

DCNS.CHOOSSES AIR-LYNX 4G LTE PRIVATE NETWORK FOR ITS SEA MEASUREMENT.

The long-range, compactness and simplicity of the 4G LTE AIR-LYNX system enables DCNS to achieve reliable and secure acoustic measurements at sea.

THE CONTEXT

DCNS is renowned for its naval ships and submarines, part of the quietest in the world. It is committed on their acoustic discretion and ensures it through regular measurements of noise and vibrations in the sea. DCNS can certify that the radiated noise are well those expected and in line with what has been sold.

THE PROBLEMATIC

These measures are quite complex to carry out. The system used to measure radiated noise, called a hydrophone must be able to detect noise of a small submarine despite the surrounding ambient noise and this, in different configurations. Thus, the presence of a boat with engine nearest to the measure entails the risk of «polluting» it by increasing the level of ambient noise and thus mask the noise of the submarine to measure. The system should be then removed away and supervised at distances of several miles. Data logging must also be checked in real time to validate the configuration and quality measures. And the recording of data should be secure and confidential.

« During the two tests in the harbor of Toulon, the data has been transmitted, there were no loss of samples. The AIR-LYNX solution meets the objectives of scope that we set. »

CAROLINE VELAY, DCNS



IN A NUTSHELL



1,6 MB of data per second captured in real time.



System Range up to 16Km



No loss of samples, the network is reliable

CONSTRAINTS RELATED TO THE MARINE ENVIRONMENT

So far the measurement system was connected to a vessel via a cable, which posed many problems of security and implementation.

«It was clear that we needed to upgrade the device with a sufficiently autonomous wireless communication solution to be on a boat. Moreover, the new system should have enough speed to be able to collect our data reliably in real time and over a large distance » explains Franck Rougier, in charge of noise measurement radiated systems at DCNS.

AIR-LYNX 4G LTE MET ALL THE NEEDS

The first wireless testing with Wi-Fi ended in failure. This system is unreliable and too short range to ensure the connection between the boat and the hydrophones. DCNS heard about the company's communication system AIR-LYNX. Because it is a very compact Private 4G LTE network, it is indeed easy to transport on a ship and offer broadband capabilities and security. The signal is captured in real time at a rate of 1.6 MB of data per second. In early tests, the optimal range was 8 km. However, up to 16 km, the system can still pick up a signal. 700 bytes of data exchange enabled the measurement team to continue to locate the hydrophone and its condition. That was the most important : having continuous system state. Mission accomplished. «During the two tests in the harbor of Toulon, the data has been transmitted, there were no loss of samples. The AIR-LYNX solution meets the objectives of scope that we set. Furthermore, the engineers of the AIR-LYNX team were very helpful and effective for participating in our trial and answer our field needs, with the best possible configurations» recalls Caroline Velay, the noise measurements team rayon at DCNS.

FLEXIBILITY IN FREQUENCIES

Another important point, AIR LYNX system has the advantage of flexibility in frequency range. If for now, DCNS has mainly conducted its data collection in the band 13, it plans to expand its actions to the world, and thus on other bands including the band 20, which is easily possible with AIR-LYNX system. In this context, DCNS will do measures with another type of boat, allowing it to deploy an antenna to 15m in height, and therefore get even greater network reach.

WHY AIR-LYNX

COMPACT



Less than 35 kg.

You can carry it everywhere.

SECURE



Totally Secured

Native LTE Security and SIM card

PRIVATE



You Own your 4G Network.

Totally independant from public networks

AGILE



Flexible in frequencies.

Run in any band.



ABOUT DCNS

DCNS is a French industrial group specialized in military naval industry, nuclear energy and marine infrastructures. The Group designs, implements and maintains submarines and surface vessels. It also provides services for shipyards and naval bases. Finally, the Group offers a wide range of solutions in renewable marine energies. The Group has a turnover of 3.1 billion euros and employs 13,130 people (2014 figures). www.dcnsgroup.com

ABOUT AIR-LYNX

Created in 2013, the French company AIR-LYNX is a manufacturer of an innovative 4G LTE infrastructure network solution. This all-in-one network, compact, flexible in frequency, secure, broadband, and fast to deploy, can be declined in fixed or nomadic versions. The solution integrates all services adapted to the needs of professionals, such as Push to Talk or video, through a home application. It can be deployed in many cases of use: tactical bubble of civil safety, protection of sensitive sites, securing public places, road or rail transport, access to rural Internet, Factory 4.0 or Smart Cities. Air-Lynx has been rewarded many times and has received the French Tech label in 2016. For more information: www.air-lynx.com