

Summary of Achievements for the GUTTA Project

The [GUTTA](#) project, part of the 2014-2020 Italy-Croatia Interreg [Programme](#), lasted 42 months and concluded on June 30th, 2022. Led by the [CMCC Foundation](#), GUTTA's primary achievement was the development and implementation of the [GUTTA-VISIR](#) tool. This tool is designed to optimize ferry routes for minimal CO₂ emissions based on forecasted marine conditions in the Adriatic and Northern Ionian Seas. The project also examined CO₂ emissions from European ferries, including an analysis of the impact of the COVID-19 pandemic on the sector. GUTTA produced a wide range of outcomes, encompassing technical, communication, and administrative achievements. These are detailed below, along with a brief overview of the project's legacy and future outlook.

Technical

GUTTA contributed to the Programme's output indicator 4.1O1 "Improved multimodal transport services". This was achieved via three specific objectives:

1. To improve maritime transport services by enabling CO₂ emission savings. A new numerical model for ship routing ([VISIR-2](#)) was designed and coded. VISIR-2 was used for powering the GUTTA-VISIR tool which, making use of [Copernicus](#) marine forecasts, delivers daily more than seven thousand least-CO₂ ferry routes. The computations are carried out on the high-performance computing [facility](#) of CMCC and made publicly available through a web application. An [assessment](#) of fitness-for-purpose of GUTTA-VISIR was produced.
2. To facilitate the implementation of the European Regulation on Monitoring Reporting Verification (MRV, [757/2015](#)), providing feedback and analyses. GUTTA collected, from various stakeholders, feedback on the [THETIS-MRV](#) system by [EMSA](#). Data from THETIS-MRV were also used for a statistical [study](#) on the distribution of CO₂ emissions from ferries in Europe.

3. To facilitate the establishment of at least one new cross-border maritime link, after COVID-19 pandemic. An [investigation](#) on the possible role of maritime transportation into the initial spread of COVID-19 in Croatia was carried out. It made use of both epidemiological and mobility data.

Communication

GUTTA contributed to raise awareness about maritime decarbonization at multiple levels: towards the general public, with both virtual and physical gatherings (such as its final [conference](#), which presentations were published [here](#)) and production of [videos](#); towards the technical community, via publication of five peer-reviewed journal papers ([1](#), [2](#), [3](#), [4](#), [5](#)); towards the youngsters, with annual dissemination events with local schools, and direct involvement of students both during the kick-off and the final project meeting; internally, by monitoring and assessing the carbon footprint of [travels](#) for project meetings.

Management and project administration

GUTTA received 1.020 Mi EUR funding from the European Regional Development [Fund](#). Five Partners benefitted from it (CMCC Foundation, [CSA](#), [UniZd](#), [MMPI](#), [AdSP-MAM](#)), reaching a certified spending of 95.3% of the available budget. The technical, communication and management achievements were documented in 45 deliverables, all available [online](#).

Legacy and outlook

The GUTTA-VISIR is to stay operational and freely available till at least June 2025. The [VISIR-2](#) source code was released in 2023 and is now a community model. The expertise developed by the GUTTA partners can be deployed to upscale decarbonization of shipping to other seas of Europe and other vessel types. All project results are also available in a zenodo [repository](#).

Latest update: 24/5/2024

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