INDRA GROUP CONSOLIDATES ITS LEADERSHIP IN MULTIFUNCTION RADIO FREQUENCY SYSTEMS FOR DEFENCE AND SPEEDS UP THEIR DEVELOPMENT IN THE EUROPEAN SCEPTER PROJECT

- **Through its next-generation sensor innovation centre, Indra Group is evolving European multifunction RF systems, a strategic technology that enables the integration of radar, electronic warfare, and communications functions for defence platforms**
- **The company is leading the SCEPTER project, funded by the European Defence Fund (EDF), which strives to design, develop and validate a technology demonstrator based on AESA technology and hardware components already available on the market**
- **The application of artificial intelligence and cognitive architectures in managing the electromagnetic spectrum is one of SCEPTER's major differentiating factors, which will enable future platforms to operate with greater efficiency, resilience and adaptability**

Madrid, April 27, 2026. – Indra Group, through its innovation centre for next-generation sensors, is working on the evolution of European multifunction radio frequency (RF) systems, a strategic technology that enables the integration of advanced radar, electronic warfare and communications functions for air, naval and land platforms into a single intelligent architecture.

Among other actions, the company is leading the European RDI project SCEPTER (European Multifunction System Concept applied to Communications, Electronic Warfare and Radar), an initiative financed by the European Defence Fund (EDF) aimed at boosting the development of this type of new generation system based on AESA (Active Electronically Scanned Array) electronic scanning technology, which replaces traditional architectures based on different sensors to handle each function.

In this project, as previously in the CROWN project, both funded by the European Commission and led by Indra Group, the technological foundations of Multifunction Radio Frequency Systems (MFRFS) are being built, in key areas such as broadband AESA antennas, direct signal digitization and advanced resource management. The goal is to respond to the increasing complexity and saturation of the electromagnetic environment, multi-domain scenarios, and the need to reduce the size, weight, and power (SWaP) of defence platforms, especially critical in aircraft, to provide an operational advantage against the enemy.

SCEPTER represents a decisive step towards more compact, efficient, adaptable and sovereign systems, reinforcing European technological autonomy in critical defence capabilities and placing Europe, and Spain, among the few global actors with the capacity to design, manufacture and integrate advanced next-generation radio frequency technologies. It is developing a truly multi-function European system capable of, simultaneously and in a coordinated manner, carrying out detection, electronic protection and communications missions, significantly improving the situational awareness, resilience and operational effectiveness of European armed forces.

The project is coordinated by Indra Group and brings together a consortium of 14 organizations from nine European countries, including large defence companies, technology centres, universities and specialized SMEs, with extensive experience in multifunction radar, radio frequency component design and electronic warfare systems: BPTI (Lithuania), CAFA Tech (Estonia), CNIT, Elettronica and Leonardo (Italy), Fraunhofer and Hensoldt (Germany), TNO (Netherlands), ONERA and Thales (France), SAAB and FOI (Sweden) and XY Sensing (Poland).

Indra Group is also leading the design and validation of a technology demonstrator that uses AESA technology and COTS components, in other words, commercially available hardware, which allows for cost reduction and speeds up development.

“SCEPTER is a key project for the future of European defence systems, as it enables a technological leap in the integration of radar, electronic warfare and communications into a single multifunction solution, more efficient and prepared for the most demanding operational scenarios. “At Indra, we are leading this initiative with the aim of strengthening European technological sovereignty and consolidating our own strategic capabilities in advanced radio frequency,” said Daniel Gonzalez, Head of R&D Programs in the Innovation Department of Indra Group.

AI, gallium nitride, and digital twin

The application of artificial intelligence and cognitive architectures in managing the electromagnetic spectrum is one of SCEPTER's major differentiating factors and will enable future platforms to operate with greater efficiency, resilience and adaptability.

Among its main lines of work, SCEPTER envisions the development of multifunction ultra-wideband AESA radars and high-efficiency radio frequency modules, the use of advanced gallium nitride (GaN) technologies that enable more powerful, compact and energy-efficient devices, as well as a digital back-end and advanced resource management systems supported by artificial intelligence and machine learning techniques.

The project also incorporates adaptive and cognitive design approaches that facilitate dynamic waveform optimization, threat detection and classification, and operation in complex electromagnetic environments, along with advanced modelling, simulation, and digital twin methodologies aimed at accelerating system development and validation.

The initiative will culminate in the design and demonstration of the system's main functional blocks, including radiating panels, RF transmission and reception modules, digital back-end solutions, and an advanced intelligent resource management component.

About Indra Group

Indra Group (www.indracompany.com) is the foremost Spanish multinational and one of the leading European companies in the areas of defence and advanced digitization. It is at the forefront of the defence, space, air traffic management, mobility, and transformational technology businesses through Minsait, and it integrates its sovereign AI, cybersecurity, and cyberdefence capabilities into IndraMind. Indra Group is paving the way to a more secure and better-connected future through innovative solutions, trusted relationships, and the very best talent. Sustainability is an integral part of its strategy and culture in order to overcome current and future social and environmental challenges. At the close of the 2025 financial year, Indra Group posted revenues totaling €4.843 billion and had a local presence in 46 countries and business operations in over 140 countries.

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