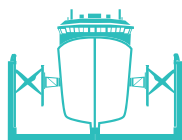


SHIPYARD SOLUTIONS



FastDocking™



Syncrolift



Service



www.syncrolift.com

Introduction

Syncrolift® has during the last thirty years been a solutions provider to shipyards worldwide. Our solutions are characterized by the focus on productivity and logistics.

We are today the world's leading supplier of Shiplift and transfer systems. Our clients are:

- Navy yards
- Commercial repair yards
- Newbuilding yards.

Our vision for the future - is to continuously introduce new solutions which will improve productivity and lead time for the repair of ships.

Syncrolift® has three main offerings to our clients:

- Docking solutions, Transfer Systems
- Fast Docking Tools (tools which improve speed of repair)
- Services for existing systems in operation



Syncrolift Products overview





Syncrolift® - installed base world-wide

Syncrolift® Office location

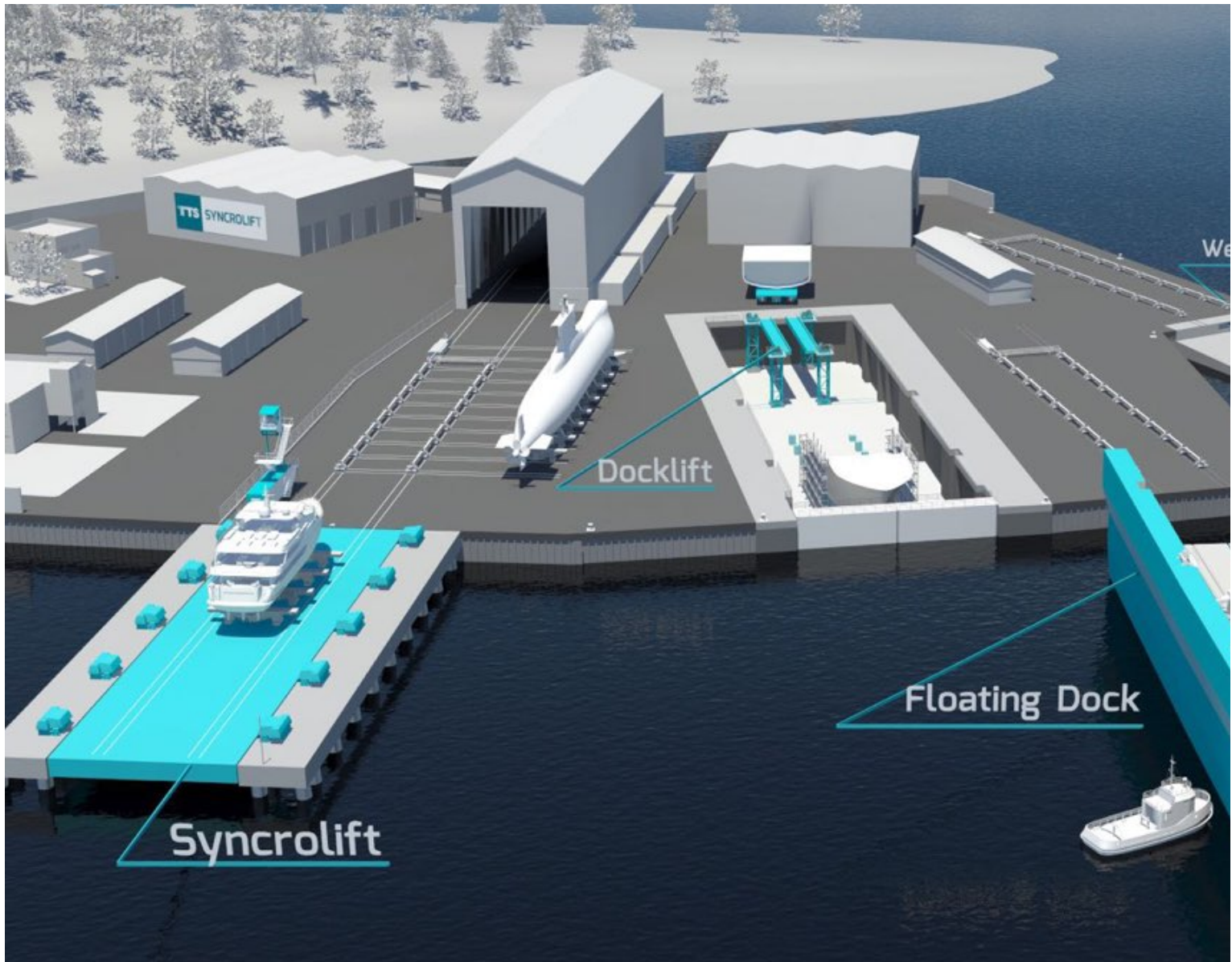
Norway

Syncrolift AS

Holterkollveien 6
1448 Drøbak
Tlf: (+47) 64 90 79 10



Docking Solutions



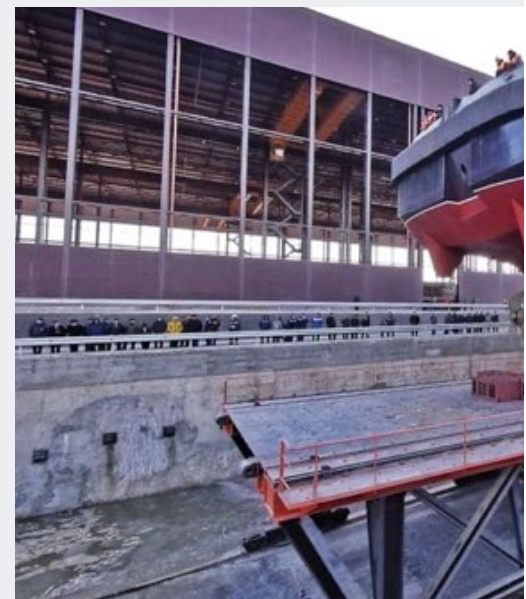
Every location has its advantages and disadvantages in terms of soil, water depth and so on. Being a solutions provider, we must therefore offer different solutions which better fit the local conditions.

Syncrolift® offer the following solutions:

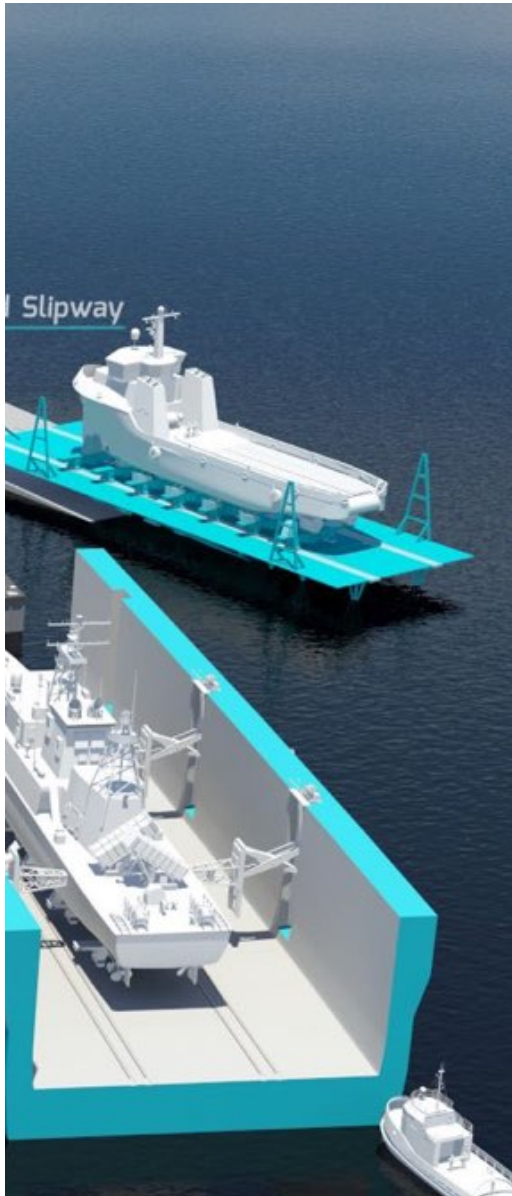
- Syncrolift® (shiplift)
- Slipway – wedged slipway
- Floating Dock
- Docklift



Shiplift. Port Adelaide, Australia



Slipway. Pella Russia



Control system and unit

All of our docking solutions have a control system with which to operate the equipment. The Syncrolift® is a good example of how

Syncrolift® optimises Human Machine Interaction and incorporates necessary equipment in a thoroughly designed user experience, both when it comes to the visual and user friendly aspects.

The Syncrolift® control tower is usually located at the shore end of the shiplift and elevated above ground to give a good overview of the docking procedures.

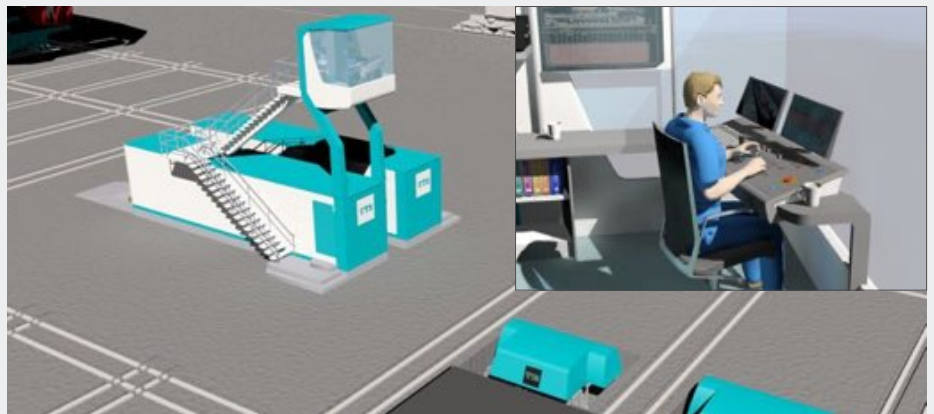
The control desk is specially designed to be easy for the user to interact with, and at the same time have one eye on the

operation, both on cameras and out the windows. In addition to lifting/lowering platform, some features of our Control system are:

- Distribute shipload on
- platform (allows winches to share loads and collectively lift higher loads)
- Safely Locking platform
- Alarms systems ensuring fail safe operation
- Tilting and listing of platform in case of ships with uneven keel or uneven ballasting

Our control tower with Control system is designed for a “plug and play” installation.

(For more information, see Docking Solutions brochure.)

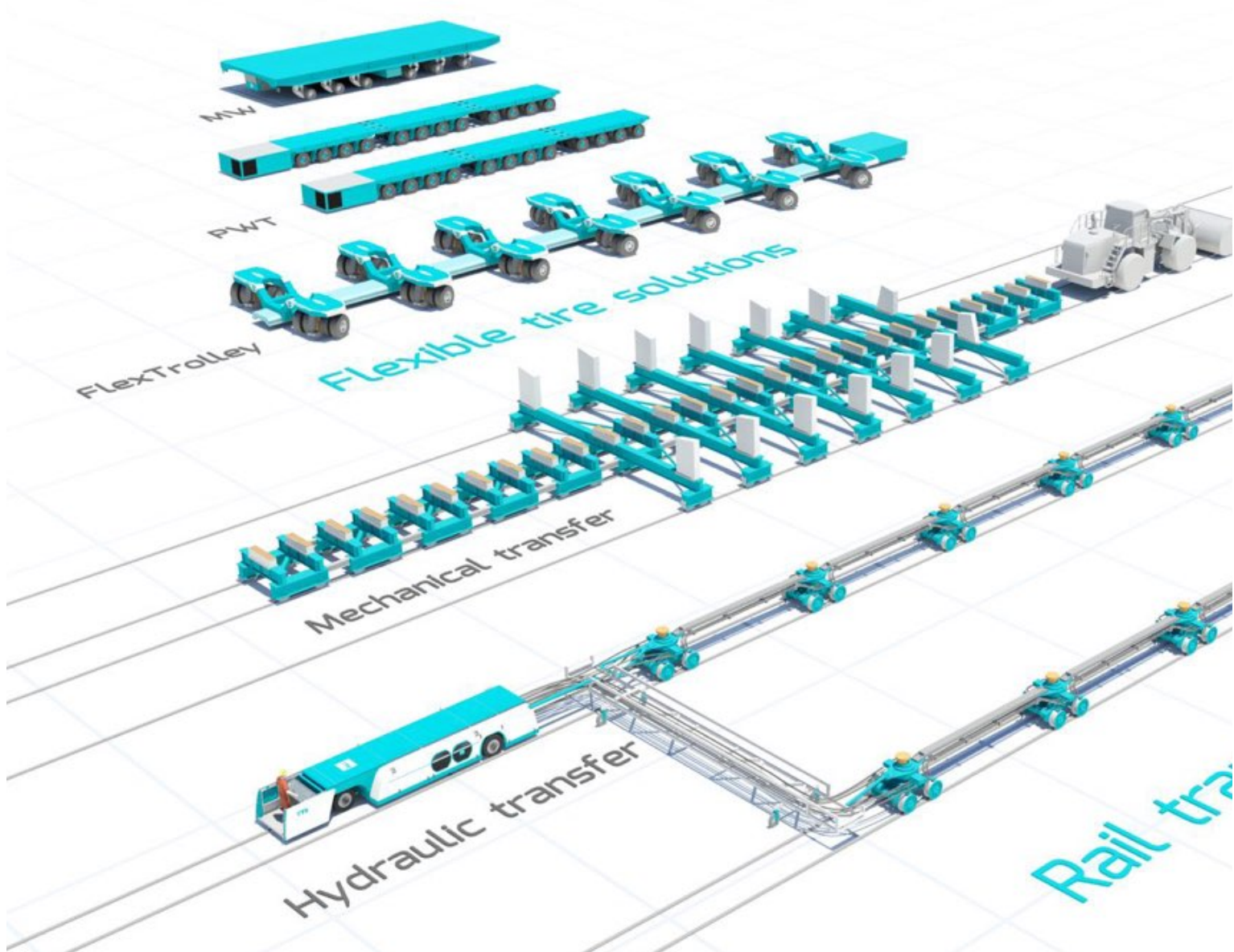


An artist's rendering of a control tower on order by one of our customers



Moving a ship in to a floating dock

Ship Transfer Systems



Overview transfer systems products

Syncrolift® has designed and delivered transfer systems world-wide for the last thirty years. This experience is accumulated into our transfer systems.

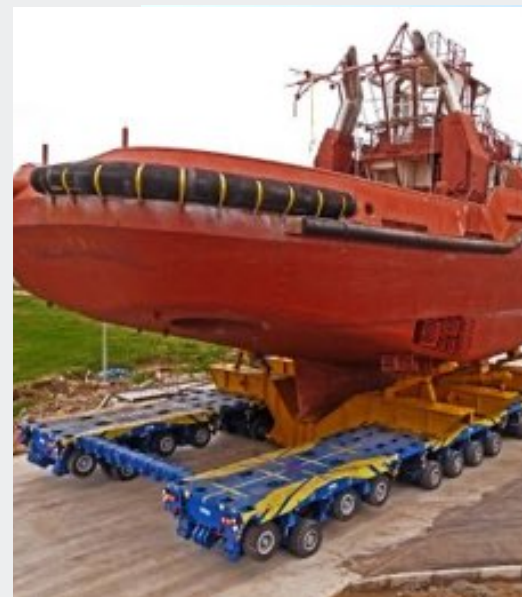
A challenge for most yards is the peak-load characteristic of many ships. i.e. a tendency where parts of the ships have a very high load. The problem this creates is higher investment in ground or shiplift. Reason being that peakload becomes the design criteria.

Syncrolift® has a solution to this. Our fluid bed technology is designed in such a way to share loads between each trolley. This way - a peak load will be averaged down and hence we lower peak-load and therefore investment.

The following is a list over our different transfer systems:

- Fluid-bed Transfer system (rails – self-propelled)
- Rigid Transfer system (rails)
- FlexTrolley (Tires – self-propelled)
- Power Wheel Transporter PWT (Tires-self-propelled)
- Multiwheeler MW (Tires – self-propelled)

Most of these systems require that the ship/equipment is supported on some type of trestle, making it possible for the transfer system to get under the ship to lift it up. You can see 3 types of a trestles in the pictures to the right. It is the construction between the ship and the transfer system.



PWT, Dammen Song, Vietnam

Tire, rails and Layouts

There are two main groups of transfer systems. These are:

- Rail transfer solutions
- Flexible tire solutions

The two pictures below show the same shipyard with rail transfer solutions and flexible tire solutions. A yard layout should be designed to maximize the number of vessels it can dry dock, while keeping its flexibility to dock/undock vessels.

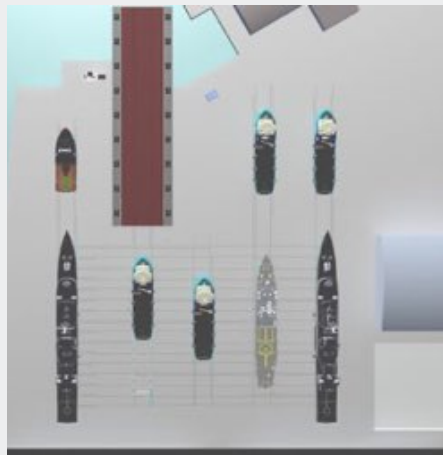
Tire based transfer solutions can in many cases allow more freedom to maximize the space-capacity of the yard, because rail transfer solutions move mainly in x and y direction. Tire-based solutions can move in

any direction, including rotation. This means it may also get past buildings or into halls that are a little off the path. With tire-based transfer solutions, it is possible to dock more vessels in your yard than with a rail-transfer solution.

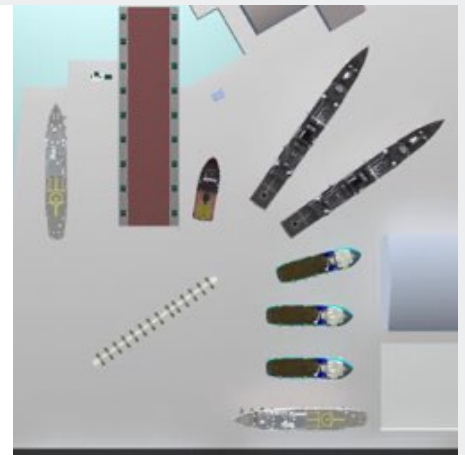
Rail-transfer solutions have a greater lifting capacity, so they can transfer heavier vessels than tire transfer solutions.

[Syncrolift®](#) can help you find the best solutions for your yard.

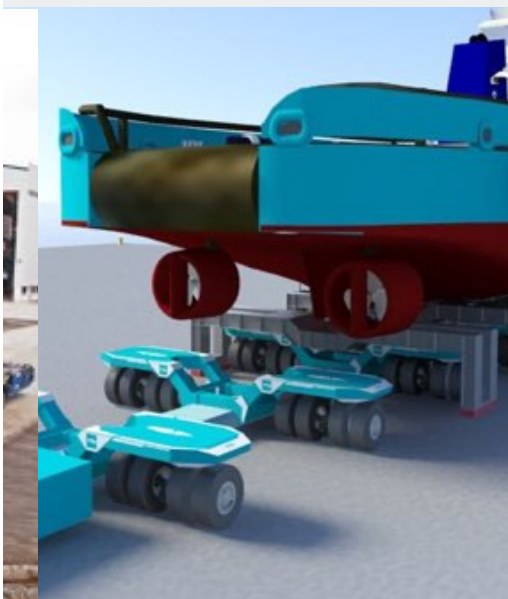
(For more information, see Transfer Systems brochure.)



Layout Rail transfer solutions



Layout flexible tires transfer solutions

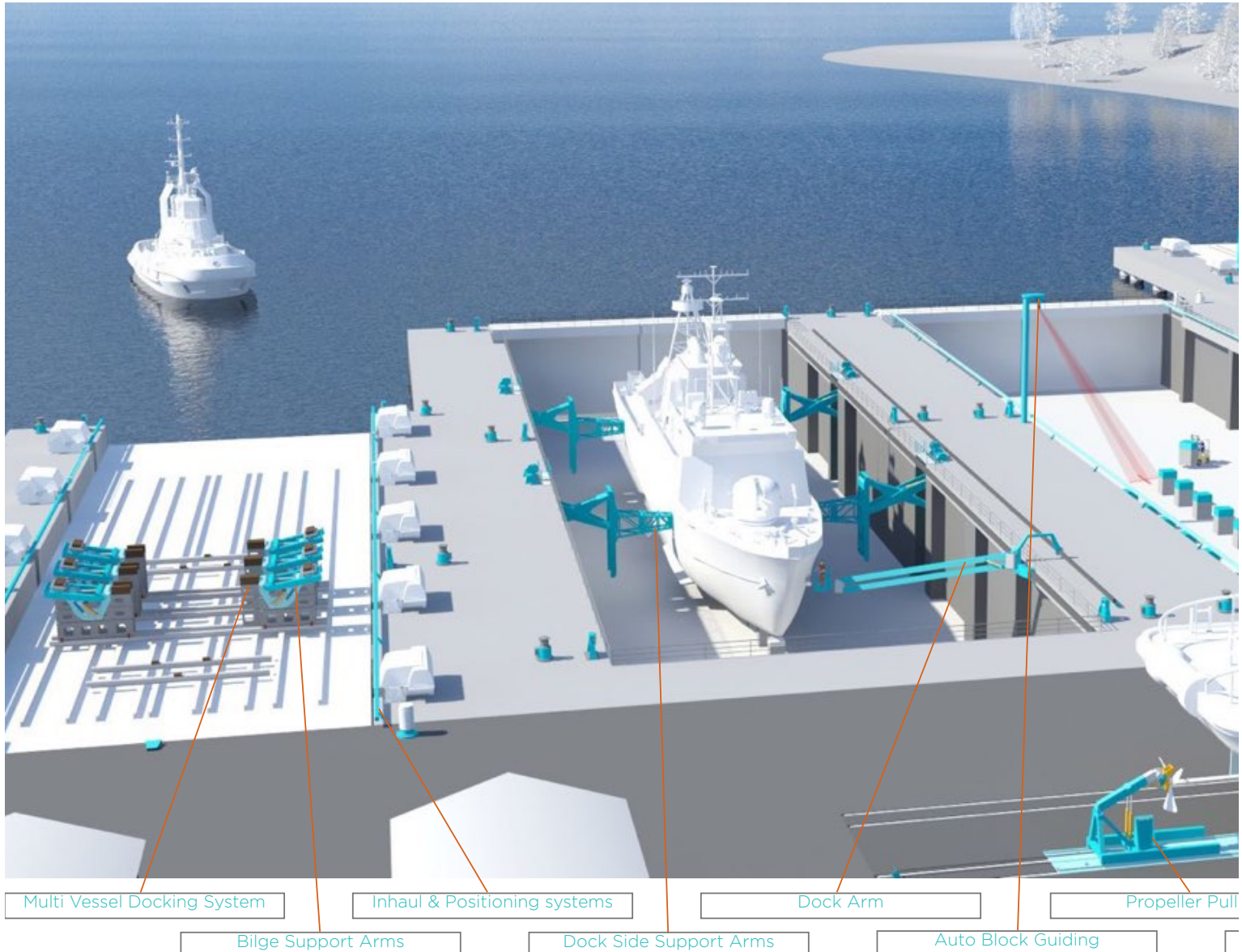


FlexTrolley



Hydraulic transfer system

Reduced Docking time



Overview fast docking products

Ship owners make their money from continuously sailing cargo. A repair yard with low lead time and competitive prices are attractive to most ship owners. Most repair yards today are based on manual work. This requires a relatively high number of workers and it requires more lead-time for repair.

This is a challenge for repair yards. For **Syncrolift®** it is an opportunity to find solutions which reduces man-hour cost and lead time. This business area is called Fast Docking Products.

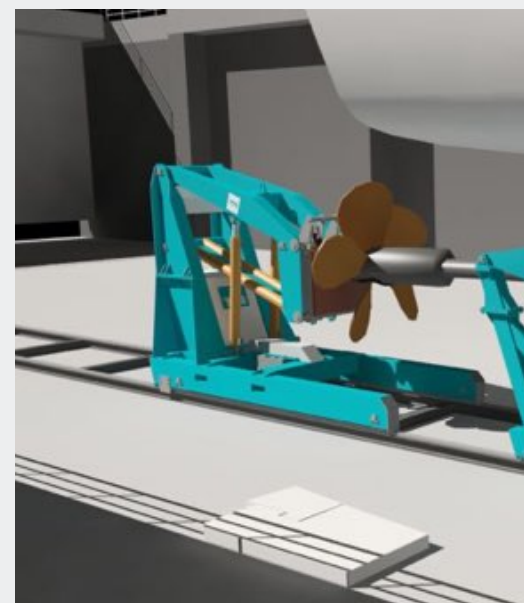
Typical operations where manual work is still the standard within

repair yards are:

- Preparation work for ships such as blocking for keel/bilge support
- Propeller repair
- Manually inhauling ships for docking

Syncrolift® Fast Docking Products" are:

- Multi Vessel Docking Systems
- Bilge Support Arms
- Inhaul & Positioning Systems
- Dock Side Support Arms
- Dock Arms
- Auto Block Guiding
- Propeller Puller
- Flex Pad



An artist's rendering of a propeller puller to one of our customer

Innovative solutions

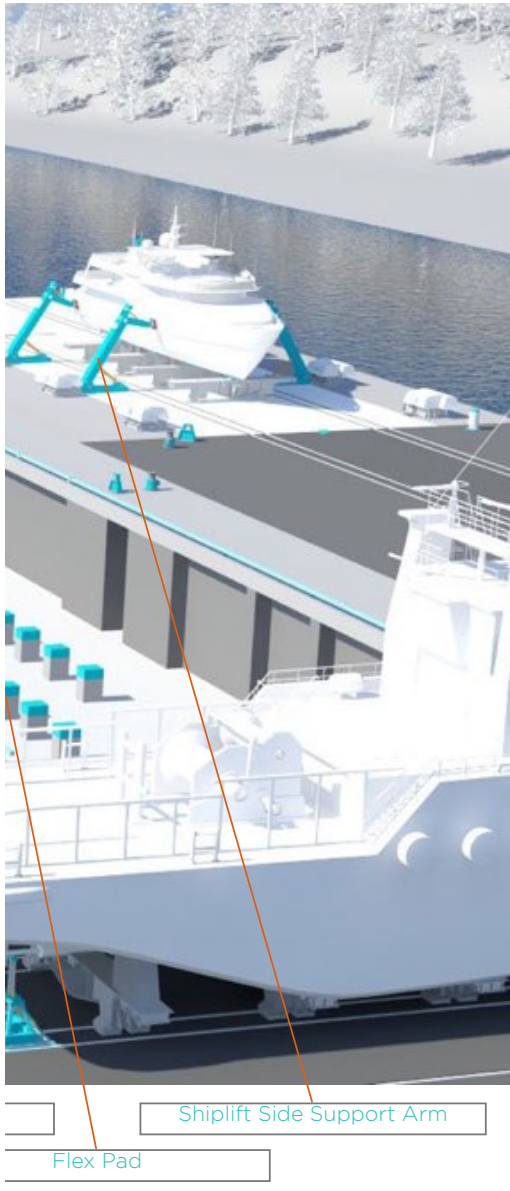
Streamlining docking time is crucial for the owner of the vessel and gives the yard a good reputation. The only limits to improving working processes or finding new solutions in this product group, are one's knowledge and imagination.

Syncrolift® is moving this product group forward by continuously focusing on cooperating with our customers. In this way we accumulate the knowledge from the users to invent/develop new products and

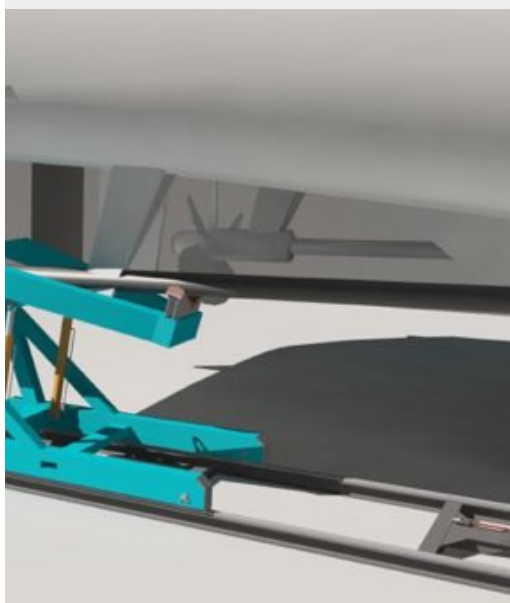
improve existing ones. The best way to maximize innovation is to accumulate our know-how with our customers' experience. This process will make the products more intuitive, faster and safer to use, and will reduce the docking time for a vessel.

Our vision is to reduce docking times significantly through our fast docking products, and make the products safer and more intuitive to use.

(For more information, see Fast



An artist's rendering of an inhaul and positioning system, to one of our costumers



Dock Side Support Arms. Harstad, Norway

How can we support you?



● Service locations

Service

Syncrolift® offers such services as maintenance, repairs, spare parts inventory, periodic inspections, installation, dismantling, system upgrades and capacity upgrades, etc.

We can support you through any of our worldwide service locations. We focus on supporting you by keeping the equipment operational with minimum possible down time.

Our worldwide-dedicated service network of trained engineers are there to support your needs.



Inspections of Syncrolift equipment

Inspections and training

Regular inspections and training are key in maintaining the operational safety of the Syncrolift® and transfer system. This will maximize availability and reduce overall maintenance costs.

Syncrolift® offers comprehensive inspections and various training courses in operation, maintenance and dockmaster techniques.

During **Syncrolift®** inspections we recommend that our engi-

neer also perform a non-invasive examination of the Syncrolift® wire ropes.

Detailed written reports on the system condition are provided, including recommendations for repairs and improvements, and condition of wire ropes.

OEM Parts

Syncrolift® strongly recommends employing only original OEM spare parts and wire ropes on your Syncrolift® and transfer system.

Syncrolift® offers spare parts on demand, complete inventory management and inventory review of critical spares for maximising system availability.

Simulator training

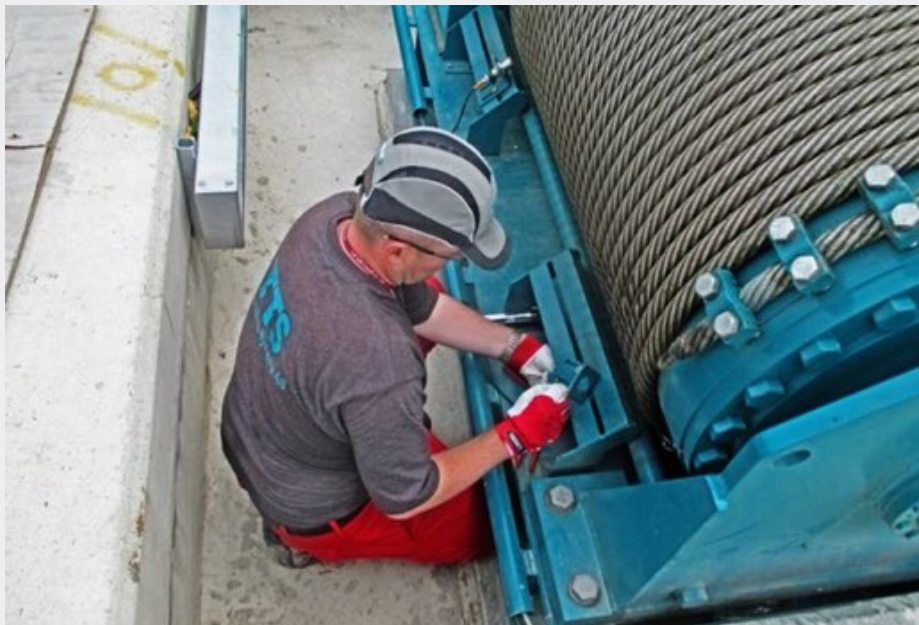
In addition to our traditional training of new and experienced users of our equipment, we offer training by use of our simulator, which will give a more realistic understanding of our equipment/systems for a user/dock-master. Simulation training programs are available for Syncrolift® (shiplift), transfer systems and maintenance of equipment. The training is suitable for all personnel in contact with the aforementioned Syncrolift® equipment.

Remote support

Syncrolift® offers remote technical support on demand. Users has an option to activate remote connection through a PLC communications module and/or directly on the Syncrolift® PC.

By remotely connecting to the system, we can provide system diagnostics, remote fault-finding, system monitoring, and operator support.

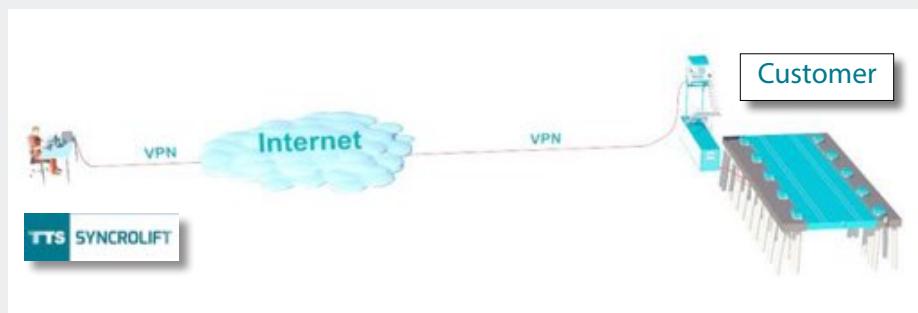
We also offers to upgrade existing systems with remote features if this is not already enabled/available on your system.



Montage of Syncrolift parts



Simulator training



Remote technical support

New-sales contact

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shiplift@syncrolift.com

Regional contact

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michael.bakker@syncrolift.com

Aftersales and Service contact

24 hrs service. +47 64 90 79 20
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Competence, reliability and trust are the hallmarks of our business, and we work hard with customers to ensure the effectiveness of equipment throughout the ship's life cycle.

We understand that expensive assets cannot be allowed to lie idle, and that onboard space must be used to the maximum. So, from subsea construction vessels to heavy lift vessels and drill ships, our focus is on creating and delivering products and tailor-made service solutions that allow vessels to operate to their full capacity at all times.



www.syncrolift.com