EGNOS Success Story

EGNOS Enabled PPUs in the Port of Seville

March 2021

Credits: Prácticos de Sevilla

Located on the lower reaches of the Guadalquivir River, in Seville, this commercial river port is the only one in Spain with these characteristics. With an access channel of over 80 kilometres and a modern lock, the port allows the entrance of big merchant vessels and cruises. So far, 200-metre-long passenger ships and 190-metre-long bulk carriers have been the largest vessels permitted.

The river's maximum draught is 7.20 meters and, in terms of accuracy, the most demanding manoeuvres are those carried out to cross the so-called Puente de las Delicias, 42 meters wide, and the lock, 40 meters wide. The limited width and the authorised draught of the access channel, together with bigger vessels requiring entrance to the port, makes the work of pilots even more necessary. Pilots in the Port of Seville are very aware of the benefits new technologies can bring to their pilotage operations. That is the reason they started using Portable Pilot Units (PPUs) three years ago when big vessels required access to this inland port. Nowadays, they use PPUs in other situations as well. For instance, when facing bad weather conditions or to support anchoring manoeuvres at night.

PPUs must be understood as tools carried onboard vessels by pilots to support the decision-making process when navigating in confined waters. PPUs can be considered a more advanced version of vessels' ECDIS, which provide pilots updated and high-density navigation charts, traffic management and ship-handling tools.

In the Port of Seville, pilots use a unit from AD Navigation that can be configured in different functional modes and can use various corrections sources over GPS. Carlos de Bricio, the pilot responsible for new technologies at this port, is in favour of using EGNOS corrections, considered of great benefit in specific situations, such as the entrance and navigation through the lock or in docking and turning manoeuvres. When configured to apply EGNOS corrections, their PPU achieves an accuracy of 50 centimetres, which is very useful since ships are getting larger, increasing the difficulty of manoeuvring and highlighting the need for accurate position information.

The use of EGNOS is in line with the IMPA Guidelines recommendations on the design and use of Portable Pilot Units. These guidelines recommend differential corrected positioning devices, either by GBAS or SBAS, as a minimum to provide enhanced accuracy in the positioning.

EGNOS Success Story