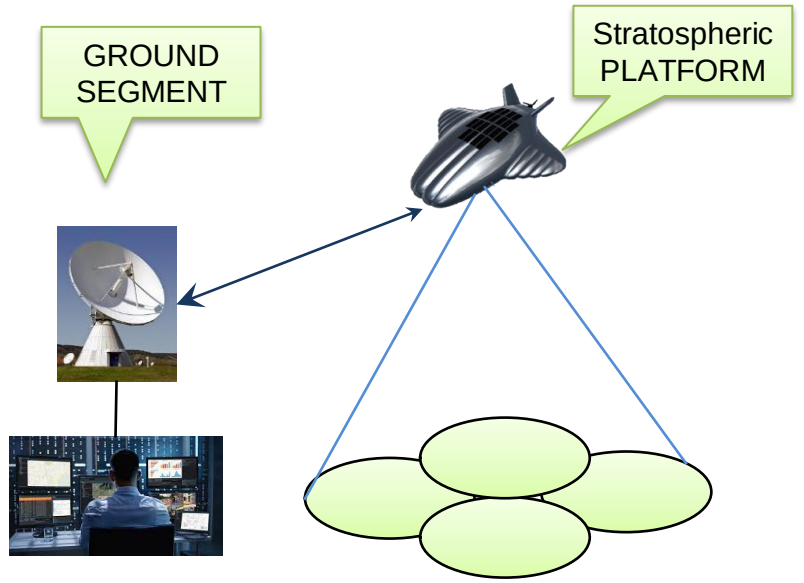
Elettronica approach to

SIGINT MISSION
In Stratospheric environment

Il più leggero dell'aria
dai Dirigibili alle Piattaforme Stratosferiche

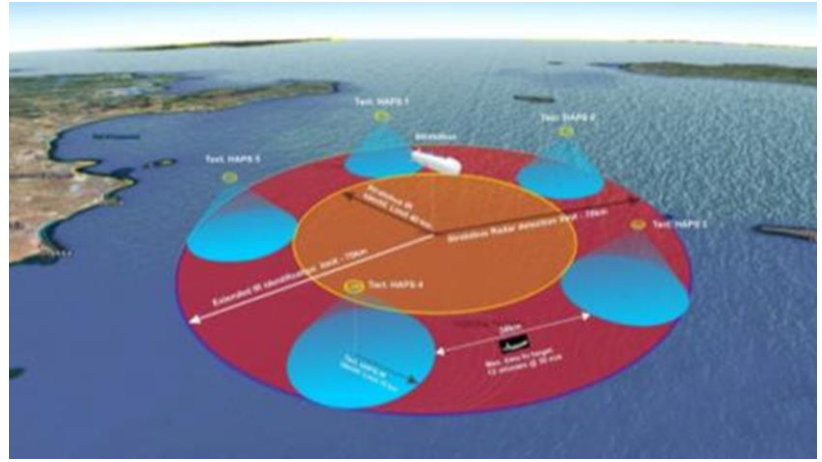
CESMA 22 Febbraio 2022

SIGINT MISSION main characteristics



- **They are tipically composed by:**
  - One or more platforms able to flight in stratosphere
  - Platforms are equipped with a dedicated payloads for collecting data
  - A Ground Segment able to process the collected data

- **Payloads challenges:**
  - Edge Computing
  - Robustness to Ionized particles and extremely low temperatures
  - Size, Weight and Power limitations
  - Antennas
  - Cyber resilient
  - Ability to cooperate with other platforms and with ground segment



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Typical SIGINT payload Capabilities

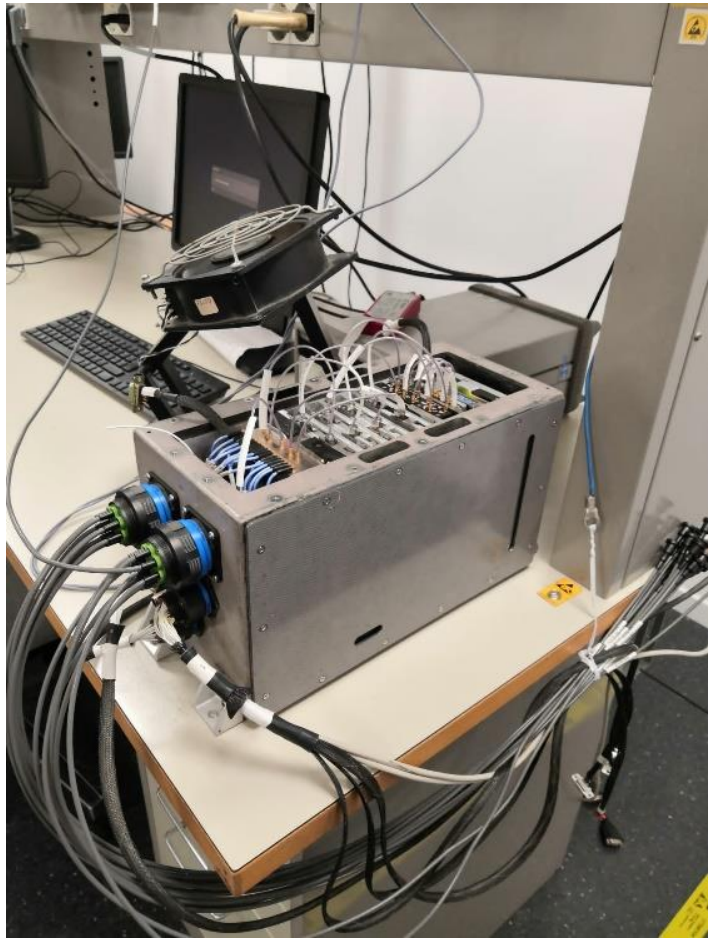
- **Below the specific features synthesized of the ELINT System for Radar signals**
  - Automatic parametric signal extraction
  - Identification and Classification of Emitters
  - Automatic Specific Emitter Identification (SEI)
  - Ground Localization of Emitters
  - Tracking of Emitters
  - High Accurate Direction Of Arrival at PDM level
  - High Definition Raw Data Acquisition and Storage
  - Automatic Complex Intrapulse Analysis

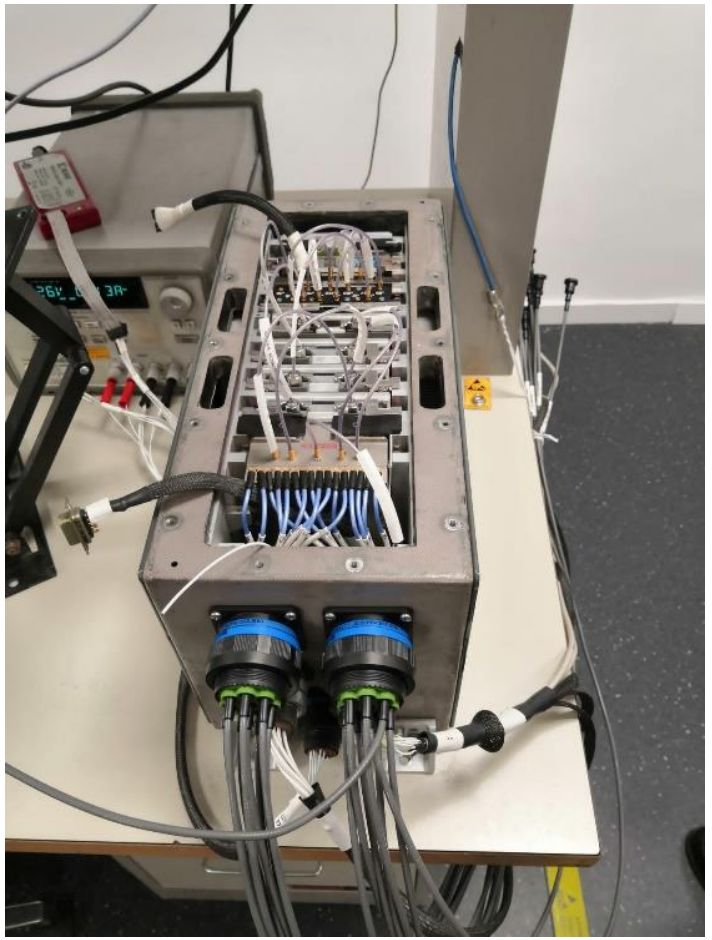
- **For Communication signal proper features are automatically extracted**

The ELT SIGINT equipment in Laboratory 1/2

The SIGINT equipment has been already tested in laboratory and in Anechoic Chamber as far as:

- Sampling Capabilities
- Processing Capabilities
- Synchronization
- RF Signal Conditioning
- Calibration
- Etc…

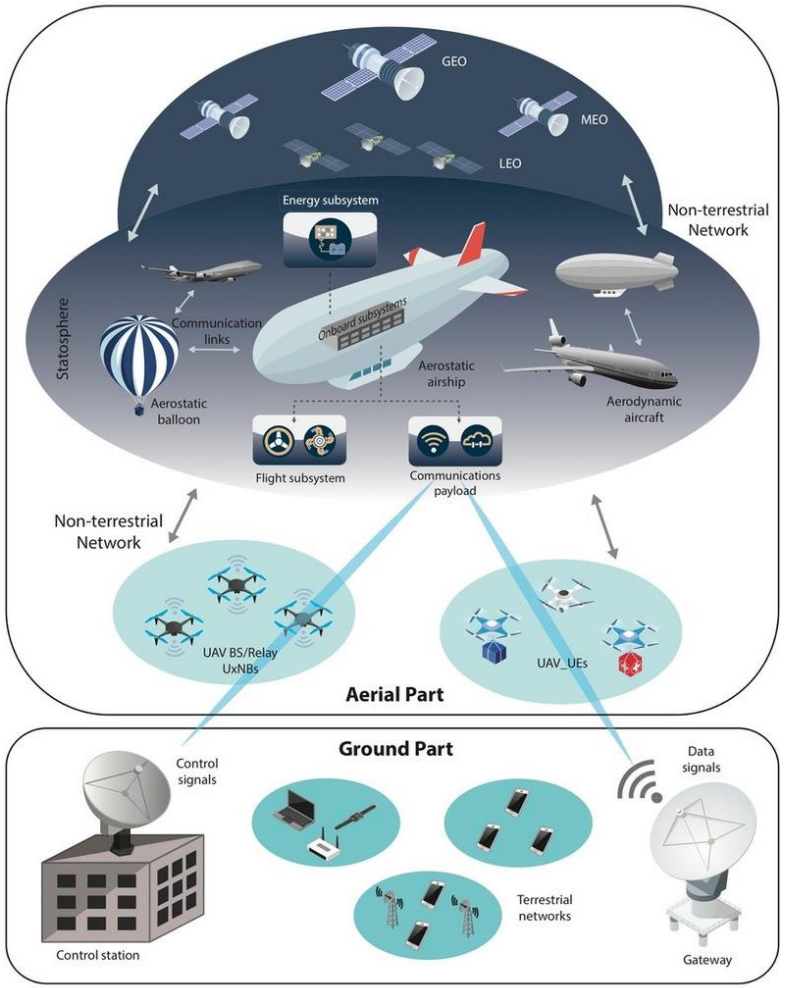




The ELT SIGINT equipment in Laboratory 2/2

- **Grow-up capabilities :**
  - Band Extension frequencies
  - Cross-Platforms Data Link connections

- **All these improved capabilities allow the Stratospheric platforms to operate with the maximum efficency, collaborating with:**
  - Satellite Platforms
  - UAV Platforms
  - Other Stratospheric Platforms
  - Command and Control Center



ELETTRONICA GROUP perspective

- **Techniques are similar to the ones used for ground/naval/air EW**, in this frame ELT experience will be effective for defining & developing systems and devices for stratospheric and space applications
- The first involvement has to **start from "National" (Italy) to "European"** (EU joint efforts & programs)
- ELT could also take part to the **cyber protection in space**, both in civil and in defense topics
- ELT **could team with space companies** to put in common their respective competencies

THANKS

FOR YOUR ATTENTION

70 years elt
ELETTRONICA GROUP

A STORY MADE OF FUTURE