The efficient enforcement of fishing quotas and the repression of illegal fishing activities within the French and Australian exclusive economic zones represent a significant challenge to maritime authorities due to the size and remoteness of the area.

A solution to this problem has been implemented by CLS through the installation of a SAR receiving station in the Kerguelen Islands to detect vessels, thereby allowing surface vectors to patrol in a much more efficient and timely manner. The targets detected by ENVISAT and RADARSAT SAR processing software are correlated with Argos vessel monitoring data, in order to display the positions of both identified and unidentified vessels within range of the station.

This station has been in successful operation for over two years and has demonstrably contributed to the repression of illegal fishing activities.

Two needs involving SAR oceanography research have however been identified for a continuously improved operational performance.

In the existing system, the final validation of the echoes detected automatically by the station is carried out by operator. In some cases, this information is sufficient and the operator can easily qualify the echo as being or not a ship.

In other cases, the decision is difficult to take, in particular in harsh metocean conditions, frequent in this area.

In addition to the contribution to an improved automatic detection of ships by reduction of false alarms, operational generation in real time of oceanography products such as wave heights, wind speeds, wave spectrum or currents would provide a valuable input to support the marine operations.