



ENAIRe brings into service a new, state-of-the-art radar at the Josep Tarradellas Barcelona-El Prat Airport

- The radar has an operating radius of 430,000 km² of airspace, which reaches the eastern part of the Spanish mainland, the Balearic Islands and the airports of Palma, Girona-Costa Brava, Reus and Sabadell
- The radar represents an investment of 1.8 million euros

Madrid, 11 March, 2020

ENAIRe has placed in service a new, cutting-edge radar at the Josep Tarradellas Barcelona-El Prat Airport. This new radar provides coverage and tracking services for flights approaching the airport, as well as for en route traffic in the northeast of Spain and the Balearic Islands. It will also provide coverage for landing and departing aircraft at the airports of Palma, Girona-Costa Brava, Reus and Sabadell.

Specifically, the new radar, which will serve the ENAIRe Air Traffic Control Centres in Barcelona and Palma, was installed at a price of 1.78 million euros.

In all, it will monitor airspace within a radius of around 200 nautical miles (equivalent to an area of some 430,000 km²).

The new radar in Barcelona, which went into operation on 6 March and is collocated with a primary radar, replaces the previous secondary radar, which was installed in early 1989. In addition, the old radar has been temporarily installed in an adjacent tower to improve the availability of the surveillance service and to pave the way for the future replacement of the primary radars at the Barcelona and Begas airports.

This new secondary radar is equipped with digital receivers and Mode S technology, which enable it to receive additional information from in-flight aircraft, thereby helping to optimise traffic management and increase safety. This type of radar is used to monitor and control traffic, as it provides information on the position of each aircraft, its identification and altitude,

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making it possible to locate and identify all the traffic that is operating within its range.

The radar also includes a redundant Automatic Dependent Surveillance - Broadcast (ADS-B) station, which can use the information the aircraft broadcast from their on-board sensors to determine their position. This feature will ensure that surveillance information remains available in the future in the event of a mechanical failure of the radar station.

This ADS-B station has been co-financed by the European Union's Connecting Europe Facility, as part of an ADS-B surveillance implementation project presented by the air navigation service providers of Spain (ENAIRe) and Portugal (NAV Portugal).

This radar in Barcelona joins the eighteen other Mode S radars already installed in Spain by ENAIRe, and rounds out the coverage provided in the east of Spain and in the Balearic Islands.

This facility contributes to ENAIRe's international standing as an air traffic controller in the field of surveillance, in line with the European requirements to gradually introduce new technologies that improve the management of air traffic in Europe.

Secondary Mode S radars and ADS-B stations

The secondary surveillance radar is a system that puts out an information request via a radio signal at a specific frequency received by the aircraft. To receive this signal, the plane responds via a transponder, which decodes the signal and sends the required information so that on the ground they can identify, in addition to its position, parameters such as the company it belongs to, the route it is taking or the height it is flying at.

The secondary Mode S surveillance radar is an improvement on the secondary monopulse radar, which was being used up until the development of Mode S technology. This radar uses the same frequencies but can carry out selective interrogations, which decreases radio electric pollution.

Another improvement that Mode S technology brings is an increased capacity to exchange information between the radar and the plane, which means that the aircraft can provide information on its flight plan, intended heading and altitude, and other parameters of the aircraft's flight management system.

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Out of all the technology available for improving the provisions of the Spanish surveillance system, Mode S is the most mature and established, allowing for improved operations in various European countries.

The Automatic Dependent Surveillance - Broadcast (ADS-B) station can obtain data on the aircraft positions via the information that they automatically transmit from their on-board sensors. It is a new technology that in the future is expected to complement the surveillance information of radars, being able to provide surveillance information with lower costs and less environmental impact.

About ENAIRe

ENAIRe is the company of the Ministry of Transport, Mobility and the Urban Agenda that manages air navigation in Spain. It renders aerodrome control services at 21 airports, including the busiest in terms of air traffic, plus en-route and approach control, from five control centres: Barcelona, Madrid, Gran Canaria, Palma and Seville. In addition, ENAIRe provides communications, navigation and surveillance services to 45 air control towers.

In 2019, ENAIRe handled 2.1 million flights to and from four continents (Europe, America, Asia and Africa), transporting 300 million passengers.

ENAIRe is the fourth most important European air navigation service provider, and, in a clear commitment to the Single Sky initiative, belongs to international partnerships such as SESAR (Single European Sky ATM Research) Joint Undertaking, SESAR Deployment Manager, A6, iTEC, CANSO (Civil Air Navigation Services Organisation) and ICAO (International Civil Aviation Organization).