SSPA, together with Swedish, Norwegian and Danish partners, is in the process of completing a project called NÖKS (Närsvojfart i Öresund, Kattegat och Skagerrak – Short Sea Shipping in the Sound, Kattegat and Skagerrak) that is looking at the issue of transferring transportation from land to sea in the region.

**What are the reasons behind the aim of moving freight from road and rail to the sea in the region?**

**The arguments are:**
- Greater capacity deficiencies in road-based infrastructure.
- Greater demands for eco-efficient transport.
- Maritime transport can provide a minimum environmental impact.
- Making rail capacity available for passenger traffic.
- Infrastructures at sea and ship capacity are available.
- Low cost of using ship infrastructures
- Possibilities of transporting large volumes at sea.
- Lower costs for goods transport.
- Fewer accidents.
- Less congestion.
- Less need for maintenance of road/rail.

The different transport modes operate in parallel along the coasts in the Skagerrak and Kattegat.

Electrified railways have been set up as a future green freight transport solution but have developed very slowly in Norway. Freight transport by road creates challenges in the most densely populated areas where the road network is not developed to cope with the growing workload. Capacity constraints and the substantial cost of developing additional rail and road capacity are other material reasons that favour a modal shift to seaborne transportation.

Furthermore, even if increased capacity would alleviate issues regarding congestion and the quality of service on road and rail, it does little to address other human health and environmental concerns such as hazardous emissions and emissions of greenhouse gases, noise and vibration pollution in densely populated areas, accidents resulting in serious injuries or death, and so on.

**From challenges to solutions**

Today, maritime transport has challenges in terms of quality of service e.g. frequency and flexibility compared to other modes of transport. Although the environmental impact per goods unit is very low for shipping, emissions of particulate matter (PM), Sulphur oxides (SOx) and nitrogen oxides (NOx) are troubling. However, short sea shipping has a large capacity and can handle significant increases in volume.

Additionally, the environmental performance of short sea shipping will be significantly increased following more stringent environmental regulations such as the reduction of maximum allowable sulphur content of the fuel used for shipping in the Sulphur Emission Control Area (SECA) that comes into effect on 1 January 2015 and the introduction of Nitrogen Emission Control Area (NECA) in the 2020s. These regulations, though ostensibly put in place to increase the health and environmental performance of the shipping sector, could potentially lead to the reverse effect.

The costs of these improvements are non-negligible and if left unattended in the short term, could potentially result in a “modal backshift.”
i.e. reallocation of transported volumes from sea to less environmentally sustainable and more congested land-based modes. This paradox i.e. reducing the health and environmental performance of the transport system by improving the performance of its best performing mode presents significant challenges for achieving the purpose of the NÖKS project.

**Project results and contribution**

The purpose of the project was to create a platform for collaboration and knowledge transfer between industry, government and academia in the Sound/Kattegat/Skagerrak region. The basis for the work was in several projects carried out by the project partners and other stakeholders in the region.

The project aimed to link all the experiences and take them on in creating holistic, sustainable and efficient transport solutions, environmentally-driven maritime growth and development by taking advantage of the regional differences – specializations – in a maritime company structure/expertise, and research to propose further development.

The project’s overall objective was to shift freight from road to maritime transport. The primary goal was freight transport but combinations with passenger transport are considered as an option. To enable this, there was a need for analysing existing knowledge and develop joint strategies for the three countries, which satisfy the demand patterns and are feasible in long-term applications. The project therefore intended to link organizations between countries to identify and develop the necessary spatial planning, transport and infrastructure. The transport solutions must be economically sustainable and provide reduced environmental impact, including reducing greenhouse gas emissions, as well as being safe and energy-efficient.

During the course of the project freight flows in the region were studied and the relevant technology development and suitable ship types were mapped. The industry requirements for an accelerated modal shift as well as planned, recent and required investments in vessels and infrastructure have been identified primarily through interviews, workshops and previous studies.

Based on the results of this exploratory study, the typical conditions for short sea shipping in the region including barriers and opportunities for increasing the share of maritime transport have been evaluated. An important factor in the development of maritime transport is the regional development of the infrastructure. Furthermore the need for concepts that would enable a small-scale, fine grid distribution along the coastline of the countries in this region has been identified.

Examples of such concepts are the “Godsfergen” concept or push barges. The results of this project, identifying the needs, opportunities and obstacles, will create the basis for future efforts for securing funding to pursue sustainable and profitable solutions for increasing the share of maritime transport in the ÖKS region.