



ENAIRe puts a new radar into operation in the province of Almeria

- It is the most important radar in the Eastern Andalusian area.
- Investment exceeds 1.8 million euros

23 May, 2019

As of today, May 23rd, ENAIRe has put a new, state-of-the-art radar into operation in Almería's town of Turrillas, located within the Sierra de Alhamilla nature reserve, which will provide coverage and surveillance services for flights in the south-eastern part of the Iberian Peninsula. It is the most important radar in the Eastern Andalusian area, and will also monitor airspace over North Africa.

The new radar will specifically cater for the Air Traffic Control Centres in Seville and Barcelona. It will also cover aircraft taking off and landing at the Almeria Airport, as well as helping to coordinate air traffic surveillance operations at the following airports: Federico García Lorca Granada-Jaén, Málaga-Costa del Sol, International Region of Murcia, Murcia-San Javier, Melilla and Alicante-Elche.

In total, it will control airspace with a radius of around 250 nautical miles (equivalent to an area of around 670,000 km²).

The new radar replaces the previous secondary radar, installed in 2000. In order to minimise the installation's environmental impact, both the radome (the structural, dome-shaped enclosure protecting the equipment) and the antenna tower are painted brown to match the natural surroundings.

This secondary radar is equipped with digital receivers and Mode S technology, which enable it to receive further information on in-flight aircraft, thereby helping to optimise traffic management and increase safety.

These types of radar are used to monitor and control traffic, as they provide information on the position of each aircraft, their identification and flight altitude, locating and identifying all types of aircraft operating within radar range.

This information can be used, in whole or in part, without citing the source.

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The radar also includes an Automatic Dependent Surveillance—Broadcast (ADS-B) redundant station, enabling aircraft to be located using the information transmitted by the aircraft's on-board sensors. This function ensures that surveillance information remains available even in the event of the radar station suffering mechanical failures.

This ADS-B station has been co-funded by the European Union's "Connect Europe" scheme as part of an ADS-B surveillance implementation project presented by the Spanish (ENAIRe) and Portuguese (NAV Portugal) air navigation service providers.

This radar forms part of the other fifteen Mode S radars already installed in Spain, completing coverage for the southern part of the Peninsula.

This new installation helps ENAIRe to boost its international reputation as a leading Air Navigation Manager in the area of surveillance, in line with European requirements to progressively implement the latest technologies for better air traffic management 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, intention with respect to direction and altitude, and other parameters of the aircraft's flight management system.

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's position via the information that they automatically transmit from on-board sensors. It is a new technology that in the future is expected to

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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 belonging to the Public Works Department that handles 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 2018 ENAIRE operated 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 traffic manager, 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 Organisation).

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