

	Engagement		FRONTEX-COP: Technical support for testing & evaluation of a new Copernicus Service					
	Countries	Project value (€)	% by EPSILON	€ by EPSILON	Engagement	Funding by	Date	Partners
	Malta Greece Italy	2.200.000	100%	2.200.000	100%	FRONTEX	2022	EPSILON CERTH UDSNF II
Description						Outcome		
The detection of ships (usually high-speed boats) smuggling illegal goods to European coasts from Third countries is a major challenge for the authorities. Therefore, the need to develop methodologies and technology to facilitate the protection and wide area surveillance of European coasts is a priority for FRONTEX. To answer this challenging issue (small ship, high speed, low recurrence SAR images), the company CS-SI has decided to build a European consortium covering the different expertise needed for such an innovative service. Objective of this proposal has been to evaluate the support the FRONTEX sea monitoring activities may expect by incorporating Synthetic Aperture Radar (SAR) data (Sentinel-1 data) from the Copernicus program to mainly track the “go-fast” boats identifying route patterns of such ships, whose detection is significantly complicated by their characteristics.  Two areas of interest are indicated: the Alboran Sea, between Gibraltar and Melilla meridians and the Adriatic Sea, between the Albanian and Italian coasts.						Data collection and Pre-processing Activities’ implementation comprised the automated downloading and pre-processing of Sentinel-1 data, accurate ship (if imaged) and ship-wake detection, and the fusion of the SAR-based ship detection result with the Automatic Identification System (AIS) position report. Time series analysis Time series analysis meant to be performed based on the information stack derived from the SAR image analysis, to characterize the sea traffic patterns that are relevant for marine activities surveillance. 		