



# Leading by example

## The role of Dutch companies in the international dredging industry

It is not an exaggeration to say that, in terms of experience and equipment, as well as innovation and research, the Dutch maritime sector is one of the most important driving forces behind the global dredging industry.

The reason for this stems from the fact that approximately one third of the country lies below sea level; for centuries, the Dutch have been protecting their land from the relentless forces of the sea. Consequently, dredging for coastal defence and land reclamation purposes have made the

Netherlands into the country it is today. "Therefore it is quite logical that the biggest equipment suppliers and producers for this industry come from the Netherlands," says Damen Shipyards Group dredging product director Olivier Marcus. "In fact, there is a sort of Silicon Valley of dredging, where all

## 'SILICON VALLEY OF DREDGING IS LOCATED IN THE NETHERLANDS'

have filled up with water. Dredging techniques can be used to reopen these mines."

Although originating from one of the flattest countries in the world, dredging techniques are also called upon in some of the most mountainous regions of the planet. "Our dredging equipment is also being used in the reservoirs directly upriver from hydroelectric dams, of which there are tens of thousands around the world," Marcus explains. "In some cases these dams were built 50 or 60 years ago, and at the time of construction the fact that the rivers feeding the dams carry a lot of silt was not taken into account." Over time these reservoirs, which can be up to 100 metres deep, can become silted up. "This results in a significant loss of capacity - capacity for producing electricity, but also capacity for drinking water and agricultural water supplies. A solution to this problem is the deployment of a Damen DOP pump mounted on a modular, easily transportable pontoon. These pumps can also be electrically driven, taking their power from the hydroelectric dam."

### Cooperative efforts

Examples of dredging techniques being applied to other sectors are numerous. For instance, Damen dredgers can also be found working at the oil sands of Canada, where they play a crucial role in the management of tailing ponds, and in the marine aggregate dredging sector, which is key to providing the civil engineering sector with sand for construction purposes.

Marcus concludes by highlighting the importance of cooperation within the Dutch industry. "Of course companies like ours build vessels, but we wouldn't be anything without the input of the equipment suppliers. They develop innovations at the system level. The role of universities, consultancies and research institutes are also very important too."

of the major companies are located. There is a lot of sharing of information and cooperation between these companies, which brings about many opportunities."

### Diverse niches

On the global scale, the opportunities to which Marcus is referring involve a far broader scope of application than coastal defence and land reclamation alone (although these undoubtedly have international relevance too). This is because the knowledge gained from centuries of dredging on 'home soil' can be transferred to other sectors. Marcus uses some of Damen's own activities to illustrate this point. "The European R&D project VAMOS - with 17 partners from 9 different countries - is a good example." The project's primary aim is to unlock the potential of unexploited minerals in abandoned mines. "There are thousands of mines around the world where operations with traditional mining methods have stopped. These mines have been left and, over time,



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MAKES THE DIFFERENCE

Challenges? Solutions...

One such equipment supplier for the shipbuilding industry is Alewijnse Marine. "We have a long-standing history within the dredging industry; starting decades ago with small CSD's [Cutter Suction Dredgers] and working up to larger hopper dredgers," says Alewijnse business development manager dredging & offshore Bas Oskam. "Originally this concentrated mainly on electrical installations, but as the years have passed, the level of automation has increased. This has been to improve productivity of the vessels and the efficiency of the dredging process - because, at the end of the day, dredging is about maximising the cubic metres of dredged material at the lowest cost."

In developing systems that are getting more and more automated, Alewijnse has found the input of dredging contractors to be of vital importance: "After all, they are the ones who really understand the operational process best. It is our responsibility - within our field of expertise - to come up with technical solutions for their operational challenges."

Customer needs

Two Alewijnse products demonstrate this relationship be-

tween dredging contractor and equipment supplier. The first is the Alewijnse Draught and Loading System, which through continual measurement of a vessel's draught and hopper volume, contributes to the optimal use of a vessel's capacities. Secondly, the Alewijnse Suction Tube System (ASTS): an automated system that uses two independent processes for measuring, calculating, monitoring and controlling the position of a hopper dredger's suction tube.

"These two products directly connect with the business case of the dredging contractor because the more accurate these measurements, the more efficient the dredge process can be," explains Johan van Rikxoort, product manager automation at Alewijnse. "These have been developed in cooperation with our customers. They have given their feedback; 'can you improve this aspect?' or 'we have a challenge relating to this particular issue.'"

An increasingly important item for dredging contractors is the ability to instantly generate reporting. Daily Trip Reports, capturing all sorts of production and vessel data, including fuel consumption are part of Alewijnse dredge products.



The European R&D project VAMOS primary aim is to unlock the potential of unexploited minerals in abandoned mines. Photo Damen Shipyards Group