



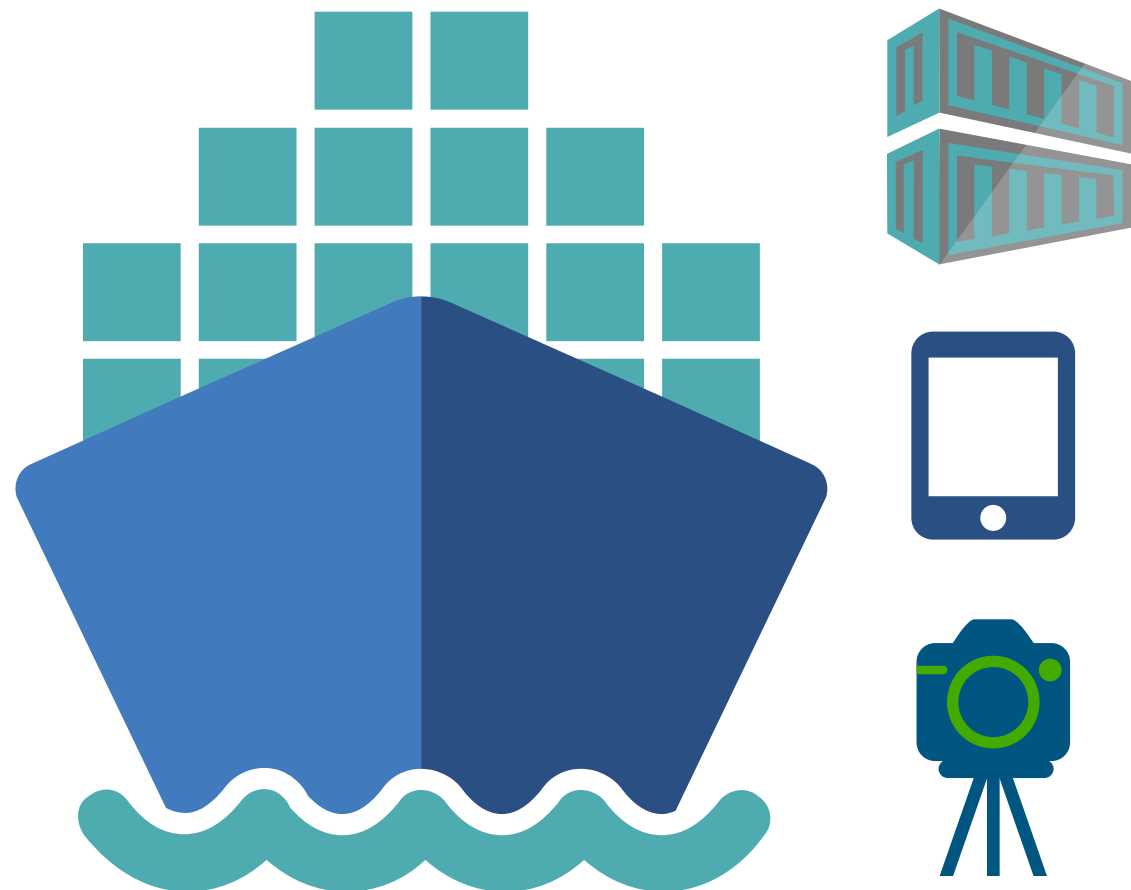
ECO-EFFICIENT END-TO-END CARGO STOWAGE PROCESSES



Maritime transportation is a widely used and effective way to move large quantities of cargo over long distances. Its efficiency is at its highest when vessels are sailing as fully loaded as possible using optimised speed to reach the next port in time. This entails well-functioning end-to-end cargo stowage processes.



In EXOPRODIGI project, partners have worked on developing digital tools and solutions which help to eliminate inefficiencies in cargo loading and discharging operations. The focus has been especially on **digital data capture for cargo units, developing an application for smarter cargo stowage system** and **3D scanning of vessels and cargo units**.



Digital data capture of cargo unit information (e.g. type, dimensions, weight, position, condition, status) can be accomplished with the help of various solutions such as machine learning, Internet of Things and vision technologies. The data makes it possible to plan and execute end-to-end stowage operations more efficiently. This can shorten ports stays, enabling slower sailing speed at sea and resulting in decreased fuel consumption and fewer emissions.

Deckmaster application harmonises and utilises data on cargo units to plan loading and discharging of vessels in a strategic and efficient manner, reducing the need for ballast water and decreasing the turnaround time spent at ports. This saves time and enables slower sailing speed at sea which, in turn, reduces fuel consumption and harmful emissions.

3D scanning technology can be utilised to create 3D models of cargo units, material handling vehicles and the cargo holds of vessels. These models enable the use of 3D simulation technologies which support strategic decision-making on investments in assets as well as optimal planning and execution of stowage, loading and discharge operations which results in improved utilisation of resources.

