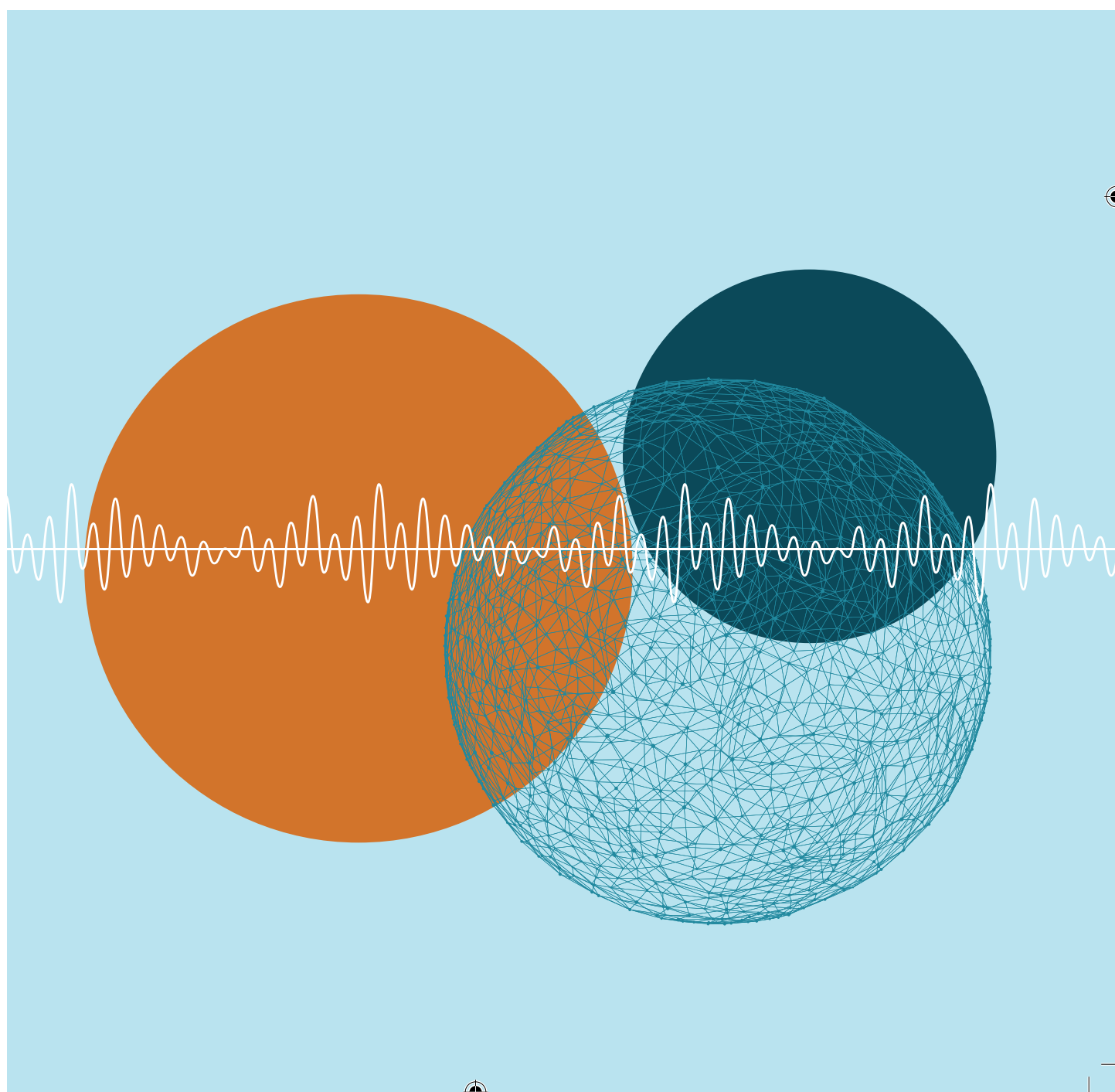




Anchor Life Project

Breaking new ground
of awareness on noise pollution



Achieving effective noise governance in port areas



Noise pollution is a problem. Steering noise pollution is a priority

The European Environment Agency (EEA) estimated that 65% of citizens of major EU cities are exposed to noise pollution, with negative impact on health and on social costs, with effects such as depreciation of properties close to sources of noise, loss of working hours due to stress or insomnia and learning disabilities. Based on data collected in 91 European ports, the EEA has defined noise pollution as the third environmental priority, after air quality and energy consumption.



A project to mitigate noise pollution and to support development

Anchor Life Project was conceived to disseminate awareness on port noise pollution, in order to make new knowledge available to public administrations and decision makers in land management, port authorities, private companies active in ports and resident citizens.

Objectives of Anchor Life Project

Actions promoted by the project are in line with the objectives of the European Directive on environmental noise, which aims at defining a common approach to prevent or to reduce harmful effects of noise pollution.

Objectives are:

- developing an incentive scheme for port operators called "Figures of merit", as a governance tool for managing port noise by encouraging private companies to apply noise control actions;
- producing new guidelines for the definition of a common approach to monitoring and to assessing port noise, upgrading results of previous EU-funded projects and applying the new algorithms defined by the European Directive 2015/996/EU;
- designing and installing a Smart Port Noise Monitoring System (SPNMS) in Patras port, consisting of a network of low-cost microphones able to monitor noise emissions generated by port activities and transmit data to a central server managed by the Port Authority
- replicating and disseminating this strategy on a "Followers' Platform" of port authorities and stakeholders to stimulate sustainable environmental development in terms of noise control.

A set of socio-economic indicators was also defined to describe the impact of actions coordinated under **Anchor Life** to reduce noise pollution in city ports. Project indicators outline effects in terms of growth and improvement in the perceived quality of life:



IMPROVEMENT OF THE USABILITY OF PLACES

Evaluation of the impact of noise reduction strategies on living conditions, behavior and social relationships.



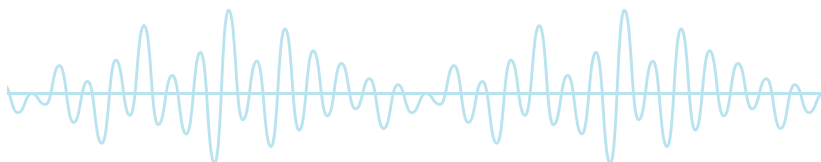
SUSTAINABLE DEVELOPMENT

Enhancement of real estate assets and strengthening of the methods of collaboration between public and private entities.



POSITIVE EFFECTS ON THE LOCAL ECONOMY

Evaluation of the impact resulting from noise pollution on the economic growth of accommodation facilities.





Anchor Life project was developed in a number of European ports, including Patras (Greece), Livorno (Italy) and Melilla (Spain/North Africa). The interventions carried out in these three locations are summarized in detailed reports analysing planned actions vs results attained.

Patras (Greece)

In December 2019, Deliverable B.2, titled *Technical Report on the design of the Smart Port Noise Monitoring System* was finalized and presented. Prior to June 2020 the activities carried out concerned the following topics.

- 1) The start of the project implementation consisted of activities such as:
 - Involvement of the project work team, comprising specialized officials from the Municipality of Patras (MUPAT) Environment, Energy and Green Spaces Directorate;
 - Management of the accounting mechanism dedicated to the project;
 - Strengthening of collaboration with local stakeholders, in particular the Port Authority.
- 2) Design of a Smart Port Noise Monitoring System (SPNMS):
 - Production of a Report sharing objectives;
 - Defining technical specifications for the correct installation of the system;
 - Definition with the port of Patras and other Greek ports of the correct acoustic climate in the ports.
 - Finalization of the Technical Study and the relative tender procedure for the supply of SPNMS equipment.
- 3) Actions carried out to install SPNMS:
 - Signed contract with a sound expert to implement SPNMS in the port of Patras;
 - Contract signed with an environmental expert for the definition of the impacts and mitigation measures in the port of Patras;
 - Contract signed with an EU project financial expert for the management of financial matters.

In the year 2020 the COVID-19 pandemics has challenged the implementation of the project, such as the installation of noise reduction equipment and the organization of the event in Patras which could be rescheduled for January / February 2021, depending on the regulations security issues related to COVID-19.

The results produced in the period June-October 2020 can be detailed as follows:

- The Expert for Sound Control conducted 2 measurement campaigns in July 2020 and September 2020;
- a third measurement exercise is planned for the last week of October 2020. The procurement procedure for the noise monitoring system has been fully implemented, resulting in a signed contract with a supplier for 3 complete measurement stations, which should be provided on 5 November 2020.



Livorno (Italy)

This action led to the delivery of the “Figures of Merit” report, which was presented in July 2019 during the first interim meeting in Melilla (Spain). This report, which highlights measures to reduce noise emissions and indicators to monitor noise pollution and progress in noise reduction, aims to provide port decision makers with an overview of policy tools to promote private response to this problem. It therefore analyzes the categories of port traffic and proposes means to incentivize port operators to proactively intervene to reduce emissions. Of course, an important tool for encouraging port operators to combat noise emissions is the reduction of port fees due to operate within port areas, with particular reference to port concessionaires. Following the outbreak of the COVID-19 emergency, port throughput decreased significantly (by 20% in the first half of 2020), leading to the suspension of the payment of port taxes by port concessionaires. The combined effect of the loss of traffic and the suspension of port taxes has made the figures almost impossible to reach. ADSP MTS therefore proposed the creation of a simulation of the introduction of Figures of Merit in the port of Livorno to try to overcome the impossibility of testing this political tool in real conditions. This simulation will be based on the noise maps, which the port made shortly before the outbreak began. This noise mapping allows the ADSP partner MTS to know the pre-COVID-19 noise levels, i.e. the noise levels that can be considered normal with reference to average traffic flows. Interested parties will be made aware of these simulation results, underlining how important their contribution can be to solve this problem, through press releases and local virtual meetings. Given that the simulation will be based on current and recent data, adherence should be high, espe-

cially if you consider that you can leverage modeled data that depict the specific state of the art of noise produced by different sources. The figures of merit could then be tested and proven, following models very close to reality. The introduction in this period of Figures of Merit could prove to be a useless and counterproductive exercise, as port operators struggle to reach pre-crisis levels and have to cope with difficult operating conditions. Emphasizing, however, how much noise affects everyday life with average traffic levels could shed more light on this issue and raise awareness of this problem. In order to carry out this subtask, external contract costs will be required to carry out the simulation.





Melilla (Spain/North Africa)

The “Report on sharing Objectives B.3” has been released, defining the methodology and objectives of a Port Noise Impact Assessment (PNIA). This report is based on the Melilla Port Authority (MPA)’s experience with ongoing noise mapping and management, current concerns stemming from noise issues affecting local citizens and port expansion plans. The report defines how the PNIA will be designed and applied to the current operations and activities of the Port of Melilla and its expansion plans. In particular, the main tasks to be followed in the methodology are thus described:

- geographical definition and limits of the noise simulation model
- characterization of noise sources
- creation of noise maps
- impact assessment
- noise management.

MPA produced a detailed plan in which responsibilities, data, validations, resources and deadlines were proposed to the academic partner, CIRIAF (Perugia, Italy) and the other project partners. MPA - under the coordination and with the support of ISPRA - prepared and developed the first intermediate meeting of the project. Continuing with the work carried out, the document *Comparison of noise maps obtained using algorithms from ISO 9613-2 and new END annex II (Directive 2015/996 / EC)* was released. It identifies three main differences between the two algorithms, in the estimation of the pressure produced in port and peri-port environments. The work continued to advance thanks to frequent connections with computer me-

dia, teleconferences, dispatching of files and information.

Panoramic videos and photographic reports made it possible to fine-tune the realization of the physical model by CIRIAF. MPA obtained from the environmental authorities of Melilla the best information available on acoustic zoning to facilitate the work of CIRIAF. Consequently, the document *Guidelines for a common method of assessing the impact on port noise* was released. Identifies the critical points of port activity when impacts are produced in the areas adjacent to the port of Melilla. During the interaction between the technical staff of MPA and the CIRIAF experts, we discovered that the expectation of the help that this methodology can provide among those responsible for planning port extensions and planning activities was growing among the former. These expectations derive from the fact that they usually work “blindly” regarding the impact of noise and vibrations, aware that it is a potential source of problems between port authorities and the surrounding environment. In this picture:

- A public conference was offered to stakeholders in Melilla with more than 40 participants. The lecture was recorded, dubbed in English and will be uploaded to the project platform.
- A technical visit was carried out in the port area, which allowed the partners to have a more detailed knowledge of the conditions in Melilla relating to Action B3.
- An internal meeting was organized under the coordination of ISPRA. A series of team building activities took place.





Project partners

ISPRA

Istituto Superiore per la Protezione e la Ricerca Ambientale
www.isprambiente.gov.it/it

CIRIAF

Centro Interuniversitario di Ricerca sull'inquinamento
e sull'Ambiente "Mauro Felli"
www.ciriaf.it

INGENIA Srl

www.ingeniasrl.it

Melilla Port Authority

www.puertodemelilla.es

Autorità di Sistema Portuale del Mar Tirreno Settentrionale

www.portaltotirreno.it

www.anchorlife.eu

