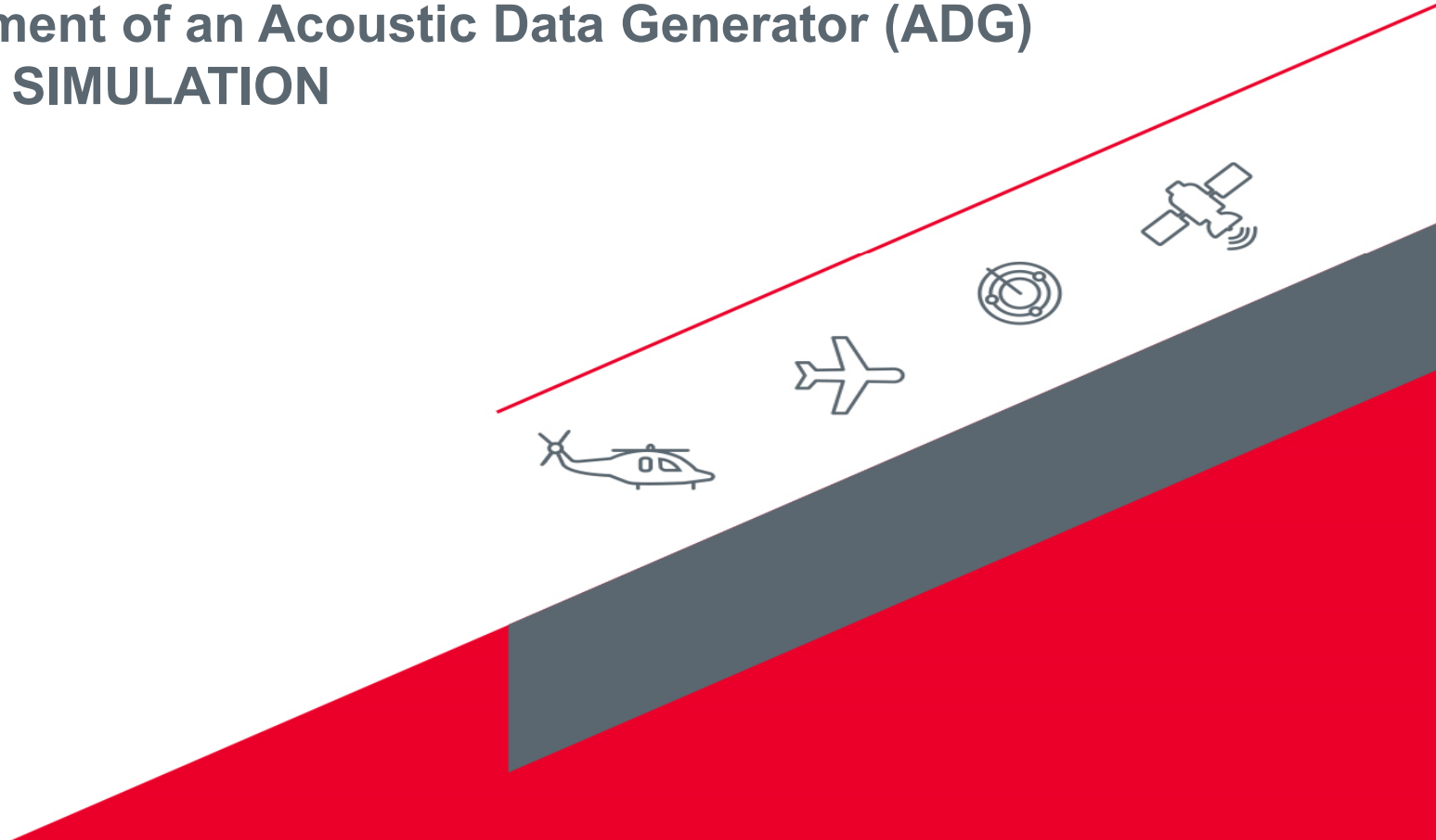


## Design and Development of an Acoustic Data Generator (ADG) for SONICS SYSTEM SIMULATION



30 July 2024





## Design and Development of an Acoustic Data Generator (ADG) for SONICS SYSTEM SIMULATION

Scope of the work is to generate inputs for a Sonar\Sonobuoys Simulation Model (SONICS), through the design and development of a SW ADG, developed on Model Based SW. The final output will be the generation of Acoustic Underwater Signals for the simulated SONICS System.

In details, the system will provide in input to the Sonar/Sonobuoys Simulation:

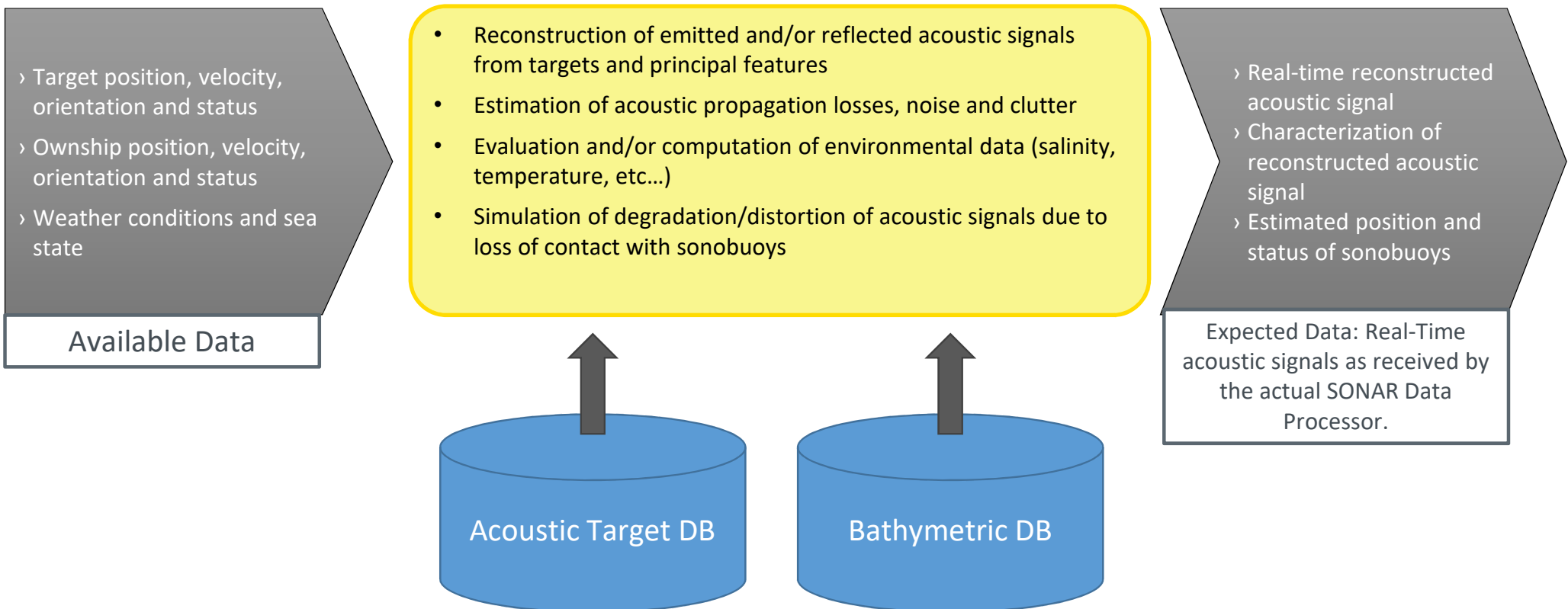
- A Real-time reconstructed acoustic signal
- A Characterization of the reconstructed acoustic signal
- An Estimated position and status of sonobuoys

The SONICS Data Processor (SDP) will receive the generated Real-Time acoustic signals produced by ADG and provide target localization, tracking and classification capabilities.



## SONICS Simulation Models : inputs, outputs and functionalities

### Acoustic Data Generator





## Software Development

- **SW Development**

All the tasks will be developed on LED Workstation. (Unclassified data but company confidential)

Coding: C\C++

Tool: Open Source C compiler, Qt 5.13, Model Based Suite (MATWORKS or equivalent)

- **Operative System**

Red Hat Enterprise 8.1 – 64bit Linux

Microsoft Windows 10 Enterprise (or superior)

- **Timing:**

6 month by the Project Thesis start, optionally extension up to 8 months

- **Location:**

LED Ronchi dei Legionari site, at least 20% of time

- **Relevant Skills:**

STEM Master Degree on going is required, the most relevant courses are TLC, Electronic, Computer Engineering or Physic. Code development in C\C++ and Matlab\Simulink knowledge is required.