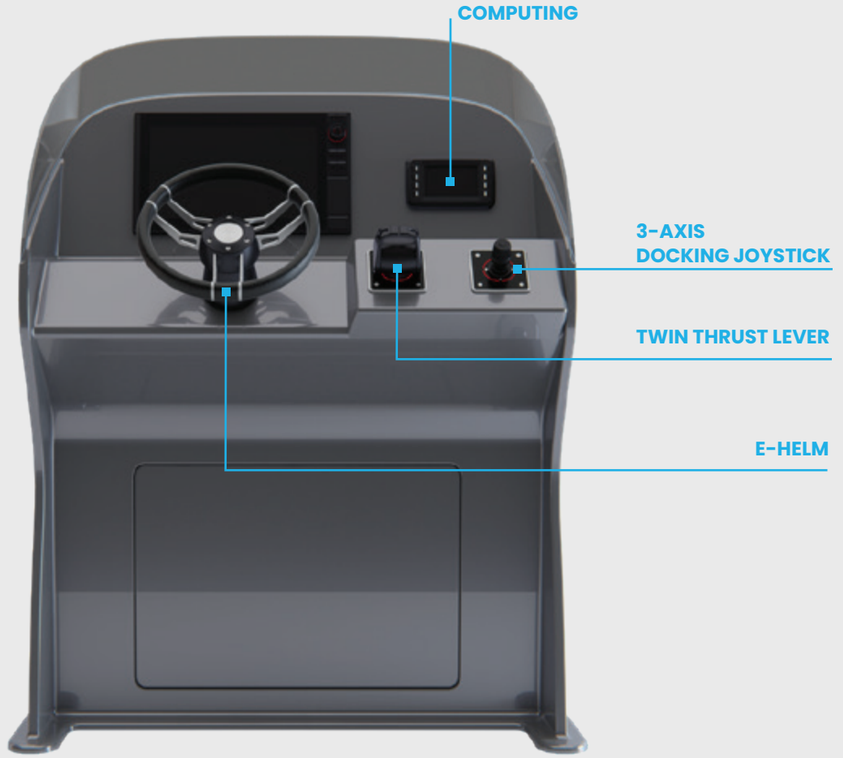
AI SIGMA CONTROL SYSTEM AND INTELLIGENT DYNAMICS

Alamarin-Jet Sigma Control System is an electro-hydraulic integrated drive-by-wire control system. It supports installations from single to quadruple waterjets.
The system is based on modular architecture and the level of features depends on the modules integrated based on the user requirements.

In addition to the standard configuration of Sigma Control System, Intelligent Dynamics is also available as an add-on feature. Intelligent Dynamics has been developed with future markets and industries at its core, such as effortless and straightforward integration with 3rd party autonomous and unmanned systems. Intelligent Dynamics also features highly sophisticated position and heading keeping functions which give significant operational benefits to a wide variety of vessel types and applications.

INTELLIGENT DYNAMICS IS THE GROUP OF FEATURES INCLUDING:

- **Intelligent Position Hold (DPS)**
- **Intelligent Vessel Anchor (ANC)**
- **Intelligent Heading Keeping (HDG)**



TECHNICAL:

The Sigma Control System is built on a CAN network, the core of the system being the Jet Controller Units (JCU) and Helm Control Units (HCU) being connected via a standardised cable system. Each Jet has its own independent JCU and individual control hydraulics for increased redundancy. Each JCU works also as an individual control network node (CAN Bus). The primary BUS system is capable to carry both, electric power for each JCU node and network communications.

In the case of twin installation and upwards, two electrically separated primary BUS lines are used to increase the redundancy level. All primary control heads are capable to deliver isolated dual output. Each Control Head axis of movement has two electronically separated circuits, making each propulsion line truly separated and independent. Any single point of failure does not affect to another Primary BUS propulsion line.

- **Modular and scalable architecture – from single installation up to quad installation**
- **Multiple control stations**
- **Multiple control head arrangement options**
- **Flexible BUS architecture – each jet unit acts as an individual BUS**
- **Factory made modular cabling system, no custom-made cables required**
- **Easy to approach design**
- **Installation is based on plug'n'play modules**
- **Intuitive walk through commissioning procedure**
- **Simple to use, new High Resolution Display with modern UI/UX usability**
- **Digital engine interface – direct digital CAN-CAN Throttle control**
- **Sophisticated diagnostics – multiple data logging and diagnostics**
- **Intelligent self-monitoring system. Temperature, Pressure and Fluid**
- **USV Ready – comprehensive low-level (CAN) and high-level (IP) interfaces**