



Host Organization: Epsilon Malta Limited (EPSILON)
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Country: Malta

Organization role: Beneficiary, WP leader, Task leader

Project Acronym: “SmartShip”

Project start and end: 1/4/2019 up to 31/3/2023

Type of MSC action: H2020: MSCA RISE

Your story:

Project objective and research field (maritime)

“*SmartShip*” designs & develops an ICT-based framework (web-platform) for the automated monitoring of the performance of the LifeCycle of a ship/vessel (maritime sector) by integrating state-of-art optimization mathematical methods for energy efficiency, fuel consumption-management, and environmental-compliance (regulations). Proficiency in the fields of IoT, data analytics, decision support, AI, and energy efficiency is compulsory.

Tell us why the topic is important and/or how it brings to advancement in your research field

The world’s merchant fleet counts in excess of 52,000 vessels operating year-round, transporting traded goods. The emissions of the maritime industry (e.g. SO_x, CO_x, NO_x) are immense, and there is need to reduce fuel consumption and increase energy efficiency. Several organizations enacted regulations to mitigate environmental impacts from shipping. Thus, the shipping sector pursues technologies for **energy management**, which are products, solutions, technology-advancements (e.g. IoT, bigdata, AI), and computational platforms, for **Optimal Energy Ship Management. SmartShip**. These technologies offer solutions for emissions-reduction by optimizing fuel-consumption throughout the vessel’s-life yet increasing energy efficiency.

What are the benefits of participating in an MSC action?

Within *SmartShip*, inter-disciplinary and inter-sectoral collaborations are established at international level. The collaboration of academic institutions and non-academic beneficiaries promotes the deepening of knowledge in the fields of Interactive Communications Technologies, Data Analytics, Decision Support and Energy Efficiency. The constant flow of state-of-the-art research to the non-academic beneficiaries, and the continuous support with requirements and scenarios to the academics, promote the bilateral advance in both sectors. The societal benefits of *SmartShip* include reduced emissions from the maritime industry, and reduced

pollution levels that constitute primary society concern. Since energy efficiency and reduction of fuel consumption are interchangeable when properly managed, the reduced overall fuel consumption reduces the trade costs in financial terms.

Would you recommend others to apply? What useful advice/ tips can you give them?

Malta Council for Science and Technology provides great opportunities to develop innovative actions that have either been newly conceived or even partially developed. Funding provided offers the means to design & develop innovative actions, and promotes knowledge exchange between academic and non-academic partners, so to further increase research in associated fields, and significantly contribute to the development of projects and products. This support promotes projects, leads to products development (added value of RTD), and promotes Malta's name and reputation worldwide as an EU State fostering and endorsing advanced sciences & technologies.

What strategies did your organization use to attract the fellow/s? Are they in line with national strategies supporting the widening EC policy?

EPSILON Malta Ltd (www.epsilonmalta.com) is a Technology Resources Engineering and Consulting Group engaged in projects on energy efficiency and environmental impact in the *aviation* and *maritime* sectors, with strong technological background and in-house customizable tools. It has a solid network of partners across Europe, built upon previous partnerships in related fields, and continues to attract new collaborations and strengthen existing ones by providing high quality services and assuming state-of-the-art RTD.