WISER SRL

Project **DESSERT** (VHF **D**ata **E**xchange **Sy****S**tem transc**E**ive**R** pro**T**otype in SDR)

Description DESSERT project is carried out within the topic of new generation of digital maritime communications and it is aimed at the develop of two prototypes of transceivers for the new VDES (VHF Data Exchange System) communication standard. The prototypes of transceivers will be realized according to the "Software Defined Radio" development paradigm, i.e. with the radiofrequency section consisting in a commercial board provided by the American company Ettus Research (USRP), whereas the digital computational system is a GPP (commercial PC). The SW will be developed in C++ language according to a *multi-threading* structure and it will implement all the transmitting and receiving algorithms needed for VDES signals. The SW will run on commercial PC. The diffusion of VDES transceivers is one of the main steps towards *e-Navigation*, i.e. the navigation with high level of automation involving all the ships, which is the goal declared by IALA (*International Association of Lighthouse Authorities*) by 2025.

Goal: The main goal of DESSERT project is to develop two prototypes of transceiver VDES with SDR architecture, validated through laboratory tests with wireless transmissions.

Expected results: The prototype of transceiver will demonstrate the advantages of the develop in VDES technology, partially still under definition, especially in the context of *e-Navigation*. Therefore, the SW developed by WISER S.r.l. will become an asset that can be devoted on the market for the production of equipment for maritime communications.

Total Project Cost: **€ 187,475.30**

Funding requested: **€ 65,616.36**