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# Seafaring Lives at the crossroads of Mediterranean maritime history

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### Abstract

This paper is about *Seafaring Lives in Transition, Mediterranean Maritime Labour and Shipping, 1850s–1920s* (SeaLiT), an international research project funded by the ERC Starting Grant 2016. SeaLiT started in February 2017 and has a duration of five years. The project explores the transition from sail to steam navigation and its effects on seafaring populations in the Mediterranean and the Black Sea between the 1850s and the 1920s. In the core of the project lie the effects of technological innovation on seafaring people and maritime communities, whose lives were drastically altered by the advent of steam. The project addresses the changes through the actors, seafarers, shipowners and their families, focusing on the adjustment of seafaring lives to a novel socio-economic reality. It investigates the maritime labour market, the evolving relations among shipowner, captain, crew and their local societies, life on board and ashore, as well as the development of new business strategies, trade routes and navigation patterns. The project offers a comparative perspective, investigating both collectivities and individuals, on board the ships and on shore in a number of big and small ports from Barcelona up to Odessa, in the Black Sea.

### Keywords

Mediterranean maritime history, transition from sail to steam, maritime labour, maritime communities, shipping business

### Introduction

‘Seafaring Lives in Transition, Mediterranean Maritime Labour and Shipping, 1850s–1920s’ (SeaLiT) is the first project of the new Centre of Maritime History in the

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Institute of Mediterranean Studies (IMS), of the Foundation for Research and Technology Hellas (FORTH), in Rethymno, Crete. It is an international research project funded by an ERC Starting Grant 2016. SeaLiT started in February 2017 and is scheduled to run for five years. Together with IMS/FORTH, the University of Barcelona, the University of Genoa and the Centre for Cultural Informatics/ICS/FORTH, in Heraklion, Crete, are participating as partners in the project.

The project explores the transition from sail to steam navigation and its effects on seafaring populations in the Mediterranean and the Black Sea between the 1850s and the 1920s. At the core of the project lie the effects of technological innovation on seafaring people and maritime communities, whose lives were drastically altered by the advent of steam. The project addresses the changes through the actors – seafarers, shipowners and their families – to focus on the adjustment of seafaring lives to a novel socio-economic reality. It investigates the maritime labour market, the evolving relations among shipowner, captain, crew and their local societies, life on board and ashore, as well as the development of new business strategies, trade routes and navigation patterns. The project offers a comparative perspective, investigating both collectivities and individuals, on board the ships and on shore in a number of large and small ports across seven maritime regions: it spans from Barcelona and the Spanish Levant coasts, to Marseille and the Provençal ports, to Genoa and the Ligurian littoral communities, then east to Trieste and the Dalmatian coasts, further south to the Ionian and Aegean islands, and then east again along the coastal mainland to Odessa, the informal maritime capital of the Black Sea.

The ultimate goal of this comparative approach is to trace and understand the differences and similarities in the process of transition and integration to the global economy of different Mediterranean and Black Sea areas. The aim is to investigate how *Seafaring Lives* affected and reacted to the economic development and social transformation of this major phenomenon of transition from sail to steam in these particular areas.

## Research topics and questions

The project engages senior scholars, post-docs, PhD students and research assistants (see Appendix). The broad categories of the research topics are: a) maritime labour, b) maritime communities and ports, and c) shipping, with emphasis on cargo and passenger steam navigation.

Regarding the first theme, maritime labour, Professor Jordi Ibarz (University of Barcelona) examines specifically the case of dockworkers in the port of Barcelona from the 1850s to the early twentieth century. Professor Ibarz studies the impact of the transition from sail to steam in the organization of labour in Barcelona, from guilds to free contract employment. He also studies factors such as changes in the routes and types of navigation that influenced labour relations. He further analyses the characteristics of the workforce of the port, where dockworkers and sailors are indistinguishable as they alternate between both types of work, at sea and on the waterfront. In close collaboration with Professor Ibarz, Dr Enric Garcia Domingo (University of Barcelona) examines how mechanization affected maritime labour in the case of the Spanish merchant marine. Dr Domingo focuses on two particular case studies. First, the seafarers who were employed both at sea and as port and dockworkers in the industrializing port of

Barcelona, 1868–1936. The second case study is that of the daily life and work aboard a line of mail service steamers (*Vapores del Marqués de Campo*) between Barcelona and Manila from 1880 to 1884, which shows the coexistence of old forms of labour (use of sails) in an industrialized context (steamship), an unexplored subject in the Spanish historiography. Daniel Muntané, a PhD student (University of Barcelona), works on the associations of fishermen in Spain between the end of the guilds in 1864 and the early twentieth century. Muntané studies the entry of the capitalist system in the world of fishing and the fishermen's communities, along with the changes that occurred after the introduction of new technologies, such as the intensive fishing gear – trawling and encircling with artificial light. These changes had fundamental effects on the traditional methods of fishing and the economy of fishing industry.

Professor Luca lo Basso (University of Genoa) studies the changes in the ways of recruitment and the forms of remuneration in the maritime labour market in Liguria, focusing mostly on the port of Genoa. Professor Lo Basso investigates the changes in the customs and norms in the maritime labour market, along with the life on board and the navigation systems, which were altered by the advent of steam. Dr Apostolos Delis (IMS/FORTH) explores maritime labour on board Greek cargo steamers in the late nineteenth and early twentieth centuries. In his analysis, he questions issues like labour relations and hierarchies on Greek cargo steamers, as well as specialization, wages, routes and working conditions. He focuses on steamers from the island of Andros in the Cyclades, a maritime community *par excellence*, that successfully transitioned from sail in to steam in cargo shipping. Alkis Kapokakis, a PhD student (University of Crete), works on the maritime labour in Greece during the nineteenth century, a neglected subject in Greek historiography. The issues addressed by Kapokakis include the impact of technological innovation on the maritime labour market, the emergence of new specializations and the decrease or disappearance of others, working conditions on board, and also the institutional framework in which maritime labour functioned in nineteenth-century Greece, including workers' insurance, welfare and nautical education. Connected to the workers' insurance is the study of the establishment and purpose of the Maritime Pension Fund, the first state workers' insurance fund in Greece founded in 1861. Similar to this topic, Dr Andrea Zappia, a post doc researcher (University of Genoa) works on the seamen's retirement fund (*Cassa Invalidi*) in Italy after unification.

The second broad category of topics treats the effects of the industrialization on shipping in the maritime communities and ports, where researchers identify different patterns of transformation. Eduard Page Campos, a PhD student (University of Barcelona), studies the transformation of the maritime neighbourhood of la Barceloneta and its economy throughout the second industrialization. He addresses three main research questions: first, how did the economic activity of the neighbourhood change during the period, especially in those industries related to maritime economy, and how did their actors adapt to technological and economic change? Second, to what extent did social transformation take place in la Barceloneta, including analysis of the changes in the socio-professional structure, the migration phenomenon, the ways and conditions of housing and the demographic behaviour of its population? Third, in what ways, and why, was the identity of the district and of its maritime community transformed, focusing on the ideas of crisis and decadence that emerged in the late nineteenth century?

Popi Vasilaki, a PhD student (University of Crete) works on the transformation process of the maritime community of La Ciotat, in Provence, southern France. In 1851, La Ciotat was transformed from a small port of sailors and fishermen to an important modern shipbuilding town, when the steam navigation company *Compagnie des Messageries Maritimes* made La Ciotat its main technical base for ship construction and repairs. Vasilaki examines the impact of this drastic transformation on the maritime community through demographic developments, including the growth of population and the origins of the immigrants who worked in the shipyards. She also studies the effects of this transition on the new and old maritime professions, the composition of the labour force and the career patterns. Moreover, Vasilaki seeks to relate this socio-economic transformation to the evolution of the urban space through the development of port infrastructure and the changes in the urban environment.

Leonardo Scavino, a PhD Student (University of Genoa) works on the effects of the transition from sail to steam in the maritime community of Camogli, Liguria, a small port-town heavily engaged in the international shipping business. Scavino examines the effects of the transition on the trade routes and the size of the fleet as well as on maritime labour. Camogli, which did not manage to replace its fleet of sailing ships with steamers, was greatly affected by the drastic changes of the industrialization of shipping, and Scavino seeks to explore the effects of global processes at the local level. Similarly, Professor Paolo Calcagno (University of Genoa) examines the effects of the transition in Savona, which altered the character of its port – from a regional port to an international one – its labour market and the social fabric. Calcagno seeks to understand these changes and effects through the study of the port movement, the fleet and the population engaged in shipping activities.

Further to the east of the Mediterranean, Petros Kastrinakis, a PhD student (University of Crete), deals with the port of Ottoman Chania (ott. Hania) during the nineteenth century, in what is the first interdisciplinary research project to embrace both Ottoman and maritime history in Greece. Kastrinakis's research questions include the role of the port of Chania in the economy of the island of Crete, in the eastern Mediterranean and beyond. He also examines how the local communities of the city (Christians, Muslims and Jews) were involved in merchant and shipping activities. Current historiography has emphasized the role of Christians in shipping in the Greek and Ottoman Aegean. However, through the case study of Chania and the rest of the Cretan ports an inverse picture emerges, with Muslims being the most competitive actors in shipping and port activities. Related to this question, Kastrinakis also seeks to reconstruct the socio-professional profile of the population of Chania engaged in shipping and commerce (merchants, ship-owners, sailors and dockworkers).

Dr Katerina Galani (IMS/FORTH) works on the small maritime community of Galaxidi in western Greece. Galaxidi is a port that did not manage to adapt to the novel socio-economic environment created by the advent of steam. Galani's key theme is that Galaxidi's *seafaring lives* did not succeed in adapting to the technological challenge and consequently this led to the demise of a traditional maritime community and the disruption of the established social and economic relations and hierarchies. Economic stagnation in the early twentieth century caused waves of migration towards the emerging port of Piraeus as Galaxidi's inhabitants sought better working opportunities. The

gradual consolidation of the port of Piraeus as a national and international port and maritime centre in the second half of the nineteenth century attracted seafaring people from many areas of maritime Greece. Galani explores the continuity of the people that emigrated from a traditional maritime community, such as Galaxidi, in a new, industrial port environment.

The third category of topics is passenger steamship navigation. Passenger shipping was not only revolutionized through the advent of the steam in terms of speed and regularity *vis a vis* the unpredictability of the sailing ships, but was also essentially organized and regularized by the first steam navigation companies in the nineteenth century. This topic is treated in a very fragmented way in the cases of the Mediterranean and the Black Sea and despite few important works, the project still covers major gaps in the literature. Dr Matteo Barbano (IMS/FORTH) studies 'Lloyd Austriaco', the first steam navigation company in the Mediterranean, which was founded in 1836 and based in Trieste. Barbano approaches the subject on three levels of analysis. First, he aims to reconstruct the rise and development of the company, focusing mainly on its relations with the Austrian government through postal contracts and state subventions, and the strategies of expansion adopted by Lloyd. The second is the study of the Lloyd's fleet as the almost exclusive protagonist of the transition from sail to steam in the Habsburg Empire during the nineteenth century, with particular attention to the role of the company's shipbuilding and repairing facility established in Trieste in 1861. The third, and main part of the investigation, is focused on the seagoing personnel of Austrian Lloyd, a topic largely missing from the historiography. Austrian Lloyd had a preeminent role in the reshaping of the Adriatic maritime labour landscape during the long transition from sail to steam, involving seafarers from the old Adriatic maritime communities, who were engaged in the processes of the new types of career at sea with all the socio-economic ramifications of the industrialization of shipping: for instance, waged labour, developing of class consciousness and class struggles.

In a similar vein, Dr Anna Sydorenko (IMS/FORTH) explores the transition from sail to steam along the northern Black Sea coast, focusing on 'The Russian Steam Navigation and Trading Company' (RSNTC), the largest steamship company in the Russian Empire. Established with government subventions, the company was based in Odessa, the major maritime and trade centre of the region. The RSNTC was part of the modernization programme launched by the Russian Empire through the introduction of the new technology of steam navigation, the development of maritime communications, and, crucially, a contribution to the process of the globalization of the southern Russian area. Sydorenko's main question concerns the impact of steam navigation technology, which became the driving force behind the evolving organization of the Black Sea maritime trade. In addition, Sydorenko investigates the effects of the introduction of passenger shipping in the Black Sea area and the southern shores of the Russian Empire, and how the RSNTC contributed to the formation of a new type of maritime labour force, which combined human resources from traditional maritime areas with those drawn from distant parts of the Empire.

The third case study of the introduction of passenger shipping at about the same period is that of the *Hellenic Steam Navigation Company* (HSNC), which was founded in 1856, based in Syros, and is being studied by Dr Apostolos Delis (IMS/FORTH). The

HSNC was a state-subsidized company, which contributed not only by introducing regular passenger services, but also by developing modern shipbuilding in Greece in the nineteenth century. In 1861, the establishment of shipbuilding and ship repair facilities for steamships at Syros was the first industrial complex of its kind in Greece. Dr Delis assesses the role of the company in the modernization of Greece, in contrast to the existing literature that treats the case of the HSNC as a failure due to its bankruptcy after 37 years of service. In order to do that, he examines three aspects of the history of the HSNC. First, he investigates the institutional history of the company, including its political and socio-economic implications. Then, he gauges the importance of the fleet to the development of the sea communications as well as the introduction of a new technical know-how. And finally Dr Delis analyzes the development of Syros Shipyards (Neorion), which was the first modern shipbuilding plant in Greece, and is still active today.

## Sources and methodology

*SeaLiT* is based on unexplored sources that hitherto have not been systematically used in Mediterranean maritime history. Ship logbooks, crew lists, seamen registries, business records, as well as official and private correspondence are some of the understudied, but very valuable primary sources that can elucidate the realities of the lives of the actors in our field of enquiry. Furthermore, these types of sources come from a number of Mediterranean and Black Sea countries and are written in different languages.

The project adopts both quantitative and qualitative approaches. Quantitatively, it will construct systematic data series extracted from sources such as ship logbooks, crew lists and pay rolls, which enable us to address a number of crucial questions relating to seamen's wages, manning ratios, old and new types of maritime professions, trade routes and the duration of voyages. Qualitatively, an array of sources, such as official and private correspondence, newspapers and memoirs will complement our understanding of the contemporary views, mentalities and behavioural patterns regarding labour in the shipping business.

The research project will consider the subject from both macro- and micro-historical perspectives. On the macro-historical level, it will analyze the transition from sail to steam through the development of, and prevailing conditions in, international trade and the shipping industry, in which the Mediterranean and Black Sea maritime communities were located. It will also appraise changes in the national and international seafaring labour market and transport systems, which raise issues concerning the expansion of trade routes, the emergence of new types of shipping enterprise and the development and decline of ports. On the micro-historical level, it will focus on personal stories and local maritime communities, on the people and places that experienced this transition and its effects on everyday life, such as the difficulties of seamen in adapting to the new environment of the steamers and the much longer routes and absence from home, and the challenges facing families migrating from small ports to bigger ports or maritime centres.

SeaLiT researchers have consulted a very wide array of categories and types of source, in languages such as Greek, Russian, Ottoman, Italian, French and Spanish, so far. Regarding the topic of maritime labour there are lists and registries of seamen and

officers compiled by public and private entities (state authorities, business administrators) for various purposes. A typical state registration is that of all maritime professions (including all those involved in shipping, shipbuilding, fishing and the related industries) by the naval authorities. These registers were already established in the eighteenth century to create pools of manpower for the navies of many Mediterranean states; accordingly, in Italy it is called *Matricole della gente di mare*, in France the *Inscription Maritime*, and in Spain the so-called *Matrícula de Mar* (Lo Basso, Scavino, Ibarz, Garcia Domingo, Vasilaki are involved in the study of these sources). In Greece, this type of source is called *Μητρώα εργατών θαλάσσης* (*Registry of sea workers*), and dates back to the creation of the modern Greek State in 1830, when it was placed under the jurisdiction of commercial shipping rather than the Navy (studied by Kapokakis in the project). A similar type of seamen's registration is the *Libretto di Servizio Marittimo* (literal translation, *Booklet For Maritime Service*), issued by the *Governo Marittimo di Trieste* (Maritime District Administration of Trieste). The *Libretto* is an individual document containing sailing permits granted to a seaman by the port authorities, and therefore contains the full career of a seaman at sea, including his photograph. These valuable documents were first issued in the 1890s (Barbano examines this source), and were not geared to naval service or linked to pension funds. Rather, they related to social and labour control of seafaring labour by the port authorities, and the information they contained was available to employers and captains of merchant ships, and underpinned the employment of a sailor.

Such registries were generated in many Mediterranean countries, albeit in different forms and languages, and they are invaluable and comparable sources as they offer minute, detailed and comparative information about the seafaring people of the Mediterranean, and also very important data on the composition and career patterns of the maritime population. Other types of document created in the enlistment of sailors and officers are the crew lists compiled from the shipping firms for the port authorities, which include all the men on board a ship on a single voyage. Known either as *Roles de Navegación* in Spain, *Ruoli di Equipaggio* in Italy (similar information in the form of a list is provided by the *contratti di arruolamento*, the contract stipulated with the seamen included in the ship's logbook), *Ναυτολογία* (*Naftologia*) in Greece. Whatever the nation and language, crew lists provide a welter of information, and shed light on fundamental aspects of the maritime labour market, such as the size of the crew, which helps to understand the manning ratio and therefore the workload, the composition of the crew and the seafarer's specialization, age and origin, as well as the wages and contributions to the national pension funds (crew lists are used in the project by Scavino, Lo Basso, Garcia Domingo, Ibarz, Delis).

Business records also provide information on personnel for internal use. From the archives of passenger steam navigation companies such as *Lloyd Austriaco*, and the Russian RSNTC, researchers (Barbano and Sydorenko) found lists of officers, engineers, doctors, catering and service personnel regarding the workforce on board. However, these archives also contain important lists of land-based workers of these companies, including registers of the personnel of the Company shipyards (in the case of *Lloyd Austriaco*), administration, supplies, stores and agencies personnel (of both companies) and register of retired personnel (again in the archives of *Lloyd Austriaco*). Regarding

the land-based workforce, another very important source is the complete series of registers of the workforce from 1851 to 1912 of the shipyards of *Messageries Maritimes*, the French steam navigation company based in the port of La Ciotat (studied by Vasilaki).

Ship logbooks and voyage account books are another category of source that concern the work and living conditions on board and in port, the routes, weather and navigation conditions, as well as the events that occurred during the voyage, such as accidents, illnesses, quarrels, etc. (studied by Delis, Kalesios and Chalkiadaki). Compiled by captain and officers, they are an invaluable source of daily occurrences aboard a ship, but they have not been used extensively as evidence relating to the history of maritime labour, despite offering a very illuminating and detailed picture of life at sea and in port. Other important types of sources concerning seafaring people are those related to the welfare of sailors, such as the pension fund and state policy towards this category of workers and their families. The archive of the Greek Maritime Pension Fund (*Ναυτικό Απομαχικό Ταμείο*, known as *NAT*) was established in Greece in 1861. It is the first pension fund in the country and it still exists today under the same name (studied by Kapokakis). The archives of NAT provide rich and detailed information on many important issues related to the institutions, laws and regulations concerning the entitlement of sailors to welfare, the contributions of the seamen, the amount of pension received, the lists of the entitled sailors to pension, the preconditions for the transfer of the pension of a deceased sailor to his widow and orphans. The archives of the *Cassa Invalidi* also provide similar information in the case of unified Italy (studied by Zappia) and can be used in a comparative way with that of *NAT* in Greece.

Along with the documentation concerning maritime labour, researchers have collected material related to the shipping business and to ports and maritime communities. Shipping companies' archives, especially those of the passenger steamship navigation companies, provide detailed information about their fleet, including the technical details and career of vessels (Barbano, Sydorenko). They also provide rich documentation on the economic performance of the company, with balance sheets that include not only expenses and revenues, but also data concerning the shipping lines they served, the miles the ships covered, the amount and value of cargo and passengers transported (Sydorenko, Barbano, Delis). More qualitative information about the strategy and the decisions of the companies is contained in the general assemblies of the shareholders, but this source must be used with caution as often many of the decisions or actions of the company either were not discussed in the assembly or were whitewashed. In the case of cargo steam shipping firms, archival material such as account books, ship log books, pay rolls, charter parties, ship chandlers and suppliers' documents, letters and detailed economic figures on each voyage offer an almost complete picture of the reality of shipowners and their employees (captains, deck and engine officers and lower crew) in the first stage of development of Greek-owned cargo steam shipping (Delis).

Demographic data are the material *par excellence* for the study of maritime communities, notably that extracted from population censuses. The censuses of La Ciotat (Vasilaki) and of Odessa (Sydorenko) are essential to understand trends in the evolution of the maritime population and the effects of these trends, such as emigration when maritime industries contract or shifts to other economic activities. Similar information

on population come from sources like the Civil Register and the Registry of Deaths in Barcelona, while even more focused on specific social questions are the Lists of entrances and exits of the Hospital de la Santa Creu in Barcelona (Page Campos). Along with the demographic type of evidence, more qualitative sources, mostly of a juridical character, like notarial deeds (Galani, Kastrinakis, Page Campos, Vasilaki) and court registers from the mixed court and the commercial court of Ottoman Chania (Kastrinakis), also illuminate everyday lives in maritime communities.

Linked to the material concerning social issues of the maritime population are primary materials that deal with the development and evolution of ports as spaces of maritime activity. One of the basic tools needed to measure the character and importance of a port is the registry of ships (von Briesen, Barbano). The port registry shows the size of the merchant fleet and its specialization (long distance trade, coastal trade, and fishing). It also shows the evolution of a port over time and its character, not only if its fleet has grown in quantitative terms, but also if it has been technologically upgraded from sailing ships to steamers. In this respect, information from the British and French consular correspondence (Kastrinakis) also yields invaluable quantitative, as well as qualitative, information about the port's shipping movements, the commodities exchanged, the fleets and shipbuilding activity, as well as about the port infrastructure, the state of the economy and local politics. Related to the policy toward port development are the orders, laws and decisions of central governments, like the orders of the Sublime Porte to local authorities in Crete concerning infrastructure works in the port of Chania in the nineteenth century (Kastrinakis). Last but not least, newspapers, national and local, provide not only detailed quantitative information about a port's economy (rates of currency exchange, maritime insurance prices, etc.), but also important news for the economy of other ports and areas with which the specific port and its business community are economically related (Galani, Page Campos, Kastrinakis).

In this vast and varied archival material, we can distinguish two broad categories in terms of processing: those containing qualitative and those containing quantitative data. The latter category is the one that entails the processing and analyzing of data. In previous research projects, sources have been digitized as images, or information in them has been extracted into Excel or Access files or into various relational databases, typically using a different format or schema in each research project, possibly for each kind of source. The use of those tools allows historians to produce graphs, timelines and tables of results that help them to assess historical trends of prices, population, etc., or to describe collective social phenomena and to draw conclusions on possible impact factors. This process has drawbacks with respect to the facility and ability to combine working hypotheses during the ongoing research to critically verify the correctness of information transcripts and the comparability of analogous data from different sources, authorities and geographic regions, and finally to reuse digitized data and research results for future research.

In order to provide a better IT support to overcome the above drawbacks, the group of computer scientists from the Centre for Cultural Informatics of the Institute of Computer Science/FORTH, under the guidance of Dr Martin Doerr, has designed a system that is composed of the following parts: data entry, post-processing of digitized

data, mapping to the semantic schema, ‘research space’ semantic network database. The computer scientist group has identified the following practical challenges and has proceeded in finding appropriate solutions. The first challenge was about data entry – how to facilitate the work of the historian making the data entry faster, based on a customizable data entry system, called Fast Cat, allowing for nested tables. The next challenge was how to keep the original content of sources separate from the corrections or comments of historians. Strictly connected to the previous one was how to transcribe as much relevant information as possible, and as exact as possible, from the sources, in order to avoid replicating the transcription process for each new working hypothesis and research question, thus making the work of the data entry a reliable resource of current and future research.

Fast Cat exports XML files that are later translated into RDF files. Those types of files are encoding standards and contain simultaneously the data and the schema that connects the data. This makes the information reusable, readable by machines and humans, and easy to be mapped (i.e., translated into a different schema with comparable meaning), in order to be compatible with other databases.

The digitized data of the project so far includes four broad categories of items: *legal entities* (firms or public authorities like Custom Office), *persons*, *ships* and *locations*. For the critical phase of post-processing the digitized data for quality control and for distinguishing the identity of named entities, the group of Computer Scientists has created the Fast Cat Team. A tool that is linked to the Fast Cat data entry system enables researchers to match the instances of the above mentioned categories within and between sources. This tool also helps to identify locations, which in the sources appear with historical names in different languages, other than that the place bears today (e.g. Koper in today’s Slovenia, previously Capodistria in Italian sources), or locations whose identity can only be recognized within the context of the source and provide sufficient identity information (through Getty Thesaurus of Geographical Names and geonames.org) to be able to identify them and to present them on maps. This system of post-processing is also able to make the content useful for historians of other countries by providing translations and to translate the content without altering its meaning. In the phase of mapping to the semantic schema, the system aims at merging the digitized information from different sources, while always keeping track of where the information originated. Lastly, the challenge still under way is to provide users with a user-friendly Research Space semantic database that helps them to get the information they are searching for from a rich semantic network of correctly connected transcribed data from all relevant sources.

## **Deliverables and expected results**

The deliverables of the project include conventional academic outputs and innovative research tools. A collaborative printed volume in English will constitute SeaLiT’s main scholarly product. It will address themes such as maritime labour, maritime ports and communities, steam navigation passenger shipping and semantic networks and history in chapters to be written by most of the senior researchers, post docs and

PhD students engaged in the project (see Appendix). Contributors will synthesise the results of their research, offering a comprehensive, in-depth analysis of their main questions. Findings on more specific topics and research issues will be discussed in articles submitted to peer-reviewed journals. The broad categories selected for the collective volume correspond to the project's main themes: maritime labour, shipping, and maritime communities. The emphasis on passenger steamship navigation is due partly to the rich and detailed material discovered in the archives of different countries, and also because passenger steamship navigation epitomised a new, revolutionized branch of the shipping industry that was strictly connected with the transition from sail to steam. Last, but not least, semantic networks constitute a great challenge for this project and we hope that this will be the first time, at least in the Mediterranean, that historians and IT experts successfully cooperate, trying to follow each other's different conceptual models in order to explain the meaningfulness and purpose of the creation and use of new and innovative tools of research.

Another important set of outputs will be the six PhD dissertations on modern Greek, Ottoman, Spanish, French and Italian maritime history that are currently under construction at the universities of Barcelona, Genoa and Crete. These dissertations cover an extensive thematic and geographical area of the Mediterranean maritime history. From seafarers' communities at places such as Barceloneta, Camogli, La Ciotat and Chania, to the fishermen's associations in a big port like Barcelona and up to the Greek sailors between a modern state and the international markets, the doctoral researchers will illuminate many unexplored aspects of the maritime life of the Inner Sea. The transformations of the second industrial revolution had tangible effects on space, economy and people. It brought the end of the fishermen's guilds in Barcelona, led to the emigration to the Americas of the Italian maritime population wedded to the sailing ship economy, the development of a small shipping port of southern France into an industrialized town, and the growing role of Muslims in a shipping industry that in a wider context was dominated by Christians.

Alongside these academic outputs, the project will create important and innovative research tools. Primary sources and academic works regarding Mediterranean maritime history are difficult to locate, retrieve and read, due to their geographical dispersion, irregular availability to researchers and language diversity, thus creating a fragmented and uncharted research landscape. Therefore, our aim is to create an open access archival and bibliographical corpus based on the sources and secondary literature collected by the SeaLiT team. Researchers will compile a kind of entry for each category of source and for each academic work collected, citing the exact archival and/or bibliographical data of each element together with a summary in English of no more than 100 words. This work will function as an annotated guide to primary and secondary sources that will facilitate current and future research in the Mediterranean and Black Sea maritime history.

The next and very challenging innovative tool will be the SeaLit Semantic Network Database, as outlined above. SeaLiT is perhaps the first maritime history project to adopt semantic data technology. This integrates and maps the various types of digitized data to a common RDF format, taking advantage of the CIDOC CRM formal ontology for

translating the individual data sources into a common expression. Once in this standard format, the data will form a semantic graph, a type of database that allows advanced, deep and intuitive queries over combined and complex data. This will allow researchers and the public to query the collective results of the SeaLiT research team's work in order to discover new information, patterns and trends regarding this crucial transition period in the history of the Mediterranean.

## **Contribution and legacy of the project**

SeaLiT aims to pioneer new ways of researching Mediterranean maritime history. First, it is designed to address new and crucial questions on unexplored topics in this field of enquiry. The transition from sail to steam and its effects on maritime labour, shipping and maritime communities and ports in the Mediterranean and Black Sea is, surprisingly, a rather unexplored subject. It is also a very wide one, since it encompasses a large number of topics, issues and questions such as transport revolution, technology transfer, labour conditions, relations and hierarchies, urban transformation, emigration, state policy and institutions in the context of maritime labour, maritime communities, port history, ship-building, shipping business, maritime commerce, both at sea and on shore, that no other collective work so far has undertaken.

The existing literature on the advent of the steam in the Mediterranean usually addresses the phenomenon at the local (port) or national level and focuses on specific aspects and questions without taking into consideration similarities, particularities and differences with other areas or countries. SeaLiT remedies these drawbacks through the creation of an international team of researchers across the Mediterranean and the Black Sea, which makes possible comparative analysis and a diversity of approaches to the phenomenon of the transition from sail to steam and its multiple effects. Furthermore, existing studies of this subject are based on limited sources in relation to the available archival material, so that many important sources, which would contribute to a better understanding, remain ignored.

A great impediment for the individual researcher is the vast and diverse amount of sources and especially the need to quantify them. It requires the creation of a research group able to locate, collect, assess, process and analyze the various types of material through sophisticated IT systems. This is a kind of work that cannot be performed by a single researcher and it has not been performed up to now. This enormous work is undertaken now by the SeaLiT research group and is a fundamental contribution to Mediterranean maritime history research. Moreover, many of the existing studies are written in different Mediterranean languages – French, Italian, Greek, Croatian, Spanish and more – that limits their range of dissemination to a wider audience as researchers either ignore their existence or are unable to read them. The breaking of the linguistic barrier to understanding sources and literature is also one of the objectives of this project, thanks to the collaboration of scholars and specialists from different Mediterranean countries and the creation of tools such as the Archival and Bibliographical Corpus, which will inform researchers of primary material and secondary works that might be interested.

Collaboration with specialist researchers in informatics of the Centre of Cultural Informatics of the Institute of the Computer Science of FORTH, for the processing, management and mapping of the archival data, represents another major contribution of SeaLiT. It inaugurates a new interdisciplinary engagement between historians and IT experts, on methods and tools not used up to now in historical research. Furthermore, it encourages specialists in both fields, history and informatics, to explore each other's methodology and objectives and this gradually improves their scientific perception about the significance of their work and the dissemination to others, often non-specialists.

SeaLiT, above all, is a project of Mediterranean history and, as such, it aims to connect scholars from different countries and academic institutions to a unique scope. The collaboration of IMS/FORTH with the laboratories of the universities of Genoa and Barcelona enhances the network of scholars of different status (senior, post doc, PhD students) in a sustainable way. Academic conferences across the Mediterranean also work to this end, but when scholars present their own work, it is usually a solitary experience bereft of further opportunities for sustainable cooperation. Instead, SeaLiT, thanks to the common benefits, achievements and results of the project, promises to build a basis for collaboration among the institutions and its members in future research projects. Connected to this, and another very important contribution of the project, are the expected results of the PhD students. They represent the future and the continuity of the Mediterranean maritime history and they offer an opportunity to engage in a very different context to that in which their colleagues work; that is, a context of an international and interdisciplinary research project, in which they can constantly exchange opinions and ideas with close and more distant colleagues of every status and experience. Hopefully, this environment will help these young scholars appreciate the value of the collective work of international character and eventually enable them to become the agents of continuity of any future research cooperation at Mediterranean level.

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### **Author biography**

Apostolos Delis completed his undergraduate studies at the universities of Siena and Bologna, and his MA at the University of Bristol. He completed his PhD thesis in 2010 at the Ionian University. During the academic year 2010-11 he worked as a post doc researcher at the University of Nice, and since 2012 he has worked as a researcher in the Institute for Mediterranean Studies/FORTH. His research interests lie in maritime economic and social history, the history of technology of the sailing ship, the shipbuilding industry, port history and the institutions of shipping business. He is author of a number of articles and a monograph entitled *Mediterranean Wooden Shipbuilding: Economy, Technology and Institutions in Syros in the Nineteenth Century* (Leiden, 2015). He leads the SeaLiT project on the basis of the ERC starting grant he was awarded for the period 2017-2021.

## Appendix

### SeaLIT research groups and members

IMS/FORTH	
Name	Position
Dr Apostolos Delis	Principal investigator
Dr Katerina Galani	Post Doc researcher
Dr Matteo Barbano	Post Doc researcher
Dr Anna Sydorenko	Post Doc researcher
Kalliopi Vasilaki	PhD student
Petros Kastrinakis	PhD student
Alkis Kapokakis	PhD student
Thomas Kalesios	Research assistant
Nikos Kastrinakis	Research assistant
Michaela Stavrakaki	Research assistant
Aspasia Chalkiadaki	Research assistant
T.I.G./University of Barcelona	
Name	Position
Professor Jordi Ibarz	Head of group/senior researcher
Dr Enric Garcia Domingo	Post Doc researcher
Dr Brendan J. von Briesen	Post Doc researcher
Eduard Page Campos	PhD student
Daniel Muntané	PhD student

Name	Position	Topic	Place
Andros, Syros	Maritime labour, passenger steam navigation	Andros, Syros	Andros, Syros
Galaxidi, Piraeus	Maritime communities	Galaxidi, Piraeus	Galaxidi, Piraeus
Trieste, Adriatic Sea	Passenger steam navigation	Trieste, Adriatic Sea	Trieste, Adriatic Sea
Odessa, Black Sea	Passenger steam navigation	Odessa, Black Sea	Odessa, Black Sea
La Ciotat	Maritime communities	La Ciotat	La Ciotat
Chania	Maritime communities	Chania	Chania
Greece	Maritime labour	Greece	Greece
Greece	Greek sailings ships and steamers logbooks	Greece	Greece
La Ciotat	Population census records and shipyards registers of the workforce	La Ciotat	La Ciotat
Andros, Trieste	Greek steamers payrolls and list of Austrian Lloyd engineers	Andros, Trieste	Andros, Trieste
Andros, Syros	Account books of Greek steamers	Andros, Syros	Andros, Syros

Name	Position	Topic	Place
Barcelona	Maritime labour	Barcelona	Barcelona
Spain	Maritime labour	Spain	Spain
Spain	Spanish merchant fleet	Spain	Spain
Barceloneta	Maritime communities	Barceloneta	Barceloneta
Barcelona	Fishing associations	Barcelona	Barcelona

(Continued)

## Appendix. (Continued)

NAVLAB/University of Genoa			
Name	Position	Topic	Place
Professor Luca Io Basso	Head of group/senior researcher	Maritime labour	Genoa
Professor Paolo Calcagno	Senior researcher	Maritime labour	Savona
Dr Andrea Zappia	Post Doc researcher	Maritime labour	Unified Italy
Leonardo Scavino	PhD student	Maritime communities	Camogli
TELEMME/University of Aix-Marseille*			
Dr Olivier Raveux	Senior researcher		Marseille
Professor Xavier Daumalin	Senior researcher		Marseille
Centre for Cultural Informatics//CS/FORTH			
Dr Martin Doerr	Division Head		
George Bruseker	R&D engineer		
Pavlos Fafalios	R&D engineer		
George Samaritakis	R&D engineer		
Kostas Petrakis	R&D engineer		
Corina Doerr	Coordinator		

\*Collaboration with this institution terminated. Olivier Raveux and Xavier Daumalin published a joint paper 'La marine marchande marseillaise en transition énergétique (1831–1851). Origines et enjeux d'un choix socio-écossystémique'. *Cahiers de la Méditerranée*, 97, No. 1 (2018), 223–9; <https://journals.openedition.org/cdlm/10351#text>.