

# **EMPA RECOMMENDATION ON SMART TOOLS FOR PILOTAGE**

## **Introduction**

EMPA believes that the safest and more efficient way of providing a safe and efficient pilotage service is with the presence of a Pilot on the ship's bridge.

Smart tools can be helpful as they provide insights and information to execute manoeuvres in restricted and congested waterways during pilotage. A tailored digital pilotage data platform can provide tidal, vessel traffic, weather, and port information, which is critical in the decision-making process when planning and executing manoeuvres.

Integrating smart tools can help pilotage services achieve heightened safety, efficiency and effectiveness in navigation and ship handling. It is important to note, however, that electronic navigational aids are vulnerable to errors and malfunctions. Therefore, users must be fully aware of how the data is formulated and presented to them to ensure correct interpretation and decision-making.

## **Consideration**

Taking into account:

- The protection of the marine environment
- The safe and efficient flow of marine traffic
- The ever-increasing dimensions of vessels and the difficulty of port infrastructure to give immediate response to this challenge
- The increasingly availability of smart tools for pilotage
- The risks of overreliance in electronic aids

## Policy

- The role of EMPA is to facilitate the exchange of information between its members to continuously improve the professional and technical proficiency of Maritime Pilots in its Member Associations, Pilots within the EU, and in neighbouring countries.
- EMPA aims to assure the safety of all Maritime Pilots in the EU and neighbouring countries by increasing the safety and efficiency of navigation, thereby enhancing environmental protection from ship-borne pollutants.
- EMPA strongly defends and advocates that Pilotage as an essential and unique service to the shipping industry, can only be performed in an environment free from competition.
- EMPA aims to work at the forefront of our profession and collaborate with all stakeholders.
- EMPA recommendations offer practical advice, drawing from its members' collective knowledge and experience, to be read in addition to local, national, and international regulations. These recommendations provide information to Pilots, shipowners, and Captains, advising also, stakeholders that directly or indirectly impact the maritime industry.
- EMPA recommendations should be read in conjunction with equipment instructions and manuals. These recommendations are to support training, not replace training and are not to be interpreted as conflicting with local, national, or international regulations.

## EMPA Recommends:

- Exceptional care should be taken when using smart digital tools for pilotage. These tools are made for assisting the Pilot, not for their replacement. Pilots should never be over reliant on digital aids, as this can be subject to hacking, jamming, spoofing as well as failure.
- The provision of training and familiarisation on using smart tools should be mandatory, including comprehensive training on the capabilities of the equipment, but especially on the limitations and risks. Familiarity with the tools used ensures efficient adoption and utilisation.
- Using smart tools, Pilots can enhance their professional ability by predominantly using playback functions integrated into Portable Pilot Units (PPUs). This function empowers Pilots to review and refine their skills, enhancing their competence in executing their duties. With these features, Pilots can gain valuable insights into their performance, identify areas that need improvement and make necessary adjustments to their methodologies.
- The use of sensors and data integration can enhance the safety and efficiency of the traffic flow and pilotage services. Leverage sensors (such as AIS (Automatic Identification System), radar, and weather stations) to provide real-time data on vessel positions, environmental conditions, and potential hazards.

- Software solutions that assist Pilots in route planning, collision avoidance, and decision-making should be easy to use, understand, and customised to meet the specific needs of a pilotage district. These solutions can provide pilots with real-time weather forecasts, tidal information, and dynamic port conditions, enhancing safety during critical manoeuvres. Smart tools should also be designed with reliability and redundancy to ensure effectiveness in all situations, including emergencies. This may involve using backup systems and fail-safe mechanisms to prevent disruptions in critical operations.
- When selecting smart tools, experienced Pilots should be involved in all phases of the selection process. Pilots' input will ensure that the tools selected are effective and meet their needs as end user. Establishing strong partnerships with digital tool developers will aid innovation and find the best solutions for end users. It is important to have maintenance contracts, timely updates, and technical support to ensure sustained performance. Standardised data exchange formats and interoperability will enable seamless communication between different tools, which will prevent data silos.
- EMPA strongly advocates exchanging best practices and experiences when utilising smart tools. We emphasise the importance of regularly evaluating equipment effectiveness and documenting and investigating system failures to identify patterns that may lead to failure. Such an approach is crucial for optimising the development of equipment and software, which will aid in the evolution of smart tools and best practices when selecting and using them across all pilotage districts.

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