

ENAIRe AND INDRA WILL LAUNCH A CONSTELLATION OF SATELLITES INTO ORBIT TO IMPROVE AIR TRAFFIC MANAGEMENT

- **They both have formed a company, Startical, with the objective of deploying a constellation of small satellites that will enable surveillance and communication services to be provided, especially in remote areas and oceanic regions that are not currently covered by air navigation systems based on terrestrial infrastructures.**
- **The project will be carried out in two phases: a research and innovation phase until 2023 to demonstrate the technological and economic viability of the initiative and, upon its successful completion, a second phase for the deployment of the satellite constellation scheduled between 2024 and 2027.**
- **The maximum investment foreseen for the first phase amounts to 29.2 million euros over the three-year period, with a contribution from each partner of up to 9.95 million euros, which may change depending on whether European Next Generation and Horizon / SESAR funds are obtained.**
- **The technology solution proposed is a pioneer in the world, as it integrates the satellite surveillance function of the aircraft's position with voice and data communication by radio between the controller and the pilot.**
- **Enaire and Indra's satellite platform will increase flight safety, capacity, efficiency and punctuality, reducing global CO₂ emissions by 13 million tons per year by 2030.**
- **Startical's success will enable Spain to position itself in the global satellite sector for the provision of air navigation services, which is also applicable to other modes of transport, and will lead to the creation of around 1,500 jobs, with this figure having the potential to triple in the medium term.**

Madrid, May 18, 2021.- Enaire and Indra have created a public-private initiative project for satellite technology innovation. Once the validation phase has taken place, the project's objective is to create and deploy a network of more than 200 small satellites at a low altitude to improve air traffic management with a global service vision over the entire planet.

The incorporation of Startical, the name of the company formed by Enaire and Indra for the development of this satellite project, has been approved by the Council of Ministers and will allow Spain to position itself in the sector of satellite provision of global air navigation services.

The new partnership aims to develop and launch satellite platform into orbit, which will extend surveillance and aircraft communication coverage, especially to vast oceanic regions and remote areas which are not covered by ground-based air navigation systems.

Along with its aircraft position monitoring services (ADS-B), Startical will be the first satellite platform for air navigation to include a VHF radio communication system between the controller and the pilot in accordance with aeronautical standards; this is a differentiating factor compared with similar initiatives. It is, therefore, a pioneering project worldwide, offering integrated surveillance and communication.

These new services will increase flight safety, capacity, efficiency and punctuality, with clear benefits for both airlines and passengers. In addition, this new technology will be applicable to other modes of transportation.

The new surveillance and voice and data communication services in low coverage areas will also promote the creation of new routes, thereby reducing costs and emissions. Specifically, Startical is expected to reduce global CO2 emissions in the atmosphere by at least 13 million tons per year by 2030.

In addition, this improved reliability of information and optimization of air navigation services will help free up airspace in congested areas, facilitate the work of air traffic controllers and resulting in more efficient, punctual and even safer flights.

The Enaire and Indra project will be carried out in two phases. The first one, from 2021 to 2023, will address the technical developments necessary to ensure the viability of the solution and deal with the regulatory and market aspects. Once this first phase is successfully completed, according to the plans of both companies, a second phase, to be carried out between 2024 and 2027, will implement the provision of these services on a global scale, with the deployment of the complete constellation.

The maximum investment envisaged for the first phase amounts to 29.2 million euros over the three-year period, with a contribution from each partner of up to 9.95 million euros, which may change depending on whether European Next Generation and Horizon / SESAR funds are obtained.

Startical will use small satellites, which are easier to manufacture and maintain than conventional ones, leading to additional benefits. Based on the New Space concept, the renewal of the entire constellation every five years on average will allow for much faster technology improvement and upgrade cycles than those of a traditional constellation, which can take 15 years to be renewed.

A key technological project, a driver and generator of jobs

Enaire and Indra estimate that Startical's success will have a very positive "pull effect" on the Spanish technology industry and will generate high quality employment and added value. In fact, the development of this project will result in the creation of between 1,440 and 1,550 jobs: 240 direct high-skilled workers, between 500 and 550 indirect workers and between 700 and 760 related jobs. This figure could increase three-fold in the medium term, rising to 4,500 jobs.

The company created by Enaire and Indra seeks to become a leading global provider of air traffic management technology in the satellite segment, and a market leader for satellite surveillance and voice and data communication services.

Startical will offer state-of-the-art, highly differentiated technological solutions in satellite-to-satellite communication with advanced Artificial Intelligence and Big Data capabilities. In this regard, it will provide air navigation managers with better information and communication coverage, thus multiplying the efficiency and punctuality of flights, whilst also considerably reducing their environmental impact and maintaining the highest levels of safety.

The Enaire and Indra joint venture is a demonstration of the technological, operational and innovative capacity of both companies to launch a state-of-the-art and innovative country-based initiative, thanks to which Spain will co-lead airspace management, with a vision of global service provision in a partnership model.

The Enaire and Indra project is a milestone in public-private collaboration and one which will contribute to the digital transformation and the ecological transition of the Spanish production model, allowing the country to position itself in the space sector applied to air mobility as the flagship of multi-constellations in the New Space era. Likewise, it is an initiative that facilitates national and European strategic autonomy in the future in such a key sector as satellite constellations.

Both the technological partners believe that a constellation of this size and global coverage will generate a "pull effect" in technological and industrial development, providing benefits to the economy and society as a whole. In this regard, they believe that Startical constitutes a unique opportunity for the aerospace industry, as well as for other industries, and will also have a positive effect on the interaction between universities, technological progress and industry, promoting greater collaboration spaces.

The project is fully aligned with España Puede (Spain Can Do It), the Government's Recovery, Transformation and Resilience Plan, with the Ministry of Transport, Mobility and Urban Agenda's (MITMA in its Spanish initials) 2030 Safe, Sustainable and Connected Mobility Strategy, and with ENAIRe's strategic plan (2025 Flight Plan).

Enaire and Indra, in the space race

Startical is founded with the joining of Enaire and Indra's experience in the new space race.

Enaire is the fourth-largest national air navigation manager in Europe in terms of traffic volume and one of the ten largest air traffic controllers worldwide. ENAIRe manages one of the largest airspaces in Europe: 2,190,000 square kilometers, and is renowned internationally for being constantly at the forefront in the use of technologies and solutions in its area of activity. In 2019, it managed 2.1 million flights to and from four continents (Europe, America, Asia and Africa), transporting 320 million passengers.

As for Indra, it is a leading company in the development of Air Traffic Management systems. Its technology is present in more than 200 control centers, more than 1,700 landing systems and more than 400 radars in 176 countries. Additionally, more than 85% of world passengers travel making use of Indra ATM technology at any time of flight. It has state-of-the-art solutions for automated air traffic management, communication, safe navigation and landing systems, surveillance solutions, Information systems and Unmanned Traffic Management system. Indra also provides a wide range of related knowledge and technological capabilities necessary to carry out a project of this nature, such as its command of technologies related to space, systems engineering, communication technologies, digitalization, Big Data, Artificial Intelligence, Analytics, and others.

About ENAIRe

As a partner company with the Spanish Ministry of Transport, Mobility and Urban Agenda, it provides route control services for all domestic and international flights through its five control centers based in Madrid, Barcelona, Seville, Gran Canaria and Palma, as well as approaches to all airports throughout the country. In addition, 45 air traffic control towers receive ENAIRe's communication, navigation and surveillance services, and 21 airports rely on its airspace control services, among them those with the highest amount of traffic in the country. ENAIRe is the fourth-largest European air traffic manager and, with its firm commitment to the Single Sky, it forms part of the international alliances such as SESAR Joint Undertaking, SESAR Deployment Manager, the A6 Alliance, ITEC, CANSO and the ICAO. ENAIRe is the official provider of aeronautical information in Spain.

About Indra

Indra (www.indracompany.com) is one of the leading global technology and consulting companies and the technological partner for core business operations of its customers world-wide. It is a world-leader in providing proprietary solutions in specific segments in Transport and Defense markets, and a leading firm in Digital Transformation Consultancy and Information Technologies in Spain and Latin America through its affiliate Minsait. Its business model is based on a comprehensive range of proprietary products, with a high-value focus and with a high innovation component. In the 2020 financial year, Indra achieved revenue of €3.043 billion, near 48,000 employees, a local presence in 46 countries and business operations in over 140 countries.

For further information

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