RoRo port and terminal solutions

Efficiency from ship to shore
By harmonising the essential cargo flow functions of access, stowage, care and handling, MacGregor offers integrated cargo flow solutions that optimise and enhance the functionality of your linkspan, shore ramp, passenger gangway, water taxi terminal or other RoRo port and terminal solution.

To achieve this, our specialists and technical teams work closely with port operators, shipowners and consultants on cargo flow issues. At the basic pre-project stage, we offer preliminary studies and engineering services. MacGregor RoRo systems and equipment are then supplied as an integrated solution based on cargo type, space limitations, loadings, logistic factors and environmental conditions.

MacGregor is a global company with facilities located near ports worldwide. Once a MacGregor system is in service, we endeavour to provide life-cycle support in the form of maintenance and service solutions that ensure the operative availability of the equipment.

Later in the lifetime of an installation, our capability to modernise and convert the original solution helps the operator get even more from the investment by optimising the performance to match new market needs.

Efficiency from ship-to-shore

1. Interface between ship and shore
   The success of the interface between the shore and the vessel is the key to ensuring optimum traffic flow.

   MacGregor is a recognised global leader in developing linkspans and other RoRo port and terminal solutions, with a clear focus on safety. MacGregor systems and equipment have a long track record of availability, performance and reliability.

2. Multiple-tier loading for fast turnaround times in port
   RoRo terminals globally are undergoing massive expansion and modernisation. New safety requirements have resulted in wider ferries with increased freeboards. MacGregor’s RoRo systems provide the high flexibility at the quay interface which they require.

3. Our linkspans can be designed for multi-tier loading. Two-tier loading is becoming a necessity with large new ferries and three-tier loading systems have been built. The key to competitive door-to-door handling is fast loading and discharging of vehicles and passengers, reducing the turnaround time in ports – a factor that has a great impact on our customers’ bottom line.

4. Electric and hydraulic operating machinery is becoming simpler and safer with increased redundancy. We will help you choose the best machinery for your needs, all built according to highest local and international safety requirements.

5. We keep cargo on the move™

   • RoRo pontoon linkspans
     Allow ferries to berth at quays that are otherwise unsuitable because of their size and shape and/or tidal conditions. Berths can also be created at sites without regular quay facilities.

   • Shore ramps
     A range of articulated shore ramps, permanent or mobile, is available to provide direct access to all RoRo decks. All designs provide smooth cargo flow arrangements that are independent of tidal variations and ship’s trim.

   • Water taxi terminals
     Ideal for coastal shuttle services, providing smooth, safe access for foot passengers and provision. They are built and installed in full compliance with guidelines for senior citizens and passengers with impaired mobility.

   • Floating car parks
     Low draught, multi-storey, moveable parking garages offer a solution to the parking problems of ports and crowded cites that have a waterfront. They can easily accommodate several hundred cars. A moveable car park can be relocated if the parking situation changes. It can be towed to a new site where land is extremely scarce or expensive.

6. Passenger gangways
   Gangways are built for smooth passenger access between the ship to the terminal. All comply with the rules and guidelines to suit senior citizens and passengers with impaired mobility, increasing the confidence of boarding and disembarking passengers.

Throughout the lifetime of your RoRo system
Recent references

Extract from the extensive MacGregor linkspan reference list

The large hexagonal floating pontoon linkspan was a supply chain challenge. A slipway was constructed at the production site in Croatia to ensure the equipment’s safe launch. It was towed across the Mediterranean, through the Suez Canal, around Sinai, to its final destination in Aqaba Ports, Jordan.

Triple berth pontoon linkspan, Aqaba Ports, Jordan
Completed 2010
Client: Aqaba Ports Corporation (APC), Jordan
Main particulars: Three 25m wide ferry berths for stern mooring;
Linkspan bridge: 15m wide x 26m long, accommodates three vehicle lanes and two walkway lanes
Certified: British Standard (BS), Det Norske Veritas (DNV)

Linkspan, Port of Tanger, Morocco
Completed 2010
Client: SRPTM, Morocco for Tanger Med Port Authority (TMSA)
Main particulars: two linkspans 15m-long by 18m/12m-wide
Certified: Eurocode

The linkspan is large for an articulated ramp. The seaward ramp interface is 34m wide and the ramp is 20m wide at the shoreside end. It is 30m long in order to cater for the local tidal conditions as well as most ships’ thresholds.

Linkspan, Port of Rosslare, Ireland
Completed 2009
Client: BAM Contractors, Ireland (for Irish Rail).
Main particulars: Linkspan 34m/20m x 30m
Certified: British Standard (BS), Lloyd’s Register (LR)

Two tier linkspan, Kristiansand and Larvik, Norway and Hirtshals, Denmark
Completed 2008
Client: Color Line Marine, Sandefjord, Norway
Main particulars: main deck ramp 14m x 25m; moveable upper deck set 11m x 23m and fixed ramp 7.5m x 60m
Building norm: Eurocode

Mooring units, MOOREX 60T/30T, Malmö, Sweden
Completed 2007
Client: Finnlines, Helsinki, Finland
Main particulars: 60-tonne quay side MOOREX® mooring unit to secure Finnline’s 218m/42,000gt RoPax ferry Europalink

Linkspan, Port Askaig, Scotland, United Kingdom
Completed 2007
Client: Argyll & Bute Council, Kilmore Lochalsh, Argyll
Main particulars: bridge 18.6m x10.5m (photo taken during installation)
Certified: Lloyd’s Register (LR)

Photo: ShipPax Information
Photo: denniz@corsman.se

Recent references
Through-life cost assessment for port and linkspan systems is becoming an essential part in evaluating different systems. Having introduced maintenance packages for onboard RoRo systems, MacGregor now offers the same advantages to port operators.

Operative availability
Our ambition is to ensure the operative availability of your cargo flow systems. MacGregor’s experts are on standby worldwide to provide a rapid response to your needs.

Global presence — local service
We operate in approximately 50 countries and our service network consists of more than 60 service centres in major ports around the globe, all staffed by specialists.

We supply original MacGregor spare parts and repair services on a planned schedule, on demand, or on an emergency basis.

Planned maintenance
MacGregor’s planned maintenance concept is supported by the solid foundation of our worldwide service network, and allows you to plan your operating budget.

On-demand service
Our service centres worldwide solve problems as they arise, helping to keep your ship up and running. We also provide a comprehensive damage assessment and repair service.

Tailor-made MacGregor linkspans for the rampless catamarans are installed in Hakodate and Aomori in Japan. The hydraulically operated linkspans allow quick operation and smooth vehicle transfer across the full breadth of the catamarans.

Linkspan, Vulcaanhaven, Rotterdam, Netherlands
Completed 2007
Client: Norfolk Line, Netherlands
Main particulars: three linkspans 20m x 29m
Certified: NEN 6788. EC 98/37 Annex IV

Mobile ramps for catamarans, Spain
Completed 2005
Client: Trasmed, Spain (there are several units installed in the Mediterranean)
Main particulars: linkspans 25m x 5.5m
Certified: BVCE, EC 98/37

Triple berth pontoon/two bridge linkspan, Immingham, United Kingdom
Completed: 2006
Client: DFDS Nordic Terminal, Immingham, United Kingdom
Main particulars: pontoon 108m x 30m; two linkspan bridges 75m x 15m
Each linkspan bridge is capable of carrying three lanes of 120 tonne trailers.
Certified: Lloyd’s Register (LR)

Tailor-made MacGregor linkspans for the rampless catamarans, Hakodate, Japan
Completed 2007
Client: Higashi Nihon Ferry, Japan
Main particulars: twin linkspans 20m x 7.5m
There is an identical twin set installed in Aomori
Certified: Japanese Bridge Code

Keeping your operation up and running

MacGregor Onboard Care (MOC) service contracts
An MOC service contract offers a modular service concept where you can choose the necessary modules to suit your individual needs in terms of operating security, budgets and comfort.

Crew training
Tailor-made theoretical and hands-on crew training in the maintenance and operation of MacGregor equipment and systems.

Modernisation
MacGregor has the expertise and the resources to upgrade ageing cargo access equipment to the latest performance standards.

Conversion
MacGregor’s conversion packages adapt, enhance or change the original functionality of the system, re-designing it to meet changing market requirements.

Pontoon passenger terminal linkspan, Björkö, Sweden
Completed 2004
Client: the Municipality of Öckerö, Björkö, Sweden
Main particulars: pontoon 20m x 6m; bridge 15m x 3m

Floating car park garage, Gothenburg, Sweden
Completed 1991
Client: the Municipality of Gothenburg, Sweden
Main particulars: Mooring and access equipment. The floating car park garage, the P-Ark, can hold more than 400 cars and can be relocated to respond to changing parking requirements.
Certified: Lloyd’s Register (LR)

Linkspan FL3, Ystad, Sweden
Completed 2005
Client: Ystad Hamn & Logistik, Ystad, Sweden
Main particulars: Linkspan 14m x 19m
Certified: BRO 04 with Addendum

Linkspan for rampless catamaran, Hakodate, Japan
Completed 2007
Client: Higashi Nihon Ferry, Japan
Main particulars: twin linkspans 20m x 7.5m
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Wherever needed, you can rely on our support.
We serve our brands globally:

- Ankerlökken Marine
- Alset
- ASCA
- Becker
- BMH
- Conver-OSR
- Grampian Hydraulics
- Flintstone
- Greer Marine
- Hamworthy
- Hatlapa
- Hydramarine
- Hägglunds
- Interschalt
- KGW
- KYB - ASCA
- KYB - Kayaba Industries / Navire Cargo Gear
- Luezhoe
- MacGregor
- MacGregor-Conver
- MacGregor-Hägglunds
- MacGregor-Kayaba
- MacGregor-Navire
- Navire Cargo Gear
- Nordströms
- Ozean Service & Reparatur
- Platform Crane Services (PCS)
- Plimsoll
- Pusnes
- Porsgrunn
- Rapp Marine
- Triplex
- Vestnorsk HydraulikkService (VNH)

MacGregor shapes the offshore and marine industries by offering world-leading engineering solutions and services with a strong portfolio of MacGregor, Hatlapa, Porsgrunn, Pusnes and Triplex brands. Shipbuilders, owners and operators are able to optimise the lifetime profitability, safety, reliability and environmental sustainability of their operations by working in close cooperation with MacGregor.

MacGregor solutions and services for handling marine cargoes, vessel operations, offshore loads, crude/LNG transfer and offshore mooring are all designed to perform with the sea.

MacGregor is part of Cargotec (Nasdaq Helsinki: CGCBV).

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