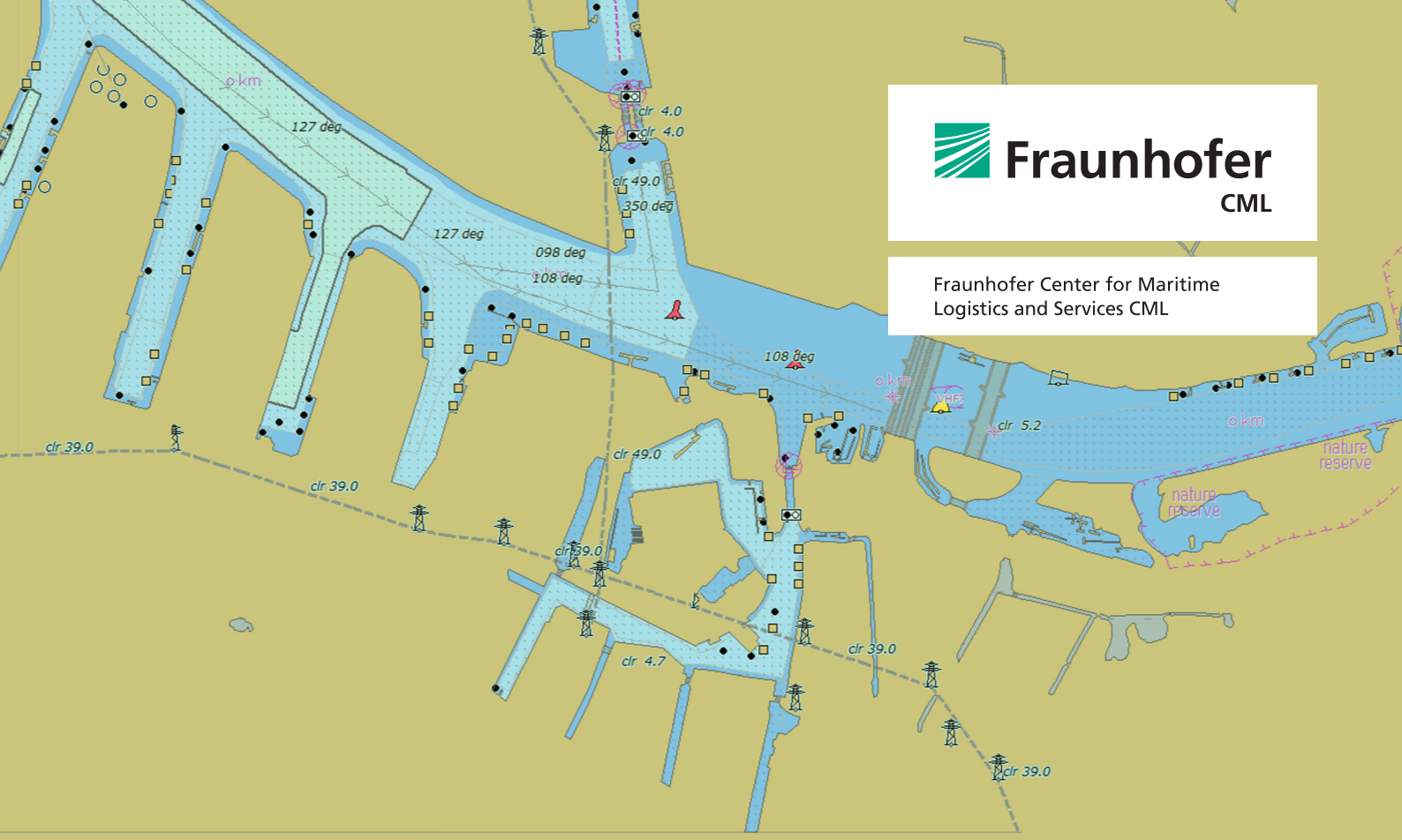


Fraunhofer CML

Fraunhofer Center for Maritime Logistics and Services CML

Octopus ENC Server

A flexible, lightweight and easy to integrate solution for demanding maritime chart applications

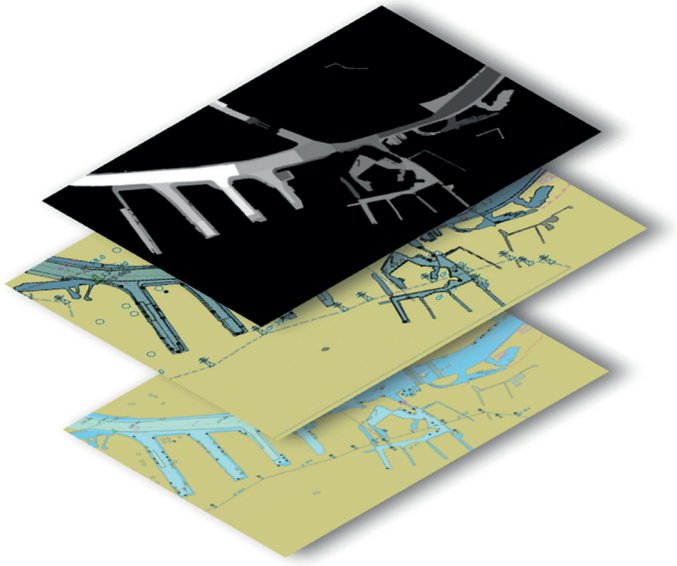
Simplifying maritime chart integration with Octopus ENC Server

In the maritime world, the use of up-to-date electronic navigational charts (ENCs) both at sea and on land is of crucial importance. However, integration into custom applications is often hampered by the complexity of licensing and displaying ENCs. With the Octopus ENC server (Octopus), Fraunhofer CML offers a powerful platform that simplifies these challenges by offering easy-to-integrate interfaces for chart display and interaction.

By opening up access to these ENCs, it will be easier to develop innovative solutions such as advanced navigation systems, fleet management software and even distributed applications for mobile devices such as tablets and smartphones.

Octopus is equipped to process the two main formats for ENCs: S-57 and S-63. These formats are essential for the distribution and encryption of ENCs. As a licensed Original Equipment Manufacturer (OEM) of the International Hydrographic Organisation (IHO), applications that use Octopus to visualise ENCs can be used in the same professional environment as any other application that displays ENCs.

By offering advanced interfaces such as gRPC (gRPC Remote Procedure Calls) and RESTful APIs (Representational State Transfer Application Programming Interfaces), Octopus enables fast and efficient data transfer of ENCs, allowing for seamless integration. In addition, Octopus offers comprehensive spatial analysis capabilities, allowing geometries such as channels, navigation markers or harbour boundaries to be extracted from ENCs. This allows users to utilize ENCs for more than just display purposes.



Versatile Navigation with Octopus: Seamlessly Connecting Real-Time ENC Display and Advanced Spatial Analysis

Multi-user environment

A key feature of Octopus is its multi-user capability. In a typical use case, the Octopus ENC Server can serve hundreds of users in parallel. This is particularly beneficial in large organizations where multiple teams need to access map and navigation data simultaneously.

The architecture of Octopus makes it possible to process requests efficiently and assign instances of a ENC installation to different users in real time without delays or loss of performance.

Simple installation and management

Despite its advanced functionality, Octopus is easy to set up within existing IT systems, simplifying the process of equipping applications with ENC capabilities.

Fraunhofer CML provides full support in procuring ENCs tailored to any need. Simple installation procedures make it easy to update or change ENCs, ensuring applications using Octopus stay up to date.

Innovating the maritime sector

Octopus provides direct and comprehensive access to ENC data for any organization wishing to integrate this support into their applications. This enables new approaches to ENC usage in applications on any platform, from desktop to mobile to distributed systems serving hundreds of users simultaneously.

These capabilities enable companies to enhance fleet efficiency, improve risk management and optimize operational processes. Integrating Octopus provides companies with a reliable tool for data-driven decision-making, allowing them to gain more from ENCs.

Your benefits

- **Flexible integration**
  Supports standard ENC formats (S-57, S-63) and enables seamless integration into existing systems via gRPC and RESTful APIs.
- **Multi-user capability**
  Provides powerful multi-user support to serve hundreds of users in parallel, ideal for large organizations.
- **Comprehensive support**
  Fraunhofer CML offers support in sourcing and customising the ENCs required for a specific application.

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