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About the IMO/MSC Decision on VDES

This document provides a brief overview of the impact of the recent decision in the International Maritime Organization (IMO) to endorse VHF Data Exchange System (VDES) as a carriage requirement in the Safety-of-Life-at-Sea (SOLAS) convention.

We are sharing this update to keep maritime stakeholders informed of key regulatory changes affecting the industry.

Background on VDES and AIS 2.0

The Automated Identification System (AIS) standard has been used for more than 20 years for vessel tracking and identification. It is used by authorities, commercial fleet monitoring systems, and onboard ships to identify other nearby ships.

VDES is a new standard that extends AIS with much more bandwidth and global two-way data exchange via coastal networks and satellites. Together with supplementary technologies, it paves the way for what we call “AIS 2.0”, which enables a range of advanced digital services to be used on the ship bridge. A very basic example of AIS 2.0 is seen in Figure 1.

Figure 1: Snippet of an ECDIS showing AIS data (other ships as green icons) and AIS 2.0 information (navigational warning with a polygon-shaped area)

The example shows a snippet of an *Electronic Chart Display and Information System* (ECDIS) presenting the chart of a narrow fairway (Limfjorden, Denmark). It automatically displays AIS targets (other ships) and a polygon-shaped navigational warning. The latter is made possible with a full AIS 2.0 setup onboard the vessels as

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well as in the nearby shore network. The example is from an ongoing R&D project, "*MaDaMe*", in which Sternula is working with Danish, Swedish, and Finnish authorities and technical partners on AIS 2.0 services realization.

VDES is the key radio access technology of AIS 2.0, offering much better data rates than AIS, higher reliability, and seamless integration of terrestrial and satellite-based connectivity. Supplementary technologies, including S-100 and MCP/MMS, provide the means for security and trust through digital signing of all data by the source of data, often the maritime authority.

VDES and AIS 2.0 enables:

- All IMO e-Navigation services (including navigational warnings as in Figure 1)
- MASS (Maritime Autonomous Surface Ships), which depends on 100% trusted, machine-readable data
- Enhanced situational awareness and safety (de-spoofing of AIS data using digital signatures)
- Advanced port arrival services
- Digitally signed greenhouse gas emissions reporting
- Many new commercial ship bridge services, such as advanced route optimization

Crucially, VDES includes full AIS functionality, including Application-Specific Messages (ASM), ensuring a smooth transition from existing systems without operational disruption. For ship owners and operators, this ensures long-term compliance with existing international standards and at the same time access to next-generation maritime digital services.

The Decision on VDES in the IMO

At its 110th session in June 2025, the Maritime Safety Committee (MSC) of the IMO formally approved draft amendments to SOLAS Chapter V, placing VDES as a carriage requirement with effect from 1 January 2028. Furthermore, the committee approved a draft MSC resolution on the introduction of VDES into the IMO regulatory framework, along with draft performance standards for shipborne VDES and guidelines for its operational use.

This marks a turning point for maritime digitalization and paves the way for global adoption AIS 2.0 as the primary means for the implementation of digital services on the ship bridge.

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The full report on the MSC 110 session will soon be available at docs.imo.org.

Next Steps

At Sternula, we are proud to be pioneers of VDES and AIS 2.0 and to have contributed to reaching this milestone. This official endorsement of VDES by IMO strengthens our mission to drive innovation and support the global maritime community through secure connectivity.

How do VDES and AIS 2.0 fit with your digitalization plans and activities? Is your priority mainly within safety, operational efficiency, or cyber-security? When is the right time to get started?

Sternula offers expert solutions tailored to your needs. We provide MMS Edge Router solutions for both ship side and shore side, MMS Routing Network services, and comprehensive assistance in setting up your infrastructure, as illustrated in Figure 2. Our solutions ensure secure, seamless connectivity between ship and shore, enable digitally signed navigational warnings, and optimize route management through our AIS 2.0 technologies, which is fully aligned with IALA VDES guidelines (iala-aism.org/product/g1117) and MCP and MMS specifications.

VDES and AIS 2.0 technology play a key role in the components of effective maritime digitalization strategy, addressing priorities such as safety, operational efficiency, and cybersecurity.

Get in touch to discover how Sternula can help accelerate your VDES journey. Let's talk about how we can help you navigate the future of maritime connectivity.

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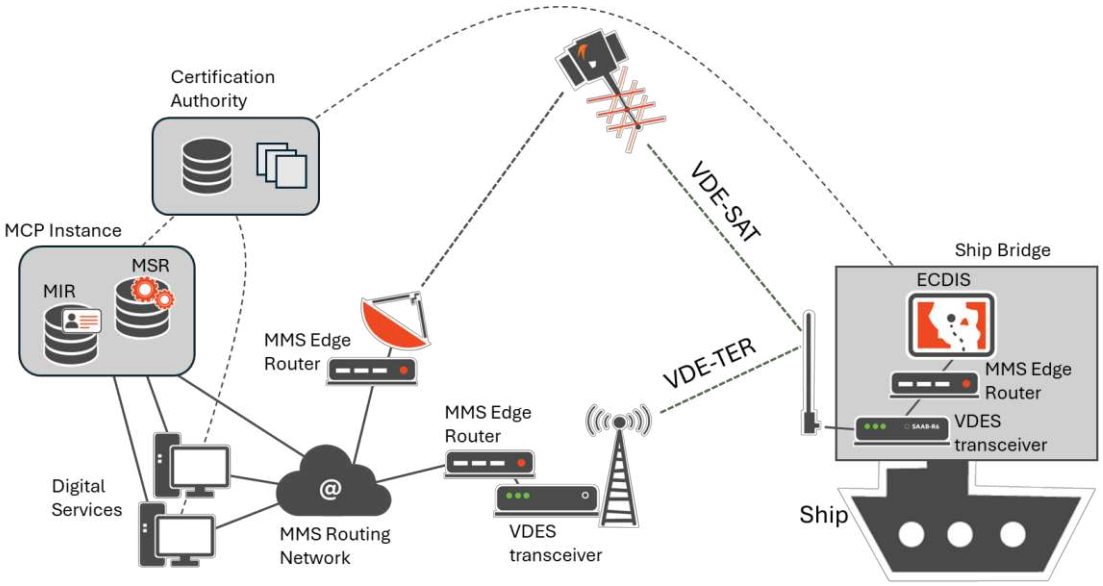

Figure 2: AIS 2.0 end-to-end system architecture with VDES and MCP/MMS elements

For further information or scheduling a meeting, please contact:

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