

Tempest drives forward as Leonardo unveils new radar sensing technology

- **Work is proceeding at pace to meet the ambitious timescale for Tempest, which is expected to go into-service in 2035**
- **New radar receiver/warner technology is four times as accurate as existing sensors in a package 1/10th the size**
- **The lab demo was part of conceptual and development activities for the Tempest sensor suite and mission system, which Leonardo is leading**

Rome, 18th December 2019 – **Leonardo UK has demonstrated the performance of a new radar receiver/warner technology** as part of its on-going development work for Tempest, the next generation combat air project which will see the UK, Italy and Sweden working closely together. In a laboratory demonstration for the UK Ministry of Defence and other Team Tempest partners, the new sensor demonstrated a direction finding performance of four times what is possible with a typical radar warning receiver while being just 1/10th the size of a standard system.

Leonardo UK is one of the four founding members of Team Tempest, which was brought together by the UK MOD to develop a next generation combat air system for the UK and partner nations: since the team was contracted to begin development work in 2018, Italy and Sweden have announced their intent to work with the UK on this project. Leonardo's UK role in the team is to develop Tempest's sensor package and integrate these sensors into the platform's mission system. The ambitious timescale for the Tempest project, which is working towards seeing a new aircraft in-service with the RAF in 2035, means that Leonardo in the UK is already hard at work developing some of the advanced technologies which will be needed to face the threats of the future.

One such area of development, and **the focus of the recent lab demonstration, is in radar warning**. This technology is used to sense the radio frequency (RF) signals emitted by potentially hostile radars and then use this information for a variety of uses, including warning an operator that an enemy is trying to 'lock on' to their aircraft. Such sensors can also support tasks such as intelligence gathering and combat identification. In future, threat radars are likely to use a range of technologies and software techniques to make it harder to identify their signals, meaning that Tempest's sensors will need to be sophisticated enough to be able to counter such techniques and flexible enough to be updated in response to new technologies as they emerge on the battlefield.

The reduced size and weight of Leonardo's new receiver technology, as well as reduced power requirements, means that it will be possible to integrate the sensor into a multi-function array. This concept, one of a number of innovative ideas being considered for Tempest, could see a number of multi-purpose sensors spread around the aircraft, simultaneously sensing and tracking enemy aircraft, incoming missiles and other threats from all directions, while being fully integrated with a forward-facing radar.

Leonardo, among the top ten world players in Aerospace, Defence and Security, is Italy's main high-technology industrial company. Organized into five business divisions (Helicopters; Aircraft; Aerostructures; Electronics; Cyber Security) Leonardo has a significant manufacturing presence in Italy, the United Kingdom, Poland and the USA, where it also operates through subsidiaries such as Leonardo DRS (electronics), and joint ventures and partnerships: Telespazio, Thales Alenia Space and Avio (space); ATR (regional aircraft); and Elettronica and MBDA (electronics and defence systems). Listed on the Milan Stock Exchange (LDO), in 2018 Leonardo recorded consolidated revenues of €12.2 billion and invested €1.4 billion in Research and Development. The Group has been part of the Dow Jones Sustainability Index (DJSI) since 2010 and became Industry leader of the Aerospace & Defence sector in 2019.