



DNV MTS

Maritime Transport System

Teaming up to work with you on efficiency and sustainability



MANAGING RISK

The rationale

Why us? Why now?

We assist logistics operators, cargo owners, ship owners and operators, ship designers, yards and authorities in ensuring that ships and maritime logistics systems are commercially viable, environmentally efficient, as well as robust and resilient.

We continually focus on developing new knowledge through R&D, developing advanced services and tools. This, and our multi-discipline and competent delivery organisation, enables us to handle the increased complexity and uncertainty facing the global maritime community.

The sign of the times

Most actors in the global maritime industry are experiencing rapid changes.

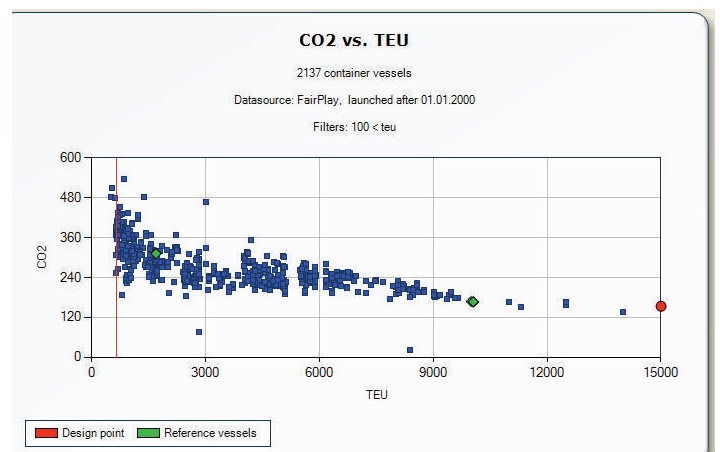
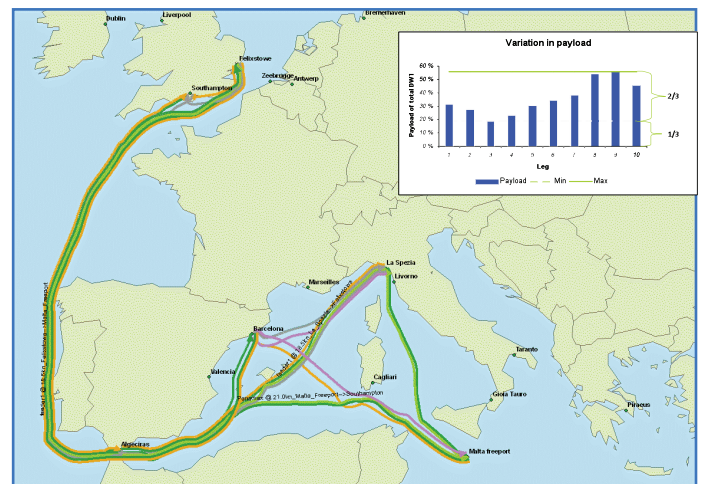
One change is acute and occurs in the short and medium term, related to the shock from the financial crisis that culminated in 2008, causing the world shipping community to take extraordinary measures to adapt. The initial panic is starting to turn into an anxiety of the future, forcing rethink of aspects like ship size, steaming speed, fleet composition, route configuration, scrapping, layup, cancellation of newbuild orders, to name a few.

The other change is also acute, though in a longer term. It pertains to the constantly increasing public pressure to cap emissions of greenhouse gases (GHGs). Maritime transport is currently estimated to emit slightly above one billion tonnes of CO₂. The general expectation is that the shipping industry must take part in the same manner as other industry segments.

We expect the current development to force or incite the industry to find new ways to improve their business. Fortunately, we are in a position that most measures aiming at reduced emissions of GHGs also lead to increased energy efficiency in a time with growing energy costs. For several, environmental awareness equals cost awareness.

We model and represent the overall transport or logistics system to evaluate its strengths and weaknesses, and suggest which improvement measures can be taken with the best payoff.

We want DNV to be your preferred partner in understanding, improving and developing a sustainable logistics system.



How can we help you ...

when you can't find the silver bullet?

We take the 360° angle

Significant savings may be gained by isolated actions in several different areas. As a part of an overall strategy a company may improve operational practices at office or on ship, increase the general cost and environmental awareness and competency, retrofit technical solutions on the ships, or reduce speeds of the sailing fleet to sustainable levels. There is no one solution to the issue of increased energy and environmental efficiency. By contrast, there are several small and large measures that in the end may make up a radical improvement strategy.

The design and operation of the logistics system itself largely impacts the efficiency in terms of energy or environmental cost. It certainly may be beneficial to introduce efficient single measures, such as fuel-efficient ships, in the larger system. However, it may also be an option to change the behaviour of the system itself. In several cases it is possible to reduce the need for size or speed of ships by changing the operation of the chain. When demand changes, some ports may be serviced in a different manner than before. When fuel prices increase, servicing some legs may prove to yield insufficient payoff. Furthermore, one may see that some legs contribute disproportionately to environmental impact, in terms of energy use, emission per cargo delivered or even operating cost related to work performed.

Moreover, as transport and other logistics systems become more complex, and the perspectives of the future more uncertain, there is a growing need to view improvement measures in a wider context. In several cases, some measures may yield the highest return in one overall transport system or one scenario, while they may prove infeasible in other systems or scenarios. Thus, the effects of decisions to be made should be measured based on their total impact.

Depending on client and problem at hand, we approach the challenge through different angles and ways of addressing the issues. We may analyse a ship in an overall transport system, or analyse a transport system as such. We have built a modular and flexible delivery concept wherein the complexity of the services increases with the complexity of the problem:

- I. Analysing performance and benchmarking ships on technical, environmental or commercial parameters, against own fleet or competitors.
- II. Calculating energy efficiency of an entire maritime logistics chain and generating environmental (e.g. carbon) footprint to detect its specific performance.
- III. Establishing scenarios for different ship concepts, or different operating patterns, or performing sensitivity analyses on the same to detect areas for improvement.

- IV. Using simulations, optimisation or other forms of analysis to detect weaknesses, vulnerabilities or inefficiencies so as to illuminate areas where improvement potentials are found.
- V. Using the collective resources and tools to assist in gradual or radical improvement or development of new and innovative logistics concepts.

Choose your angle at which to start – we follow you 360°!

Competence is key, knowledge is king

We build upon the century-long presence and experience of DNV in the shipping industry, and our acclaimed technical competence and advisory services in both technical and operational issues. We couple this with in-depth knowledge of the nature and logics of logistics systems, be it sustainable maritime transport from door-to-door or the need for robust and efficient support for offshore activities.

A large number of spearheading development projects, executed in part by the DNV in-house R&D division, DNV Research & Innovation, gives unique input to the development of innovative tools and methods, as well as important input data that can be used in decision-making.

We also have close and strategic collaboration with MARINTEK, a leading-edge maritime research institution, in addition to the Institutes for Marine Technology as well as Industrial Economics at the Norwegian University of Science and Technology.

These in-house and external clusters strengthen us by providing a pool of multi-skilled, highly competent personnel applying state-of-the-art knowledge, tools and methods.

DNV proNavis
NO-7462 Trondheim
Tel: +47 73 54 63 51
www.dnv.com