropes or designing weapons. Each department worked independently, until the final assembly stage.

The result was that, at the time of the Battle of Lepanto against the Turks in 1571, the Arsenale could turn out a galley — the most typical of the Republic's ships, with an optimal relationship between loading capacity and agility of manoeuvre — in just one week.

The Arsenale continued to expand in the following centuries. In the mid-1700s, the Squadratori building where ships' main timbers were laid down, was erected facing the Darsena delle Galeazze. Then, between 1872 and 1915, dry-dock facilities were created in the northern part of the complex. The final building works were undertaken in 1916, consisting of accommodation for naval personnel.

The Arsenal was still active during the Second World War, when it employed 5,000 workers, but it was eventually closed down in 1957, when the Command Centre of the Maritime Department of the Upper Adriatic was transferred to Ancona.

This was a severe blow to the city, particularly the Castello district, where most of the skilled workers lived. The employees were called "Arsenalotti" and were well-respected citizens in Venice. They were for instance the only ones who were allowed to steer the Bucintoro, the huge parade ship of the Doge. In the Middle Ages, the Arsenale was the largest industrial complex in Europe, with a maximum of 16,000 employees at work. The normal staff levels ranged from 2,000 to 5,000 workers per day.

The Arsenale was at the forefront of operational excellence and lean manufacturing. It was the first location to introduce standardized parts, to work with highly specialized staff and to use a moving assembly line: the Venetian workers already moved the boat along a canal from one work station to another in the 16th century. The Arsenale even used consultants

such as Galileo Galilei to solve the shipbuilders' problems related to ballistics and to come up with innovations in production and logistics.

The Arsenale covers 48 hectares on the north-eastern edge of the city, accounting for fifteenth of the total area of the historic city (700 hectares). It is worth noting that the surrounding wall, five kilometres in length, was not intended to defend the city, already protected by the lagoon's defence system, but to safeguard the shipbuilder's secrets.

Today, the port of Venice has the fourth largest in the world shipbuilding company Fincantieri S.p.A.. Fincantieri designs and builds merchant vessels, passenger ships, offshore, and naval vessels, and is also active in the conversion and ship repair sectors.

The shipyards of Marghera (Venice) is the biggest in Italy and employs a staff of about xxxxx (rising to approximately xxxxx if the supply chain is included).

1) PP1 – concept 1.1 - TRADITIONS & CULTURE – Intangible heritage

(competences, job profiles)

Pilots in the past in Venice and Pilots today

2) PP1 – concept 1.7. TRADITIONS & CULTURE – Intangible heritage

Food

THE HISTORY OF BACALA' (VIA QUERINISSIMA)

In 1431 Venetian merchant Pietro Querini went looking for commercial fortune outside the Mediterranean Sea. Having left Candia (on the island of Crete) with a ship full of Malvasia wine, aromatic wood, spices and cotton with the goal of reaching Flanders, he passed Gibraltar and then moved North and East but then his commercial dream faded because of a tragic shipwreck. He managed to reach a deserted islet, and was saved by the inhabitants of a nearby island. The poor survivors were welcomed, fed and looked after by the local people. These people, 100 km north of the Polar Circle, in today's Norway, had a strange way of preserving their main food, cod. After cleaning it, salting it and drying it for months, the fish became as hard as a stick. Locals called it "stockfiss", which by mistake in Veneto they call bacalà (as baccalà, with two c's is instead cod preserved in salt). The Venetian merchant came home after a long journey by sea and land and brought this strange food, exchanging it on the way to Venice for food, accommodation and various means of transport. After Querini's return from what we today call Røst, one of the Lofoten Islands, the use of this dried fish became popular in the inland of Venice. Even the Catholic church, after the Council of Trent, contributed to the spreading of this new culinary tradition by imposing abstinence. The Via retraces the journey taken by noble Pietro to return to Venice from the Lofoten Islands in 1431 through 14 European countries.

The remarkable history of the Venetian merchant Pietro Querini, concerning the fishing, production, trade, processing, and consumption of cod, stockfish, and salt cod caused innovation and entrepreneurship.

3) PP1 – concept 2.3. INTANGIBLE HERITAGE SOCIO-ECONOMIC RELATIONS –

Route, maps

MARCO POLO'S TRAVELS BETWEEN 1271 AND 1295 – (VENETIAN ROUTES IN 15TH AND 16TH CENT.) vs VENICE'S MARITIME CONNECTIONS

Venice was the starting point of the journeys of Marco Polo and the end point of the Silk Road, thus bridging countless markets, different cultures, and new continents.

4) PP1 – concept 2.3. INTANGIBLE HERITAGE SOCIO-ECONOMIC RELATIONS –

Route, maps

THE SPICES ROUTES

In the ninth century Venice embarked on spice trade and research – in the extended sense of that time –encompassing, in addition to fresh, mineral, and animal products for alimentary purposes, also pharmaceutical and dyeing uses, soon becoming the most prosperous European hub in the sector.

There were three Spice Routes. The first one, the Northern route, is identified with the legendary “Silk Road”: from China to Tigris, where it then divides, leading to both Antioch and Petra; this was a ‘bitter’ road situated in mountainous and desert territory and trades between merchants took place in Palmyra. The second route was by sea, from Indonesia and the Eastern coast of India, passing through the Persian Gulf, Bassora, and Damasco. The third route was the “Cardamom Route”: from the Moluccan Islands, Madagascar, the coasts of Africa, Zanzibar, Mombasa, via the Nile, to Alexandria.

Pepper, cinnamon, saffron, ginger, cumin, clove, coriander, nutmeg, and a large quantity of other spices of high economic value were traded in Venice from the mysterious Far East, as it was not possible to cultivate them in Europe. Among these were substances widely used in the medicine of the time: red sandalwood, absinthe, mastic, ammoniac salt, serum rubber, borax, camphor, aloe, and many others.

In the fifteenth century Venetian vessels carried a total of 5,000 tons of spices per year.

For a thousand years, goods from all over the world have been shipped perishable goods through the Port of Venice. Venice remains the ideal hub for every kind of product that requires temperature-controlled handling, offering a complete and uninterrupted cold chain.

5) PP1 – concept 2.8. INTANGIBLE HERITAGE SOCIO-ECONOMIC RELATIONS –

Fishing

Since XI century, the management of fish resources on Lagoon of Venice has had to match impacts of productive activities (agriculture, fishery, navigation, etc.). During Serenissima Republic, fishermen were joint in confraternities. Each confraternity had its own fishing area and was governed by rules and customs called “Mariegole”. In other words, fish resources were allocated among confraternities and managed by a set of rules concerning

the environment (certain fishing tools were forbidden), the fish biology (fine-mesh net were forbidden), the management (each fisherman could fish only some species) and the market (price differentiation according to specie and size).

The lagoon fishery production comes to several activities: traditional fishing on lagoon canals and water areas; valley fishing; farm fishing (aquaculture); mussel farming and clam fishing. Valley fishing is quite similar to the traditional one but it occurs on fenced lagoon valleys and it is managed following rules issued in XI century. In particular, the breeding is accomplished by shifting fish from an area to another and regulating water salinity but without feeding it.

Today Lagoon fisheries play an important role on the socio-economical and environmental equilibrium of all Lagoon area. Not only are lagoons and fishing valleys an important source of fish but they are also nursery areas of many commercial fishes or feeding grounds for others.

The largest wholesale fish market in the Venetian Lagoon (and, according to many, from the whole region), is located in Chioggia.

In Chioggia the fish market is a tradition, or rather an ancient institution, since fishing has always been one of the main commercial activities. However, the fish market currently held between Corso del Popolo and Canal Vena, behind Palazzo Granaio, was inaugurated in 1960. It covers about 11,000 square meters, 5,000 of which are covered by a large central pavilion, and uses two large open side yards, where the fishing boats dock directly from the little ports of the canal. Moreover, in front of the Market, there are three recently built two-storey buildings that house the management offices and some bars. To access the fish market, one usually passes through the picturesque Portale a Prisca, sculpted by the Paduan Amleto Sartori.

There are about thirty locations where fishmongers, called "mògnoli", sell fish of all kinds. Fresh fish is unloaded from fishing boats in the wholesale market at four in the morning, then it is negotiated and distributed for the city or for other Italian and European markets.

The Port of Chioggia is highly regarded nationally as the "floating village": it is located in the southern part of the Lagoon, where every day the major Italian and foreign fleets arrive. For this reason, over the years Chioggia has become a reference point for the international fish trade.

Fishing techniques used in Chioggia include both passive (include static fishing gears. long line and fishing line) and active gears (include different types of trawls, seine, purse seine, hydraulic dredge, mechanical dredge, spear).

6) PP1 – concept 3.2, PHYSICAL HERITAGE – TANGIBLE HERITAGE.

Architetture

VENICE LANDMARKS vs TODAY LEADING BREAKBULK PORT IN EUROPE

Many of Venice's landmarks were transported as the largest oversized cargo. For example, way back in the 12th century, three enormous columns, including the Column of Saint Mark – the well known symbol of Venice - were brought from the Orient to Venice by ship (on so-called ancient galleys), on the way back from a Crusade to the Holy Land. Another example, back in 1204, the Port of Venice handled the massive Horses of St. Mark, also known as the Triumphal Quadriga (Weight: 4 tons) , setting the break bulk cargo standard for the time.

And the tradition of large cargo handling continues to this day, making Venice the leading break bulk port in Europe, working with all major shipping companies and achieving record-breaking successes. Thousands of project cargoes a year are handled in the commercial port, destined for over 50 countries around the globe. Some of world's largest industrial components are shipped through Venice owing to:

- its expertise and experience in project cargo handling;
- it being an inland waterway port free of weight and size limitations;
- its equipment for Class V barges connecting Venice to the industrial heart of Northern Italy;
- the favourable topography of the surrounding territory – there are no tunnels, significant inclines, or narrow roads.

7) PP1 – concept 3.2 - PHYSICAL HERITAGE – TANGIBLE HERITAGE.

Other monuments

VENETIAN FONDACI (ORIGINAL VENETIAN WAREHOUSES)

Situated at the crossroads between East and West along the Spice Routes, Venice was one of the world's most important trading centres also thanks to the excellent infrastructure and services provided by the Venetian Fondaci: not just warehouses, but efficient and uniform custom centres performing faster controls of commercial trades, a particularly important advantage in relation to perishables.

The Port of Venice offers flexible structures, control procedures, and logistics services for perishable products.

In addition to two container terminals equipped with reefer connections, it features an entire temperature-controlled terminal, which is operational 24/7 and equipped with the most advanced technologies. In order to expedite control procedures, Venice has established a unique "Port Health Center": a one-stop shop for sanitary controls, encompassing the border inspection post, the phytopathology office , and the health office.

The establishment holds:

A Border Inspection Post (BIP) – 500 sqm for the veterinary inspection of products of animal origin and animal feed of non-animal origin; A Maritime Health Office (USMAF) – 90 sqm for the inspection of foodstuff of non-animal origin and of material in contact with foodstuffs arriving from third countries; An Office of Inspection and Control for Plant Protection – 70 sqm for the inspection of vegetables

8) PP1 – concept 3.1 - PHYSICAL HERITAGE – TANGIBLE HERITAGE.

Port authorities headquarter and premises

The port areas of San Basilio and Santa Marta were built in 1896 – 1897: during those years the port of Venice was growing, as a consequence of the construction of the rail bridge in 1846.

The total surface of the area was about 26.000 sq. m. and included 9 warehouses and other smaller buildings used as offices (Free Zone, Superintendency of the Port, Finance and Border Police and other port agencies). The buildings had vertical brick elements and iron columns, with attic floors and wooden shingles.

The new headquarters of the Venice Port Authority are two of these buildings, situated on the “Santa Marta” side, a working class area that historical documents and illustrations depict as a recent development (it was erected at the beginning of 1900) to host the rail and port employees.

This area of the city hosted the amenities and the facilities associated to the railway: the Gas Works facilities in the northern part of the area were constructed around the year 1900 on the reclaimed land of Sacca dell’Angelo; the former Venetian cotton factory, Cottonificio Veneziano, in the east, was built between 1882 and 1900 and is today used by the University; the general warehouses, the Magazzini Generali in the south, were built between 1875 and 1885 on what was the beach of Santa Marta (“Arzere di Santa Marta” in the sources) and is today the headquarters of the Port Authority, the Maritime Authority and many other port activities.

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DELIVERABLE 3.1.5

Report on tangible and intangible cultural heritage of the involved ports

PP2 – Ravenna Port Authority

Work Package	3 “Preservation of tangible and intangible cultural heritage of Adriatic Italian and Croatian ports
Activity	3.1 Preservation of the maritime cultural heritage of Adriatic Italian Croatian ports
Phase Leader	PP1 – NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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The cultural heritage of the port city of Ravenna

a) The city-port: brief history of the relationship between city and port

Ravenna was born from the sea, that is, from the logistical-military need of the Roman Empire to offer the fleet housed in Classe an urban structure capable of supporting its various needs.

Ravenna soon turned its back on that sea. As a consequence of the retreat of the city from the coast, in the following centuries Ravenna consolidated its sense of estrangement from the commercial and relational dimension that is typical of ports.

A turning point was the decision of Cardinal Giulio Alberoni, who in 1737 completed the works of connecting the city to the sea through the excavation of the so-called Corsini Canal (so named on behalf of Pope Clement XII). The choice made in those early decades of the eighteenth century would have proved to be of great importance, because it would have helped to shape the ambivalence that is still constitutive of the relationship between Ravenna and the sea. Thanks to that connection, which was part of the wider context of transformation of the territory through the reclamation works of the marshes around the city, it was in fact possible to begin to imagine to overcome the condition of immobility consolidated in the reading offered by many travelers of the modern age, with whom Ravenna identified itself. And there was a flourishing of expectations and projects, prompted by the increasingly decisive growth of the agricultural vocation of the Ravenna area and by the consequent possibility of imagining the new port as a natural commercial outlet for the products of the hinterland. The Adriatic Sea was opening itself before the eyes of entrepreneurs and traders as a system full of possibilities and opportunities, as a great system capable of "uniting the coasts, and in return

the hinterlands".

The birth of the Kingdom of Italy even hinted at the possibility of a bright future for Ravenna, but the lack of interest shown by the central authorities for the prospect of a serious investment in the Ravenna port system addressed history otherwise.

This story, still to be investigated and written, is the story of what could have been and was not and is closely intertwined with the process of building the identity of Ravenna, which during the nineteenth century - through a series of fundamental volumes, as well as by virtue of a sustained process of re-invention of the tradition elaborated by a small group of influential intellectuals - was formed in its essential lines. It was in fact then that that identity paradigm was organized, based on the feeling of regret for a very distant imperial past, but somehow recovered thanks to the proud claim of the successes obtained - through reclamation, redemption of lands, agricultural production - in the struggle against a substantially stepmother nature. Hence, one of the cornerstones of the newly established identity of Ravenna, is built on the idea of the man capable of imposing himself on an adverse context, by reason of ingenuity and stubbornness.

b) The development of Culture in relation to the port

Within the system of representations sketched above, functional to the construction of the self as a community, the marine horizon takes on a particular meaning and ends up becoming a goal rather than an instrument, a goal to be overcome at the end of a race full of obstacles much more than a constituent element of the journey. The impression is that the sea is seen by the people of Ravenna, and by the intellectuals who contributed to forming its thought, as a sort of threshold, beyond which one imagines the possibility of being able to finally upset the history and vocation of this city; why not? - we can finally recover that imperial past that has been as mythicized as regret.

It is worth to better investigate this founding character of the Ravenna identity, also

because it is absolutely unique in the panorama of communities with a port, overlooking the sea and created through the elaboration of the relationship with the latter.

In the early 1950s, when the state industry settled in Ravenna, occupying an important portion of the land facing the port-canal, the complexity of the relationship between Ravenna and the sea was further enriched. At that point the rich baggage of projects, experiences and dreams, which had been developed in previous decades, is suddenly recovered and strengthened by the new industrial dimension. This success, undoubtedly capable of linking the history of Ravenna to modernity, however, would have led to important consequences on the idea of the inevitability of the link between the city and the sea.

Even if the raw material came from the sea, the large industrial plants were in fact all inscribed within internal logics, which had very little to do with the sea. The industrial Ravenna, which to become such had to strengthen all the tools that connected it to the sea (the docks of the port, the depth of the canal, the loading and unloading equipment the platforms off the coast line ...), was returning in fact, to turn its back on the salt water of the Adriatic Sea. Workers and producers therefore, not polyglot merchants.

c) Description of the main assets of tangible and intangible cultural heritage generated or closely related to the port, its traffics on the Adriatic, its relations with the surrounding inland areas

It is necessary to distinguish the tangible cultural heritage linked to the ancient imperial port of Classe from that of the modern and contemporary port. Of the Roman port there is an archaeological site and a museum which preserves the main findings (...)

Among the monuments, buildings and more generally assets that we find in today's port, the following should be highlighted:

Historical buildings

- Marchesato
- Fabbrica vecchia
- Fish Market (and fishing docks)

Industrial archaeology in "Town docks"

- Artificerie Almagià
- Loading elevator
- Furnace
- "Sigarone"
- MOSA

Industrial port

- Hammon towers

It should also be pointed out that statues dedicated to various historical figures who made the history of the port of Ravenna are placed down town rather than in the port neighborhood or in museums. These works certainly belong to the tangible heritage but, like all tangible heritage, refer to a system of historical and cultural values.

The elements of the intangible cultural heritage on which we will focus are those that constitute the fundamental pillars of the cultural identity of the port city of Ravenna. In particular, we will therefore focus on the values of work and those of the economic

enterprise. In addition, an essential part of the construction of identity is given by the effort to control and bend nature and to reach and maintain access to the sea. Then the hydraulic engineering design documents will be searched, investigated and promoted.

d) The routes of the past and of today: the contribution of the circulation of goods, ideas and people to the definition of a cultural identity

During the historical research that constitutes the preliminary part of the project activities, if and where possible, the routes that in the past have contributed to defining the cultural identity of the port through the exchange of goods, people and ideas will be reconstructed.

Today's routes, on the other hand, have a completely different character and are part of consolidated relationships for the exchange of raw materials and finished products.

Even cruise routes, due to their global nature, escape the dimension of the relationship between the communities of the two shores (and perhaps this would be a common theme on which the partners could engage). From another point of view, the issue of tourism by ferry, often involving Italian and Croatian citizens who decide to visit the opposite coast, may respond to different logics.

2. The project choices

a) Strategic objectives of the valorisation intervention for the PP

i. Starting from a study and a research on its history (its role in the territorial context and the maritime economy, the transformations over time of its morphology, the evolution of port work and business, changes in the relationship between the

port and the city)

ii. create a series of useful tools to promote the knowledge of the port, the dynamics that have contributed to the formation of its identity, and acknowledgment of its complexity and its future prospects,

iii. enhancing its historical - cultural heritage from the "material" point of view of the goods it houses (whether these are of historical, architectural, symbolic value ...) and of that consisting of the values that make up its cultural heritage (and therefore "immaterial") that comes from the past and will be passed on to future generations

b) Description of the main cultural contents we chose to enhance, and why.

The most intriguing content (as it is the more peculiar of the port of Ravenna) is that of the process through which the cultural identity of the port of Ravenna took shape: the struggle for access to the sea. This identity is well alive today and animates the port community vision of future development.

Together with it, other contents are (besides their economic value) the cultural and social value of maritime interchange based (or linked) companies and the cultural and social value of work.

c) Identification of priority user targets: citizens, tourists, schools, etc...

- Citizens of Ravenna, port community, students;
- Delegations in visit at the port (professionals, students, port operators);

- Tourists.

d) Partnerships and relations to be activated with the territory and / or with other cultural institutions

Together with a very close relation with the Municipality of Ravenna, which is committed in several projects aiming at promoting activities and attract investments in the old “Town docks” through other EU cofinanced actions, the port of Ravenna Authority will focus on the possibility of building a partnership, aimed at developing common initiatives, with the museum Classis Ravenna – Museo della Città e del Territorio. The latter displays an extraordinary tale of the town with its main intersections, from its Etruscan-Umbrian roots, to the ancient Roman period, from the Goth-Byzantine phase to the Middle Age, stopping the story-telling just right where the one of REMEMBER begins.

Another possible partnership is that with the technical institutes of the city of Ravenna relating to the preparation of a historical-didactic path, inside the port area and outside it, to be organized in collaboration. As a matter of fact, these technical Institutes, have specialization courses in port professions, as well as a three-year course in Tourism.

3. The hypothesized implementation path

a) Outline the features of any fittings in physical locations and / or digital environments that you plan to use

- A. Port of Ravenna Authority web site
- B. Video displays in the city centre and other selected very popular passageways
- C. Video displays at the Port Authority premises

D. REMEMBER Platform, that is the base of the Ravenna Virtual Museum

b) In relation to the technologies expressed in the 3.1.3 deliverable, sketch the main technological choices by putting them in relation to the type of users, the places and the contents presented

Italian and foreign visitors and delegations	AC
Public entities and institutions	ABC
School groups of all levels, interns at PA and others at the first familiarization	ABC
tourists	AB
citizens of Ravenna	B
port operators	AC

c) Describe how users will experience VMs.

The contents that will be produced will be inserted first of all on the Ravenna Virtual Museum, that will be created on the platform created within the Virtual Museum. The platform will allow the user to enjoy the contents through several tools, first of all an app, that will be available for free download.

Moreover, the platform will allow the users to experience the contents via website through a standard browser. The website purpose will be that of attract the visitor in exploring the contents he is more interested in via surfing the site.

The experience of the contents displayed in video screens will be an important means of socialization of citizens with the port that, differently from the majority of port cities, is not visible from the town.

d) Indicate ways to monitor the effectiveness of the interventions that will be carried out.

A series of devices might be put in place, such as counters of people watching the video displays or counters to measure the time spent experiencing the contents displayed.

WHAT'S IN OUR VM

		TEXTS	IMAGES	SOUNDS AND VIDEOS	3D MODELS	DIAGNOSTIC DATA
1	TRADITIONS & CULTURE – Intangible heritage					
1.1	competences, job profiles	x	x	x		
1.2	Visual art					
1.3	Crafting, tools					
1.4	literature, proverbs, languages					
1.5	religions, gods, sea mythology, fairy tales					
1.6	sustainable behaviors / greening	x	x			
1.7	food and recipes					
2	SOCIO-ECONOMIC RELATIONS – Intangible heritage					

2.1	inland /City port relations	x	x	x		
2.2	import/export of goods, traffics	x				
2.3	routes, maps		x	x	x	
2.4	immigration/emigration of people					
2.5	Sailing activities, cruises		x	x		
2.6	Tourism		x	x		
2.7	Sailing techniques, winds, on board tools and technologies					
2.8	Fishing					
3	PHYSICAL HERITAGE (ARTCRAFT, BUILDINGS, ETC) – tangible heritage					
3.1	Port authorities headquarter and premises	x	x	x		
3.2	architecture	x	x			
3.3	lighthouses		x			
3.4	dams					
3.5	ship design, shipbuilding, ship maintenance					

3.7	relicts					
3.8	sustainable power and environmental solutions	x				
3.9	other monuments	x	x	x		

DELIVERABLE D3.1.5

Report on tangible and intangible cultural heritage
of the involved ports

PP3 – Port Authority System of the Eastern Adriatic
Sea

Work Package	3 "Preservation of tangible and intangible cultural heritage of Adriatic Italian and Croatian ports
Activity	3.1 Preservation of the maritime cultural heritage of Adriatic Italian Croatian ports
Phase Leader	PP1 - NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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1. The cultural heritage of the port city: Trieste

In the Roman era (around 10 BC) Trieste is a small town, its port serves mainly for military purposes and is located in the area of Campo Marzio. Roman *Tergeste* flourishes thanks to its position on the road from **Aquileia**, the main Roman city in the area, to Istria, and as a seaport. Nevertheless, large trade flows mainly transit through Aquileia, which constitutes a centre of government (with an imperial residence), commerce and finance (with a mint), military defence, and Christianity. The sack of Aquileia in 452 and Attila's subsequent unimpeded ravaging of the province of Venetia (modern Veneto and Friuli) paves the way for the growth of Venice, which replaces and even surpasses it in importance within a few centuries.

In the Middle Ages port activities take place just in the small harbour facing *Piazza Unità d'Italia*, the so-called *Mandracchio*. The ancient roman port, abandoned, is slowly covered in earth.

In the 10th century, the rise of the Maritime Republics marks the beginning of economic recovery in the Mediterranean Sea basin. In the Adriatic, Venice takes the lead and extends its power along the Dalmatian coastline and in the hinterland to include Lombardy. During the 13th and 14th centuries, Trieste becomes a maritime trade rival to the Republic of Venice, from which it seeks protection by voluntarily submitting to the Habsburg house rule (1382). While maintaining a high degree of autonomy under the Habsburgs, the city increasingly loses ground as a trade hub, much to the benefit of both Venice and Ragusa (now Dubrovnik). In the following centuries Trieste undergoes several attacks from Venice and other regional powers.

At the turn of the 17th century into the 18th, a redefinition of quantitative and qualitative hierarchies of commercial sea routes took place in the Adriatic and the Mediterranean. Especially in the Adriatic, coasting trade became central to define economic areas. At the time, heavy and cheap goods – such as olive oil, cereal, timber, raw metal, iron and copper manufactures, rough textile fabrics, fruits, vegetables, cheese, salted fish – were the bulk of trade. Venice's predominance over the sea seemed to be seriously compromised by the actions of many mercantile "marine" fleets from small and medium ports in the Adriatic, Ionian and Aegean Seas. These settlements gave birth to a very thick trade network connecting coasts and ports on those seas with the subsequent emerging of old lines of smugglers and "minor" routes. Exchanges and relations, favoured by goods, were not restricted to economy, but involved wider

social and cultural spheres. Moreover, sea routes were characterized by an extreme mobility of men and women.¹

By the 18th century, the city becomes an important **port and commercial hub** for the Austrian Empire. In 1719, Trieste and Rijeka are granted status as **free ports** within the Habsburg Empire by Emperor Charles VI. The same year, the Imperial Privileged Oriental Company is established to promote trade with the East. The issuance of the Free Port Patent is preceded by the 1717 Trade Patent for Free Navigation in the Adriatic, which puts an end to the monopoly of the Republic of Venice. The reign of Charles VI's successor, **Maria Theresa of Austria**, marks the beginning of a very prosperous era for the city.

In the first half of the 18th century, small business initiatives thrived in Trieste for a while, mainly on the impulse of the commercial capital. This network created by medium and small ports was characterized by an extreme mobility of men and women. Being the result of individual economic strategies and of the influence of family, kinship, community and clientelistic relationships, such a mobility led to the gathering of men and women at the 'junctions' of the Adriatic routes. These men and women – with their own share of knowledge, relations, skills and capitals – were very important for the economic, demographical and social development of the Adriatic ports. In Trieste, all this had peculiar repercussions because of the scarce economic and social weight of the local patriciate and the small demographic consistency of the city. 'Local' inhabitants were joined by a "crowd" of foreigners, of 'floaters', "somewhat smaller, equal or bigger, depending on cases, but always in a comparable quantity". Those people became protagonists of Trieste's growth and of the development of its economy and a group of merchants with a sufficient level of stability began to emerge in the city. It was composed of people coming from different places (Italian peninsula, Habsburg Empire, Balkans, Levant – Eastern Mediterranean, Western Europe) and with different religious beliefs (Catholic, Protestant, Jewish and Orthodox). They arrived in town for various reasons (working for the Oriental Company, on the sea routes and so on) and won the fight against the local patriciate, positioning themselves as a leading group representing the city. It was a cosmopolitan type of social class held together by common interests and a shared heritage of early rudimental myths, ideals and behaviours. They were able to assimilate external contributions as long as they stayed within the established context without competing with it. Between the Twenties and the Forties, these peoples sustained the commerce of Trieste and were the protagonists of the

¹ Andreatti D., "Comincia a prendere il nome". *Growth and urban development in Trieste at the time of Maria Theresa*, EUT, Trieste, 2017.

development of the secondary sector too. In this context, the mechanisms of interchange between Adriatic, Levant, Central and Continental Europe and the Po valley were the central element of the mercantile circuits revolving around Trieste, which sustained the commerce in the city between the 1720s and the 1750s.²

In 1766 the Empress extends the free port privileges to the entire city and surrounding localities up to the Carso area. In 1755 the Asiatic Imperial Company of Trieste, the only company of its kind in the Mediterranean context, is set up. At the end of Napoleon Bonaparte's Italian campaign the city comes under French occupation, leading to a deterioration of the economic and commercial situation of the city and the port (1797).

While the Trieste free port started to develop its identity in the 1750s, the elements which began to link it more closely to the Atlantic was the increasingly dense nature of the 'segmented trade network', i.e. trade relating to only one sector of an overall trade route, the increase in numbers of ships arriving from north-west European states and two products in particular, Maria Theresa's thalers and cereals. [...] Cereals from Styria, Carinthia, Hungary and the Banat of Temeswar were in particular key to Trieste's port functioning. From the mid-1750s onwards, the city's customary trade was supplemented by that resulting from new imperial policies. To strengthen the border with the Ottoman Empire, the Viennese court decided to populate the Banat of Temeswar with colonisers who were to be entrusted with forming a peasant militia responsible for defence. To fund this militia it was decided to support trade in cereals and other agricultural products through Trieste. In the second half of the 18th century, exploiting the cereal circuits of the Mediterranean and continental Europe, the merchants from Trieste traded wheat and flour to the Ocean and the Americas. Cereals became an important element of the ties that united Trieste to the Atlantic.

Merchants from Greek and Ottoman Levant, Malta, Dubrovnik, Dalmatia, France, Portugal, England, Holland, Flanders, Switzerland, Denmark, the Kingdom of Naples and the Papal States, the Veneto, Chioggia and Pellestrina, Sicily and Livorno reached Trieste in the 1750s. The ports and areas with the densest trade were in the Levant, in Italy, on the Eastern Adriatic coast but there were also ports situated along the European Atlantic coasts and along the North Sea: Lisbon, Cadiz, London, Amsterdam, Hamburg, Marseilles, Morea, Missalonga, Izmir, Candia, Ulcinj, Shkodër, Durrës, Bar, Rijeka, Bakar, Barletta, Trapani, Ancona, Goro, Naples, Messina, Livorno, Genoa and Senigallia. And this within a dense flow of intersecting trade made up of

² Andreozzi D., "Comincia a prendere il nome". *Growth and urban development in Trieste at the time of Maria Theresa*, EUT, Trieste, 2017.

routes now evading the Venetian vetoes with terminals in the empire's inner areas, in continental Europe: Vienna, Hungary, Carinthia, Styria and Bohemia. The traded goods were silk, wool, cotton, linens, hats, oil, wine, citrus, rice, cereals, vegetables, garlic, legumes, cheese, German barley, raisins, almonds, figs, drugs, sugar, cocoa, pepper, cinnamon, vanilla, coffee from Alexandria, salt from Barletta and Trapani, salted and dried fish (such as herrings, stockfish and salmon), liqueurs, rosolio, soap, pasta, wax, colourful Brazilian wood, potash, sulphur, tin, cream of tartar, rock alum, arsenic, mercury, Bohemian glass, iron and copper, arms, deer horn and tortoise shell.³

By the middle of the 1790s, Trieste was actually described as the “most essential hub between the East and the West, between Italy, Germany and the other Northern European kingdoms”. Switzerland and Hungary, for instance, were supplied with merchandise and products coming from “the Levant, Italy, America and the Indies” only “through Trieste” and, in turn, shipped “their own natural and handmade products via the same route”. In 1782, Trieste was receiving merchandise from the Ottoman Empire, Venetian ports, the Kingdoms of Naples and Sicily, other Habsburg ports, China, France, Lombardy via the Po river, ports of the Papal State, Genoa, Hamburg, Leghorn, Dubrovnik, Holland, Denmark, Malta and North Africa. Along that same route, more merchandise was shipped to England, the Flanders, the Venetian and the Papal State, the Po valley, the Kingdoms of Naples and Sicily, the Levant, Genoa, Leghorn, Austria, Hamburg, Holland, Spain, Portugal, Malta, North Africa and Dubrovnik. As for the value of products shipped to Trieste, the Ottoman Empire came in first with almost 2 million florins per year, China was number five, sending tea and silk for a total of 850,000 florins per year. England and the Flanders were the largest exporters for a total of over 2,700,000 florins per year, with top items such as oil, spices from the Levant, silk, tea, porcelain and raisins; exports to the Venetian ports approached 2,500,000 florins, with goods like coffee, cinnamon, oil, silk, tea and tobacco.⁴

With the return to Austria in 1813, Trieste enters a phase of intense **demographic and economic growth**, mostly the result of the situation of peace in the Mediterranean. During the 1830s the Austrian Lloyd Insurance Company, from which the Austrian Lloyd Navigation Company will later arise, is established.

³ Andreozzi D., ‘Segmented trade’. *Merchants, mercantile practices and mercantilism between Trieste, the Mediterranean Sea and the Atlantic Ocean in the 18th Century*, in *Mediterranea, ricerche storiche*, Anno XV, December 2018.

⁴ Andreozzi D., “Comincia a prendere il nome”. *Growth and urban development in Trieste at the time of Maria Theresa*, EUT, Trieste, 2017.

In 1853, the foundation stone of the **Austrian Lloyd Arsenal** (today known as Old Shipyard area), is laid at the presence of Archduke Ferdinand Maximilian.



The Lloyd Tower (Torre del Lloyd), currently hosting the headquarters of the Port Network Authority of the Eastern Adriatic Sea, is part of the Austrian Lloyd Arsenal complex. The tower, conceived in a neo-gothic style, was designed by the architect Hans Christian Hansen and the engineer Edward Heider. This area was partially destroyed by WWII bombings, which spared just the tower and the building behind it.

1 – Lloyd Tower, entrance to the Austrian Lloyd Arsenal complex

In 1857 the railway line connecting Trieste with Vienna (*Südbahn*, Southern Railway) is completed. Emperor Francis Joseph inaugurates the terminal station of the Trieste-Vienna railway line (now the Central Station), designed by the engineer Carlo Ghega. In 1865, the project for the construction of new port areas ("*Der Neue Hafen*", what today is called **Old Port**), designed by the engineer Paul Talabot is approved. The works start three years later in 1868, and the first three piers are completed in fifteen years, integrated with the railway network.



2 – Warehouse no. 26, Old Port

The main buildings in the Old Port are of extraordinary historical and architectural worth. Among them, **Warehouse no. 26** (“Magazzino 26”) is the largest; in the years 2000s it was completely renovated, representing one of a unique kind thanks to the artistic detail of its facades, its architectural features, the height of its ceilings and the scale of its interior.

1869 marks the opening of the Suez Canal. The port of Trieste benefits from the new waterway as it represents the fastest route connecting the Mediterranean with the Indian and Pacific Oceans. Pasquale Revoltella, among the promoters and major supporters of the initiative, becomes Vice-president of the Suez Canal Company. The Public General Warehouses are established in 1880 under the control of the Municipality of Trieste and the Chamber of Commerce, to manage the port infrastructure, to process and store the goods as well as to plan future development actions.

In 1887, an additional pier (*Molo IV*) is completed and in 1890 the Hydrodynamic Plant is inaugurated. Through technologically advanced machinery, this plant supplies the energy needed for operating the mechanical equipment, the cranes and the elevators powered by pressurized water.



The Hydrodynamic Plant (“Centrale idrodinamica”) represents a unique example of port industrial archaeology.



After undergoing full renovation works, the Hydrodynamic Plant, together with the adjacent Electrical Transformer Substation

(“Sottostazione elettrica”), built between 1913 and 1915, have been outfitted to host cultural exhibitions and public events.

4 – Electrical Transformer Substation, Old Port

As of 1891 the privileges linked to the Free Port status are limited to port areas where cargo handling and initial processing operations are carried out; as a result, new gates for customs checks are built at the entrance to the port areas.

At the end of the 19th century the works for the construction of a new pier (Sant’Andrea, so-called *Molo V*) are launched in the area that nowadays is known as *Porto Nuovo – New Port*, following the decision by the Vienna Government to develop new infrastructure including a new railway station. The Trieste Sant’Andrea station, later renamed to **Trieste Campo Marzio** is opened in 1906 as the terminal station for the Trans-Alpine Railway completed in 1909, connecting Trieste to Salzburg and Prague. The new railway line reinforces the importance of the industrial and port settlements to be realized south-east of the city.

Before the WWI outbreak, the works for the construction of a new pier (the sixth), warehouses, hangars, and railway tracks of the New Port begin, and “**Ursus**” – a floating pontoon mounted with a crane capable of lifting 150 tons to a height of 75 meters – is inaugurated. The port of Trieste ceases its operations in 1915, when Italy enters the war.



*Built in 1913 in the Old Shipyard, the floating pontoon called **Ursus** is made completely from steel, featuring a lifting crane served by an electrical system and is equipped with two engines and two rudders. Due to the outbreak of WWI its construction was interrupted.*

centralizes the administration of Italian ports and

In 1920 Trieste is annexed to Italy. During the fascist regime, Mussolini a Ministry of Transportation and Communications is set up in 1924. The Company for

5 – Ursus floating pontoon (Old Port)

the Management of the Trieste General Warehouses is created to reflect the change in the national legislative framework. Consolidation works resume on the piers of the New Port, many of which have been damaged during the war and in 1930 the new **Maritime Station** (passenger terminal) built on the design of architects Giacomo Zammattio and Umberto Nordio, is inaugurated. The Dock Workers' Home located in a strategic spot of the port area, is inaugurated in 1940.

During the German occupation in WWII, the new port is damaged by Anglo-American bombings. In 1946, the Allied Military Government (AMG) start the works to restore the port facilities. The Peace Treaty signed by Italy in 1947 (Annex no. 8) recognizes the existence of **five free port zones**, still existing today. 1954 marks the end of the AGM and the port of Trieste returns to the Italian administration.

As a consequence of the Arab-Israeli wars, the Suez Canal is closed from mid-1950s to the beginning of 1970s, turning the Mediterranean into a closed sea, with heavy repercussions on the traffic of the port of Trieste.

In 1958 the **first port strategic plan** is approved and in 1965 an extensive set of works to expand and modernise the port is launched, including the construction of Pier 7, completed in 1972. In 1967, the Trieste Independent Port Authority is established to take over the management of the General Warehouses. The same year, the first crude oil tanker docks in the port of Trieste and the Trans-Alpine Oil Pipeline (TAL), managed in Italy by the Italian Trans-Alpine Pipeline Company (Società Italiana Oleodotto Transalpino, SIOT) is inaugurated.

In 1971, the Lloyd Triestino shipping company (former *Österreichischer Lloyd*, Austrian Lloyd) starts to run several regular containerised lines, making Trieste one of the first Mediterranean ports to specialise in the handling of containers. In the 1980s the waterfront railway line connecting the two railway stations (Central and Campo Marzio) and hence the Old Port and the New Port, is first suspended and then discontinued. A railway bypass tunnel running under the city centre is opened.

In 1986 Silocaf, a highly modern plant for checking, sorting and processing coffee grains begins its activity. In 1987 the maritime connection between Trieste and Turkey (Motorway of the Sea) is started.

In 1994 new legislation privatises port operations and port authorities are created to provide general functions of coordination, control and promotion.

2. The project's choices

PP3's strategic objective in the framework of REMEMBER Virtual Museum (VM) is to create the first core pieces of a more comprehensive project to be implemented in the long run, whose aim is to explore different aspects of the relationship between the city of Trieste, its port, and its people. The main protagonists of the VM will be the people that in and with the port had a work relationship; however, also the "ordinary" people whose life and fortune crossed that of the port will be featured in it.

To achieve this objective, a cultural itinerary of **Industrial Tourism** linked to the port's architectural landmarks (mainly situated in the Old Port and the Old Shipyard area), its historical machinery and the main professions linked to it will be developed through some selected contents (mostly audiovisuals) with the aim to tell the stories of stevedores, labourers, crane and machinery operators, manufacturers and shippers during the 18th and 19th centuries. This journey will be conceived in parallel to a smaller itinerary which will be hosted in the Port Network Authority's headquarters, whose tower and adjacent buildings and hangars represent a peculiar example of industrial architectural heritage themselves.

The same contents will be fine-tuned and told in a different way to the audience that will be able to opt for a tailor-made itinerary by choosing whether to identify as one of the priority user groups PP3 aims to target its VM to: local citizens (i.e. general population users), students, cultural tourists, or children.

Having this in mind and taking into consideration the overall project's objectives the Port Network Authority of the Eastern Adriatic Sea is willing to cooperate with other regional institutions and partners operating in the regional territory, such as:

- the Trieste Coffee Cluster, gathering a wide number of coffee producers, manufacturers, and shippers and the Association for the Coffee Museum of Trieste;
- the Istituto Livio Saranz, active in several cultural and research projects dealing with the industrial and work heritage of the city, among which one – InHeritage – also includes port, shipbuilding and shipping activities;
- the Friuli Venezia Giulia Region, whose Directorate for culture and sports participates in REMEMBER activities as observer;
- Insiel S.p.A., in-house company of the Friuli Venezia Giulia operating in the field of ICT and certified supplier, according to the Italian legislative framework, of cloud hosting and services to public bodies such as PP3;

- the Municipality of Trieste, responsible for the city museums and namely the museum of the sea, which is currently being moved to Warehouse no. 26 (already hosting *the* Lloyd Triestino shipping company's heritage);
- the State Archive of Trieste, branch of the Ministry of Culture and responsible for the conservation of a large amount of documents and photographic materials from the 18th century onwards;
- the Historical Archive of Istituto Luce-Cinecittà, a flagship public institution in the field of the valorization of the audiovisual memory of the 20th century.

PP3 has already taken contact with most of the organizations listed above and is currently defining the scope of the cooperation with all of them. Other possible stakeholders include historic shipping and forwarding companies such as the former Lloyd Triestino di Navigazione (today Italia Marittima S.p.A.) and Francesco Parisi S.p.A., already involved in some of the projects mentioned above, as well as Fincantieri Foundation for the shipbuilding sector.

3. The hypothesized implementation path

PP3's VM will be accessible online. At the moment, the partner does not envisage making available in its premises, where the permanent exhibition will be set up, devices through which the VM may be visited. However, the VM will feature geo-referentiated links to the sites where tangible and intangible heritage items are located in or originate from.

The VM will include stories about the specific contents selected by PP3, to be told through texts (captions or interviews) worded and presented differently according to the targeted audience, as well as taking into consideration the overall objective to ensure accessibility to individuals with sensory impairments. In addition to this, the VM will feature mostly audiovisual contents and will enable users to experience, through geo-referentiated spots, virtual visits of the physical locations referred to.

Possible monitoring tools of the effectiveness of the actions put in place will be initially discussed with the external expert who will be in charge to select, design and develop the contents of the VM as well as outline the details of the itinerary through which the permanent exhibition will be set up. Once the contents will be better identified, an adequate monitoring methodology will be elaborated with the support of the IT and multimedia experts who will concretely realise PP3's VM, in close coordination with WP3 and WP4 leaders.

Port city presentation (max 2000 characters)

EN

Trieste, a city with a clear cosmopolitan vocation, is located at the crossroad between the East and the West, thus representing a strategic meeting point not only for trade but also for politics, science and culture.

Over the centuries, its history has been intertwined with the development of its port.

In the collective imagination, the port of Trieste is remembered for the international fame achieved in the first decades of the 19th century as the main port of the Austro-Hungarian Empire, when the volumes of cargo handled ranked it as the 7th port in the world and the 2nd port in the Mediterranean, right after Marseille. This fortunate circumstance dated back to the year 1719, when Emperor Charles VI granted the ports of Trieste and Rijeka the status of free

port. The reign of his successor, Empress Maria Theresa of Austria, marked the beginning of a very prosperous era for the city, from several points of view. Merchants and skilled migrants from all corners of the continent, and especially the Mediterranean basin, gave new life to the city's economic and social fabric, laying the foundation for long-standing international relations and cultural exchanges. Trieste registered an important demographic growth over the 19th century, which went hand in hand with an impressive development in urban planning, infrastructure and industry.

Since the 18th century until today the international free port status has remained a prerogative and peculiar characteristic of the port of Trieste. It currently includes five Free Zones, three of which reserved for commercial activities and two used for industrial purposes.

IT

Trieste, città dalla chiara vocazione cosmopolita, si trova all'incrocio fra Oriente ed Occidente e pertanto rappresenta un punto di incontro strategico non solo per dal punto di vista commerciale, ma anche politico, scientifico e culturale.

Nel corso dei secoli, la sua storia si è intrecciata con lo sviluppo del suo porto.

Il Porto di Trieste, nell'immaginario collettivo, è legato alla fama internazionale raggiunta nel primo decennio del XIX secolo in qualità di primo porto dell'impero Austro-Ungarico, quando giunse ad essere il settimo porto del mondo ed il secondo porto del Mediterraneo dopo Marsiglia, per movimentazione di merci. Questa favorevole circostanza trovò origine nella decisione, presa nell'anno 1719 dall'allora Imperatore Carlo VI, di riconoscere ai porti di Trieste e Rijeka la Patente di Porto Franco. Seguì il regno dell'Imperatrice Maria Teresa d'Austria, che segnò l'inizio di un periodo estremamente prospero per la città sotto diversi punti di vista. Mercanti e migranti qualificati da tutti gli angoli del continente e, soprattutto, dal bacino del Mediterraneo, diedero nuova linfa al tessuto economico-sociale cittadino, ponendo le basi per durature relazioni internazionali e di scambio culturale. Nel corso del XIX secolo Trieste registrò un'importante crescita demografica, che fu accompagnata da un notevole sviluppo urbanistico, infrastrutturale ed industriale.

Dal XVIII secolo ad oggi, il regime di porto franco internazionale è rimasto una prerogativa e caratteristica peculiare del porto di Trieste. Attualmente, tale regime è applicabile a cinque

zone (“Punti Franchi”), tre delle quali sono dedicate alle attività commerciali e due alle attività industriali.

Photos:



Old Port architecture (Istituto L. Saranz photographic files, year to be confirmed)



Old Port architecture – Warehouse no. 2 (Port Network Authority of the Eastern Adriatic Sea archives, 1939)



Aerial view, Trieste Arsenal and S. Marco shipyard (State archives of Trieste, 1950s)



Ursus floating pontoon (Port Network Authority of the Eastern Adriatic Sea archives, 1939)

Video:

Please note that contacts with Istituto Luce are still in progress. Below an example of video available on their website

patrimonio.archivioluce.com/luce-web/detail/IL3000083264/1/il-porto-trieste.html

WHAT'S IN OUR VM?

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1	TRADITIONS & CULTURE – Intangible heritage					
1.1	competences, job profiles	X	X			
1.2	visual art					
1.3	crafting, tools					
1.4	literature, proverbs, languages					
1.5	religions, gods, sea mythology, fairy tales					
1.6	sustainable behaviors / greening					
1.7	food and recipes	X	X			
2	SOCIO-ECONOMIC RELATIONS – Intangible heritage					
2.1	inland/City port relations	X	X			
2.2	import/export of goods, traffics	X	X			
2.3	routes, maps	X	X			
2.4	immigration/emigration of people	X	X			
2.5	sailing activities, cruises					
2.6	tourism					
2.7	sailing techniques, winds, on board tools and technologies					

2.8	fishing					
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3	PHYSICAL HERITAGE (ARTCRAFT, BUILDINGS, ETC.) – Tangible heritage					
3.1	Port authorities headquarter and premises	X	X			
3.2	architecture	X	X			
3.3	lighthouses					
3.4	dams					
3.5	ship design, shipbuilding, ship maintenance	X	X			
3.7	relicts					
3.8	sustainable power and environmental solutions					
3.9	other monuments					

ABSTRACTS OF SPECIFIC LOCAL CONTENTS (minimum 9 for each PP)

1) **PP3-1.1** Port skills and jobs: all senses involved

Work on the docks and in the port warehouses has changed a lot over the centuries, being linked to variations in trade (goods and practices) and evolutions in both technique and available technology. Jobs and skills that used to be very valued less than 100 years ago have nowadays disappeared or have been replaced by machineries. These contents will tell us the story of manual labour linked to loading and unloading operations and how technology changed it, from dockers and stevedores to women working in the coffee grains selection and processing, the so-called *sèsolotte* (from the word *sèssola*, which indicates in Venetian dialects the hand bailer used for transferring powders or grains from a container to another).



A further storytelling could explore intellectual professions linked to the port (e.g. insurance companies, shippers) and how careers and people's mobility connected to them contributed to enriching the cultural life of the city.

2) PP3-1.7 Trieste, the city of coffee

Trieste's location at the crossroads of Latin, Germanic and Slavic cultures is reflected in the richness and variety of its culinary tradition.

What is more peculiar, the city and its people deeply identify with coffee.

The coffee trade arose thanks to the International Free Port status since the 1750s, to remarkably grow over the years and contributing to the establishment of an industrial cluster, whose trade association dates back to 1891. A significant number of companies, such as Illy Caffè S.p.A., Hausbrandt Trieste 1892 S.p.A., Primo Aroma S.r.l., operate in this field covering the entire production chain, from trading to roasting. Trieste is also home to specialised forwarding companies and trade agents, research and training facilities centred on coffee. Moreover, people from Trieste consume almost double the Italian average of coffee (almost 10 kg per person a year).

Beyond history and economy, for Trieste and its inhabitants coffee is part of their culture. Historical cafes steeped in a Central European atmosphere invite tourists and locals to enjoy its aroma, as writers the likes of Stendhal, Joyce, Svevo and Saba used to do.

3) PP3-2.1 Inland-port city relations, geography and history matter

The geographic position of Trieste and the history it shares with Central and Eastern Europe when the area was known as *Mitteleuropa*, have a great impact on how its relations with the wider and international hinterland have evolved over time. This heritage finds a correspondence also in the port's past and present practice, as the great part of partnerships and trade involve players beyond somehow blurred borders. These factors influenced the city's demographic, cultural and linguistic fabric. These contents aim at delving into the ties Trieste and its port have with their neighbours, with a special attention for Venice, Istria and Dalmatia.

4) PP3-2.2 A blooming emporium between modern and contemporary history

Between 17th and 18th century, coasting trade became central to define economic areas in the Adriatic. At the time, heavy and cheap goods – such as olive oil, cereal, timber, raw metal, iron and copper manufactures, rough textile fabrics, fruits, vegetables, cheese, salted fish – were the bulk of trade. From the mid-1750s onwards, the new imperial policies determined new traffics for the port. The traded goods traded included silk, wool, cotton, linens, hats, oil, wine, citrus, rice, cereals, vegetables, garlic, legumes, cheese, German barley, raisins, almonds, figs, drugs, sugar, cocoa, pepper, cinnamon, vanilla, coffee from Alexandria, salt from Barletta and



Trapani, salted and dried fish, liqueurs, rosolio, soap, pasta, wax, colourful Brazilian woods, potash, sulphur, tin, cream of tartar, rock alum, arsenic, mercury, Bohemian glass, iron and copper, arms, deer horn and tortoise shell.

5) PP3-2.3 Routes to and through Trieste

The bits in front of the Hydrodynamic Plant tell us the journeys those goods made through the main port of the Empire. By the middle of the 1790s, Trieste was described as the “most essential hub between the East and the West, between Italy, Germany and the other Northern European kingdoms”. Switzerland and Hungary, for instance, were supplied with merchandise and products coming from “the Eastern Mediterranean, Italy, America and the Indies” only “through Trieste” and, in turn, shipped “their own natural and handmade products via the same route”. In 1782, Trieste was receiving merchandise from the Ottoman Empire, Venetian ports, the Kingdoms of Naples and Sicily, other Habsburg ports, China, France, Lombardy via the Po river, ports of the Papal State, Genoa, Hamburg, Leghorn, Dubrovnik, Holland, Denmark, Malta and North Africa. Along that same route, more merchandise was shipped to England, the Flanders, the Venetian and the Papal State, the Po valley, the Kingdoms of Naples and Sicily, the Eastern Mediterranean, Genoa, Leghorn, Austria, Hamburg, Holland, Spain, Portugal, Malta, North Africa and Dubrovnik.

6) PP3-2.4 People coming to and through Trieste

In the first half of the 18th century people coming from different places (Italian peninsula, Habsburg Empire, Balkans, Eastern Mediterranean, Western Europe) and with different religious beliefs (Catholic, Protestant, Jewish and Orthodox) arrived in town for various reasons. In that period, these peoples sustained the local commerce and were the protagonists of the development of the secondary sector too.

From the end of the 19th century Trieste was also the port of departure for the populations of Venezia Giulia, Istria, Kvarner and Dalmatia that left their homeland, poverty and difficult historical/political situations in search of a better life in the Americas, Australia, South Africa and other European countries.

The special relationship tying the city with its Jewish community proved to be crucial between the 19th and the 20th century, when thousands of Jews fled Eastern European and Russian *pogroms* before and Nazi persecutions later on, leaving from the port of Trieste to reach Palestine or the Americas.

7) PP3-3.1 The Lloyd Tower, testimony of a Mitteleuropean past

The Lloyd Tower (*Torre del Lloyd*), currently hosting the headquarters of the Port Network Authority of the Eastern Adriatic Sea, was part of the Austrian Lloyd Arsenal; it was, more specifically, the main entrance to the area.

A crenelated tower, designed in neo-Gothic style by the Danish architect Hans Christian Hansen, the Lloyd Tower was built in the 19th century out of sandstone blocks, covered with white limestone squared stones from the quarries of Pula. Its foundation stone was laid in 1853 in the presence of Archduke Ferdinand Maximilian. Its style somehow remembers the famous Miramare Castle, one of the iconic monuments of Trieste, built for the same Ferdinand Maximilian, later Emperor of Mexico, and his wife Charlotte of Belgium.

For many years this area represented the centre of Trieste's shipbuilding industry, until it was partially destroyed during WWII. Of the whole original complex, only the tower itself and the building behind it survived the war.

8) PP3-3.2 Industrial architecture: the Old Port of Trieste

The Old Port of Trieste represents an excellent example of 19th century's European port industrial architecture.

Warehouse no. 26 is the largest and the most interesting building in the area thanks to the artistic detail of its facades, its architectural features, the height of its ceilings and the scale of its interior.

The Hydrodynamic Plant, built in mid-19th century, housed the machinery, control units and related equipment to generate the hydroelectric power needed to operate the cranes. It was in service until the second half of 1980s. The adjacent Electrical Transformer Substation, built between 1913 and 1914, has been recently renovated in view of hosting cultural exhibitions.

Built in 1913 in the Austrian Lloyd Arsenal, the floating crane called "Ursus" is made completely from steel. Its renovation works will start soon to make it a true protagonist of the port industrial heritage.

9) PP3-3.3 Shipbuilding in Trieste and Monfalcone, past meets present

The shipbuilding sector has played and still plays a significant role in the city's economy.

Its history began in 1838 with the foundation of San Marco shipyard in the area where the Austrian Lloyd Arsenal would later be established. Two decades later this became the so-called Stabilimento Tecnico Triestino (STT), the Empire's largest shipbuilder that built most of the Austro-Hungarian Navy's capital ships, as well as many merchant vessels.

In 1929, STT was merged with the Cantiere Navale Triestino of Monfalcone founded by Cosulich shipping company, to form Cantieri Riuniti dell'Adriatico (CRDA). CRDA group included affiliate

shipyards in Venice and Pula. During WWII, CRDA Trieste built two battleships for the *Regia Marina*, Vittorio Veneto and Roma.

In 1984, the Venezia Giulia sites became part of the Fincantieri Group. Trieste lost importance as ship construction or repair facilities, much to the gain of Monfalcone shipyards which, since the Nineties, has been specialising in outstanding cruise ships.

However, as of 2000, Trieste shipyards still retain three dry docks capable of serving ships up to 25,000, 35,000 and 170,000 tons respectively.

DELIVERABLE 3.1.5

Report on tangible and intangible cultural heritage of
involved ports

PP4 – Intermodal Transport Cluster

Work Package	3 Preservation of tangible and intangible cultural heritage of Adriatic Italian and Croatian ports
Activity	3.1 Preservation of the maritime cultural heritage of Adriatic Italian Croatian ports
Phase Leader	PP1 - NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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1) The cultural heritage of the port city

The Port of Rijeka is located on the North Adriatic, in the Kvarner Gulf, and is the largest Croatian port. The port of Rijeka is primarily a cargo port, spreading across an area of 1,500,000 m², the port contains 58 berths and has an exceptional geo-traffic position with draft depth of more than 16 metres allowing for the reception of large ships. The port is located within the city core and covers almost the entirety of the city's coastline.

Throughout its history Rijeka has always been a favorable port and intersection of land and sea routes. The medieval port, the site of today's Školjić, was the site of a lively trade exchange, but the turning point in the development was the charter of Emperor Charles VI. dated 1717, declaring free navigation by sea, and a charter issued in 1719, granting Rijeka and Trieste the status of free ports which has allowed them to become key ports for the expansion and strengthening of the Habsburg Trade Policy, the main ports for import and export, as well as connections with all Mediterranean ports and the majority of ports across the world. Since 1776, Rijeka was developed as a corps, separated from the Hungarian Parliament and led by a Hungarian nobleman as Governor of Rijeka. This was the beginning of the establishment of Rijeka's autonomy.

The main port of Rijeka was built at the mouth of the river Fiumara. In 1822, the Hungarian government showed great interest in Rijeka, turning it into a major export port for agricultural products. In the 1840s, the construction of a new part of the Rijeka port began and the railway to Budapest opened in 1873. After World War I, Rijeka became part of the Kingdom of Italy, cut off from its natural hinterland and isolated from the economic ties at the end of this new homeland. At the very end of World War II, the Allies bombed the port of Rijeka, and after its liberation in 1945, the port was rebuilt. The united cities of Rijeka and Sušak were allowed to redevelop the port under Yugoslav rule, and Rijeka became the largest and most important port in the country. As early as 1967, the Bulk Cargo Terminal was put into operation in Bakar and is listed as one of the most modern terminals in Europe, and in 1983, a general cargo terminal was installed. In 1996, by decision of the Government of the Republic of Croatia, the Port Authority of Rijeka was established for the management, construction and use of the port of Rijeka. In 1996, by decision of the Government of the Republic of Croatia, the Port Authority of Rijeka was established for the management, construction and use of the port of Rijeka.

In 2013, Croatia became the 28th full member state of the European Union, which made the port of Rijeka part of the EU's core TEN-T transport network. The Port of Rijeka Authority participated in the application for the City of Rijeka's application for the European Capital of Culture, as a project partner. The very name "Port of Diversity" speaks in favor of the impact and importance of port development for the immediate community. In March 2019, the 300th anniversary was officially celebrated since the proclamation of Rijeka as a free royal port. On February 1st 2020, the port served as the location for the Grand opening act of the European Capital of Culture 2020 program in Rijeka during which the narrator read through the history of the city and the port.

Throughout its history, Rijeka has been under the rule of many different countries, especially during the 20th Century. The city of Rijeka (and Sušak, during the times they were divided) has been the subject of the Austro-Hungarian Monarchy (1868-1918), the State of Slovenes, Croats and Serbs (1918), the Italian Regency of Kvarner (1920), the Free State of Rijeka (1920-1924), the Kingdom of Italy (1924-1943.), Kingdom of SHS (1918-1941), Germany (1943-1945), Yugoslavia (1945-1990) and today belongs to the Republic of Croatia. Each of the ruling countries has left a piece of their cultural heritage to the city and has impacted the lives of the citizens. In 2020, as the European Capital of Culture, Rijeka and its citizens celebrate the heritage of its past as well as the present with the yearly program filled with different kinds of events, exhibitions, performances, etc.

There are currently many projects active in the city of Rijeka, some of which are both of cultural and maritime significance, such as:

- The Construction of the nautical tourism port Brajdica – Marina Pećine - with a capacity of 118 commercial berths and 80 non-commercial berths for vessels of various sizes. The new nautical port will represent the substantial start of an attractive coastal move;
- Delta – Rijeka's Waterfront, which includes - Construction of the park in the northern Delta area, construction of residential, commercial and other facilities in the southern part, which will give a new identity to the city by the appearance and quality of the public areas, as well as the construction of a marina in the port of Baroš.
- Reconstruction and repurpose of the ship Galeb - The Galeb Motor Boat - a representative protected cultural monument becomes a museum whose exhibition will coincide with the Rijeka European Capital of Culture 2020 program "Age of Power", which deals with a critical re-examination of all totalitarianisms that touched Rijeka.

Rijeka, both as a city and as a port, is located in the Mediterranean corridor of the TEN-T network, and currently has many important infrastructural investments, as well as many different projects underway (including the above mentioned ones with both cultural and maritime significance). In March 2019, a conference focusing on the future and the potentials of the port of Rijeka was held. During the conference, the Zagreb Pier in Rijeka (including the Rijeka Gateway project worth around €320 million) was discussed as the main point which will enable the cargo port of Rijeka to once again stand as one of the, if not the most important cargo ports of the North Adriatic. Along with the Zagreb pier, the Rijeka Traffic node, as a way to connect the mainland to the port, and the EU corridors, mainly the TEN-T corridor, were mentioned as the most important points for the future of the port of Rijeka. Infrastructural projects, both those significant for maritime, such as the building of the new terminals of the port of Rijeka (located in Omišalj, Bakar port basin and Rijeka port basin – Zagreb Pier), The Delta Waterfront, The pećine Marina etc., as well as ones significant for railway, such as the high-efficiency railway line Botovo-Rijeka, the construction of the second railway track and the establishment of high-speed city rail, etc. will help shape the future maritime and hinterland traffic connections in the city of Rijeka.

2) The project choices

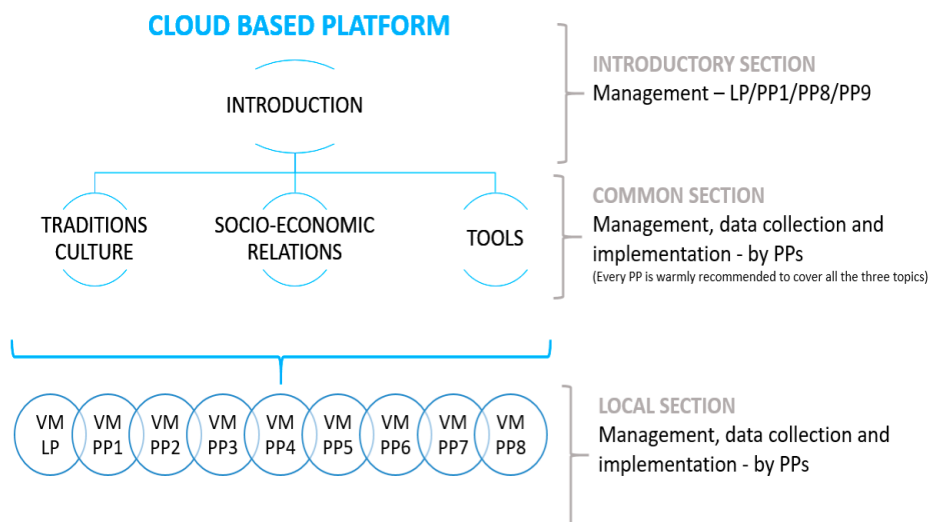
- Strategic objectives of the valorisation intervention for the PP
- Description of the main cultural contents we chose to enhance, and why.
- Identification of priority user targets: citizens, tourists, schools, etc...
- Partnerships and relations to be activated with the territory and / or with other cultural institutions

The main idea of VM in Rijeka is to unite and share history of port in connection to Jadrolinija as one of Croatia`s largest shipping companies. The goal is to show the historical development of Rijeka port and its connections with other Adriatic ports and the city itself as well as to make links with Jardolinija. Rijeka port is crucial part in the development of Rijeka city and as such, we want to show historical value of the port for the city. Idea is to use web page as a main tool for this. The main focus will be on traditions – jobs in shipyard that is traditionally very important for Rijeka and Kvarner as such, crafting of traditional boats, traditional food but also on socio-economic relations since Rijeka is Croatians biggest freight port and as such, has a big importance through history and for the future. The main targets will be citizens, schools and tourists who do not have a vast knowledge of history and our goal is to introduce them to history of Rijeka in an interesting way. The important history object we will focus on are: port as such, Jadrolinija, Torpedo (Rijeka is first to produce one), Rijeka lighthouse etc. KIP will get to maintain relationship with Jadrolinija as Croatian biggest liner company and important part of Rijeka port`s history as well as with some museums who will provide us with knowledge to be used in the VM.

3) The hypothesized implementation path

- Outline the features of any fittings in physical locations and / or digital environments that you plan to use
- In relation to the technologies expressed in the 3.1.3 deliverable, sketch the main technological choices by putting them in relation to the type of users, the places and the contents presented
- Describe how users will experience VMs.
- Indicate ways to monitor the effectiveness of the interventions that will be carried out.

The main idea is to use web page and/or mobile application as a main tool to share content of VM, with high – quality photos and other content. The definitive approach is not yet decided. The content will be presented in interesting and easy to understand way so it will capture the interest of everybody, from school children to tourists visiting Rijeka and its port. The monitor will be done using online tools for web page analytics and eventually short questionnaire where questions about user’s satisfaction are asked and eventual improvement proposed. It is also negotiated with Jadrolinija to provide their premises at a ferry where all passengers could use their cell-phones to scan QR codes and to access the content.



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Mediterranean ports and the majority of ports across the world. Since 1776, Rijeka was developed as a corps, separated from the Hungarian Parliament and led by a Hungarian nobleman as Governor of Rijeka. This was the beginning of the establishment of Rijeka's autonomy.

The importance of the port to the city today can be seen in the fact that the Port of Rijeka Authority participated in the application for the City of Rijeka's application for the European Capital of Culture, as a project partner. The very name "Port of Diversity" speaks in favor of the impact and importance of port development for the immediate community. In March 2019, the 300th anniversary was officially celebrated since the proclamation of Rijeka as a free royal port. On February 1st 2020, the port served as the location for the Grand opening act of the European Capital of Culture 2020 program in Rijeka during which the narrator read through the history of the city and the port.

WHAT'S IN YOUR VM?

A		TEXTS	IMAGES	SOUNDS AND VIDEOS	3D MODELS	DIAGNOSTIC DATA
1	TRADITIONS & CULTURE – Intangible heritage					
1.1	competences, job profiles	x	x			
1.2	Visual art					
1.3	Crafting, tools					
1.4	literature, proverbs, languages					
1.5	religions, gods, sea mythology, fairy tales	x	x			
1.6	sustainable behaviors / greening					
1.7	food and recipes	x	x			
2	SOCIO-ECONOMIC RELATIONS – Intangible heritage					
2.1	inland /City port relations	x	x	x		
2.2	import/export of goods, traffics					
2.3	routes, maps	x	x			
2.4	immigration/emigration of people					
2.5	Sailing activities, cruises	x	x			
2.6	Tourism	x	x			

2.7	Sailing techniques, winds, on board tools and technologies					
2.8	Fishing	x	x			
3	PHYSICAL HERITAGE (ARTCRAFT, BUILDINGS, ETC) – tangible heritage					
3.1	Port authorities headquarter and premises	x	x			
3.2	architecture					
3.3	lighthouses	x	x			
3.4	dams					
3.5	ship design, shipbuilding, ship maintenance	x	x			
3.7	relicts					
3.8	sustainable power and environmental solutions					
3.9	other monuments					

ABSTRACT OF SPECIFIC LOCAL CONTENTS (minimum 9 for each PP)

1. PP(4)-1.1

Competences, job profiles

Shipbuilding activity on the eastern Adriatic coast have been present from the prehistoric times, as can be seen from numerous ship depictions of indigenous ships in the area. Among them are ships Liburnia and Histria, which contributed significantly to the ancient Mediterranean shipbuilding. However, there is little material evidence of organized shipbuilding. The existence of organized shipyards that would unify the production process at that time was not confirmed. The timber was sourced from local sources, or in the timber trade centers, iron and other equipment were largely imported from Italian ports. From XV. The trade of timber and ship equipment began to develop in Rijeka as well. The modern time shipyards in Rijeka dated in 1890s. The "3. Maj" shipyard story begins in the year 1892 and "Lazarus", later known as "Viktor Lenac" in 1896.¹

2. PP(4)-1.5

Religions, gods, sea mythology, fairy tales

Religions

The patron saint of Rijeka is Sv. Vid, and medieval Rijeka was named after him the Croatian "Rika of Saint Vid", Latin "Terra Fluminis sancti Viti". Sv. Vid was imprinted both in the seals of the City and in the hearts of men. Ships sailed under his flag, home doors adorned with his figure.²

There is also Trsat, that is a sanctuary dedicated to Mary by seamen, the sanctuary of the Queen of the Adriatic - Star of the Sea. It is a destination for many seamen and their families, where they give thanks to Our Lady for "protecting, defending and bringing them home" in their inscriptions and prayers and thanks.³

Mithology

Morčić is one of the most recognizable symbols of this city, many activities and events, and in particular the International Rijeka Carnival, whose mascot and trademark has been officially official since 1991. Morčić is a type of original jewelry from Rijeka, Kvarner and the Croatian Littoral, most represented in the form of earrings, and besides aesthetic and decorative purpose, it also indicates an attachment to those parts. Apart from reading the history of Rijeka and the traditions of our ancestors and skilled jeweler's hands, it is a symbol that spreads positive energy, because it carries the optimism that its proximity guarantees us the desire, peace, protection

¹ <https://tehnika.lzmk.hr/brodogradnja/> ; <https://www.lenac.hr/hr/Brodogradiliste/Nasa-prica/> ; <https://www.uljanik.hr/en/uljanik-group/3-maj-shipyard-jsc/history>

² http://www.visitrijeka.hr/Sve_o_Rijeci/Rijecke_price/Sv_Vid_zastitnik_grada

³ <http://www.croatia.org/crown/articles/9885/1/Votive-chapel-of-gifts-at-Marys-Trsat-sanctuary-near-Rijeka.html>

from the enemy and all evil forces. Men's earrings were once worn by men, especially fishermen and their only sons, and even today there are no rarity in the ear of male members, as well as brooches, bracelets, rings and pins of Morčić in the vaults of every old Rijeka city family.⁴

3. PP(4)-1.7

Food and receipes

The turbulent history of Rijeka is also woven into the local cuisine, with recognizable influences - Austrian, Italian, even French. However, there are some foods that represents the original soul of the coastal region, which have retained the characteristics of simple Mediterranean dining with a glass of wine. Most such foods are served in Rijeka's restaurants and taverns.⁵ The important part of Rijeka's cuisine is also the city's main market that has been present from the end of 19th century. It appeared along the seashore, not far from the wooden pier where local fishermen were landing their catch and taking it for sale in baskets. Fish, crustaceans and shellfish were initially sold outdoors, and since 1866 under roof, in a raised fish market.⁶ Today, there are several pavilions where people can buy all kinds of fresh food.

4. PP(4)-2.1

Inland/City port relations

CITY IS A PORT, A PORT IS A CITY - From a small port to a port of diversity. This is just one of the many sentences that explain the relation of the Rijeka city and port. Because the port of Rijeka is a symbol of the city on the river Rječina, one of the main components of its urban identity, it symbolizes openness, tolerance, the place from which many of our sailors set out to conquer the world's seas, the place where the culture of the world came to our city. The importance of this relation can be seen from the fact that the Port of Rijeka Authority participated in the application for the City of Rijeka's application for the European Capital of Culture, as a project partner. The very name "Port of Diversity" speaks in favor of the impact and importance of port development for the immediate community.⁷

5. PP(4)-2.5

Sailing activities, cruises

In the week celebrating the feast of St. Vid - the patron saint of the city of Rijeka, one of the most massive sailing rallies in the Adriatic is held in Rijeka - the regatta "Fiumanka". The competition

⁴ http://www.visitrijeka.hr/Sve_o_Rijeci/Rijecke_price/Morcic_Rijecki_sreconosa

⁵ http://www.visitrijeka.hr/Gdje_je_isti_i_piti/Specijaliteti

⁶ http://www.visitrijeka.hr/Gdje_je_isti_i_piti/Velika_trznica

⁷ <http://www.novilist.hr/NL/GRAD-JE-LUKA-LUKA-JE-GRAD-Od-malog-porta-do-luke-razlicitosti>

is held on the regatta field in front of the Rijeka port. The sporting story of Fiumanka begins in 2000, when Rijeka sailing enthusiasts launch an event modeled after the famous Trieste regatta Barcolan, one of the most massive regattas in the world.

The Rijeka regatta has become one of the traditions of the area, gaining the status of a highly regarded sailing event in Croatian and beyond. Fiumanka is also regularly visited by boats from neighboring countries, especially from Slovenia and Italy, which have marked their successes with the regatta editions so far.⁸

6. PP(4)-2.8

Fishing

Fishing was one of the more important economic activities in the city. The first names of Rijeka's fishermen were recorded in documents from the 15th century: Tonko (1438) and Andrew (1451). Even then, masters-fishermen and owners of boats and fishing accessories were distinguished from those who leased these funds. Fishing took place in front of Preluk, in Martinščica and Žurkovo, and in all three localities tuna fishing equipment was erected, as well as in Bakar, Bakarac and Kraljevica. On June 19, 1438, the Rijeka City Council also made the following important decision in the City Lodge: "Every fisherman of the Rijeka and the Kastav country (city) can lay the tuna fishing net in Preluk (Prelucham) and must not overtake the other, that is, he can lay the net only if someone else has not laid them already." The City Council of Rijeka in 1449 prescribed a regulation on the sale of fish, which regulates the supply of the city, the prescribed selling prices of fish, certain dues and penalties for violations, the determined privileged supply and the selection of fish.⁹

7. PP(4)-3.1

Port authorities headquarter and premisses

The Port of Rijeka Authority was founded in 1996 by the Republic of Croatia as the first port authority in the country. The Port of Rijeka Authority is a non-profit institution for the governance, development and use of the Port of Rijeka. The Port of Rijeka Authority manages the development of port capacities and is competent for granting concessions to private concession companies for economic activities in the area of the Port of Rijeka, i.e. port basins Rijeka and Sušak, basin Bay of Bakar, basin Omišalj Bay on the island of Krk and basin Raša in Istria.¹⁰

⁸ <https://www.rijeka.hr teme-za-gradane/sport-i-rekreacija/sportsko-rekreacijske-manifestacije/tradicionalne-priredbe/>

⁹ <http://www.klub-susacana.hr/revija/clanak.asp?Num=62-63&C=27>

¹⁰ <https://www.portauthority.hr/en/about-us/>

The administrative building of the Port of Rijeka was built on the pier of Zichy in 1885 on the site of demolished port warehouse no. 1, according to a project by Joseph Hubert.

The palace was originally used for the needs of the Royal Naval Administration under Hungarian rule. The facades of the building are decorated with historicist, late Renaissance elements. The main entrance faces the harbor and the sea. The interior of the building exudes harmony, and the staircase leading to the mezzanine and large rooms is decorated with wrought iron grilles.

In the mezzanine of the palace was an aquarium where water was pumped from the sea, so Rijeka had a Museo del mare in the early 20th century. The aquarium was converted into an apartment in 1928. The historical significance of the building has been lost by the removal of decorative elements, balustrade around the roof and attic with a crown when another floor was erected.¹¹

8. PP(4)-3.3

Lighthouses

In 1884, an iron lighthouse was erected on top of the Rijeka breakwater (formerly the Maria Theresa breakwater). Due to the subsidence of the breakwater, the lighthouse was relocated to Mlaka at the end of the 19th century. In 1933, it was moved for the third time, now raised to a three-storey lighthouse building, and reinforced with reinforced concrete. The last change occurred in 2002, when another floor for the Coast Radio was upgraded to the building.

The lighthouse consists of eight rings stacked on top of one another. At the top is a lantern with an optical apparatus. The center part of the optical apparatus is connected to the clock mechanism. Every two minutes, an optical device, consisting of eight lenses, makes a full circle, which means that light appears every 15 seconds in alternating red and white light. The light is visible from a distance of about 33 kilometers, or 17.8 nautical miles. Today, the lighthouse is fully automated and integrated into the city view.¹²

9. PP(4)-3.5

Ship design, shipbuilding, ship maintenance

Krk sailing yacht, Croatian merchant sailing yacht from XII – XIII. The name derives from the depiction of the nave in the remains of the church of St. St. George in Vrbnik on Krk. It was 28 m long, 8.4 m wide, 4.4 m high, 2–3 m draft, and had a crew of 20 members. It had a pointed, wedge-shaped stern, which, in the rest of the carcass, went into egg-shaped form and a strong keel. Along both sides were three strong reinforcements that protected the ship during berths in

¹¹ <https://rijekaheritage.org/hr/kj/upravnazgradalukerijeka>

¹² <https://rijekaheritage.org/hr/kj/svjeticnik>

the harbor. It had a larger citadel on the stern, and its bow was slightly raised, as the beginning of the bow superstructure. The rudder was steered. On either side of the bow were circular openings for the anchor ropes, and the anchors were kept on the bow deck, where a hand winch for raising the anchor was also located. From the relatively flat deck that, along with the deck, served to accommodate the cargo, three masts lifted firmly into the keel. On the masts were Latin sails, large crosses made with continued shapes, and on top of them an observation basket. Bins led to the baskets, and the sailboat was richly stocked with ropes for steering.¹³

¹³ <https://tehnika.lzmk.hr/krcki-jedrenjak/>

DELIVERABLE 3.1.5

Report on tangible and intangible cultural heritage of involved ports

PP5 – Dubrovnik Port Authority

Work Package	3 “Preservation of tangible and intangible cultural heritage of Adriatic Italian and Croatian ports
Activity	3.1 Preservation of the maritime cultural heritage of Adriatic Italian Croatian ports
Phase Leader	PP1 - NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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The cultural heritage of the port city

1.	Geography / History	<p>THE CULTURAL HERITAGE OF THE PORT CITY DUBROVNIK</p> <p>Dubrovnik is the most important historical port of the eastern Adriatic. Its geographical position on the open sea of the southern Adriatic and its connection with the Balkan hinterland enabled Dubrovnik to be part of maritime and land trade chain, which was the basis of its development and economic power. Two dominant winds - the Bora (NNE) and the South (SE), have provided successful navigation while sailing to Mediterranean waters (NNE) and returning to Dubrovnik on their return voyages from long distances beyond the Adriatic (SE). The old port of Dubrovnik is open to the south and to the southerly winds, partly protected by the island of Lokrum and breakwater Kaše. Srđ hill is protecting the city form the South wind Bora.</p> <p>The founding of the city of Dubrovnik is linked to the penetration of the Avars and the Slavs into the Adriatic when they destroyed the ancient Greco-Roman city Epidaur, located in the present-day city of Cavtat, south of Dubrovnik. The founders of the new settlement from which the city of Dubrovnik would emerge north of the destroyed Epidaurus were fugitives from the destroyed ancient city Epidaur.</p> <p>The southwestern part of Dubrovnik was first an island separated by a channel from the mainland. It provided its inhabitants, refugees from the ruined Epidaurus, security. By levee it became a peninsula. Dubrovnik was built on this hard-to-reach pile of stones that provided its inhabitants the security important to survive in the uncertain times of penetration of barbarians from the depths of the continent. As early as in the 10th century, the city expanded and was surrounded by the city walls. In the 12th century a canal that was separating the oldest part of the city from the mainland was congested. At that time, a port was formed where the port of Dubrovnik is today, but the port was open to the east and south winds and was very unsafe for ships in it, until the 15th century, in 1485, when the Dubrovnik builder Paskoje Milićević built an embankment called the Kaše for defense against the waves with two-doors, the entrances to the port for larger and smaller ships.</p> <p>At the beginning of its rise as a naval force of the Adriatic, Dubrovnik was under Byzantine authority. There are a number of 12th century documents representing contracts with a number of cities on the western Adriatic coast, as well as contracts with the countries of the Dubrovnik hinterland. These documents confirm the</p>
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		<p>role of Dubrovnik in the Middle Ages as an important coastal city whose importance and power grew thanks to the use of maritime and land trade, that is, between the Mediterranean sea and the Balkans heartland.</p> <p>In the 12th century, Dubrovnik became an intermediary in trade between the Mediterranean and the Balkan interior, and this role of emporiums would retain until its downfall. Despite its dependence on Byzantine rule, Dubrovnik maintained a high degree of its independence with a stronghold at the helm that would later gain the status of the prince at the helm of the aristocratic administration.</p> <p>The Venetian rule over the Dubrovnik replaced the Byzantine Empire in 1205 and lasted until 1358. The Venetian government limited the autonomy of Dubrovnik and appointed the Venetian prince at the helm to defend Venice's interests. The area under Dubrovnik administration was expanding during the Venetian rule. In 1252, the island of Lastovo came under the administration of Dubrovnik, the peninsula of Pelješac in 1333 and the island of Mljet in 1345.</p> <p>During the Venetian rule, Dubrovnik developed its trade with the Italian coastal cities on the western and eastern Adriatic coast. There were numerous trade agreements from that time with Split, Trogir, Hvar, Kotor, Ulcinj, Senj and Hvar, and in the 13th century Dubrovnik trade expanded from the Adriatic to the Mediterranean, especially to Syria and the Mediterranean countries of Africa.</p> <p>In 1358, Venice had to relinquish power on the eastern Adriatic coast, on the basis of a peace treaty known as the "Zadar Peace" concluded on February 18th between the Hungarian-Croatian King Ludovik I. Anžulinac and the Republic of Venice, by which Venice lost control over the eastern Adriatic. Dubrovnik thus fell under the rule of the king of Hungary, Croatia, Dalmatia and Slavonia. Dubrovnik, under the rule of the Hungarian-Croatian king, has the status of a commune and the name Republic of Dubrovnik began to be used in the mid-15th century.</p> <p>Even in the Middle Ages, the Slavic, Croatian regiment prevailed in Dubrovnik, with which the Indigenous Romanesque population</p>
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		<p>merged, and Dalmatian as a separate Romance language was suppressed by the Slavic, Croatian idiom, which retained numerous Romanisms.</p> <p>A previously established trade with the Balkan hinterland of Dubrovnik was developed in the 14th century. By caravan routes Dubrovnik goods are transported to Bosnia and Serbia. This land trade was even more intense than maritime until the beginning of the 14th century while in the second half of the 14th century the maritime trade exceeded the land by its volume. As Venice withdrew its ships from Dubrovnik merchant fleet, the shipbuilding industry of larger merchant ships developed more intensively in Dubrovnik in the 14th century. In the second half of the 14th century, the intensity of Dubrovnik's maritime trade increased abruptly. Trade links with southern Italy, Sicily and Syria and Egypt were revived, and trade links were established with Aragon (Spain) and the Mediterranean ports of France in the 15th century.</p> <p>In the 14th century, a new maritime power emerged in the Mediterranean - Turkey, with which Dubrovnik established relations. In 1430, Dubrovnik received from the Turkish Sultan privilege for free trade on the sea and on the land. Since 1459, Dubrovnik has been paying Turkey a tribute for free trade.</p> <p>Dubrovnik had the privilege of trading in salt, which was an important strategic commodity. Dubrovnik owned the salt marshes in the town of Ston and the privilege of an exclusive salt trade from Neretva River estuary to Boka Kotorska bay.</p> <p>The year 1526 brought Dubrovnik a change of government. That year, the Croatian-Hungarian army was defeated on the Mohács field (near the Croatian-Hungarian border) by an army of the Ottoman Empire led by Sultan Suleiman I. the Magnificent. This event meant the termination of the payment of a tribute to the Croatian-Hungarian Kingdom whose power over Dubrovnik had been extinguished.</p> <p>In the 16th Century, Dubrovnik ships expanded their merchant activity to the Atlantic. Dubrovnik Karakas sail to the harbor of England. At that time, Dubrovnik had up to 200 major merchant ships. In the 16th century Dubrovnik Karaks were among the largest sailing ships in the world.</p> <p>In the 17th century when trade across the Atlantic strengthened, Dubrovnik experienced a decline in its trade, and also experienced the effects of the terrible earthquake that occurred in 1667, when its economy suffered as a result of a decline in its trading activity. However, in these difficult circumstances, Dubrovnik was able to</p>
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		<p>rebuild the city and its merchant navy. On the eve of the fall of the Dubrovnik Republic, Dubrovnik has 280 ships and strong economic potential.</p> <p>Dubrovnik ships were exposed to pirate ship attacks. The Dubrovnik people had no naval warfare. They used merchant ships to participate in the war. They also had several galleys and fustas to counteract the pirates who threatened them. Dubrovnik rarely fought its own naval battles but participated in wars involving the navies of its sovereigns. Dubrovnik was expanding its territory through its purchase rather than conquest of war. Dubrovnik merchant ships were always armed to counteract pirate attacks at sea. The Dubrovnik authorities pursued a policy of avoiding war conflicts in order to preserve their neutrality. Authorities especially cared about maintaining good relations with Turkey. But they also avoided participating in the wars waged by the Turkish Navy, although they knew their weapons were being transported for their needs.</p> <p>Dubrovnik sailors were appreciated in Dubrovnik and the largest of them left a deep mark on the collective memory. About them are told stories, their exploits got into the legends, and some particular captains and ship owners received highest accolades. The most famous of them was the ship owner from Lopud, Miho Pracat Pracatović (1522-1607). He left much of his property to charity and the Republic built in his honor a monument in the Rector's Palace. From the 15th to the 18th century the family of Ohmučević from Slano stood out in the maritime activities, while Vice Bune from Lopud and the Sagroević family from Šipan in the 16th century. Nikola Sagroevic was also a writer of nautical works, among which is his preserved treatise on tides named "Separation of the diverse tides and low tides of the Western Ocean", published in Venice in 1574. The Stjepanović Skočibuha family also stood out. Ivan Račić originating from the village of Plat near Cavtat (1845 - 1918), left his fortune to Dubrovnik charity.</p> <p>The oldest shipyard was located in the northern part of the city port. A new shipyard was built in the port of Gruž in 1526. Apart from the local shipbuilders, many shipbuilders from Korčula, which was the center of the Adriatic shipbuilding industry, also worked there.</p>
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		<p>The documents indicate the name “navis” in the general sense of the ship, and the “barge” for a smaller ship.</p> <p>Dubrovnik “Ormarica” is a type of lighter warship - a pursuit but also a reconnaissance patrol ship. It had one mast with a mainsail (lugsail). It is a without decks boat with benches (rowing benches) and usually had 12 oars. It had naval cannon on the bow and an armed crew.</p> <p>The Dubrovnik “Barkuzij”</p> <p>There are several variants of the name of the Dubrovnik “barkuzij”: barcussium / barcosium / barcoso. It was similar to a caravel. It was a medium size boat on sails and oars. It had a Latin sail. The larger “barkuzij” also had two masts with Latin sails. The deck was covered while the crew cabin was on the stern. It was a robust ship that could stand the great sea so it could sail in Mediterranean waters as well. In addition to Dubrovnik, the port of Kotor also had about twenty “barkuzij”.</p> <p>Dubrovnik „Koka“</p> <p>„Koka“ was a short ship with high hips. It arrived from the North Sea into the Mediterranean and the Adriatic in the 13th century. “Koka” is the first ship with a technical solution for a single rudder attached to a stern loom. This solution appears as early as in 1212 on “Koka” and is a revolution in navigation.</p> <p>It was the dominant vessel for international trade in the 14th and 15th centuries. It was 23.5m long and 5.8m wide, carrying about 200 tons. It had a high bow superstructure and aft superstructure with barracks. It had three masts: the front with a cross sail, the center also with a cross sail and aft with a Latin sail, and a bow with a cross sail. On the sides were pirate defense cannons.</p> <p>Dubrovnik „Galijun“</p> <p>The design solution for „Galijun“ reconciles the two requirements of ship slimness and the requirement that the ship has the highest payload capacity for commercial purposes. It is shorter than the galley and narrower than “KOKA” or “Karak”. The bow and center mast had cross sails, while aft mast had a Latin sail. It was well armed with eighty cannons.</p> <p>The carrying capacity of the ship was high. It had two or three decks, and it carried notable weapons, up to 80 different cannons. It was the most powerful warship.</p> <p>Dubrovnik “Karak”</p> <p>“Karak” was a merchant ship and in its time, in the 15th and 16th centuries, the largest cargo ship. It was armed with forty cannons to defend against pirates. On the bow mast there was a cross sail, on the main mast two cross sails and on the stern mast there was a Latin sail.</p>
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		<p>Titled <i>argosy</i>, it appears in Shakespeare's works "The Taming of the Shrew" and "The Merchant of Venice". This word is derived from the Roman name of Dubrovnik <i>Argos</i> by tossing the consonants / r / Rag / Arg: Ragusa / Argus> Argos> Argosy. In this way Karaka is a symbol of Dubrovnik, Dubrovnik that is traveling. It is a symbol of the economy of the Republic of Dubrovnik, its prosperity and survival as an Adriatic emporium between the Mediterranean and the Balkan hinterland.</p> <p>Titled <i>argosy</i>, it appears in Shakespeare's works "The Taming of the Shrew" and "The Merchant of Venice". This word is derived from the Roman name of Dubrovnik <i>Argos</i> by tossing the consonants / r / Rag / Arg: Ragusa / Argus> Argos> Argosy. In this way Karaka is a symbol of Dubrovnik, Dubrovnik that is traveling. It is a symbol of the economy of the Republic of Dubrovnik, its prosperity and survival as an Adriatic emporium between the Mediterranean and the Balkan hinterland.</p>
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1. The project choices

1.	VM – historical development	<p>The origin and development of the city of Dubrovnik</p> <p>The virtual story of Dubrovnik begins with an animation depicting the escape of the inhabitants of Epidaurus (Cavtat) from the attacks of Avars and Slavs and settling on the islet of Laur / Raus / R (h) agusa. Beside it, on the coast, at the foot of Srđ hill, a Slavic settlement is formed. They are separated by a channel. They fill the canal and connect the two settlements into a unique city with the central street known later as Stradun. The experience of the residents of the former Epidaurus in shipbuilding, navigation, fishing and commerce enables the Slavic people to learn quickly and integrate into a maritime culture that will allow the city to prosper. The virtual story shows the network of sea routes from Dubrovnik to the Adriatic and Mediterranean ports, as well as the network of inland caravan routes to the interior of the Balkans, and the center of that network of land and sea routes is Dubrovnik. Featured are his historic sailboats or marica, barkuzij, koka, galijun, grip, karaka, karakun.</p> <p>As part of that story, the legend of the patron saint of Dubrovnik, his - the patron Saint Blaise, who, at the dramatic moment of the planned conquest of Dubrovnik by the Venetian fleet, will save the City by reporting to the Priest Stojko about the Venetian plan to conquest the city, which would then be reported to the Senate who could organize the defense of the city. Festivity of Saint Blaise, the patron of Dubrovnik, which has been listed as a UNESCO World Heritage Site since September 1, 2009 will be presented.</p> <p>The VM story also includes the story of the shipbuilders and shipyards in Dubrovnik about the famous seafarers. The legend of seamen from island of Lopud Miho Pracat, a great seaman who, as the commoner in the city of noble rule, received a bronze monument in the Rector's Palace, paying particular attention to his charity - abundant gifts for the common good.</p> <p>A map of Dubrovnik consulates in the important trading cities of Europe in which the Dubrovnik merchants have traded will be displayed.</p> <p>Virtual Karaka - city of Dubrovnik metaphor</p> <p>Dubrovnik is a historic city, on a historic location where sea routes from the Mediterranean and the world are extended by land in the interior of the Balkans, and land routes are extended by the sea. Dubrovnik is a trading emporium of the Adriatic, which, thanks to its wise administration and its economic strategy and diplomacy, managed to survive by balancing between the largest powers in the Mediterranean, Venice on one side and the Ottoman Empire on the other. Dubrovnik managed to</p>
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		<p>develop, after the Venice, the most powerful economy in the Adriatic, culture, science and art in the level of the most powerful cities in the Mediterranean cultural circle.</p> <p>The foundation of this economic and cultural prosperity was the ship as a medium of exchange. Among all these types of historic sailing ships of the Dubrovnik fleet, which included hundreds of ships, the most important is the karaka, the largest sailing vessel of its time (15th - 17th centuries) in the world. Karaka is a type of sailboat with three masts. Karaka is the type of sailboat that was the first to sail across the ocean. The most famous Karaka is Columbus' "Santa Maria", with which he discovered America. It was also the "Victoria" with which Magellan crew sailed the world. The Dubrovnik Karaka had its own peculiarities and was recognized as a Dubrovnik ship, so in the most maritime country of the world - in England - it was called by pre-Slavic name for Dubrovnik – Ragusa-argosa-argosy as this Dubrovnik three-mast sailboat calls Shakespeare in some of his plays. Dubrovnik creation, as a city without fertile land on a steep coast beneath hill of Srđ, would not be possible without a ship. Dubrovnik is a sailing city, Dubrovnik is Karaka - argosy.</p> <p>We have found an authentic 2m long Karaka model. We will scan it to build a new model, remove its lines, cross sections that will become accessible, visible and readable for virtual presentation. The whole handmade process has been digitized, so there are no more templates (we can make them on any scale to create the most faithful small scale model). Digitization is very important as it enables inexpensive replica production in line with new scanning and 3D printing knowledge.</p> <p>We will be able to place the virtual projector in the central space of the VM and present the design and assembly process so that each part or whole can be displayed and seen from all sides (3D projection). An animated build process can also be displayed. The visitor can, search in depth the details of each individual part. Imagine Karaka rotating in the space in front of the visitors. In some other upgraded stages, visitors will also be able to enter that virtual ship through their "data suits" and then sail through the virtual space. Of course, they will be able to do this anywhere in the world by connecting to the Dubrovnik VM online.</p> <p>The basis for this part of the project is to create a 3D scale model in one of the common or specialized design programs. In order for it to be implemented, all existing and available Karaka information is required. We base this idea on the discovery of the only preserved 2m Karaka from 19th century model made for educational purposes.</p>
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		<p>A 3D virtual rib will be modeled (or laser-recorded, digitized) on the basis of the rib template, and based on that rib, a new (real) rib will be machine-made, which, made in 3D printer technology, will be a faithful copy of a hand-made piece.</p> <p>The level of technological complexity of "capturing" the unique may be different, but it is important to know that the lack of expensive equipment is not a reason to delay its implementation by manual measurement. In this case existing available measures are important. We need digital 3D objects that we can manipulate at will, whether it is a presentation or creation on different digital machines.</p>
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2. The hypothesized implementation path

1	Location VM Dubrovnik port - Gruž	<p>VM locations and 3D presentations</p> <p>The virtual museum will be realized within the existing space in the Port of Dubrovnik - Gruž. The resulting materials would then be used for presentation opportunities in standard video format for digital online channels for promotion and presentation (social networks, websites, online presentations...). The VM Dubrovnik application itself would also contain interactive elements (windows), which would be located before the PLAY button to start the VM tour (initial interface). By opening different "windows" (about 5 windows), in the initial interface the user would receive text and image information about the history and interesting places of the city of Dubrovnik.</p>
2	VM poles	<p>Also at several prominent checkpoints in the city, VM poles will be provided to present a concise story via 3D glasses in the function of guest animation to get to know the full presentation within the VM. The presentation will be interactive. The idea is to use the <i>insta360 pro2 8K</i> camera to capture the story of development of Dubrovnik in the 360 environment.</p>
3	Current historic ships their virtual interactive navigation	<p>Replica of the historic Karaka ship from Dubrovnik would be presented in the VM in such a way that visitors were offered a virtual boat experience and virtual navigation while offering a real boat experience and navigating through tourist routes.</p>

WHAT IS IN YOUR VM?

1. TRADITIONS & CULTURE – Intangible heritage

PP5-1.1.	<p>Competences, job profiles</p> <p>Boatbuilding</p> <p>Salt mining</p>	<p>Shipbuilding</p> <p>There were a number of shipyards in Dubrovnik, at Lopud in Suđurađ on Šipan, and a number of smaller ones in Cavtat, Slano, Koločep and Ston. The shipbuilders of Dubrovnik were known for their skills. In the area of Dubrovnik in the 16th century there were over a hundred shipyards. The larger ship built up to a dozen builders (kalafats) and the work was supervised by overseer (prto). The wood was prepared peeled from the bark by drying and wetting it in the sea so that</p>
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		<p>it would not crack during drying, and then it was improved (refavalo) by sawing boards from the trunks with large saws. The larger ship was built on average by up to a dozen shipbuilders.</p> <p>The crew of the ship</p> <p>The master of the ship, the captain, also the owner of a part of the ship, was called a patron (patrun). Merchant ships had a ship clerk (škrivana). He was in charge of administrative affairs, controlling the contracts, the inventory of goods entering and leaving the ship. He was usually from a noble class. There was also one worker (kalafat) on board to repair the damage on board. Some ships also had a blacksmith; there was also a barber, who also served as a doctor. “Nostromo” was the commander of the deck, the sailors and young people learning to be sailors - young men and little ones from the cook’s children who are sent on board by their parents to learn the naval craft. In 1557, the Senate of the Republic of Dubrovnik decided to grant financial support to children aboard ships learning the naval craft. Those children were given a loan of 200 ducats to get them to invest in the goods they would trade with in order to learn the skills of the trade in addition to naval skills. Upon returning to Dubrovnik, the children returned the borrowed money, but their earnings were theirs. The “noker” assisted the captain in navigating, and he had to know how to make and repair sails. Some of the larger ships had a pilot who knew naval charts, straits, ports, sea currents. He was also a chambermaid (kamarijer) and cook (kogo) and a guardian (gvardijan). The most numerous crew members were sailors.</p> <p>Production and trade of salt</p> <p>Dubrovnik was a producer and exporter of salt to the interior of the Balkans. Salt was not only a wanted and expensive commodity, but also a mean of exchange. Salt played the role of money. From here in Roman times we have the name for a soldier who saved himself in Dalmatian: “soldat” - soldier who was paid by salt, eng. Soldier (soldier), salary (salary from Lat. Salarium). This linguistic fact testifies about the economic importance of salt in history, and Dubrovnik, with its salt pans, has become a major exporter of salt transported by caravan routes to the interior of the Balkans.</p>
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PP5-1.2.	Artistic depictions of the port	<p>Nikola Božidarević (known in Italy as Nicolò Raguseo (1460 - 1518)) is the greatest Croatian painter from Dubrovnik of his time, with only four of his paintings remaining, the most notable being his triptych in the Bundić Chapel of the Dominican Monastery in Dubrovnik. Painting dates from the beginning of the 16th century and it depicts the character of St. Blaise holding a faithful replica of the city of Dubrovnik in his hands. The painting itself has great historical value.</p> <p>Vlaho Bukovac (1855 - 1922) is the largest modern Croatian painter, world renowned, originally from Cavtat, with the most significant paintings kept by the Dubrovnik Art Gallery.</p> <p>Navicula - a silver incense vessel shaped like a ship. It is a unique specimen in the world in its shape in the form of a Dubrovnik Karaka. It is kept in the Museum of the Dominican Monastery in Dubrovnik.</p>
PP5-1.4.	Lingua franca as the Mediterranean common seamen idiom	<p>The term "lingua franca" was coined in the Arabic world, and it denotes all Romance languages, especially Italian. The name Franks in the Arabic idiom encompasses the entirety of the Roman world, and lingua franca denotes an idiom developed among the seafarers out of need for communication across ethnic boundaries and the boundaries of specific languages. It is the idiom of a very simple grammar whose lexicon is derived from Latin through Italian, French and Spanish dialects.</p> <p>Webster's New Encyclopedic Dictionary gives the following definition of the term lingua franca: "Lingua franca - a common language consisting of Italian mixed with French, Spanish, Greek, and Arabic that was formerly spoken in Mediterranean ports." It was the idiom created for the purposes of basic communication among the uneducated people who had no knowledge of foreign languages, but have, due to that, enriched their own language with the common Mediterranean terminology for many terms necessary in trading, seafaring, fishing and shipbuilding. It was a spoken language that left no significant traces in the written form nor was it used in the composition of literary works.</p>

		<p>Croatian language spoken by the inhabitants of the Croatian coast and the islands contains an extremely ample lexicon of maritime terminology. That lexicon has never become an integral part of the standard Croatian language, but it lives to this day in the dialects spoken in the area of the maritime Croatia. That lexicon belongs to the linguistic universe of the Mediterranean; it is the remnant of the universal Mediterranean idiom - lingua franca.</p> <p>Dubrovnik, as a city that based its economy on maritime affairs, was a distinctly Mediterranean city, which enriched its vocabulary not only with maritime terms related to ship and navigation, but also a terminology for concepts from everyday life that was imbued with the influences of other Mediterranean coasts, their languages and lifestyles.</p> <p>For the purpose of presenting the lingua franca lexicon, we have taken a nomenclature made according to the historic sailing vessel - the barge "Jared" from the 19th century the terms are presented in three versions: traditional Dubrovnik terminology (lingua franca), terminology in Croatian standard language, terminology in English.</p> <p>A drawing (V. Salamon) of the triarbolic "Jared" sailboat with the mast and sail nomenclature will be shown.</p>
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2. SOCIO-ECONOMIC RELATIONS – Intangible heritage

PP5-2.1.	Inland /City port relations	<p>The Dubrovnik sea routes continued on land. Without the inland hinterland in the depths of the Balkans, maritime trade routes would not play the role they played in the life of the city of Dubrovnik and its economy. Goods arriving by ships from distant ports were largely transported by the Dubrovnik road / drumom (from Greek drómos) to the interior of the Balkans. In the same way, goods from the interior arrived to Dubrovnik to be transported by sailing ships from Dubrovnik to distant seas. The starting and ending point of the Dubrovnik road was</p>
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		<p>Tabor outside the eastern city gate of Dubrovnik on Ploče. The road led through Župa dubrovačka, Trebinje and Gacko and then through Foča, Novi Pazar, Kopaonik all the way to Niš, where it connected with the old Roman road leading to Constantinople. The Dubrovnik route was a basis of Dubrovnik's economic survival, but also a danger to Dubrovnik's freedom, as it made it easy for invaders to penetrate its walls. That is why Dubrovnik had to develop diplomatic skills to reconcile the interests of the two largest opposing forces: one coming from the sea - Venice and the other threatening it from the mainland Ottoman Empire, to which it had to pay tribute for its freedom; and on the other Venice saw the benefit of trade going overland through Dubrovnik and back to Venice the same way.</p> <p>Caravan routes used to transport goods on horses and mules were constantly threatened by robbers living off the robberies of caravan traders. Therefore, the people of Dubrovnik provided these routes with paid guards at various points and with good armament of caravan escorts. In this way, Dubrovnik maintained the role of a commodity exchange center, the strongest trading emporium on the eastern Adriatic coast.</p>
PP5-2.2.	Import-export of goods, traffics	<p>Important export goods were salt, which was important not only for nutrition but also for food conservation and thus became a state monopoly. With the annexation of Pelješac to the Republic of Dubrovnik, Ston becomes the most important producer of salt traded by Dubrovnik, and salt becomes the most important export commodity by which Dubrovnik supplies the interior of the Balkans.</p> <p>Dubrovnik merchants sell fish, spices, textiles, raw leather, weapons, jewelry to the Balkans, and transport ores, wax, precious metals, mostly silver and lead, from Bosnia and Albania wood which Dubrovnik spends in large quantities for construction of the ships.</p>

		<p>A major source of income became the mining trade in 15th and 16th when mining in Bosnia and Serbia developed. The silver was then exported to Italy, but also throughout the Mediterranean. The silver trade was the most profitable. Through Dubrovnik Venice supplied with all types of ore that Dubrovnik brought from Bosnia's mines.</p> <p>Italian merchants from Ancona, Firenze, Ferrara, Siena, who trade in fabrics and silk, come to Dubrovnik.</p> <p>Dubrovnik lacked in grain due to a lack of arable land. He mostly imported the grain from Southern Italy, Apulia and Sicily.</p>
PP5-2.3.	Routes	<p>The Mediterranean is the sea of the most frequent maritime communication in the history of Western civilization. The sea is a much cheaper communication space than land. Since its founding, Dubrovnik has been a city of commerce, exchange of goods and, thanks to its seafaring and ships, which were built in its shipyards, has established a network of maritime trade routes. Since the middle ages, Dubrovnik has been expanding its network of maritime routes throughout the Mediterranean. Dubrovnik has the most frequent connection with the Italian cities of Venice and Ancona, Fano, Ravenna, Molfetta, Bari, Termoli and with the cities of Southern Italy, but also outside the Adriatic. On the eastern Adriatic coast, the most frequent trade links are, as evidenced by trade agreements, with Split, Trogir, Šibenik, Korčula, Hvar, Ulcinj and Kotor.</p> <p>Already in the 13th century, Dubrovnik's maritime trade also extended to the Mediterranean ports to Syria and Egypt and other ports in northern Africa.</p> <p>The year 1358 marked a major turning point for Dubrovnik as Venice ceased to dominate Dubrovnik that year, which enabled the rapid development of seafaring and maritime trade. In the second half of 14th and in the 15th century Dubrovnik's seafaring developed rapidly and maritime routes extended to the shores of Aragon (Spain) and France.</p> <p>Appears in 15th century next to Venice, the second great power in the Mediterranean Turkey, to which Dubrovnik pays tribute for free trade.</p> <p>In the 16th century, Dubrovnik sailors were already sailing with their ships to the Europe ports in the Atlantic,</p>

		to England. At that time, Dubrovnik had between 170 and 200 larger ships, among especially stood out Karaks - ships that Dubrovnik sailors used to exit to the Atlantic sea.
PP5-2.8.	Fishing	<p>There are regulations in the Dubrovnik Statute of 1272 that regulate fishing for blue fish by the beach seine net (trate). One part (as much as belonged to one fisherman) had to be given by the fishermen to the prince and diocese. The wealthier nobles had their own fishing boats and nets that they rented to the fishermen. In addition to fishing, coral diving has evolved, yielding higher profits than fishing. The Statute set out the fishing positions obtained by the crews of vessels involved in fishing for blue fish. There are interesting documents on the conflict between Lasto and Komiža for the right to fish around the island of Sušac. At that time, Dubrovnik defended the rights of its subjects from Lasto in a conflict with the Venetian administration under whose protection Komiža was. It was a lucrative tuna catch especially in Ston Bay. The fishermen had to give half of the tuna catches to the Dubrovnik Small Council. At that time, tuna would only be fished in the bays, when fishermen would surround tuna with fishery net in the narrow space of the bay. However, the most lucrative was the hunt for sardines that were salted into wooden barrels and exported. Salt fish was a much sought after commodity at the time of sailing because it was the staple food on long journeys.</p> <p>In the territory of the Republic of Dubrovnik and even in the period after fall, all until the 2nd World War fishing was less developed than in other parts of Dalmatia. The reason for this was the orientation towards sailing and trade. Fishing was in the function of meeting the nutrition needs of the local population, but there was no industrial production. After the 2nd World War fishing co-operatives developed.</p> <p>With the arrival of tourism, lobster hunting has also emerged. The Dubrovnik area has rich lobster hunts</p>

		around Elafit islands and the island of Mljet, but fishermen from other parts of Dalmatia are more involved in this hunt than Dubrovnik.
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3. PHYSICAL HERITAGE (ARTCRAFT, BUILDINGS, etc. – tangible heritage)

PP5-3.1.	Arhitecture – city fortification	<p>Dubrovnik city walls (bedemi)</p> <p>The present walls of Dubrovnik, in their full extent, were built in the 13th century and until 1660 have been upgraded. The walls are close to two kilometers long and consist of walls within which there are several fortifications: sixteen towers, six bastions, three fortresses, two corner fortifications (kantonate) and a number of other fortification buildings. Initially, fortification walls were intended for use in cold warfare. When the cannons appeared, fortifications were reconstructed, the walls of the fortifications widened, and the towers partially filled with earth. Cannon openings appear on the towers.</p> <p>Lovrijenac is an independent fort in the Pile area on top of a 37 meter high cliff. It is named after St. Lovro. Inside it were buildings for the crew and a building for the nuns (picokere). The message “<i>Non bene pro toto libertas venditur auro</i>” is engraved above the front door. Today, fort Lovrijenac is a famous stage for theater performances.</p> <p>The Minčeta fortress is the highest fortress in the Dubrovnik fortification complex. It is round and has a crown at the top resting on consoles. At the beginning of 14th century, when it was built, it had a square shape. In 1461, the Florentine builder Michelozzi modernized the fortress for modern warfare - artillery. His work was continued by the famous builder of Šibenik, Juraj Dalmatinac, it was completed at the end of 15th century by Paskoje Miličević.</p> <p>St. John fortress was the main fortification for the defense of the historic port of Dubrovnik. A fortification was needed to tie a chain that would close the city port. In 1346 the construction of the fort began. Between</p>
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		<p>1552 and 1557, Paskoje Miličević, a Dubrovnik builder, performs works that gave the final appearance of today's St. John's fortress. The ground floor of the fortress now houses an aquarium and the upper floors the Maritime Museum.</p> <p>Revelin fort is a fort at the eastern entrance to the city. It is named after the circular shape of the fort surrounded by a ditch. From there began the way from the city to the east. The construction of Revelin began in 1539 and lasted until 1605 according to the project of architect Antonio Ferramolina.</p> <p>Pile gate were built in the mid-14th century. In front of them is a stone bridge that will be extended due to the expansion of the city ditch in the Pile area, which was done according to the project of the Dubrovnik architect Pasko Miličević.</p> <p>Kaše is a breakwater that protects the city port from winds from the south to the east direction. It begins to be built according to the project of Pasko Miličević. They are built of stone blocks (connected with <i>santorin</i>) by filling in wooden partitions (<i>kašuna - cassone</i>). This building not only served to defend against waves in front of a naturally unprotected port, actually it played a dual role. It was a breakwater, but at the same time it closed the harbor for all unwanted ships with a chain connected to the fortress of St. John (on the south side) and a chain to the bridge of the Ploče gate (on the north side). Thus, Kaše with the fortress of St. John represented a fortification system for the defense of the port of Dubrovnik.</p>
PP5-3.5.	Ship design, shipbuilding – Traditional wooden boats – Karaka	<p>Dubrovnik "Ormarica" is a type of lighter warship - a pursuit but also a reconnaissance patrol ship. It had one mast with a mainsail (lugsail). It is a without decks boat with benches (rowing benches) and usually had 12 oars. She had naval cannon on the bow and an armed crew.</p> <p>The Dubrovnik "Barkuzij"</p> <p>There are several variants of the name of the Dubrovnik "barkuzij": <i>barcussium / barcosium / barcoso</i>. It was similar to a caravel. It was a medium size boat on sails and oars. It had a Latin sail. The larger "barkuzij" also had two masts with Latin sails. The deck was covered while the crew cabin was on the stern. It was a robust</p>

	<p>ship that could stand the great sea so it could sail in Mediterranean waters as well. In addition to Dubrovnik, the port of Kotor also had about twenty “barkuzij”.</p> <p>Dubrovnik „Koka“</p> <p>„Koka“ was a short ship with high hips. It arrived from the North Sea into the Mediterranean and the Adriatic in the 13th century. “Koka” is the first ship with a technical solution for a single rudder attached to a stern loom. This solution appears as early as in 1212 on “Koka” and is a revolution in navigation.</p> <p>It was the dominant vessel for international trade in the 14th and 15th centuries. It was 23.5m long and 5.8m wide, carrying about 200 tons. It had a high bow superstructure and aft superstructure with barracks. It had three masts: the front with a cross sail, the center also with a cross sail and aft with a Latin sail, and a bow with a cross sail. On the sides were pirate defense cannons.</p> <p>Dubrovnik „Galijun“</p> <p>The design solution for „Galijun“ reconciles the two requirements of ship slimness and the requirement that the ship has the highest payload capacity for commercial purposes. It is shorter than the galley and narrower than “Koka” or “Karaka”. The bow and center mast had cross sails, while aft mast had a Latin sail. It was well armed with eighty cannons.</p> <p>The carrying capacity of the ship was high. It had two or three decks, and it carried notable weapons, up to 80 different cannons. It was the most powerful warship.</p> <p>Dubrovnik “Karaka”</p> <p>“Karaka” was a merchant ship and in its time, in the 15th and 16th centuries, the largest cargo ship. It was armed with forty cannons to defend against pirates. On the bow mast there was a cross sail, on the main mast two cross sails and on the stern mast there was a Latin sail.</p> <p>Titled <i>argosy</i>, it appears in Shakespeare's works “The Taming of the Shrew” and “The Merchant of Venice”. This word is derived from the Roman name of Dubrovnik <i>Argos</i> by tossing the consonants / r / <i>Rag</i> / <i>Arg</i>: <i>Ragusa</i> / <i>Argus</i> > <i>Argos</i> > <i>Argosy</i>. In this way Karaka is a symbol of Dubrovnik, Dubrovnik that is traveling. It is a symbol of the economy of the Republic of Dubrovnik, its prosperity and survival as an Adriatic emporium between the Mediterranean and the Balkan hinterland.</p>
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DELIVERABLE 3.1.5

Report on tangible and intangible cultural heritage of involved ports

PP8 - NATIONAL MUSEUM ZADAR

Work Package	3 “Preservation of tangible and intangible cultural heritage of Adriatic Italian and Croatian ports
Activity	3.1 Preservation of the maritime cultural heritage of Adriatic Italian Croatian ports
Phase Leader	PP1 - NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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1) The cultural heritage of the port city

Zadar is 5th largest city in Croatia, and 3rd largest on the Croatian Adriatic coast. It can be considered a relatively small city, but it is one of the oldest, if not the oldest city in Croatia. Large peninsula, which today is the old center of the city, was settled some 3000 years ago by Liburni, an Illyrian tribe of fishermen, seafarers and merchants. Liburni used this large peninsula and its large bay on the northeastern side as their settlement and port from which they had departure throughout the Adriatic Sea, reaching as far as modern-day Italy.

Zadar became the city some 2000 years ago, when the area of modern-day Croatia was gradually conquered by Romans. According to their principles of urban planning they built the city on top of the old Liburnian settlement. After the breakup of Roman Empire many people groups passed through the area surrounding the city, but the ones who stayed the most were Croats. They first settled on the area which is now considered to be Northern Dalmatia in 7th century. In the Early Middle Ages Croatia was an independent kingdom, ruled at first by Croatian national dynasty, and later by Hungarian kings. All those kings saw Zadar as very important city within their kingdoms due to its strategic location.

City of Zadar is located on a large peninsula, which is surrounded by sea on three sides. That means that Zadar has always been closely connected to the sea. Its large bay, which is practically a part of the city, offered perfect anchorage spot for sea travelers in the Middle Ages. At that time sailing required boats with sails, and it was fairly dangerous to travel across the open sea. All the important trade routes on the Adriatic Sea had to pass right in front of the city of Zadar. Strategic location of the city and its port caused culture and trade to flourish in Zadar. Middle Ages are considered to be the *Golden age* of the city, regardless to many unfortunate wars, sieges and destructions.

In the beginning of 15th century Zadar became part of the Republic of Venice, and it remained the capital of Venetian Dalmatia all the way till the end of 18th century. That part of history is associated with Ottoman-Venetian wars, which caused many urban changes within the city. New fortification system was built, and the port also went into numerous changes. Despite the hard days of wars and sieges, Zadar kept its status as important Adriatic port through which many cultural goods flowed into the city, mostly from Venice.

Port of Zadar was located near the old center of the city for the most part of history. It was only after the World War II that the new port was starting to develop, further south of the city. Today

the old port, in the city center, is used mostly for passenger traffic and tourism, while the new port is growing into one of the most important ports on the Adriatic coast. New port of Gaženica is passenger port that attracts many cruise ships and it has the ability to become cruise home-port. New port is some 10 km from the Zadar airport and two ports are connected by quality highway.

Ports of Zadar, the old one and the new one, were cultural hubs through which city developed over time. Most of the cultural goods and modern ideas, during the long history of Zadar, were brought into the city from the west. The port was used as the place where those cultural goods were welcomed by the citizens and carried in the surrounding inland areas. From those inland areas cultural goods from the east and north were brought into the city, so the cultural mix defined the specific cultural identity of the city of Zadar.

Port itself is nothing without its boats. The tradition of boatbuilding in Zadar reaches as far as the Liburnian settlement. The most well known boats that are associated with Zadar are *Condura Croatica*, and the *Zadar merchant sailboat from 14th century*. Those two ships carried goods from the port to the other ports on the Adriatic Sea, and on their way back they brought many cultural inventions of their time. Today unfortunately there is no large shipbuilding industry or activity in Zadar, but the connections with other Ports on the Adriatic remained, and got even stronger with time.

2) The project choices

The main goal of our Virtual Museum will be to show the historical development of Zadar port and its connections with other Adriatic ports. Zadar has very interesting and complex historical development regarding the port. The old port in the city center and the new one in Gaženica will have to be put in one unique story, told with intangible traditional and cultural heritage; intangible socio-economic relations between the city, the port, and other ports that are involved in the Project; and with tangible historical heritage that existed or still exist within the port.

Urbanistic development of Zadar is closely associated with its long and complex history. Models of the old center of the city from various historical periods (Roman city, 15th century medieval city, 17th century city with its new fortification system, and 20th city with many urbanistic changes before the World War II bombing) depict how the city and the port changed and developed through time. Those models will be used (scanned and digitalized) in our Virtual Museum as the basis on which more detailed stories will be presented.

Boats, that are obviously the main asset of any port, have been very important for the development of the port and for the maintenance of the connections between the ports. Each Croatian port city involved in the Project has one or more boats that are unique to its surrounding area. Two boats that are going to be one of the main tangible heritages in our Virtual Museum in Zadar are *Condura Croatica* and *Zadar merchant sailboat from 14th century*. Those boats played important roles in connecting the port of Zadar with other ports on the Adriatic Sea. They were used mostly during the Middle Ages, what can be considered the *Golden age* of Zadar.

As the boats are essential part of any port, so are the people essential parts of every boat. Boat builders are the first ones that come in touch with the boats, for obvious reasons. The tradition of boatbuilding in the surrounding area of Zadar dates back to pre-historical times, even before the Romans. Unfortunately there are no many physical evidences of pre-historic boatbuilding activities within the port, so we will try to cover only boatbuilding that is associated with two medieval boats. Every boat has its unique way of building and we will try to show the uniqueness of our boats in VM. After the boat is finished and ready to use, the sailors took over. As the boats have its unique way of building, so they have the different ways of sailing mechanisms. Boats from Zadar area were used primarily for trade, either between the city and its surrounding islands, or between Zadar and the other port cities. Those trading routes carried goods from Zadar inland areas to other port cities, and on their way back they brought many trading and cultural goods to the city. Through the boats and through the port, Zadar was always closely connected with almost all other ports on the Adriatic Sea, even further.

Boats were not used only for trade. Fishing is another activity that is closely connected to the sea, boats and ports. The history of fishing in Zadar area dates back to the earliest times. There are many fishing techniques characteristic for Adriatic Sea, due to its specific location, maritime peculiarities, dominant winds, type of fish, etc. Those fishing techniques vary from port to port, but they could be one of the things that connect all the ports involved in the Project. The same goes for the language used by sailors and fishermen. Although there are many languages present on the Adriatic Sea coast, sailors and fishermen had to come up with one way of communicating with each other. That language become official sailing language, not only on the Adriatic Sea, but on the whole Mediterranean, even further. The same as fishing techniques, this language could be the intangible heritage that connects all the involved ports.

Virtual Museum will be located within the building of Port Authority Zadar, which means that mostly local passengers and tourists will be visiting it. Port of Zadar is one of the busiest on the Adriatic coast so many people will be able to experience VM contents. Local population, traveling to and from the islands of Zadar broad area, will certainly be interested to learn something new

about the maritime culture of Zadar presented in VM. International part of the port will be filled with VM contents such as high quality photography of the old port and new one and promotional video about the process of relocation of some port activities from the old port to the new one.

3) The hypothesized implementation path

Virtual Museum will be located within the new building of Port Authority Zadar. As the new building is quite large we are still looking for the best locations of our Virtual Museum. First step will be setting up of the small exhibition of the photos depicting the port as it is now, alongside some old photos or paintings that depict the same area. This kind of exhibition will be a good way of promoting the project in the port area, as we plan to have the exhibition ready for this season.

Part of the port that is used for arrival of the tourists that visit our city by cruise ships will host a promotional video about the Project REMEMBER, the port, and the city of Zadar. As tourists come for the first time in Zadar they don't have much time to enjoy virtual museum before they go on organized trips, either to the city or nearby National parks, so the promotional video would be the best solution for this area of the port. On their way back, on the other hand, tourists have much more free time so the totem display screen will be placed near the exit of the port. Through the totem display screen tourists, and local population, will be able to experience virtual museum contents.

Technologies that we are planning to use will be mostly related to the totem display screen. Virtual interactive voyage through the port of Zadar will let the users experience the historical development of the port, its main characteristics, its connections with other ports included in the project, historical wooden boats associated with the port, etc. Virtual voyage will be interactive, but the level of user's freedom is in the correlation with the budget.

WHAT'S IN YOUR VM?

A		TEXTS	IMAGES	SOUNDS AND VIDEOS	3D MODELS	DIAGNOSTIC DATA
1	TRADITIONS & CULTURE – Intangible heritage					
1.1	competences, job profiles	X	X	X	X	
1.2	Visual art	X	X			
1.3	Crafting, tools					
1.4	literature, proverbs, languages	X	X	X		
1.5	religions, gods, sea mythology, fairy tales					
1.6	sustainable behaviors / greening					
1.7	food and recipes					
2	SOCIO-ECONOMIC RELATIONS – Intangible heritage					
2.1	inland /City port relations	X	X		X	
2.2	import/export of goods, traffics	X	X			
2.3	routes, maps					
2.4	immigration/emigration of people					
2.5	Sailing activities, cruises					
2.6	Tourism					

2.7	Sailing techniques, winds, on board tools and technologies					
2.8	Fishing	X	X	X		
3	PHYSICAL HERITAGE (ARTCRAFT, BUILDINGS, ETC) – tangible heritage					
3.1	Port authorities headquarter and premises	X	X	X	X	
3.2	architecture	X	X	X	X	
3.3	lighthouses					
3.4	dams					
3.5	ship design, shipbuilding, ship maintenance	X	X		X	
3.7	relicts					
3.8	sustainable power and environmental solutions					
3.9	other monuments					

ABSTRACT OF SPECIFIC LOCAL CONTENTS (minimum 9 for each PP)

1. PP8-1.1

Traditional salt mining

Salt and salt mining had been one of the major economies throughout the history, making the city of Zadar one of the centers of salt trade in the Adriatic region. Salt mines in Nin and Pag were, for the most part of history, in hands of Zadar noblemen families. In the Middle Ages salt was considered to be as oil is today. Production of salt on the island of Pag dates back to early Middle Age and has continued up to modern times. Salt from Zadar was exported along the both coasts of the Adriatic Sea. Salt mines are not only important for salt mining, as they are actually unique eco systems, where many animals, especially many bird species live. Therefore, the salt mining in our VM will not be presented merely as the place for salt exploitation, but also as a place where history meets the present, where many old salt mining techniques meet modern salt mining, and as an ecosystem that has to be protected due to its importance for environment.

2. PP8-1.2

Artistic depictions of the port

Valuable insights regarding the development of Zadar and its port can be gained on the basis of the artistic depictions of the city. Zadar has been represented within various artistic creations, but also in the form of layouts, plans, and scale models, which were mostly produced for strategic purposes but, nonetheless, have a certain cultural and historical value, and are very important in the interpretation of the urban development of Zadar. Some compositions on the casket of St. Simeon, which were rendered in relief, make an interesting contribution to the study of the appearance of the medieval fortifications of Zadar. The casket is an exceptional cultural-artistic monument, an outstanding achievement of medieval goldsmiths in Zadar. Scale models of the city from various time periods will be used in VM to show the development of the city and its port. Many other artistic depictions of the port, mostly on paintings and photos, will be included within the VM, depending on the contexts.

3. PP8-1.4

Traditional common language of the fishermen

Traditional common language of the fishermen is very important intangible cultural element, as it shows not only the uniqueness of the Adriatic area, but can also be used to further enhance

our knowledge of our unique culture, that we are planning to show within our VMs. That language is slowly dying out, so it is very important that we at least try to research it and preserve it.

4. PP8-2.1

Relations between the port and its surroundings

Zadar had always been closely connected to its ports. Old port was, throughout the history, a part of the city. Port was a hub through which many cultural goods flowed into the city. Most of the cultural goods and modern ideas, during the long history of Zadar, were brought into the city from the west. The port was used as the place where those cultural goods were welcomed by the citizens and carried in the surrounding inland areas. From those inland areas cultural goods from the east and north were brought into the city, so the cultural mix defined the specific cultural identity of the city of Zadar. The main challenge of our VM will be to put the two ports, old one in the city center and the new one further south, into one unique story.

5. PP8-2.2

Connections with the other Adriatic ports

In our VMs one of the challenges will be to put all of our ports in one unique story. There are many evidences of the historical and modern connections between the ports included in the Project. Zadar is very lucky with that aspect, due to its complex historical development. For the most part of the history Zadar was the capital of Dalmatia and fairly closely connected with other Croatian and Italian ports, especially with Venice. Trading routes between the ports were used to transfer cultural goods from one port to another. Trading routes can easily be shown by interactive maps of the Adriatic Sea with all the 8 port cities included in the Project can be visible.

6. PP8-2.8

Traditional fishing

Traditional fishing is one of the most important intangible socio-economic heritages. Fishing is an activity that is closely connected to the sea, boats and ports. The history of fishing in Zadar area dates back to the earliest times. There are many fishing techniques characteristic for Adriatic Sea, due to its specific location, maritime peculiarities, dominant winds, type of fish, etc. Those fishing techniques vary from port to port, but they could be one of the things that connect all the ports involved in the Project. Traditional fishing techniques are mostly forgotten, as the new modern techniques are introduced. Small traditional Croatian fishing has been declared an intangible cultural heritage by the Ministry of Culture. Nowadays, Croatia is recognized as one of the

pioneers in aquaculture, in control breeding cages of sea fish, and new breeding solutions in the cultivation of juvenile tuna. VMs should be the places where visitors could experience old ways of fishing.

7. PP8-3.1

Relations between the old port and the new one

Port of Zadar was located near the old center of the city for the most part of history. It was only after the World War II that the new port was starting to develop, further south of the city. Today the old port, in the city center, is used mostly for passenger traffic and tourism, while the new port is growing into one of the most important ports on the Adriatic coast. New port of Gaženica is passenger port that attracts many cruise ships and it has the ability to become cruise home-port. The old port in the city center and the new one in Gaženica will have to be put in one unique story, told with intangible traditional and cultural heritage; intangible socio-economic relations between the city, the port, and other ports that are involved in the Project; and with tangible historical heritage that existed or still exist within the port.

8. PP8-3.1

City fortification system within the port

Urbanistic development of Zadar is closely associated with its long and complex history. Scaled models of the old center of the city from various historical periods (Roman city, 15th century medieval city, 17th century city with its new fortification system, and 20th city with many urbanistic changes before the World War II bombing) depict how the city and the port changed and developed through time. Those models will be used (scanned and digitalized) in our Virtual Museum as the basis on which more detailed stories will be presented. Most urbanistic changes of the city happened in the Middle Age when new, medieval fortification system was built, with its tall and narrow walls used to defend the city against the enemy with cold weapons. In the 16th century, new fortification system has been built to protect the city from new kind of weapon, cannons. That 16th century fortification system is currently on the UNESCO World Heritage List.

9. PP8-3.5

Traditional wooden boats

Boats, that are obviously the main asset of any port, have been very important for the development of the port and for the maintenance of the connections between the ports. Each Croatian port city involved in the Project has one or more boats that are unique to its surrounding area. Two boats that are going to be one of the main tangible heritages in our Virtual Museum in Zadar

are *Condura Croatica* and *Zadar merchant sailboat from 14th century*. Those boats played important roles in connecting the port of Zadar with other ports on the Adriatic Sea. They were used mostly during the Middle-ages, what can be considered the Golden age of Zadar. The depiction of the boats within the VM will depend mostly on the cost of technological choices.

DELIVERABLE 3.1.5

Report on tangible and intangible cultural heritage of the involved ports

PP 7 – PI RERA S.D

Work Package	3 “Preservation of tangible and intangible cultural heritage of Adriatic Italian and Croatian ports
Activity	3.1 Preservation of the maritime cultural heritage of Adriatic Italian Croatian ports
Phase Leader	PP1 – NASPA
Deliverable	Report on tangible and intangible cultural heritage of involved ports

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Port history

The first foundations for nowadays Split were laid by Greek settlers from the island of Vis, when, in the 4th or 3rd century they established Aspalatos, the station for trade with neighbouring Illyrian tribes.

Upon Roman conquest of Illyrian Salona, Aspalatos fell under the rule of Rome (Spalatum). Roman Emperor Diocletian abdicated in 305 A.C. and moved into the Palace which he had built in the peaceful bay, unaware of his setting the foundations for future port and maritime town of Split.

In the 12th century, due to its geographic position which enables close contact with the land and deep countryside, and alike traffic interchange with the settlements in the Adriatic and Mediterranean Sea, Split developed land trade caravan routes and maritime trade through its port. At that time Split became autonomous maritime town, extending beyond the walls of Diocletian Palace. The City disposed with its warships and army, its own revenues, entered trade agreements with the other free cities, forged money “spalatin”, had the port with the shipyard and the merchant navy, transporting passengers and goods across the Adriatic and the Mediterranean.

In the 6th century Split became central export harbour of Balkan Peninsula. Thus, the trade caravans used to come to Split from the entire Ottoman Empire, even from India, Persia, to be further transported from Split to Venice, accompanied by armed galleys. Even the goods from Venice were exported to Ottoman territories through Split. “Lazaret” was also built (place used for decontamination of goods and as a quarantine), and the first financial institution (bank) was established.

After the fall of the Republic of Venice in 1797, Split was under Austrian occupation until 1806, followed by French rule from 1806 to 1813. In that period trade flows had chosen other routes, therefore Split, thanks to its newly built roads maintained trade relations with strong Bosnian hinterland, Serbia, even with Bulgaria and Romania, transporting goods into its famous Lazaret, wherefrom it was further taken over by ships from Adriatic Sea and Black Sea.

Lazaret of Split was closed during the second Austrian rule (1813 – 1918), and the caravans were forbidden the arrival to Split, which resulted in stagnation of Split economy. After the year 1850 Split recorded gradual economic growth, developing into trade centre for its surrounding hinterland and neighbouring islands. The large breakwater was built, promoting development of Split port. The railway line was also built up to Siverić and Knin, and in 1925, through Gospić, it was connected to the railway Rijeka- Zagreb- Belgrade. In 1882 Split already had the image of political, cultural, national and commercial heart of Central Dalmatia, encompassing its land and littoral parts.

Industrial development in the region by the beginning of the 20th century made Split Port the centre for cargo traffic in this part of Adriatic. In recent times we face extension of city port, building of new specialised cargo terminals, and therefore passenger traffic has been separated from cargo traffic. Consequently, the southern part of Split Port, close to city core is used for passenger traffic, and the cargo traffic is re-directed to industrial zone, north part of the Port – Vranjic-Solin basin and Kaštela basins.

Storia del porto



Le fondamenta della Spalato di oggi furono poste dai coloni greci provenienti da Vis, quando nel IV o III secolo eressero Aspalatos, una stazione di commercio con le vicine tribù illiriche.

Con la conquista romana della Salona illirica Aspalatos venne sotto il potere di Roma (Spalatum). L'imperatore romano Diocleziano si ritirò nel 305 d.C. nel palazzo che fece costruire in questa baia tranquilla, non sapendo che in tal modo pose le basi del futuro porto e città marittima di Spalato.

Nel XII secolo, grazie alla sua posizione geografica che consente contatti con la terraferma e il profondo entroterra, nonché i rapporti di traffico con gli insediamenti sul mare Adriatico e il Mar Mediterraneo, la città di Spalato sviluppa il commercio terrestre attraverso vie carovaniere, e il marittimo attraverso il porto. A quel tempo, la Spalato diventò una città marittima autonoma, espandendosi al di fuori delle mura del Palazzo di Diocleziano. La città aveva a disposizione le sue navi da guerra e l'esercito, il proprio reddito, stringeva accordi commerciali con altre città libere, coniava le monete di nome "spalatino", vantava di un porto con il cantiere navale e la marina mercantile che trasporta passeggeri e merci attraverso l'Adriatico e il Mediterraneo.

Nel XVI secolo Spalato divenne il porto centrale di esportazione della penisola balcanica. Così, da tutto l'Impero Ottomano, anche dall'India e Persia, la caravana mercantile veniva a Spalato, da dove, accompagnata da galere armate, la merce veniva trasportata a Venezia. Attraverso la Spalato la merce veniva esportata da Venezia ai territori della Turchia. Venne costruito il "Lazzaretto" (il luogo in cui la merce veniva decontaminata e dove veniva effettuata la quarantena) ed venne istituita la prima casa finanziaria (la banca).

Dalla caduta dello stato veneziano nel 1797, fino al 1086, la città di Spalato cadde sotto l'occupazione dell'Austria, che dal 1806 al 1813 venne sostituita dalla Francia. In questo periodo, i flussi di merce furono rivolti in altre direzioni e la Spalato approfittava delle strade di nuova costruzione per mantenere le sue relazioni commerciali con il forte entroterra bosniaco, con la Serbia e addirittura con Bulgaria e Romania, portando la merce al suo famoso Lazzaretto, da dove veniva caricata dalle barche a vela dell'Adriatico e del Mar Nero.

Sotto il secondo dominio austriaco (1813 – 1918) fu chiuso il Lazzaretto spalatino e vietato l'ingresso delle carovane a Spalato, il che fu la causa della stagnazione dell'economia locale.

Dopo il 1850 Split visse una crescita economica graduale e divenne un importante centro commerciale dell'entroterra e delle isole vicine. Venne eretta la grande barriera frangiflutti che favorì lo sviluppo del porto di Spalato. Inoltre, venne costruita la ferrovia verso le città di Siveric e Knin che nel 1925 attraverso Gospic venne collegata con la linea Fiume-Zagabria-Belgrado. Nel 1882 Spalato assunse le caratteristiche di un vero centro politico, culturale, nazionale ed economico dell'entroterra centrale e della Dalmazia costiera.

All'inizio del XX secolo, con lo sviluppo dell'industria nella regione, il porto di Spalato divenne il centro per il traffico merci in questa parte dell'Adriatico.

Negli ultimi tempi si verifica l'espansione del porto della città, sono stati costruiti i nuovi terminal merci specializzati e il traffico di passeggeri viene separato dal traffico di merci. In questo modo la parte meridionale del porto di Spalato che si trova vicino alla città vecchia viene usato per il traffico di passeggeri, mentre il traffico di merci è deviato verso la zona industriale, la parte settentrionale del Porto – il Bacino di Vragizza e Salona e i Bacini di Castelli.

WHAT'S IN YOUR VM?

TANGIBLE AND INTANGIBLE HERITAGE OF THE VIS ARCHIPELAGO

1. THE VIS ARCHIPELAGO

1.1. Introduction

The Vis Archipelago encompasses a triangle-shaped area circumscribed by three insular points in the central Adriatic: the island of Vis, the island of Jabuka which is located 30 nautical miles west of Vis and the island of Palagruža, located 40 nautical miles south of Vis. Within this area which, together with Croatia's territorial sea, encompasses more than 6600 km² there are a number of small open-sea islands such as Sveti Andrija, Brusnik and Biševo, and a few islets off the coast of Vis. It is only in the central Adriatic that we can find extraordinary geological phenomena, due to the tectonic activity which shaped its islands and the underwater zone, making it the richest fishing zone of the Adriatic. These removed and scarcely populated islands boast not only a unique geological history but also a fascinating story featuring fishermen and the fishing tradition. The fisherman story was passed to younger generations by means of oral tradition, and for this reason this story was preserved in the collective memory of these open-sea islands. However, today this same story is slowly fading from the island's collective memory, this story which was never the subject of official historiographies but has nonetheless survived and passed from one generation to another by word of mouth. For centuries this story had a receptive, younger audience, but nowadays this audience is slowly disappearing, as well as the intergenerational transfer of stories. For hundreds of years this connection between generations has kept alive and preserved the island's collective memory in the local dialect. This dialect, now barely comprehensible, has preserved the archaic Slavic language structure. Ever since the Slavic tribes first arrived to the Adriatic, their language has been continually exposed to the influence of Romans and other Mediterranean idioms and vocabularies. In addition to available written sources documenting the history of fishing, the author Joško Božanić relied even more so on the sources of oral tradition, which was the main focus of his fifty-year long research of the history of fishing on the island Vis.

The Vis Archipelago is a central Adriatic maritime zone whose very center comprises the island of Vis with surrounding open-sea islands and islets: Ravnik, Budihovac, Jabuka, Brusnik, Sveti Andrija, Biševo and Palagruža. This is the only part of the Adriatic whose geological history (some 220 million years ago) was marked by large scale changes featuring the lifting of the diapir – a large mass of hot salt - from the Earth’s core towards the surface. This rising mass pushed against and pierced through the upper layers of sedimentary rocks formed from petrified sand and seashells. The center of this tectonic break-through was in the spacious Komiza Bay, and the peaks of this magmatic uprising rise above the sea in the form of present-day islets of Jabuka and Brusnik, or have remained underwater as present-day seamounts of Kavalina, off the coast of Brusnik, and Gatula, Sika od Trešjovca and Tara, off the coast of Biševo. These underwater seamounts are rich fishing posts. Another island interesting for its geological phenomena is Palagruža, the most remote island of the Vis Archipelago. This island is, in geological terms, the oldest island on the Adriatic. A unique type of rock was discovered on Palagruža, and was accordingly named *pelagozit*, after the island’s Italian name – *Pelagosa* (derived from the Greek word *pelagos* – open sea, thus the island of the open sea).

In prehistoric times the present-day Adriatic islands were mountains’ peaks. The streams of present-day rivers of Krka, Cetina and Neretva once reached these very mountains, winding through a spacious valley which was the Adriatic basin, until the sea level rose in the Late Glacial Period some twelve thousand years ago and flooded this valley, thus turning the former mountains into islands. Large deposits of Aeolian sand can be found in the northeastern part of Vis, as a reminder of its turbulent geo-history. The sand now covering the vast fertile fields on Vis was carried by fierce northern winds, which swept down from the Dinaric Alps and across the flat fields of sand (savannas), depositing it on the mountains’ sides. Plenty of other geomorphological phenomena found here were formed under pressure of natural forces – caves and bays, rectangular stacks of stone blocks and cave openings. This can best be seen on the southern coast of Vis, most exposed to strong southern winds.

1.2. Vis – “Gibraltar of the Adriatic”

The British called Vis „The Gibraltar of the Adriatic” in the early 19th century, when this island was the only British trade station (*porto franco*) for commerce with Europe, during the time of Napoleon’s Continental Blockade. Vis is also known as a site of a major naval battle which took place in 1866 off its coast – the first ever naval battle to take place on steel boats. In this battle

the Austro-Hungarian navy defeated the powerful Italian armada headed by the „Re d'Italia“ war ship, which sunk off the northern coast of Vis. The shipwrecked armada can still be seen on the Adriatic seabed today. During WWII the island of Vis was the only free European territory, unlike the rest of the continent occupied by Hitler’s forces. The Yugoslav partisan forces led by Josip Broz Tito, and their British allies fought back together and defended the island.

1.3. The Blue Corridor

Based on available scientific research unveiling the exceptional continental and marine biodiversity of flora and fauna on Vis, the World Wildlife Fund (based in Rome) has included the Vis Archipelago in the Adriatic Blue Corridor (2003): „Based on international scientific analysis we have proclaimed „The Blue Corridor“ as the zone of greatest biodiversity.“ This corridor includes the islands of Sveti Andrija, Brusnik and Biševo, the north-western and south-eastern part of Vis, including important fishing posts around the islands of Sušac, Jabuka and Palagruža.

1.4. Paradise Oasis of the Mediterranean

The World Wildlife Fund has also proclaimed the Vis Archipelago to be one of the ten last „Paradise Oases of the Mediterranean“. The reasons for its inclusion lie in the uniqueness of its natural phenomena (monuments of nature, ecological preservation of environment, biodiversity), tangible and intangible cultural heritage and the historical importance of Vis as the crossroads of maritime routes, making it the main stage of many important historical events in Europe since the Age of Antiquity. The Vis Archipelago is a space with the greatest concentration of natural monuments in Europe: The Green Cave (island of Ravnik), Stiniva Beach (southern coast of Vis), The Monk Seal Cave, The Blue Cave (island of Biševo) and the volcanic islets of Jabuka and Brusnik.

1.5. The Stormy Archipelago

A native of Zagreb and a nestor of Croatian investigative journalism, Franjo Fuis, often frequented Vis and Komiža in the 1930s. He would spend months in a row on a small open-sea island of Sveti Andrija or Svetac in short (eng. Saint Andrew’s island, frequently referred to by the shortened name of Saint) to learn about this island, previously unknown to him, and the fascinating world of its open-sea fishermen. He shared the fishermen stories with the world,

through photographs and news reports. This unknown insular world, whose fate was determined by the laws of the open sea, Fuis poetically named a *stormy archipelago*.

The newspaper texts by Fuis caught great attention in the 1930s, and attracted curious artists to the „Adriatic Galapagos“: painters and poets flocked to Svetac and formed a unique artists' colony on this small island, thirteen nautical miles removed from Komiza. A number of painters such as Ignjat Job, Đuro Tiljak, Mirko Kujačić and Vinko Foretić depicted this open sea world of fishermen on their oil paintings, graphics and lithographs, and the poet Tin Ujević wrote his travelogues in which he expressed his fascination with the world of open-sea islands: *„I am on the Adriatic Philippines right now. Americans may admire Hawaii, but no island is as brilliantly beautifully as this one. I am in a deep heart of a deep sea (A Thread in the Heart of the Sea, 1930).*

1.7. Halieutica

The adjective *halieutic* used in the title was derived from the epic poem Halieutica of the Greek poet Oppian of Cilicia (3rd century BC). Oppian wrote this poem on fishing while in exile on the island of Mljet, and he named it to honor the Roman poet Ovid who also composed an epic poem on fishing called Halieutica. This word originally means *fishing*, it denotes a primarily human activity, the oldest human craftsmanship at sea, and at the root of this word is the Greek word *hals* which is one of the five names for sea in Old Greek (*thalasa, kolpos, pelagos, pontos* and *hals*). The word *hals* also means salt – thus the sea as essence (the sea's essence is salt).

2. FALKUŠA – A BOAT FROM THE NURSE OF ROME'S FOUNDER

2.1. A boat from the depths of time

A story about falkuša is more than just a story about a certain type of fishing boat rescued from oblivion in the nick of time. It is a story about an insular world of the farthest inhabited Croatian island – the island of Vis. It is a story about collective memory preserved through the oral tradition of an island which safeguards its cultural uniqueness, but which also belongs to the universe of the Mediterranean maritime culture.

Falkuša as a type of the fishing boat probably has its origins in the traditions of ancient Greece, which is evident in its very name *falkuša*, derived from the Greek word *falkes* = fence, which arrived in Greek from the Arabian word *halka* = ring, and which refers to the mountable wooden side boards (falke) mounted as additional protection in high water and dismantled so the lower boat sides can give the fishermen more manoeuvring space while fishing. The word *gajeta* was derived from the Italian town of Gaeta on the coast of the Tyrrhenian Sea. The town Gaeta was named after the Trojan hero Aeneas' wet nurse Caieta, whom Aeneas took along with him on the journey across the Mediterranean, after the fall of Troy. Caieta, as Virgil sings in his epic poem Aeneid, died on the beach where she was then buried, and the town founded there was named after her. These written sources point to the great antiquity of this type of boat known across the Mediterranean, from the Greek islands (Crete), Italian (Sicily), Spanish (Palamòs) and Portuguese (one such boat can be found in the Maritime Museum in Lisbon). Gajeta falkuša boats on the Adriatic were built by boatbuilders from the island of Korčula, almost exclusively for Komiza fishermen, and the falka side boards were constructed in Komiza.

As the maritime nation, Greek colonists have brought from the homeland of Syracuse to the island of Vis not only a highly developed art of boatbuilding and navigation, but also their fishing craftsmanship. Archeological findings on the island of Vis are evidence of this, such as the ceramic weights for the fishing nets and hooks forged in bronze, a depiction of a dolphin on the reverse face of Issean coins and Roman thermae mosaic floor, and depictions of fish on Issean vases.

The gajeta falkuša boat is also a central figure in the unique fishermen regatta from Komiza to Palagruža, which is the longest rowing marathon in the world. During calm seas the rowers had to row continuously from sunrise to sunset, so they could reach the 42-mile remote Palagruža on their heavily loaded boats.

2.2. A Boat Born of Fire

The shipwreck of the last gajeta falkuša in 1986 marked the beginning of interdisciplinary research initiated by the research team of ARS HALIEUTICA, a cultural institution from Komiža. The news of the last gajeta falkuša shipwreck and her rescue arose the curiosity of Dr. Velimir Salamon, a marine architect from the University of Zagreb. He was so fascinated by this boat and the stories told by the local fisherman Ivan Vitaljić Gusle, that he decided to join the ARS

HALIEUTICA team and embark on a joint venture of researching the phenomenon known as the gajeta falkuša boat.

Before all of this took place, the author had spent decades systematically recording oral tradition of fishermen from Komiza: stories, legends, important events, recollections, words and proverbs. In short, he researched the experience in the art of fishing, shipbuilding and navigation shared by the last fishermen of Komiza's fishing epic.

In August of 1995, ARS HALIEUTICA teams set out to cut down wood for the new falkuša boat. Pine wood used in the construction of falkuša's frame was traditionally cut on the island of Sv. Andrija (eng. St. Andrew's Island), a remote island inhabited only by one woman by the name of Antonija Zanki.

The new falkuša boat rose out of the ashes of the boat burned in a traditional rite on December 6, 1997, in honor of St. Nicholas, the saint protector of all sailors.

On June 7, 1998, during the Croatian Day at the EXPO 98 World Exhibition in Lisbon, the crew of the new „Comeza Lisboa“ falkuša boat scattered the ashes of the sacrificed Komiža boat into the Tejo river delta. This ceremony honoring all boats and sailors of the world took place in the presence of the then Croatian President Franjo Tuđman, and the highest authorities of the World Exhibition.

It was also an act of sanctification of the epic story of Komiza fishermen. The story of all those countless generations of shipbuilders and fishermen, all those sailors of the Vis Archipelago who participated in the centuries-long tradition and the longest rowing marathon in the world, in the Komiza-Palagruza regatta.

3. THE ISLAND OF VIS

3.1. The Port of Komiža as the Adriatic Center of Fishing

Komiža's fishing industry had developed to such an extent that it had no match on the eastern coast of the Adriatic. This resulted in the emigration of Komiza fishermen to countries along the Atlantic Ocean in the early 20th century: their barracks for salting fish in *Costa da Morte* on the

Spanish Galician coast (Finisterre) marked the beginning of Spain's fishing industry. Martin Bogdanović from the island of Biševo is the greatest industrialist in the world's history of fishing. These fishermen were pioneers of modern fishing from Chile to Alaska: Californian town of San Pedro became the world's fishing center due to its Komiza immigrants. The historic urban core of Komiža is a unique example of fishing architecture. All of the houses by the sea were small family factories for salting fish. Komiza fishermen designed and used a unique type of fishing boat – *gajeta falkuša* – until the mid 20th century. Komiža is located at the center of volcanic tectonic activity and its beaches with dark green rocks and volcanic bombs offer a unique experience and challenge for the geological interpretation of Komiza landscape. Aside from its volcanic origin, Komiža is also known for the abundance of fresh water due to impermeable underground layers. Geo-architectural scapes are also interesting to behold: Komiža's historic core is predominantly made of stone which had been formed by sedimented shells in gravel and sand. An intrusion of diapir, and underlying geological structure, into the upper layers of the present-day Komiza Bay some two hundred and twenty million years ago has pushed the sedimentary rock mass to the sea surface. The facades of the most of Komiza's stone houses were made from the so-called *breča* or breccia – conglomerate rocks with visible shell crusts. Traces of this primordial sea life are visible on many Komizan house facades.

Fishermen of the island of Vis were the only open-sea fishermen of the Mediterranean. The oldest cannery in the Mediterranean was founded in Komiza in 1870. The first cannery in Europe was founded in Nantes (France), and the second one in Komiza – the Mardešić factory. Komiza fishermen were founders of the fishing industry in Spain's Galicia in the early 20th century and the founders of the fishing industry in the USA where Martin Bogdanović from the island of Biševo founded Star Kist, the first cannery on the west coast of USA, which has since become the largest factory of the fishing industry in the world.

3.2. The Emergence of the Motor Boat – the Beginning of the End of a Millenium-long Tradition

The world of which we here speak lives now only in our memory. It has started to fade with the emergence of the motor boat. The motor which arrived to the local traditional boats on these islands in the 1930s marked a dramatic shift. Traditional local experience, which had for centuries relied upon its superior skills of survival in extreme circumstances, was no longer necessary. The totality of knowledge kept alive by this tradition through the means of oral

storytelling and a continuity of the fishing, nautical and shipbuilding practice, suddenly became redundant. Drastic change happened overnight and it soon became clear that an entire unique, exotic world of the open-sea islands of the Croatian archipelago will definitely disappear and that the next generation might no longer know anything about it.

These fishermen were the only in the Mediterranean who fished in the open seas in the past centuries, when piracy was the most profitable maritime vocation (practiced up to the 1830s in the Adriatic). These fishermen were the first in the Mediterranean to develop the fishing industry, they were pioneers and founders of the fishing industry of Spain (Costa da Morte, Finisterre) in the late 19th century and the founders of the fishing industry in North and South Americas.

This contribution to the anthropology of Croatian fishing will attempt to light up this world from within itself, from its own point of view and its own language. Naturally, this is only an outline for a future halieutic anthropology of the Croatian open-sea archipelago, which event the first European anthropologist Alberto Fortis managed to overlook in his important work *Travels into Dalmatia*, where he made only a few side remarks on this archipelago.

4. VIRTUAL MUSEUM – ABSTRACT OF SPECIFIC LOCAL CONTENTS

TRADITIONS & CULTURE – Intangible heritage

1. PP7 - 1.1

Competences, job profiles

Depicting the island of Vis is impossible without comprehending its relation to the fishermen of the open sea islands in Central Dalmatia, whose base for centuries was the town of Komiža. Facing the necessity to adjust to the open sea conditions, they designed a versatile boat adapted to the fishing in the dangerous waters. Its name is *gajeta falkuša* (Italian: *gaeta falcata*) which captivates Komiža fishermen's most important invention and legacy. Komiža people developed advanced fish processing industry and spread this industry to the rest of the world, being pioneers of modern fisheries and processing technologies. In 1870 the first sardine cannery had been founded in Komiža,

and in the first half of the 20th century there were as many as 7 canneries. In the early 20th century Komiža took pride in 260 fishing boats and 1500 fishermen, and there was also progress in the development of various trades related to fish processing, such as the construction of boats, oars, barrels, ropes and smithery. All fishermen houses located at the seashore had a basement room for the salting of fish. Hundreds of barrels of salted anchovies and pilchard were exported to Greece, Venice and other parts of the Mediterranean.

2. PP7 - 1.4

Literature, proverbs, languages

Dalmatia, as coastal and island region of Croatia, has a long naval history and maritime tradition dating back thousands of years. The maritime culture in Dalmatia maintains its continuity from the times of Greek colonization in the 4th century BC. Croats, being the only Slavic people on the Mediterranean, inherited together with the maritime culture also lingua franca, the common language of all seafarers throughout the entire Mediterranean including Portugal from the 13th to the 19th century. This spoken language of an extremely simplified grammar was created for the purposes of communication across the boundaries of ethos. Its roots can be found in Latin; however, its lexicon demonstrates obvious influence of Greek and Arabic idioms. Dalmatia inherited its maritime terminology from the language of the *Delmats* - the old Dalmatian Romance language, but also from the Venetian idiom spoken in Dalmatia for four centuries. For the purposes of this analysis, the author selected forty idioms from Dalmatian fishing and nautical terminology and compared them to the terminology of other Mediterranean languages.

There are numerous proverbs from professor Božanić's collection of paremiologisms from the island of Vis, which he collected in order to present the island's oral tradition, as the most summarized linguistic form used by the organic human community of Vis for preservation and oral transfer of folk philosophy on life, human relationships, natural phenomena, rhythm of meteorological weather, gender relations, experience of

fisherman and farmer labour, sense of human existence and opinion of a man towards transcendental experience among different generations.

The most characteristic kind of oral literature of the island of Vis is *facenda*. The word *facenda* comes from the Venetian vernacular where it means *work, doing*. Just as the word *novel* originally means *news, happening* and only metaphorically becomes the term for a story, so *facenda* on the island of Vis means both an *event* and a *story* about the event. The two main characteristics of *facenda* are nonfictionality and humour. It is a humorous story about everyday life. It preserves the language richness created by many generations of oral narrators. *Facenda* brings together the community, treasures its collective memory, builds its value system and connects the living and those living on in the memory.

3. PP7 - 1.5

Religions, gods, sea mythology, fairy tales

Abundant legends have been ingrained into collective memory of the island of Vis and its people, many of which were collected and published by professor J. Božanić in his 10 books and around 200 articles on halieutic culture of the island of Vis.

In the waters of the Adriatic Sea, 52 km west of the Croatian island of Vis, rises unusual islet “Jabuka”, which means apple in Croatian and which is completely of volcanic origin. Legend says that the island of Jabuka is the resting place of fairies, and also a garden of Velebit fairies. Old captains would say to the youth while they were fishing on Jabuka: „Go, chaps, to the very end. Climb up to Jabuka and pluck some spruce so we can light a fire, but do not climb to the very top and do not pluck the carnation flowers that grow on top of Jabuka. Fairies grow these carnation flowers. They plant and water them. In the springtime fairies arrive here from the Velebit mountain so they could swim and they are the ones who grow these carnation flowers. Don’t touch them and don’t pluck them. Those who plucked them got caught up in the storm on Jabuka.”

Each year on December 6, on St. Nicholas Day, in front of the church dedicated to this patron saint of seamen, travellers, fishermen and children, the ceremony of burning old wooden boats has been organized. It is a very old tradition from prechristian Slavic culture that has survived to this very day as part of the celebration of the fishermen's

patron of Komiza – Saint Nicholas. Just as the christening marks the beginning of one’s life, funeral accompanies its departure. This is the reason why old and unusable vessels of Komiza are brought to bonfire in front of the local Benedictine Church. They are set ablaze in front of the community which perceives this as a final farewell to vessels that provided so much in passing years. The burning boats of Komiza are part of a religious tradition that cherishes local connection with sealife and develops gratitude to things we use on daily basis.

4. PP7 - 2.3

Routes

The Diomedes' Route

The oldest, shortest and most travelled trans-Adriatic maritime route between the eastern and western coast of the Adriatic Sea is the one from the Gargano Peninsula islands in the Puglia region, across the islands of Palagruža and Biševo and the town of Komiža in the south-western bay of Vis, to the final point of the Punta Planka Cape, also known as Diomedes' Cape, near the town of Trogir. This route was named after the famous Trojan hero Diomedes, immortalized in Homer's Iliad. Recent archaeological findings on Palagruža prove that the island fascinated the Greek hero Diomedes, survivor of the Trojan War and one of the most famous Greek warriors along with Odysseus.

Just like Odysseus, Diomedes sailed across the Mediterranean Sea after the fall of Troy, in search of new land. On his journey he came across the Gargano Peninsula where he founded several towns. He also explored the Adriatic Sea by sailing along the shortest trans-Adriatic route. While sailing on this route he came across a sheltered bay with fresh water springs on its beaches.

PP7 - 2.5

Sailing activities

The oldest document in the *Liber Comisae* manuscript contains a description of a regatta from Komiža to Palagruža. In the town of Hvar, which was then the communal centre in administrative charge of Vis, 74 owners of falkuša were officially registered on May 9, 1593, so they could take part in the next regatta during the new moon. The gajeta falkuša boat is a focal point in the unique fishermen regatta from Komiza to Palagruza, which is the longest rowing marathon in the world. During calm seas the rowers had to row continuously from sunrise to sunset, so they could reach the 42-mile remote Palagruža on their heavily loaded boats. It was a race among fishermen to catch the best fishing spot and feed your family. Obviously, Palagruža is an important element in the story about Komiža's fishing boat – the amazing falkuša - designed for specific conditions of extreme weather in the open-sea islands around Vis. Sailing to distant island of Palagruža is the oldest known off-shore regatta in the Mediterranean. Nowadays, every June as part of a week-long Festival of the Sea, the spectacular regatta called 'Rota Palagruzona' features traditional wooden sailboats that take off for Palagruža island, honouring the tradition of Komiža's fishermen sailing to the remote archipelago that used to be rich with shoals of sardines. The shore of Palagruža also hosts the so-called Papal dinner on Friday evening, to mark the historic event from 1177 when a papal fleet composed of 12 galleys sought shelter from storm in Palagruža waters. The fishermen of Komiža prepared a delicious meal for the Pope and his entourage, and the organisers of 'Rota Palagruzona' carry on the tradition by greeting their guests with a celebratory dinner.

5. PP7 - 2.8

Fishing

The history of fishermen in Croatian fishing is unimaginable without the story of Palagruža and gaeta falcata. Komiža fishermen have for centuries sailed on these falkuša boats to the fishing posts on the island of Palagruža. Pilgrims on their way to the Holy Land described these scenes as multitude of boats with Komiza fishermen, headed to the open-sea island of Palagruža. Palagruža sits in the heart of fish-rich seas, including spawning grounds of sardines, so men from Komiža caught large quantities of blue pelagic fish, which they then salted and exported to Venice and the countries of the Near East. Palagruža is also an important element in the story about Komiža's fishing boat – the amazing falkuša - designed for specific conditions of extreme weather in the

open-sea islands around Vis. Up until the mid 19th century fishermen of Komiža were the only Mediterranean fishermen of the open seas. A number of documents dating back to 1553 mention the catch of 120 tons of blue fish in a single day. Komiža used to be the most important exporter of salted fish in the Adriatic and the epicentre of fish industry until the end of the 20th century. Komiža is the place where the very first fish cannery in the Adriatic was established in 1870 and later on there were as many as seven factories for fish canning. Many fishermen's families moved to California and consequently took over a large portion of the US fish industry. Thus, in 1917, the fishermen from Komiža started a small factory in San Pedro which, by the 1950s, evolved into the biggest fish canning company not only in the US but also in the world. There was hardly a person from Komiža who, after moving to the USA did not start his or her life there working in this factory. For that reason, it does not come as a surprise that today there are many more people from Komiža in San Pedro than in actual Komiža on the island of Vis.

Aside from extreme weather conditions, open seas were also dangerous because of the constant threat of pirate attacks, and for this reason Komiza fishermen would always sail in large groups to Palagruža. These rowing regattas had as many as one hundred falkuša boats, and their joint forces and numbers were enough to fight off the pirate boats, who went after these fishermen not only to steal their barrels with salted sardines but also to take strong men into captivity and later sell them as galley slaves.

6. PP7 - 3.3

Lighthouse on Palagruža islet

Palagruza lighthouse was built in 1875 under Austro-Hungarian Monarchy on the island of the same name, placed in the middle of the Adriatic Sea, between the Italian and Croatian coasts, 68 NM south of Split and 26 NM south of the island of Lastovo. This lighthouse, far out in the Adriatic, is the largest and also among the oldest in Dalmatia. The island itself is uninhabited, except by lighthouse staff and occasional summer tourists. During the construction of the lighthouse on Palagruža in 1874 a quarry on the northern part of the Salamandrija plateau was open for exploitation. It soon became evident that it would be impossible to build the lighthouse from the dolomite rock native to Palagruža, due to its thick and hard structure which ruined many a piece of stonemasons' equipment. After only two rows of native dolomite Palagruza stone blocks

were used in the construction process to build the bottom part of the lighthouse, it became clear that dolomite was not suitable for the rest of the building. It was then decided to continue building with a lighter stone imported from the island of Korčula, which significantly increased the costs of construction. In the deeper layers of this stone quarry on Palagruža, a layer of volcanic ash was found.

7. PP7 - 3.5

Ship design, shipbuilding

A story about falkuša is more than just a story about a certain type of fishing boat rescued from oblivion. It is an embodiment of an insular world of the most remote inhabited Croatian island – the island of Vis, and its collective memory preserved through oral tradition safeguarding its cultural uniqueness, but at the same time its sense of belonging to the universe of the Mediterranean maritime culture.

Falkuša as a type of fishing boat probably has its origins in the traditions of ancient Greece, which is evident in its very name *falkuša*, derived from the Greek word *falkes* = fence, which came to Greek from the Arabian word *halka* = ring, and which refers to the removable wooden side boards (*falke*) mounted as additional protection in high water and dismantled so the lower boat sides can give the fishermen more manoeuvring space while fishing. On each boat there were 5 crew members and they were sailing to the most distant locations using sails and rows. The falkuša became the first Croatian fishing boat courageous enough to leave the Adriatic, reach the vast Mediterranean Sea and sail to the faraway island of Malta. This impressive boat can achieve speeds of up to 11 knots. A triangular lateen sail is falkuša's distinguishing feature. The word *gajeta* was derived from the Italian town of Gaeta on the coast of the Tyrrhenian Sea. The town Gaeta was named after the Trojan hero Aeneas' nurse Caieta, whom Aeneas took along with him on the journey across the Mediterranean, after the fall of Troy. Caieta, as Virgil sings in his epic poem Aeneid, passed away on the beach where she was also buried, and the town founded on that spot was named after her. These written sources point to the great antiquity of this type of vessel known across the Mediterranean, from the Greek islands (Crete), Italian (Sicily), Spanish (Palamòs) and Portuguese (one such boat

can be found in the Maritime Museum in Lisbon). Gajeta falkuša boats in the Adriatic were constructed by boatbuilders from the island of Korčula, almost exclusively for Komiza fishermen, and the falka side boards were made in Komiza. As maritime nation, Greek colonists brought from the homeland of Syracuse to the island of Vis not only an advanced art of shipbuilding and navigation, but also their fishing craftsmanship. There are numerous archeological findings on the island of Vis to demonstrate this, such as ceramic weights for fishing nets and hooks forged in bronze, a depiction of a dolphin on the reverse face of Issean coins and Roman thermae mosaic floor, and depictions of fish on Issean vases. The gajeta falkuša boat is also a vessel used in the unique fishermen regatta from Komiza to Palagruza, which is the longest rowing marathon in the world.

PP7 - 3.7

Relicts

The most important relict of maritime heritage from the past time is a boat – the last gajeta falkuša “Cicibela” which sank in a shipwreck in 1986. Nowadays it is an exhibit in the Fisherman’s museum located at the Kastel, a sixteenth century Venetian fortress built in the Renaissance style, on the harbor promenade (riva) in Komiža. This last falkusa was used as a model to make the replica of this type of boat for the purpose of the World Exhibition in Lisbon EXPO 98.

Archaeological Museum of the city of Vis put on an exhibition on the culture of fishing in the ancient Greek settlement of Issa (present-day town of Vis). The exhibition featured various fishing hooks, spears, net neights, lamps, containers for keeping fish alive, different fishing tools and texts related to the art of fishing, which had been discovered on the island. The exhibition has been titled WE SET SAIL FROM THIS TOWN, which is the first line of the oldest written text in Croatia and the oldest poem dedicated to the hero Calius who lost his life in a battle while defending his town against the attack of Illyrian forces headed by their Queen Teuta in 3rd century BC. This rich collection of fishing artefacts is unique in archeology and this is the first time it has been presented to the public.

Archaeological Museum of the city of Vis takes pride in the richest collection of Greek and Roman monuments in Croatia. Among others, it also includes a bronze head of the goddess Artemis dating back to the 4th century BC and featuring one of the most important Greek bronze monuments in Croatia. A large number of well-preserved amphorae collection is shown in this museum as well, especially from the greatest known shipwreck in the Adriatic, from the 2nd century BC. The Museum also has a numismatic collection of the ancient Issa, which forged its own money. The Greek city polis of Issa was the center of urban civilization, written word and literature, it was pioneering in the first organized cadastre records of land divisions and the first to use money as means of economic transaction. It was also the center of wine-making in the eastern part of the Adriatic. The present-day town of Vis has a well-preserved site of Roman thermae with floor mosaics, and the remains of an old Roman theatre with a seating capacity of 3000 spectators.

The seabed around the island keeps many secrets of numerous shipwrecks and cargo ships as a witness of island’s trading activity. The underwater world surrounding the island of Vis is famous for a large number of archaeological sites where many relics like amphorae, bronze cannons and various items, now lie on the sea bottom of the Vis island.

A		TEXTS	IMAGES	SOUND AND VIDEOS	3D MODELS	DIAGNOSTIC DATA
1	TRADITIONS & CULTURE – Intangible heritage					
1.1	competences, job profiles	X	X	X		
1.2	Visual art					
1.3	Crafting, tools	X	X	X		
1.4	literature, proverbs, languages	X	X	X		

1.5	religions, gods, sea mythology, fairy tales	X	X	X		
1.6	sustainable behaviors / greening					
1.7	food and recipes					
2	SOCIO-ECONOMIC RELATIONS – Intangible heritage					
2.1	inland /City port relations					
2.2	import/export of goods, traffics					
2.3	routes, maps	X	X			
2.4	immigration/emigration of people					
2.5	Sailing activities, cruises	X	X	X		
2.6	Tourism					
2.7	Sailing techniques, winds, on board tools and technologies	X	X	X		
2.8	Fishing	X	X	X		
3	PHYSICAL HERITAGE (ARTCRAFT, BUILDINGS, ETC) – tangible heritage					
3.1	Port authorities headquarter and premises					
3.2	architecture					
3.3	lighthouses	X	X	X		
3.4	dams					
3.5	ship design, shipbuilding, ship maintenance	X	X	X		
3.7	relicts	X	X	X		

3.8	sustainable power and environmental solutions					
3.9	other monuments					