
	Engagement		ISO Bat: INHERENTLY SAFE AND OPTIMISED BATTERIES FOR WATERBORNE APPLICATIONS					
	Countries	Project value (€)	% by EPSILON	€ by EPSILON	Engagement	Funding by	Date	Partners
	IT, UK, MT, AT, BE, DE, GR, IL, IT, UK	11.997.387,00	2,3%	272.375,00	HORIZON	EU	28.04.2020	CNR, JM, FB, EP, NT, PFW, SIG, BAM, CC, EAS, MEET, PTB, KPMG, NTUA, AL, CAT, HC, TRI, BAE, LR, TWI, SO
Description					Outcome			
<p>The most important endeavor for humanity is sustainability. Sustainability requirements span all societal functions, including the environment, technology, and all conceivable factors, ensuring that people and the environment coevolve in a beneficial manner. The transition to a zero-emission world is crucial for achieving overarching sustainability. Waterborne transport presents a significant challenge in this transition due to the combined demands of power, energy, business models, safety, and greenhouse gas emissions. As waterborne transport is expected to grow, emissions must be reduced at an accelerated pace to enable a shift to more sustainable transport.</p> <p>The ISO Bat vision aimed to accelerate the electrification of waterborne transport by delivering harmonized, modular certification and integration processes, supported by thorough technology assessments and enhanced inherent safety. The realization of this vision will be demonstrated and measured through expanded scenarios, fully developed to uncover the means for electrification and facilitate the transition process. The project focuses on both the cell and the system, examining how these components are interconnected within vessel electrification.</p> <p>This ambitious program is driven by the need to innovate both products and processes from a fundamental perspective, tailored to the specific requirements of waterborne transport applications.</p>					 <p>To deliver safe and optimized batteries for waterborne applications and accelerate electrification EPSILON and the consortium proposed to:</p> <ul style="list-style-type: none"> • Develop an inherently safe cell architecture designed with an internal fuse concept and safe chemistry to eliminate thermal runaway likelihood under failed operation. • Deploy an inherently safe battery module and pack design for added safety, incorporating predictive maintenance software and failure prediction technology to eliminate the need for unscheduled maintenance. • Achieve a harmonised and modularised safety certification process across product, integration design, and vessel levels underpinned by complete safety boundary limit assessments of technologies and streamlined processes to minimise efforts for electrification. • Develop a modular integration design approach across relevant freight, ferry, and coastal vessel types, and electrification scenarios to minimise electrification efforts and costs. • Promote sector change management informed by detailed electrification scenarios and business 			