Loodswezen

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Colophon

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Editor-in-chief:
Clarinda van den Bor
Email: c.vandenbor@loodswezen.nl

Editorial board:
Eric van Dijk
Willem Bentinck
Herman Broers
Fred Kuipers
Johan de Joode

Reporters:
Janny Kok
Rob Wilken
Rob Schoemaker

Contributing writers:
Wouter Lokker

Translation and editing:
Dean Harte

Photographers:
Kees Stuip
Herbert de Jong

Design and layout:
TheSign Creative Communication, Heerhugowaard

Printing:
SDA Print+Media, Amsterdam

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A selection of articles from "Navigator NL" can be found on our website. http://www.loodswezen.nl

Nederlandse Loodsencorporatie
Berghaven 16, 3151 HB Hoek van Holland
P.O. Box 830, NL-3000 AV Rotterdam

Regionale Loodsencorporatie Noord
Schildweg 16a, NL-9979 XR Eemshaven

Regionale Loodsencorporatie Amsterdam-IJmond
Kanaaldijk 242, IJmuiden
P.O. Box 11, NL-1970 AA IJmuiden

Regionale Loodsencorporatie Rotterdam-Rijnmond
Markweg 200, Harbour no. 6335, 3198 NB Europoort (Rotterdam)

Regionale Loodsencorporatie Scheldemonden
Boulevard de Ruyter 8, NL-4381 KA Vlissingen

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Dear reader,

As always, i am delighted to write the foreword to this year's edition of our magazine Navigator. I hope you enjoy reading the exceptional mix of interesting articles we have prepared for you and would like to thank everyone who has contributed to this publication.

Last year, I expressed the hope that we would be able to weather the crisis on our continent together. Upon reflection, I cannot help but think sometimes that we have not really made that much progress this year; at times, this causes us to be too pessimistic about the future. But pessimism doesn't get us anywhere and I will repeat my earlier assertion that only a positive attitude in which we do not solely focus on ourselves but especially also on others is key to embarking on the road to recovery.

After years of preparation, the Dutch Pilots and their support are particularly pleased that the first new, large pilot vessel was commissioned this year. Something which would not have been possible without the a forementioned positive attitude and the strong confidence we have in our pilotage services. Self-confidence, identifying and seizing opportunities is and will continue to be essential for (long term) success.

As regards our approach to Brussels, the good cooperation between a number of European pilot organisations in close consultation with EMPA is also exceptional. Here, a coordinated, univocal message about our fine profession generates the most effect. Cooperating with other nautical service providers for the benefit of our ports illustrates our strong commitment to ensuring that the European logistics chain functions as optimally as possible.

In conclusion, this edition focuses on the impact of the ongoing climate change that for the most part can be attributed to human-kind. Leaving behind an environment in which future generations are also able to build a future is and remains a concern. Slowly but surely, we are seeing the necessary shift though from an economy which is about consuming more and wasting towards an economy in which recycling and reuse are self-evident.

I would like to conclude by wishing you happy holidays, a wonderful New Year's Eve and a healthy and prosperous 2013.

Eric M. van Dijk, President

New tariff structure pilotage dues as of 1st of January 2014

Logical and transparent

As of the 1st of January 2014, a new, uniform tariff structure for pilotage dues will be introduced in the Netherlands. Following two years of intensive consultation, Dutch ship owners, cargo handling agents, port authorities and Nederlands Loodswezen issued a unanimous recommendation to this extent in the spring of 2012. The Ministry of Infrastructure and the Environment has adopted these proposals and is currently amending law and regulations. "In the future, a ship will pay the same tariff for the same performance in all Dutch ports."

"Since 1859, hardly anything has changed in the tariff structure for pilotage dues in the Netherlands," says Wino Dorst, Financial Director of Nederlands Loodswezen BV, explaining just why the upcoming changes are so significant. "That was still in the era of sailing ships." It is therefore only logical that over the years, the application of the current tariff structure has led to more and more discrepancies. In practice, the industry considers the high degree of cross-financing between large and small Dutch ports and between large and small vessels as the main bottlenecks in that respect.

"The pilot never comes aboard holding a stopwatch"

After the summer of 2010, all parties consulted with one another to come up with a new, fairer and easier tariff structure. Not an easy task. Everyone has their own interests, says Dorst, who teamed up with pilot Roon Heimel in the consultations. "Our nautical and technical go-to person." Nevertheless, all parties managed to reach consensus in the spring of 2012. "Our starting point was that the overall revenues of Loodswezen should remain unchanged."

S, T and A rates

The new, unanimously supported tariff structure comprises a starting rate (S-rate) and a track-dependent rate (T-rate). The S-rate is the basic component which covers the costs of transporting the pilot to and/or from the ship and the general expenses of Loodswezen. The height of the S-rate depends on the actual draught of a ship and the pilotage commencement point. On top of that, the T-rate is a flexible component based on the average time which a pilot next spends on board. For special pilotage operations such as towages, sea trials and anchor watches, an additional rate (A-rate) will furthermore be applicable. It was also agreed that for pilotage in the northern seaports (Harlingen, Eemshaven, Delfzijl, Den Helder), a surcharge of 30 percent will be added on top of the S-tariff. Otherwise, there would still be substantial cross-financing here. The 30 percent surcharge for the most part negates this.

Time instead of distance

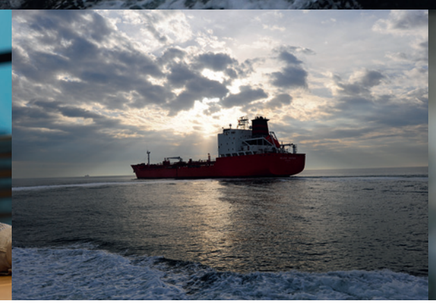
The main difference with the current tariff structure is that from 2014, the combination draught - average pilotage time will be determining for the height of the tariff instead of the combination draught - distance. This is because distance is an incomparable component in the various ports. In the new structure, uniform tariff zones have consequently been established across all Dutch ports which reflect the average time that a pilot spends aboard the ship. A fair tariff therefore applies for the services rendered by the pilot. After all, depending on the nautical situation, it is possible that the pilot spends more time on a shorter distance in one port while in the same time he could have covered a greater distance in another port. These are explicitly averages based on past experiences. The pilot will never board a ship holding a stopwatch.

"The current tariff structure still dates from the era of sailing ships"

The actual draught of a ship will by the way continue to be the main component in the new tariff calculations. Fully laden vessels after all represent a higher value and can consequently bear a higher tariff than empty vessels.

Analysis of 250,000 pilotage trips

To optimally determine the new tariff structure and associated tariff zones, all 250,000 pilotage trips from the period 2008 - 2010 were fed into a calculation model developed by KPMG. This made it possible for the project group with ship owners, cargo handling agents and port authorities to objectively assess the average pilotage times necessary and, with that, tariff zones. Heimel: "The calculation model also made it possible to calculate and compare all possible alternative scenarios for the implementation of the new tariff structure. With one click of the mouse, the model clearly showed the effects adjustments would have." This for example applied to the option to select a different parameter than draught in the new tariff structure. In Germany, the gross tonnage of a ship is the determining factor for the pilotage tariff and in Belgium it is the block size (volume of the hull). The conclusion for the the shipowners and agents was that ultimately, draught remains the best standard. In the case of gross tonnage, ships with a huge volume such as car carriers pay disproportionally more. If block size is used as a parameter, ships with a light load have an advantage over ships with a heavy load.



Dorst and Heimel: "With the introduction of the S-tariff and T-tariff, in which draught and time are the main parameters, the Netherlands will from the 1st of January 2014 have a fair, logical and transparent tariff structure. A ship will pay the same tariff for the same performance in all Dutch ports."

New flagship

On the 10th of October 2012, Her Majesty Queen Beatrix christened the Polaris in Rotterdam. This first of three new pilot station vessels will be permanently stationed off the Dutch coast for transporting pilots to and from ships using yawls and tenders. Captain Ron Barzilay, who has already been serving aboard the current generation of pilot vessels for 33 years, is looking forward to sailing the ultramodern successor. "It's like getting a Ferrari."

"To start with, the Polaris is simply more ship," Barzilay commences his praise of the new addition to the fleet. "The vessel is three times as heavy as the current, 35 year old M-class ships and, with a length of nearly 82 metres, 21 metres longer." She also handles quite differently, much more stable, as the captain has experienced. "During the sea trial, we encountered average wave heights of 2.5 metres. The yawl however could easily come alongside. You really did not have the notion that the waves were already that high. With the M-class ships, that's quite different." Understandable, because the Polaris and her sister ships Pollux and Procyon, which will be launched in respectively 2013 and 2014, are specifically meant to stay out at sea much longer in bad weather.

The discontinuation of pilotage services due to this reason will be further reduced. "The ship has been constructed to still perform her tasks in wave heights of 3.5 metres significant - mind you: this also includes peaks of eight metres and more. Expectations are that the number of days on which we would have to discontinue pilotage will be reduced by about twenty. Of course, we still have to see how this works out in practice.
In that respect, you can also ask yourself what you are still doing out at sea when all port activities have already been suspended due to strong winds. Anyhow, thanks to the ship's anti-roll system we will also no longer need to anxiously clutch our plates in bad weather."

Heart and soul

Barzilay was closely involved in the construction of the ship. "Using a 1-on-1 mock-up, my colleague-captain and I - we sail in two shifts in a schedule of one week on, one week off - were already able to offer our input on the ideal layout of the bridge consoles in an early stage. Our rule of thumb is that the most important instruments for daily operations must be the easiest to reach. For us, these are the radio communications and the radar. It for example is no problem if the depth gauge is located a bit further away.

"Reliability is paramount"

After all, we always operate at and around the same location. You don't need a depth gauge for that. In the last six weeks of construction, we permanently stayed at the shipyard. This allowed builder Barkmeijer to incorporate our wishes as much as possible. 'You are the ones who have to sail with it, so let us know what you want' was the message. They and the subcontractors definitely deserve a compliment.
I regularly visited the yard and was impressed by their professionalism and dedication. They definitely put their hearts and souls in the construction of the Polaris."

In the midst of all shipping

Almost everything on the new pilot vessel is redundant. This applies to the ultra modern equipment on the bridge, the engine rooms, the main switch rooms, the bow thrusters, etc. If one system fails, its back-up will immediately take over. The two main electric engines and six diesel-electric engines aboard the Polaris also make it possible to always achieve the most efficient engine power for each situation. This reduces fuel consumption by 35 to 40 percent. "Reliability is paramount," emphasises Barzilay. "The ship is constantly operational, 24/7. The shipping traffic which we pilot never stops. It will also be two years before the Polaris returns to the dock for the first time."

"The Polaris can accelerate from zero to six knots in one minute"

"Anyhow, as a pilot station vessel operating off the coast we of course are a special case. The basic rule of navigation is to steer clear of danger. But lying there off the port entrance, you see all shipping traffic coming towards you. At Hoek van Holland, some 60,000 shipping movements a year are involved. In principle, everything always goes smoothly. But once in a while, it happens that you need to move forward or backward at full power. For this reason, we are never anchored. The Polaris is able to accelerate from zero to six knots (maximum speed 16.5 knots, ed.) in one minute. The worse the weather, the more active we also become with our pilot vessel to manoeuvre as close as we can to the vessels which need to be piloted. In this way, we make transferring the pilots in the shelter of the leeward side as easy as possible."

From Ford to Ferrari

"Of course, I will somewhat miss the current pilot vessel. After all, I sailed on it for 33 years. Still with a crew of 26 in the beginning (now 17, ed.). You cannot simply replicate the warmth and geniality of this." The crew is getting something in return though, both in terms of performance and comfort. All regular crew members will for example have their own cabins, the pilots on watch excellent living quarters. These living and waiting areas are positioned centrally on the ship. Here, ship movements and waves are least noticeable and so the stay at sea becomes as comfortable as possible for everyone. "Commissioning the new ship is like changing from a regular Ford to a Ferrari. During the first trail run, I was not allowed to touch anything as captain, but I can hardly wait!"

Enhanced eLoran can be safety net:

GPS service availability decreases

"How much money are authorities willing to spend to prevent calamities in ports and at sea due to the failure of navigation systems?" This question may well be asked when one realises that the quality of GPS is decreasing due to ill maintenance and a slowdown in building up a wider GPS network. ICT and innovation manager Wim van Buuren of Loodswezen is fully aware of this. He will literally test the waters of Rotterdam's Eurogeul fairway in the spring of 2013 to show that eLoran can solve the vulnerability of GPS and other individual navigation systems.

Relatively few politicians express concern about expectations that the availability of 24 satellites for GPS will be less than 95% until 2015, although most of the traffic on land and on the water relies on this system. The lowest estimate on availability is no more than 80%. Van Buuren is one of the many professionals who do worry though. Beside his other daily activities for the Rotterdam-Rijnmond region of Nederlands Loodswezen, he focuses on navigation applications. Van Buuren shares the view of professor Durk van Willigen, scientists at the Royal Institute of Navigation, and those of the Netherlands Institute for Navigation (Nederlands Instituut voor Navigatie, NIN) and many others that the vulnerability of individual navigation products can be resolved through the integration of systems.

The multitasking pilot Van Buuren, his colleagues, Reelektonika, founded by professor Van Willigen, and the Port of Rotterdam Authority are collaborating on the development of an integrated system to combine the best of both worlds: that of GNSS (Global Navigation Satellite Systems) as a whole and that of eLoran as a backup system for positioning. They will prove that this goal can be reached on the fairway to the Rotterdam port next spring.

Interference

As regards possible interference, Van Buuren refers to the expected solar activity in 2013. Precision GNSS navigation equipment is expected to have reduced availability at the peak of the solar activity, estimated to occur one to three times next year. Most solar physicists, however expect the maximum activity to be relatively low. It will probably not surpass the activity of 2003.

Van Buuren observes that, as yet, no calculations have been made in relation to no or inaccurate receipt of the GNSS signal. "The variables are substantial and unpredictable", he says, adding that the human factor is an element which must be taken seriously as well. In that respect, he refers to jamming, spoofing and rebroadcasting as interfering elements. "As it is, crews have more confidence in chartered pilots than in GNSS navigation. Trials with GNSS jamming, amongst other things, have confirmed the necessity of the pilot's knowhow and skills to determine position without GNSS or if data is inaccurate."

It is no surprise that failure of GNSS in fairways, such as the heavily navigated Eurogeul and Maasgeul of the Rotterdam port, brings with it the danger of stranding and collision. "The effects of blockage and environmental damage are likely to have a direct impact on the image of the pilots' organisation and that of the port of Rotterdam. Large oil companies are very aware of possible damage to their reputation. It may be a reason for them - and for Loodswezen as well - to take measures to prevent potential risks in situations where GNSS is the sole means of navigation in the fairway."

Alternative

This year, Van Buuren and his colleagues started researching and developing an alternative for GNSS PNT (positioning, navigation and timing), dedicated as a device for use in the fairway. The project focuses on the further development of eLoran. And derivatives like Differential eLoran. As there are no common single points of failure for GPS and eLoran, integration of both systems offers a robust and accurate alternative to just GPS. Generally speaking, GPS is more accurate than eLoran alone. However, the high-power eLoran signals are very insensitive to interference and are therefore far more robust than GPS. But the satellite system's excellent accuracy can be used to calibrate eLoran to compensate for ASF's. Accuracy, availability, integrity, continuity and coverage are all greatly improved compared to standalone satellite or Loran solutions."

A research group at Delft University originally invented, developed and implemented Eurofix, an eLoran data channel that can provide DGPS (Differential Global Positioning System) DLoran and UTC to all users that receive the eLoran signals.

Just-in-time in the lock

With 70,000 passages per year and counting, the lock complex at Terneuzen is the busiest in Europe. The three locks are therefore in urgent need of capacity expansion. A new lock is due for completion in 2021. It will open up the ports of Terneuzen and Ghent to larger sea-going vessels, but will also make it possible for the inland shipping sector to better serve the hinterland up to Paris. The construction will however lead to a temporary reduction in capacity through the closure of the Middensluis lock. A smart planning system offers relief.

14.30 hours. The Nikon N, 190 metres long and 32 metres wide, enters the Westsluis lock of Terneuzen. The Greek-Chinese bulk carrier has arrived exactly according to the planning of the GTI (the Ghent-Terneuzen information and planning system). Since a year, the GTI has been connecting all parties involved, such as port authorities, terminals, pilots, tugs, boatmen and agents, via EDI; the system is constantly functioning better. The purpose of the GTI tool is to better manage waiting times and, ensuing from that, improve nautical safety by preventing accumulations of waiting and manoeuvring vessels at the lock.

"No lock complex in Europe is used more intensively than that at Terneuzen"

No lock complex in Europe is used more intensively than that at Terneuzen. And traffic is only set to increase after 2018 when the Seine Nord connection is planned to be completed, creating an inland barge connection from the Western Scheldt to Paris. In addition, the ambitions of the seaport of Ghent, which has invested substantially in docks in recent years, are hampered by the limitations of the locks. No ships larger than 230 x 37m can pass through the current Westsluis. From 2021, a new sea lock of 427 x 55 x 16m (lxwxh) will be able to also accommodate the largest vessels.

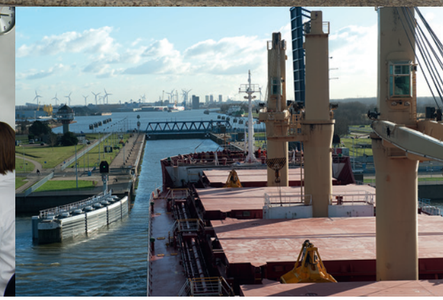
The government has decided to construct the new lock between the Westsluis and the old Middensluis. This means that when work commences in 2016, the Middensluis can no longer be used. A substantial capacity limitation which will only worsen the problem of waiting times."Doing nothing was not an option," says Nick Jan van Luijk, who maintains the contacts on behalf of Nederlands Loodswezen. "We, all parties involved, have opted for a solution of which almost everyone in the sector said: you will never pull it off. Because bear in mind, there are two ports involved, two nautical authorities, two pilotage services, various tug service providers and two national governments. But as the Dutch saying goes: everything liquefies under pressure.
By linking up all parties with each other via EDI, a planning system has been designed in which the lock as the main bottleneck takes centre stage. It is a transparent planning system because all parties are connected with each other via EDI and - highly sensitive - consequently also have insight into each other's data."

The old system in fact boiled down to: first come, first serve. Van Luijk: "In terms of lock efficiency, this of course is not a bad system. But logistically speaking, it is disastrous. Ships and handling crews at the terminals can never be planned just-in-time; waiting times arise at sea and in the port whereby pilots and tugboats just sit around waiting. In the GTI tool, the lock takes centre stage. In that respect, the waiting time is not considered the main problem, but the location where the ships wait. With the GTI tool, delays are shifted. At sea to the time before the pilot comes on board, on shore to the berths. With the GTI tool, just-in-time planning does become possible and it is also nautically much safer. To all intends and purposes, the current GTI-tool is the first operational Vessel Traffic Management-system in Europe."

"the current GTI-tool is the first operational Vessel Traffic Managementsystem in Europe."

How does it work?

It is important that the vessel is piloted and arrives at the lock on time. A ship is reported 24 hours in advance; this is when traffic control makes a provisional planning which includes special circumstances - does the ship have a tidal window, or a super tidal window (tide plus current)? Does the ship have priority because it is a scheduled service? Six hours in advance, the lock planning is finalised, up to the minute. If the ship arrives at the lock too late, it in principle loses its slot in the lock, of course depending on how busy it is. Because the delay of one party may not cause a delay for another party. That is the core philosophy. Easier said than done, explains Van Luijk.



"From sea, it for example was not easy for us as Loodswezen to calculate the time to the lock. All sorts of factors need to be taken into account for this: the characteristics of the vessel, the route and whether the ship is sailing against or with the current. Initially, our planning was quite liberal, but we have now mastered this up to the minute. And even then, we try to work as pragmatically as possible. It started out as a pilot, but we are now already 80% satisfied. Inbound, things are already going quite nicely; outbound, it often proves difficult for an agent to confirm the departure exactly six hours in advance. The closer the point of departure is to the lock, the more difficult this becomes. But we are becoming more and more adept."

"The delay of one party should not cause a delay for another party. That is the core philosophy"

And now for the next step

Until now, the tool has been limited to sea shipping but it will be expanded to inland shipping. And not just the push barges which have to use the sea locks. Terneuzen will continue to use the GTI tool after the new sea lock becomes operational in 2021 and the capacity has been substantially expanded. Everyone agrees to its added value. In the meantime, surrounding ports have also expressed a lot of interest. Van Luijk: "In this pilot, we have shown that cooperation is also possible on such a complex dossier. By providing expertise and manpower, our role as the Flemish and Dutch pilotage services was undeniable."

Jig sawing in the dense Amsterdam ports area:

The powers that be of the ‘works ministry’ clearly visible

In an attempt to realise two large projects in the port, it is hard to give a proper answer to the question how administrative complexity can best be managed in a densely populated area. According to Volkert Schaap, it is a matter of providing jig saws to stakeholders to get satisfactory results. The project manager of Rijkswaterstaat, the executive arm of the Dutch Ministry of Infrastructure and the Environment, does this to make the construction of a large lock in the Noordzeekanaal and the reconstruction of the Averijhaven happen.

On occasion, Dutch authorities have been accused of taking years on end for need and necessity and environmental studies prior to actually giving the go-ahead for large projects. The government, being aware of such criticism, introduced the so-called Crisis and Recuperation Act to limit procedures and boost the speedier realisation of necessary infrastructure.

The Amsterdam port community must have welcomed this Act. For years and years, it has urged the government to facilitate the construction of a larger sea lock to replace the current one at IJmuiden to allow larger vessels to access the port. In 2005, the then transport minister Karla Peijs warned the Amsterdam municipality and the port authority that a larger lock would not be necessary from an economical point of view. At the time, her opinion was based on an advice from the Netherlands Bureau for Economic Analyses (CPB).

Two years later, her successor Camiel Eurlings had a more favourable message to convey based on more positive economic expectations. However, a start will not be made with the construction works until 2019, providing Amsterdam and the regional authority, the province of Noord-Holland, will contribute to the € 848M which the sea lock costs. (price level 2011).

Impact of the lock

Rijkswaterstaat project manager Schaap has been involved in the project for quite some time: “The ministry has commissioned us to take the lead for the necessary procedures focusing on the impact of the construction of the lock and also on the revitalisation of the Averijhaven as a future dock to lighter cargo of bulk carriers.”

At the time Schaap talked to Navigator.NL, Rijkswaterstaat allowed stakeholders to have a say in the estimated impact of the new location of lighter vessels; all in the framework of the environmental management act. Rijkswaterstaat is still considering whether the general public should be involved in the procedures necessary for the construction of a larger lock. Rijkswaterstaat adds that it is legally allowed to consider involving a sounding board group in this case.

Besides these procedures, a steering committee is discussing the desired specifications and location of the lock. Schaap: “Naturally, the maritime pilots in the IJmond region are involved in these talks, as are other users of the current locks such as harbour towage providers and boatmen. Their expertise is needed in nautical research to estimate the proper location and other nautical aspects.” He added that the Maritime Research Institute Netherlands MARIN is involved in the research as well, particularly as regards the simulation part for assessing the impact of the lock on its surroundings.

In the area along the Noordzeekanaal, it is not only about environmental protection, including limiting emissions of CO^2, NOx, SOx and particals, but also about dedicated planning in an already built-up area. Those involved are aware of the various needs of trade and industry, and local authorities. Businesses want their space to operate, Amsterdam aims to expand the area for housing, and those who keep recreation facilities at heart advocate more space for leisure and play. The current recreation area acts as a buffer between port companies and residential areas. It is up to the province of Noord-Holland, together with local authorities and the Ministry of Infrastructure and the Environment, to strike the proper balance between economy and ecology and the wellbeing of the population.

Averijhaven: balance between economy and ecology

These issues are at stake in terms of determining the most optimum spatial planning for the Averijhaven. This dock used to be where damaged vessels waited for repairs. Today, the dock is desperately needed for the partial unloading of bulk carriers safely to allow them to reach their terminal for the final discharge of their cargo, coal in particular. As yet, these carriers are partly unloaded at spud poles close to the fairway. That can be hazardous. Schaap knows of three occasions where the vessel broke adrift because of overpressure on its moorings.
The ideal place for partial discharging would be the Averijhaven, but first and foremost this dock has to be made suitable for receiving deep drafted vessels. Rijkswaterstaat can start dredging polluted sludge from the dock and transport it to the Slufter depot in the port of Rotterdam., which has offered space for this purpose.

“We are legally permitted to dredge and transport to get the dock to the needed depth”, Schaap says, adding that environmental studies are still needed to gear the Averijhaven to its new purpose. Again, residents and organisations will have their say in the matter, particularly those in the nearby municipality of Velsen. This has to adjust the current development plan for the location and has to allow the general public at large to have a say about the revised plan. When all goes according plan, further construction works can be started in 2014.

In praise of NMS equipment:

Dynamic Groningen

The growth of shipping traffic in Groningen's Eemshaven is not as turbulent as was expected before the crisis, but it is still substantial. Vopak recently opened a terminal for the strategic storage of oil, the RWE power station is coming on stream and the offshore wind farms generate more and more traffic as well. Loodswezen Noord is ready for also welcoming larger ships.

Initially, independent tank storage company Vopak built eleven tanks of 60,000 cubic metres each plus a jetty in the Eemshaven, but the permit and available space allow for 46 tanks. "Space and location make the Eemshaven an ideal place for us. We will continue building as soon as more customers - probably government-affiliated agencies - emerge for strategic storage," says managing director Erik Kleine cautiously. Since there is a structural shortage of tankage in Northwest Europe and the EU has drawn up new rules for strategic stockpiling (not only crude but also oil products such as petrol, diesel and kerosene) it is fair to assume this will happen sooner rather than later. In the Eemshaven, Vopak currently has six tanks with gasoline and five with diesel.

"Thanks to the use of NMS precision equipment, the dimensions of the channel can remain limited"

"The EU obliges all its member states to stock a supply of 90 days of domestic consumption for emergency purposes," continues Kleine. "The last time the strategic reserves were tapped was with Hurricane Katrina. In addition, the reserves must be periodically replaced to head off degeneration of the products and, with that, value reduction. Now, we are using ships of 30,000 tonnes maximum in the Eemshaven and as soon as the channel has been dredged to fourteen metres it will also be possible to use larger vessels."

Precision equipment

"The Vopak terminal represents a good start in more ways than one," says Johan de Joode, chairman of Loodswezen Noord. A dynamo for more port activities, but also for the arrival of larger vessels. Together with Rijkswaterstaat and Groningen Seaports, Loodswezen has already been readying itself for this for years. They are also consulting with German colleagues; after all, they share the same waters. De Joode: "For the sake of the construction of the Vopak jetty, we have participated in simulation research and our nautical expertise has been used to determine the conditions under which tankers can manoeuvre in the Eemshaven and moor at the Vopak jetty. When determining the most environment-friendly and cost-efficient layout of the channel, it already became apparent earlier than the availability of the NMS equipment (Navigation Marginal Ships) which we use is of the utmost importance. Thanks to the deployment of this precision equipment, the dimensions of the channel can remain limited. That means less dredging, favourable from an environmental perspective. The NMS equipment also allows us to increase the tidal windows for marginal ships and with that limit the down-time percentage for these ships for the Eemshaven."

Favourable location

The eighteen pilots of Loodswezen Noord currently perform about 2800 operations in Groningen and an additional 650 in Harlingen, Friesland. Groningen in particular is seeing growth now that the RWE coal plant (coal and biomass) is coming on stream and the Orange Blue multipurpose terminal (containers, ro-ro and project cargo) and the Wagenborg terminal are starting to pick up, partially due to the strategic situation of the Eemshaven in relation to the wind farms in the North Sea. De Joode: "If everything goes as planned, we expect some 4000 operations in the Eemshaven alone in 2014. However, it is not the case that an increase in cargo volumes and operations affects the number of pilots one-on-one. If shipping traffic increases and becomes more constant, efficient trip combinations can be made and better planning is possible. And a deeper channel also allows for larger ships."

"Space and location make the Eemshaven an ideal place for us"

Ties

Since 2005, Regio Noord has already been actively anticipating the demand which will be coming their way. "Our workforce has the right composition in terms of competences and the age structure of our corporation has a good diversity," says De Joode. "There is good cooperation with the Rotterdam-Rijnmond region, which has a number of pilots with ties to the north who are happy to be deployed in the northern ports. After 2000, both regions jointly decided to train pilots in Rotterdam and transfer experienced pilots to expand the workforce in Regio Noord. An experienced pilot will also learn faster in unfamiliar

"An experienced pilot will also learn faster in unfamiliar surroundings, making it possible to deploy him or her sooner"

surroundings, making it possible to deploy him or her sooner. Furthermore, the training of apprentice pilots can be organised more easily in the Rijnmond area and there are more opportunities for starting pilots with limited competences to make trips and gain experience. Furthermore, in this way we also make use of the integrated deployment of pilots which are licensed in various regions (Rijnmond, Eemsmond and Harlingen)."

Harlingen

Growth is not only imminent in Groningen, but also in Harlingen. De Joode: "There is a great degree of interest among so-called 6-star cruise lines which often sail with somewhat smaller ships to call at this picturesque port so that passengers can experience the beauty of the Wadden area." Here too, the deployment of NMS equipment increases the possibilities for calling at this nautically difficult port with relatively large vessels. "The role of Loodswezen in large maritime projects is changing," concludes De Joode. "We are being used more and more in an advisory role for nautical matters. In that sense, we are increasingly becoming a partner of the concerning nautical authorities."

Loodswezen Noord

Loodswezen Noord has 18 pilots and 21 support staff. From Eemshaven, two pilot stations are served using two tenders: one at Westereems, 23 miles off the coast, for larger ships and one near the German Wadden Island of Borkum. In Harlingen, Regio Noord also has two tenders (one of which serves as a general back-up).

Ecology vs. economy:

A zoo within the port

Whenever the press office of the Port of Rotterdam Authority reports on such issues as a ship navigating into the port with a dead whale on its bulb, the successful nurture of two young hawks or a humpback whale at the Maasmond port entrance, cynics accuse the port of issuing news about 'cuddly' animals in an attempt to make the port seem more attractive. Port of Rotterdam Authority asset manager infrastructure Jan Putters tells a different story; that of weighing the balance between economy and ecology.

Eelco Leemans, MD of Stichting Noordzee (Foundation North Sea), President of the Clean Shipping Coalition and member of the ProSea Board, is the bearer of good tidings when he tells Navigator.NL that in general ports have become cleaner because the quality of (sea)waters has improved. "The vast majority of vessels have stopped discharging bilge or other waste, and IMO's MARPOL annexes V and VI on emission reduction have proved to create a cleaner environment."

Naturally he advocates further attempts to create a cleaner environment, but he adds that previous efforts show favourable effects in and outside ports. "Fortunately, Rotterdam is not the only port in which flora and fauna prosper", he observes. "On the downside, there are reports of over 800 dead porpoises, severely injured by propellers, fishing nets or otherwise. On the upside, sea otters have been spotted floating on their backs while crushing shells in the Valdez area."

That is the area in which the Exxon Valdez struck Prince William Sound's Bligh Reef and spilled 260,000 to 750,000 barrels of crude oil in 1989. At the time, the spill killed a lot of wildlife, including almost 2,000 otters. Today, it is recognised that the 1994 Restoration Plan has brought about major improvements in favour of nature and wildlife.

Close to the Dutch Pilots' Organisation home in Rotterdam, conditions are favourable enough to attract birds of prey, the largest population of lesser black backed gulls in the EU, small land mammals and porpoises, seals and other species close to and in the port.

Balance between ecology and economy

Putters and his crew at the Port of Rotterdam Authority take notion of those animals as well as the many plants - endangered or not - when maintaining and managing the port infrastructure on land, thus striking the proper balance between ecology and economy. They developed what is called a green vision for the more than 400 hectares of grassy land that covers the many lengthy pipelines in the port up to the hinterland and sites ready to be occupied by port businesses and industries.

"It is all about the protection of flora and fauna while having the port area available at all times", Putters explains. "Five to six years ago, we had to deal with various permits for each project. Today, environmental effect procedures are less lengthy because of measures taken to achieve the proper balance. The port authority has constructed shallow temporary pools - so far 18 of them - to provide a home for the Natterjack Toad and other amphibians. We also provide areas where birds can live without inconveniencing or endangering their environment.

At the entrance to the port is a green stretch of land overgrown with a mixture of oats, wheat and barley and some species of grasses. They grow fairly fast. This area needs to be thoroughly mowed once, after which the fresh-cut mixture can be sowed elsewhere. Het Zuid-Hollands Landschap (a regional foundation for the sustainable management of landscapes) does the mowing and the Port of Rotterdam Authority collects the fresh-cut mixture."

Good for nature, good for companies

Putters adds that it is a matter of having these facilities available at all times; good for nature and good for the port companies. The Port of Rotterdam Authority involves stakeholders to make that happen. As a rule, these are terminal operators, representatives of industries and local, provincial and national authorities.

The port authority consults with ecology consultants company Adviseurs Ecologie and Staro Natuur en Buitengebied, Nederlands Loodswezen, BP, EECV and BEC for the topic 'gulls around the Markweg' in an attempt to relocate these birds to a more appropriate location.

"The problem has decreased over the years as this area has become built up", says Alexandra van der Zijde of Nederlands Loodswezen Rotterdam-Rijnmond. "Apparently, the gulls have sought out quieter spots, but it is still not a good idea to come to the office on your bicycle without wearing a hard hat. The few gulls left are likely to attack cyclists."

That in itself could be hazardous, but so is the presence of these birds so close to the helicopter strip of Nederlands Loodswezen - because of the likelihood of bird strikes. Other industry sites are affected as well. Measures taken against the 'animal squatters' in the port area can vary from walking the English hound Pointer on the premises to moving colonies of birds to an alternative suitable habitat. It is safe to say that the port of Rotterdam aims to combine a thriving port area with the welfare of flora and fauna.

50 years of EMPA

50 years of European cooperation

In April 2013, the European Maritime Pilots' Association - EMPA - will mark its 50th anniversary. President Jacques Sauban explains how over the years the interest group has grown from a relatively small organisation to an association which nowadays represents about 5000 pilots from 25 different countries. Incepted as a purely relational body, EMPA is now especially also the lobby group for the pilots to the European Union.

In addition to president of EMPA, Sauban is a pilot in Nantes, France, where the Loire River meets the Atlantic Ocean. "Combined, I spend about two months a year on my work for EMPA, which has an office in Antwerp. I usually do this at times when I am not scheduled for pilot duties. Between 2003 and 2009, I also served on the board of the French Federation of Maritime Pilots; first as secretary-general and from 2006 as president. I have now almost reached the end of my term at EMPA. At the next annual meeting in April 2013, which will be devoted to the 50th anniversary, I will pass on the baton."

"As pilots, we think in terms of seawater, not land"

Initially a relational body

With half a century of EMPA just around the corner, Sauban has delved into the organisation's history. "The founding members in 1963 were the Netherlands, France, Belgium, Italy and Germany. Back then, EMPA was primarily intended as a relational body for the exchange of ideas and best practices related to day-to-day pilotage operations." Gradually, the number of participants in EMPA has grown. The successive enlargements of the European Union were a major driver for this, but not the only one. "Nowadays, Turkey, Norway, Croatia, Ukraine and Russia are also members. After all, as pilots we think in terms of seawater, not land."

Representation to the European Union

Despite also having non-EU countries among its members, EMPA's main task today is indeed the representation of pilots to the European Union. In this there is a focus on lobbying, but also on active participation from the EMPA member countries in European R&D and working programmes. Sauban: "Pilots are a special professional group. Just look at all the different organisational structures of the pilot organisations in the various member countries. 28 percent are government-employed, 14 percent directly employed by port authorities and 58 percent are self-employed, but with strict control of the government. The Netherlands and France are examples of the latter." For Sauban, all these different organisational structures have at least one thing in common. "Pilotage is never a completely private enterprise. We are there in the public interest of safety."

Pilot crucial for safe shipping

This emphasis on the public interest for example is important in the context of a new port policy which the European Union is considering. After earlier attempts failed in 2003 and 2006, Brussels is once again evaluating in a Port Policy Review if and how legislation could improve the efficiency of port services and counteract monopolies. The ideas about this are still in an exploratory stage, but EMPA and the national pilot organisations are very alert. Sauban: "Our professional group is only relatively small. The European Commission does not have a complete, accurate impression of what we do. Their basic attitude is to put all service providers in the ports in the same basket. This is why we must properly communicate the specific role which we as pilots play for ensuring safe shipping traffic. We are different from other port service providers. There is no room for a free market system in that."

Sauban has more arguments that support the special position of pilots in terms of port services. "For example, the use of a pilot in ports is simply mandatory. The tariffs are fully transparent and are adjusted once a year and only following government agreement. What's more, pilotage has been well established in legislation in every EU member country and is strictly supervised. Again, safety is a public interest. No additional layer of EU legislation is required for that."

"We are different from other port service providers"

Explaining and demonstrating

The pilots continuously endeavour to bring attention to and explain the specific role of pilots in Brussels. At all levels in the European Commission and the European Parliament, contacts are maintained or representatives are invited to personally come and see the pilots operate in practice. "This is often done by the national pilot organisations, with EMPA playing a coordinating role."

More than an interest group

"Brussels will always be there and influence the lives and jobs of everybody through the decisions which are made there," concludes Sauban. "For pilots, that's not any different. It is therefore important that we continue to band together and also make our joint presence here in the future." At the same time, he considers EMPA much more as a lobby group for the EU alone. "We for example are also engaged in training, quality management and work safety. After all, the daily work of the pilot is risky business. Recently, a new resolution of the IMO came into force for safe pilot ladders. I consider the attention within EMPA for such topics highly important. Incidents still occur in the pursuance of our profession each year. In that sense, EMPA definitely still also has that role from the early days: the exchange of ideas and best practices."

New website

With the anniversary approaching, EMPA will from the end of 2012 present itself with a new website with a contemporary look and much more (current) information. Convince yourself through **www.empa-pilots.org**

Sixteenth century shipbuilders invented mass shipbuilding

The reconstruction of historic vessels has nothing to do with attempts of nostalgic ship lovers to make history come alive. It is an ongoing learning process about mass shipbuilding in historical times, including mass shipbuilding in the late 16th century. Modern shipbuilders such as Damen from the Netherlands prove that the large-scale production of ships can be as profitable today as in the Golden Age.

Board member and master shipwright Gerald de Weerdt of the Dutch foundation Exploration ship Willem Barentsz and his fellow members are in no doubt that history will be repeated in about two to three years, when the reconstruction of the expedition vessel Willem Barentsz will be completed and the vessel is ready to set sail to Nova Zembla. At present, one-third of the vessel has been completed at the dedicated shipyard in Harlingen in the northern Nederlands.

The decision to reconstruct the expedition vessel was not made overnight. Some thirty years ago, De Weerdt himself became professionally involved in the research as to how ships were built in the 16th and 17th century, and in the reconstruction of historic vessels. All researchers had to go on were the remnants of shipwrecks found in Flevoland in the central Netherlands. They discovered that some 350 remains of ships, wrecked in what once was the Zuiderzee, lay hidden in the soil of the former seabed. To date, over 200 of these shipwrecks have been excavated.

As a rule, the reconstruction of ships that were deployed hundreds of years ago has to be done using remnants of vessels, paintings, old logbooks and further research. De Weerdt did that at the time he met shipbuilder Willem Vos. The two decided to combine their knowledge and knowhow, which proved sufficient to reconstruct the 17th century vessel Batavia. The actual reconstruction works started in 1985 and lasted ten years.

Willem Barentsz expeditions

De Weerdt talking to Navigator.NL: “I’ve contributed quite some knowhow to the Batavia project. Later, I was involved in the research on cog-type ships deployed from the homeport of Kampen in the eastern Netherlands. Some years later, while I was curator of Museum ‘t Behouden Huys on (the Dutch isle) of Terschelling I conducted research on the Willem Barentsz expeditions.”

In the years 1996 - 1997, the 400th anniversary of the third expedition of Willem Barentsz to the North was commemorated. That in itself was a stimulus to investigate the opportunities for the reconstruction of the expedition vessel Barentsz used. De Weerdt could rely on his own knowledge as well as that of Ab Hoving, Head of ship model restoration at the Rijksmuseum in Amsterdam, and of Professor Louwrens Hacquebord, currently Director of the Arctic Centre of the Rijksuniversiteit Groningen. “We kind of operated as detectives in our research of the available fragments of the vessel itself, drawings of the expedition voyages, Gerrit de Veer’s account of the actual expeditions with Willem Barentsz, the earliest models of vessels and many more sources. All this was done to define the ship design and the way the ships should be built.”
In the process, the scientists were able to define the specifications and measurements of the vessel; they also found that the way vessels were built in the late 16th century resulted in high productivity and fast, almost assembly line-like production. The ten years that happened can be respected as being the prelude of the Golden Age, during which the Netherlands became a major economic power. Today, the reconstruction of historic vessels may be profitable, provided that they are no longer than 25 metres over all. De Weerdt is aware of the economic failures of larger vessels, being under reconstruction, and those put on the market as tourist attractions. “Historic vessels larger than 25 metres in length cannot be exploited in a commercially feasible manner,” he notes.

As it is, he, the municipality of Harlingen and various volunteers of the foundation Expedition ship Willem Barentsz are confident that the expedition vessel Willem Barentsz will be sustainable once it is ready to start its new life in its homeport and at sea.

No smooth sailing

Physical geographer, archaeologist and historian professor Louwrens Hacquebord comments that it will not be smooth sailing once the expedition ship sets sail to Nova Zembla and beyond. In 1992, Hacquebord himself did research on the actual spot visited by Willem Barentsz and experienced the hardships. Having known De Weerdt for over thirty years, Hacquebord is confident that De Weerdt will persist in actually sailing the reconstructed expedition vessel, but warns that navigation in unexpected shallow waters can be hazardous.

Hacquebord is aware of expedition cruise lines deploying ice strengthened vessels in the Arctic. Apparently, they rely on existing sea charts, but the professor knows that there is a big unchartered area up North. An even bigger area needs to be explored hydrographically, once vessels can navigate through Arctic waters onto the Far East.

That is expected to happen around 2015, when a reduction in the icecap is expected to make navigation possible. “In the past thirty years, we have seen a reduction of 60% of the icecap”, Hacquebord tells Navigator.NL, adding that the general feeling is that the process will continue. That is the sad consequence of climate change.“The advantage is that ship-owners can reduce voyages from Europe to the Far East by 40%, which means less fuel costs and what not. On the downside, search and rescue response is still marginal insurers will increase premiums for that specific navigation area, Russia is likely to surcharge container vessels in what will probably be designated as an exclusive economic zone, to name just a few effects.”
One thing is certain; when the Willem Barentsz vessel will sail to Nova Zembla, it is bound to navigate through unchartered waters. That in itself is a daring expedition.

Loodswezen

www.loodswezen.nl