



Institute for Sustainability



# Workshop and B2B event Oostende report

Friday 14 November 2014



The Interreg IVB  
North Sea Region  
Programme



*Investing in the future by working together  
for a sustainable and competitive region*



European Regional  
Development Fund  
Investing in your future

# Report Workshop and B2B event Oostende

November 2014

## Executive summary

### Short description of the output (350-400 words)

This overarching report captures and summarises activity undertaken by the Port of Oostende within the iTransfer project, including technical elements and their presentation/discussion at a transnational workshop and B2B event.

The transnational technical workshop and B2B event was hosted by the Port of Oostende on 13<sup>th</sup> and 14<sup>th</sup> November 2014.

During the workshop and B2B event three major elements or topics were tackled:

- Transnational knowledge exchange and the development of maritime knowledge clusters
- Scalability of fuel flow meters and training
- Use of passenger/crew monitoring, booking and safety management applications (including investment in a boat-landing test-zone to improve operational safety).

This report is part of iTransfer, a North Sea Region Interreg programme project, which is funded by the European Regional Development Fund. For more information visit [www.itransferproject.eu](http://www.itransferproject.eu)



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## Introduction

iTransfer (Innovative Transport Solutions for Fjords, Estuaries and Rivers) aims to make ferry transport more freely accessible and sustainable, and encourage more people to travel by water. In areas in the North Sea Region (NSR) there are opportunities to replace existing vehicle routes with passenger ferries as a viable alternative. Travelling by ferry is more sustainable, easier and quicker. It can also provide lifeline services to remote communities.

iTransfer has the aim to improve water-based public transport in Europe's North Sea region by developing, demonstrating or piloting innovative and sustainable ferry technology, operation and policy.

To achieve its aim, iTransfer has projects:

- To resolve technical issues including new designs for ferries and shore-side facilities
- To improve ferry operations and integrate ferries with existing public transport networks
- To support a policy environment that resolves current tendering problems and promotes barrier-free access for all passengers.

iTransfer takes a transnational approach by involving 16 organisations from different countries across the North Sea region with the lead partner being Institute for Sustainability. The organisations are from Belgium, Germany, Netherlands, UK and Denmark. In this way the partners can pool their knowledge from different countries on the operation of ferry services and share best practice. iTransfer is funded by the North Sea Region programme, part of the EU Interregional (Interreg) initiative. Interreg is 50% financed through the European regional Development Fund, the remaining 50% is provided by the project partners.

The Port of Oostende organised a workshop and B2B event on November 13<sup>th</sup> – 14<sup>th</sup> 2014 concerning safety, including the landing facilities, fleet management and fuel consumption, together with the development of maritime knowledge clusters.

## Background/challenge

The EU sulphur directive for marine fuels offers an opportunity for innovation in fuel-saving technologies.

With many ship owners switching to other fuel resources such as Marine Gas oil (MGO), Liquefied Natural Gas (LNG), Electrical motors, Marine Diesel Oil (MDO) or Compressed Natural gas (CNG) inside designated Emission Control Areas (ECAs) as of January 1, 2015, the cost of fuel could rise by up to 50%. Therefore, all measures to reduce fuel consumption

are vital. Research and field testing has shown that the latest developments in engine lubrication and unique marine energy management systems can add more than a 15% improvement in fuel efficiency, proving that even the smallest modification at the right time can add up to big savings.

The pros and cons of the three options for the shipping industry to comply with the new Sulphur Directive – converting to a new system (e.g. MGO), installing an exhaust cleaning system on-board, or retrofit to LNG usage – have been debated at large, but one consensus is that whichever method is chosen, there will be significant costs involved.

This is where new technological advances can bring about significant results for little effort. With the help of new technology provided, the new sulphur directive could be an opportunity to demonstrate leadership in fuel efficiency and being innovative.

At the same time as improving emissions and operational efficiencies, sight must not be lost of safety considerations which become more critical as activity increases and developments in this area should also be pursued.

The importance of knowledge exchange, with organisations and businesses learning from each other to make progress, needs new approaches such as the development of knowledge clusters and networking events.

## Activity, method

At the transnational business workshop in Oostende, partners and interested companies from countries including the UK, Belgium, Netherlands and France were brought together to have an international knowledge exchange about the topics outlined in this report.

The Port is redeveloping the disused areas at the Port, such as the Beliard site, as an international maritime business/transnational knowledge cluster. This is bringing together technical universities and marine and maritime industries to improve vessel quality and sustainability and optimise design through innovation, new technology and design. Companies located at the Port and members of the Flanders Maritime Cluster were invited to join this workshop and B2B event. Flanders Maritime Cluster is a maritime knowledge cluster grouping of international companies, all active in the marine industry. Damen Shipyards, being a partner in iTransfer, is also a member of FMC and has many of its crew and support vessels in operation at the Port of Oostende. Of those businesses presenting:

Avel Vor Technologies considered fuel saving and hybrid propulsion. They have constructed a prototype of a hybrid vessel saving fuel consumption of course and saving pollutant emissions. You always need a diesel motor for starting up and speeding up your vessel, but on the other moments you can use the hybrid system by using a lithium battery or the sails (making use of wind). It is still a prototype because ship owners are afraid using such a hybrid system for the moment.

Atlantica Consortium specialise in constructing aluminium vessels used for the transport of passengers. The vessels are small crew transfer vessels (e.g. used in the offshore wind industry), fishery vessels and small passenger vessels, even up to river cruise vessels. The aluminium vessels make the weight of the vessels very low, what means saving of fuel consumption and lower carbon emission.

GEOxyz specialise in all kinds of maritime survey projects and are looking at fuel consumption and fleet management. They now possess several small crew transfer and survey vessels. For each new vessel constructed they are looking at installing efficient ways of fuel consumption. A site visit was arranged for workshop delegates to visit one of their crew vessels, which services the offshore wind-farms, as well as the building holding its support facilities.

The technical side of looking at the scalability of fuel flow meters and training has not yet taken place at the Port, but there are ongoing discussions and plans to have this implemented in crew transfer vessels management. During the meeting there were some discussions about this topic and how to progress this activity by building on and learning from the workshop and the activity undertaken by transnational partners Weserfähre and SEStran (who was also present at the workshop). This workshop also touched on other fuel-saving methods. Atlantica stressed the fact that the technical studies and designs of the new small vessels need to be done according to the specifications issued by the ship owner, taking into account the comfort and safety of the crew/passengers on board, with a low carbon emission and optimised arrangements for fuel consumption. Avel Vor technologies focused on the fact that hybrid vessels can be much more fuel-effective.

The development of the Port of Oostende towards a hub for the offshore wind industry has resulted in a growth in the number of crew boats and the presence of highly-skilled staff for both construction and O&M of the existing and future wind parks. There is a need for specific maritime infrastructure in order to handle the operations in a cost-effective and safe way. Moreover, considering the high staff cost of the installation of the offshore wind farms and renewable energy projects, involving high-skilled technicians and engineers, it is important to optimize the safety of operations.

In the workshop/B2B, the Port of Oostende introduced the ICT booking system that they had put in place in the port resulting in a much safer passenger and crew follow-up on the crew transfer vessels used for the offshore wind industry. GEOxyz showed its new crew transfer and survey vessel taking into account all the latest safety matters on board, including a passenger monitoring system so that the ship owner knows at all times who is on board.

A technical consultant has assisted the Port in the development of an innovative safety application to set up a better safety- management, registration and positioning system for crew and tourist vessels (see Appendix1). This system enables the monitoring of the operations and crew/passengers movements in real-time. The development of this integrated booking system, using the latest technology, aims at guaranteeing a sustainable maritime mobility of passengers (crew and/or tourist). This innovative ICT- based passenger

embarkation system also takes care of the safety and the sustainability when entering and leaving the port. The system is developed in such a way that a vessel needs to subscribe itself in the system before berthing. This is specially developed in order to prevent collisions of vessel that all want to berth at the same time, which is also a very important safety issue.

This action was taken for two main reasons:

- An important increase in crew transfer vessels in the Port thanks to the European policy of the increase of use of green energy. This green energy is amongst others coming from the offshore wind farms in the sea. For the Belgian wind farms, the port of Oostende became the Belgian hub. The Port needed to streamline the berthing of these crew transfer vessels, sailing out to the wind-farms on a daily base.
- The European FAL directive which become applicable in 2015 for all European ports. This FAL directive concerns the regulations about customs (ship's stores), passengers, crew list, naval police forces (crew effect lists). With this innovative ICT system the passengers and crew list are already covered for the crew transfer vessels and the tourist vessels.

iTransfer funding has supported the design and construction of a boat-landing test-zone, (including a contribution of €50,000 in material investment) in order to guarantee vessel safety, the accessibility of port infrastructure and the training of the step-up from passengers from vessels towards the wall and/or other infrastructure (see Appendix 2).

The boat landing test-zone at the redeveloped Beliard site was worked out in combination with Danish expertise and with partners facing weather-affected boat-landing systems (e.g. in Scotland). The Port of Oostende worked closely with SESTRAN, Gravesham/KCC in order to exchange experiences on design and construction, including a landings workshop in North Berwick in December 2013. This innovative facility enables the training of passengers to board/leave smaller passenger vessels under different conditions, and to disembark safely to marine parks in open seas. It will be available for use by organizations from across the North Sea Region and beyond. [See iTransfer Case Study 7 'Efficient passenger transport: rapid transfer process'].

## Results

During the workshop and B2B event three major topics were discussed and touched upon:

1. A transnational knowledge exchange and the development of maritime knowledge clusters
2. Scalability of fuel flow meters and training
3. Use of passenger monitoring, booking and safety management applications, plus landing zone.



1. At the workshop, there was a huge interest in the presentations with a lot of questions resulting in an exchange of knowledge between all the participants, all belonging to maritime companies, institutions or organisations. This demonstrated the value of maritime and marine industry clusters and the local approach to developing knowledge and experience which can then be diversified more widely. There was also a lot of networking during breaks and after the event close, indicating that links were established and that knowledge exchange and co-operation would continue long after the event and as a legacy of the iTransfer project.

2. The scalability of fuel flow meters and training was addressed at the workshop, especially by the ship owners of small vessels in order to have this installed in the crew boat fleet management. Discussions and negotiations are underway with crew boat operators at the Port but this will not progress to the installation and testing stage within the lifetime of the iTransfer project. However, there is a lot of interest and this activity will be undertaken post-project, building on and learning from the activity already undertaken by the transnational partners at Weserfähre and SEStran. SEStran were available at the workshop to report on their activity and to provide advice on implementation.

3. The development of the ICT safety- management application, registration and positioning system can be implemented throughout the wider North Sea region and beyond. This will address the issue of vessels running below capacity to ensure optimal use and avoid fuel/energy wastage, whilst taking passenger safety into account. Much has been learned from the introduction of an ICT ticketing facility on the ferry service operated by iTransfer partner Hal över and from having a knowledge exchange with other project partners. Additionally, discussions have been held with the Port of Ramsgate (a Lo-Pinod project partner with wind farm crew vessels experience) which gives a cross-fertilisation between European projects. It is believed that this activity will result in a more sustainable maritime transport of passengers and crew and a better safety management.

The landing test-zone design has been demonstrated to, and discussed with partners, through the project and again at this workshop. The activity contributes to the development of innovative landing structures for the NSR and complements the outputs on landings undertaken by SEStran and Gravesham as well as the knowledge of other partners such as Damen. This activity also raised interest amongst some of the businesses from the business cluster, especially those involved in offshore renewables operations and support.

## Recommendations or conclusions

The workshop was very wide-ranging and covered a number of related topics. Discussions went beyond the core topics and looked towards the future of maritime operations in the NSR, given the new IMO and EU regulations coming into force and the use of different types of propulsion. The conclusions of the workshop can be summarized in 10 reasons why ship

owners should be nervous about the sulphur challenge that the maritime industry is facing and what can be done to remain competitive:

1. The rising costs of bunker fuel
2. The rising cost of transportation
3. The practicality of retrofitting vessels
4. Mechanical problems arising from fuel switching
5. Fuel availability
6. Loss of vessel power
7. Competitive disadvantage
8. Changes to bunker delivery notes
9. Lubricants: switching plus Supply and demand
10. Vessel adaptation costs

The Port of Oostende has led on the development of a transnational knowledge cluster at the port. The aim is to improve innovation and design and the dissemination of results, such as those demonstrated through the iTransfer project, to a wider network. Events such as this workshop show the value of this approach with many related business being able to get together and engage in knowledge exchange. Several of these businesses had never spoken to each other directly before. This is an approach that should be replicated elsewhere throughout the NSR and beyond, and the Port of Oostende is open to approaches for information and advice on how to take this forward.

## Future work or wider impacts

While the maritime industry may feel that sulphur legislation puts additional pressure on an already overstretched industry, there are companies looking for alternative opportunities.

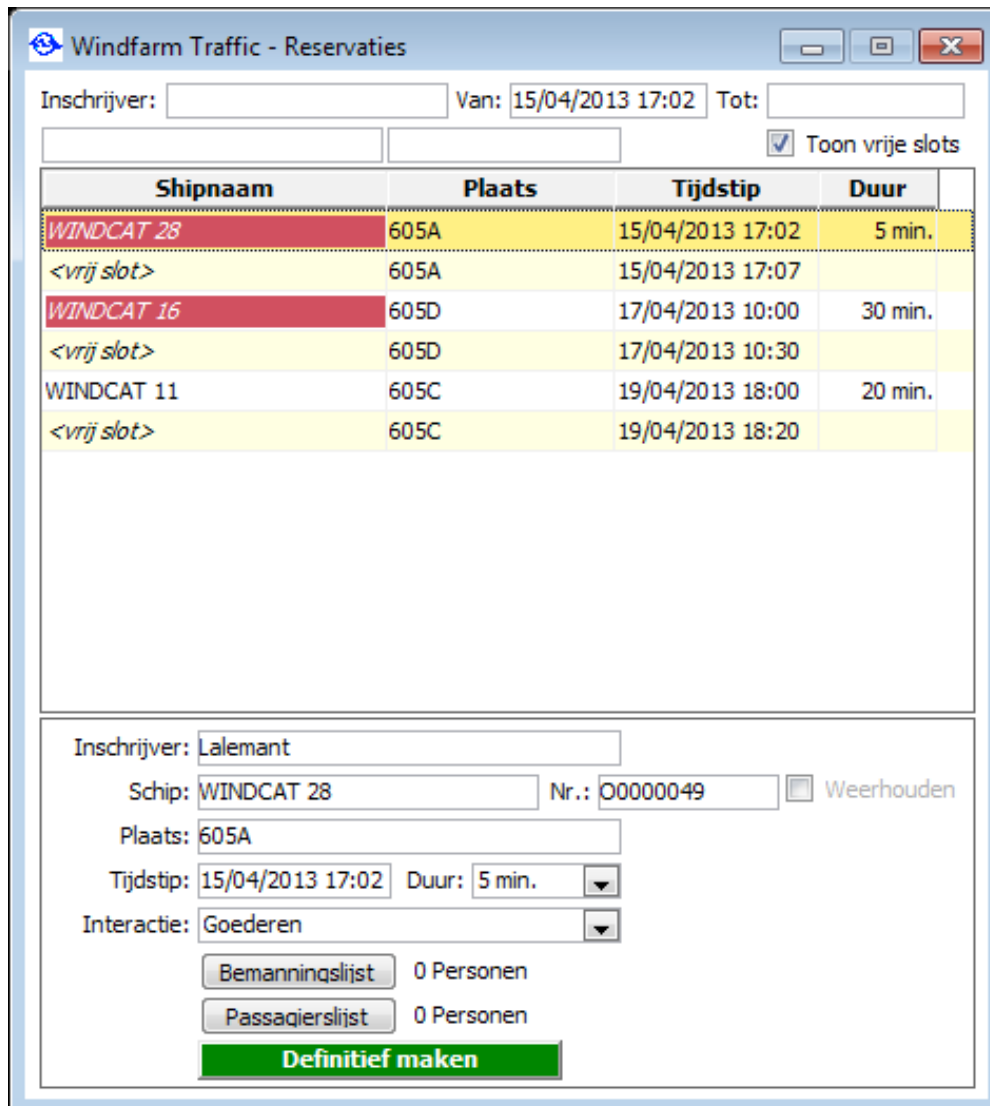
The shipping industry needs to be proactive about the future. The ambition should be to work with the industry to help them stay ahead of the curve. It is a great opportunity to demonstrate fuel efficiency management by all parties involved.

## Appendix 1: Development of Passenger Monitoring and Integration Booking System

### Windfarm Traffic

#### Consulting/entering reservations

Ensor Wiki page: [https://www.ensor.be/wiki/doku.php?id=extern:handleidingen:windfarm\\_traffic](https://www.ensor.be/wiki/doku.php?id=extern:handleidingen:windfarm_traffic)



Windfarm Traffic - Reservaties

Inschrijver:  Van: 15/04/2013 17:02 Tot:

Toon vrije slots

Shipnaam	Plaats	Tijdstip	Duur
WINDCAT 28	605A	15/04/2013 17:02	5 min.
<vrij slot>	605A	15/04/2013 17:07	
WINDCAT 16	605D	17/04/2013 10:00	30 min.
<vrij slot>	605D	17/04/2013 10:30	
WINDCAT 11	605C	19/04/2013 18:00	20 min.
<vrij slot>	605C	19/04/2013 18:20	

Inschrijver: Lalemant

Schip: WINDCAT 28 Nr.: 00000049  Weerhouden

Plaats: 605A

Tijdstip: 15/04/2013 17:02 Duur: 5 min. ▼

Interactie: Goederen ▼

Bemanningslijst 0 Personen

Passagierslijst 0 Personen

**Definitief maken**

### Info

The screen for reservations displays an overview of the reserved 'Timeslots' at the reserved locations.

The possible interactions at this location are also shown in this parameter.

The overview also displays empty rules (rules where no ship is inserted) for timeslots that are still available '<vrij slot>' between two other reservations. You can click on this rule and insert your ship and info and save this so that you can use this timeslot.

## Location

You can only make reservations for the pontoons that are foreseen at that location. You can execute an interaction for these pontoons according to the type of pontoon i.e. a pontoon with a crane to load or unload goods.

## Finalizing

A reservation is only certain when a reservation has been finalized (non-finalized journeys are marked in red in the list and have a green button “definitief maken” (finalize) in the detail screen).

When finalizing the reservation the system verifies that no other ship has made an overlapping reservation at that location. The other agents are not able to see the reservations of each other as long as the reservation has not been finalized, in order to prevent double bookings. (It will only be possible to finalize one reservation)

## Passengers and crew


To enter your crew please click the button ‘bemanningslijst’ and to enter your passengers please click ‘Passagierslijst’

This will open a new pop-up screen for passengers. More information on this topic can be found under ‘Aangifte van reizigers’ (declaration of passengers)

## Follow-up and pick-up of reservations

The data of the reservation is automatically picked up by the system for follow-up when an actual journey takes place via AIS for this indicated ship that falls within the margin of the reservation.

The journey can also be picked up manually when you make a reservation for a new journey. When you have the necessary rights and this property has been created for you, than you will get a pop-up after inserting a ship with an overview of your reservations and possible suggestions. Should the journey already exist, than you will be able to add data in the reservation (such as interaction, duration, passengers...), by clicking on the button with the magnifying glass in the left corner, as pictured in the next screenshot:

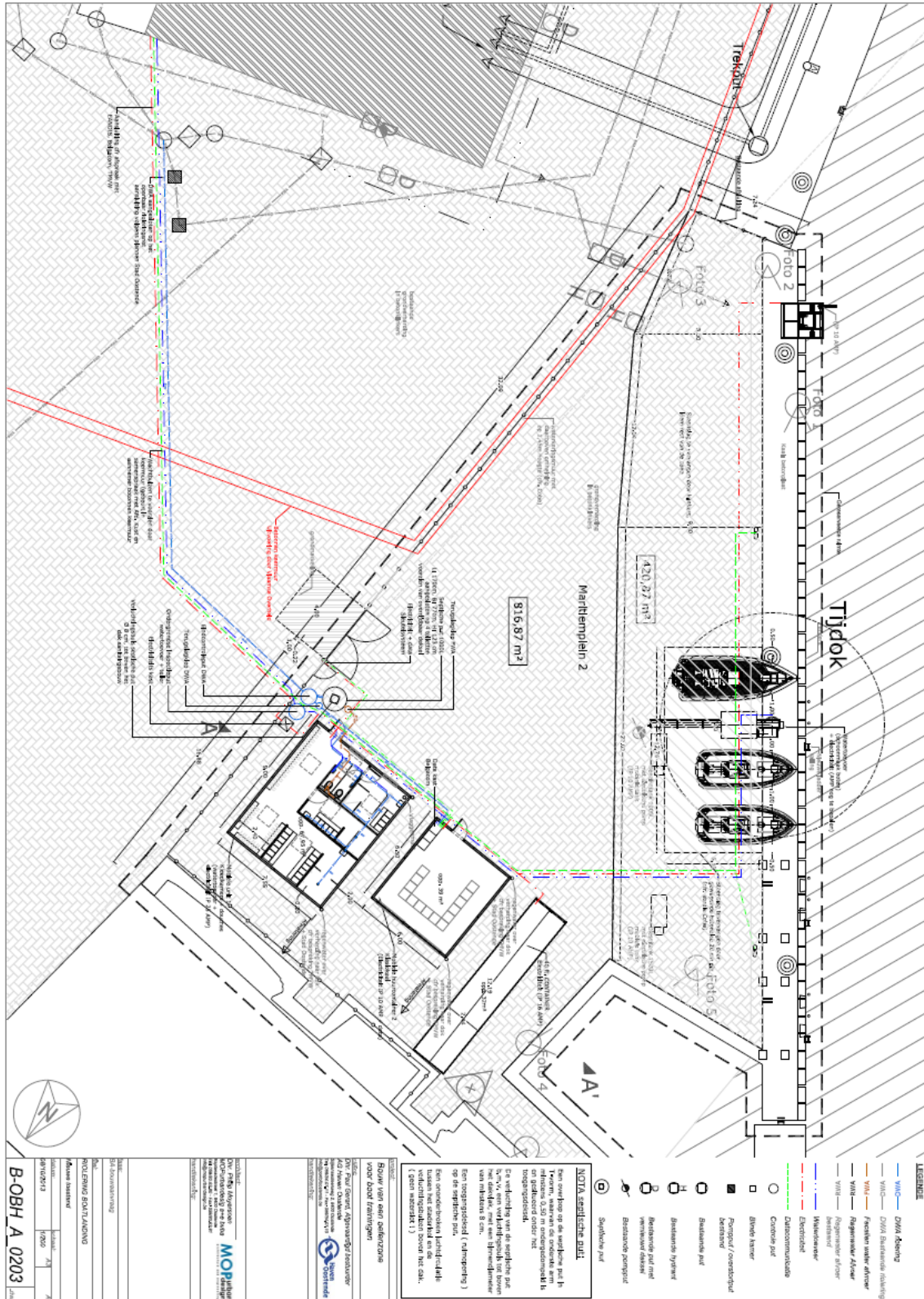
Soort: <input type="text" value="Verhaling"/>	<input checked="" type="radio"/> Zeevaart <input type="radio"/> Binnenvaart
Inschrijver: <input type="text" value="Promar"/>	ISPS: <input type="text" value="N.V.T."/> <input type="button" value="Vooraanmelding"/>
Schip: <input type="text" value="WINDCAT 28"/>	Nr.: <input type="text" value="00000049"/> BT: <input type="text" value="32"/> <input type="checkbox"/> Weerhouden
Vorige haven: <input type="text" value="Zee"/>	ETD: <input type="text"/> Diepg. voor: <input type="text"/> -achter: <input type="text"/> Diepg.: <input type="text"/>
Volg. haven: <input type="text" value="Zee"/>	ETA: <input type="text"/>
Van: <input type="text" value="605A"/>	Tijdstip: <input type="text" value="11/03/2013 15:27"/> <input type="text" value="Estimated"/> <input type="checkbox"/> OK ? <input type="text" value="In onderzoek"/>
 Naar: <input type="text" value="605B"/>	Tijdstip: <input type="text"/> <input type="text" value="Estimated"/> <input type="text" value="Verwijderd:"/>

## Show free slots

In order to make the insertion of reservations easier, you will be able to select the option to show the free slots in the selection criteria. These add ‘free slots’ in the list that link to a former reservation. When you choose such a free slot, a new reservation is started in which a number of fields are already filled out. However, you have to save this reservation yourself before it can be registered.



## Appendix 2. Technical Plan of boat-landing test-zone.





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