



Case Study:

C-Band & X-Band Weather Radars

The DTN Weather Radars team has more than 25 years of experience deploying, upgrading and maintaining C-Band and X-Band Weather Radars in Europe, Africa and North America.

Severe weather phenomena detection and tracking system

Weather Radars are atmospheric remote observation instruments specifically aimed to detect and track the path of severe weather phenomena, providing reliable and accurate meteorological information to anticipate natural disasters.

DTN^o

“Dual polarization technology detects the size and shape of precipitation, leading to better amount estimates, the ability to differentiate rain, snow, hail, and non-precipitation returns like birds or bugs”

What they were up against.

Heavy rains, severe frost, flooding, drought, severe wind, lightning and thunderstorms, and heat-waves are the main meteorological phenomena that every year the world is exposed to.

Those adverse phenomena can negatively affect the countries' economy and development causing damage both to the population and specific economic sectors such as agriculture, transportation, industry or infrastructure in general.

Trying to forecast and anticipate those circumstances, different private and public entities in three continents and countries such as Mexico, Morocco, Mozambique or Spain have requested DTN during the last decades to provide weather radar technology.

What we did to help.

Setting up technical and commercial partnerships with strategic leading suppliers and collaborators, such as (Vaisala, Gematronik, GAMIC, Eldes, Pulse-Systems...), DTN has a vast experience with different Weather Radars solutions (Ericsson, Gematronik, EEC, Eldes....), working in projects such as:

- Comprehensive maintenance and upgrade during the last 25 years of the Spanish Radar Network with 15 radars, adapting existing Ericsson infrastructure from S-Band to C-Band, updating the receiver and radar data processing software to Vaisala's IRIS technology, updating the transmitter system and pedestal control and motorization system.

- Supply, installation and maintenance of 3 Eldes X-Band Radars for Canal Isabel II (Water utility serving a population of more than 6 million).
- Upgrade of the Moroccan C-Band Radar Network (5 obsolete Ericsson and EEC Radars), updating the receiver and radar data processing software to GAMIC's ENIGMA/FROG-MURAN technology, transmitter and pedestal control and motorization systems.
- Audit and Maintenance of the Radar Network of the Mexican National Water Commission, involving 12 radars, models Ericsson and EEC, and supply and installation of a new C-Band Radar.
- Supply and Installation of a Gematronik C-Band Radar for the Meteorological Institute of Mozambique (INAM)

What the impact was.

National Weather and Hydrological Services, Air Traffic Control Authorities and Civil Protection Authorities use Weather Radars for:

- Rain detection and identification
- Thunderstorm tracking
- Horizontal and vertical wind profile
- Wind Phenomena Analysis
- Nowcasting

Weather radars allow the population to be alerted of imminent severe weather phenomena, preventing natural disasters, improving the management of natural resources, and providing valuable data to improve the forecast of all these phenomena.