



## STRADIVARIUS

### MARITIME SURVEILLANCE BEYOND THE HORIZON

The fact the Earth is round means that land-based high frequency radar systems currently employed for maritime surveillance cannot detect objects beyond the horizon. Effective surveillance of the 200-nautical-mile Economic Exclusion Zone is therefore not possible without resorting to costly methods such as aerial, satellite or ship-based systems.

HF surface wave radar technology is now arousing considerable interest, as it meets new maritime safety and security requirements. It is in fact the only form of ground-based technology capable of providing round-the-clock surveillance of small-vessel traffic beyond the horizon in the 200-nautical-mile zone.

Officially recognised in 2008, the STRADIVARIUS project was aimed at overcoming the limitations inherent in current HF radar systems by offering a breakthrough in system-design technology, i.e. radar architecture and complex wave development, and thereby improving image resolution.

The STRADIVARIUS project developed a radar demonstrator which enabled test missions to be carried out in a variety of environmental conditions: sea state, wind and technical conditions. The detection results verified in this way present a range of tracking options for targets of varying dimensions up to trawler size at a range of 200Nm. The tests carried out during the missions validated both the radar's capacity to illuminate several segments, whether adjacent or not, and also the system's immunity to jamming.

The Stradivarius demonstrator showed it is capable of being integrated into the littoral environment at transmit-and-receive sites with compact antennas integrated into the environment.

The Stradivarius demonstrator's excellent detection performance led to it being prepared for its commercial launch on prospective international markets. Additionally, Diginext is examining the possibility of positioning Stradivarius technology in the operational oceanography sector.

The STRADIVARIUS project is recognised jointly by Pôle Mer Méditerranée

#### Partners

##### Companies

Diginext, Aix-en-Provence [Project Developer]  
Actimar, Brest  
TDF, Rennes

##### Research center

LSEET, Toulon

#### Funders

- Fonds Unique Interministériel
- Région Bretagne
- Conseil départemental du Finistère
- Conseil régional PACA
- Métropole d'Aix-Marseille Provence

#### Labelisation

21/11/2008

#### Overall budget

4 041 K€