

Delivering solutions today.
Ferry and ropax services.



SHARING OUR EXPERIENCE

Reducing risk,
maximising innovation.

Cover image: MS *Viking Grace* – the 56,850-Gt ropax was delivered to Viking Line in 2013 and built at STX Turku in Finland. This is the largest international ferry to use LNG as its primary fuel. She operates between Stockholm and Turku.

As a ferry owner or operator, you face numerous choices about the design and operation of your ship.

At Lloyd’s Register (LR), we see the bigger picture. We help you assess all your options and their associated risks, to provide you with innovative, cost-effective solutions that fulfil regulatory requirements and meet your operational needs.

Our experience covers your ferry’s entire lifespan, from initial design

concept, through construction and operation, to the end of its working life, whether it’s destined for conversion or recycling. As one of global shipping’s thought leaders – and a major R&D player ourselves – we’re stimulating innovation across the industry, helping our clients deploy emerging technologies to solve the challenges they face today. These include meeting increasingly wide-ranging and stringent regulations on fuel efficiency, CO₂ emissions, and

environmental protection – all of which have significant operational and business implications.

From classification and risk management to consultancy on innovations in design, propulsion, and fuel systems, MRV and ballast water management, we work with our clients to help ensure their ferry fleets are safe, efficient, and profitable, as well as compliant with all relevant legislation.

INNOVATION

Your routes may be constant and familiar, but technology is always changing. We’ll help you use the latest design, engineering, and operational developments to boost efficiency and profitability, and comply with regulations.

ENVIRONMENT

Complying with current regulations while anticipating future ones is a critical challenge for all owners and operators. We’ll help you assess your options, then develop a safe, efficient, and future-proof strategy.

CLASSIFICATION

As one of the world’s leading class societies, we offer a range of class services for newbuild and conversion projects, and in-service surveys for ferries and ropax vessels.

RISK MANAGEMENT

Promoting safety at sea is one of LR’s founding principles, dating back over 200 years. Today, our consultancy, training, and advisory services make us a world leader in maritime risk management.

MS *Stena Germanica* – the LR-classed ropax ferry is the world’s first ferry to be converted to operate on methanol. The refit was overseen by LR surveyors at Remontowa shipyard in Gdańsk, Poland, between January and March 2015.

CLASSIFICATION

The best support at every stage of your asset's life.

Our ropax and cruise ferry classification services help owners and operators improve safety and environmental performance at every stage of the ship's lifecycle.

At the very start of the project, we'll help you define and then refine your ferry's overall design concept, deploying innovations in design, construction, and operation

to help make sure your new ship is truly fit for purpose. We'll then provide independent technical advice throughout the planning, pre-contract, and construction phases, involving stakeholders to ensure all interests are properly considered.

Once the ferry's in service, we'll develop an optimised maintenance

strategy, aligning your business objectives with operational and efficiency requirements. We can also help to ensure the safety and longevity of your existing vessels through our periodic surveys and other classification services.

NEW CONSTRUCTION
We provide independent advice from initial design concept, through plan approval to construction, helping to ensure that your new ship is fit for purpose, future-proof, and cost-effective.

CLASS IN-SERVICE
Our comprehensive hull assessment, renovation, and certification services allow shipowners to enhance the condition, performance, and lifespan of their most important assets.

PRE-CONTRACT SUPPORT
Based on your design and operational needs, our technical advice gives you the information you need to make informed decisions from the project's earliest stages.

F-A.-Gauthier – the LR-classed dual-fuel ferry, F-A.-Gauthier ferry its the the first LNG-powered ferry to operate in North America. She entered service at the Canadian town of Matane in Quebec on 20 April 2015.

INNOVATION

The latest technologies and thinking.

The ferry and ropax sector is one of the most diverse in modern shipping, serving a complex mix of passenger and cargo requirements on a huge variety of routes. As a result, it's also crowded and highly competitive, and operators are constantly seeking ways to improve their offer and market position.

Newbuild ferry projects tend to be bespoke, to meet the needs of a

specific route and market niche. On regular route plans, there are often opportunities to use innovative technologies to improve efficiency, cut turnaround times and downtimes, and boost profitability.

At LR, we have particular experience in innovative fuel and propulsion systems, including: battery power, biofuels, fuel cells, and renewable energy sources such as wind,

waves and solar power. We'll recommend a specific solution for your ferry, based on your location and operating profile, to help you achieve the optimum balance of efficiency, cost and reliability that meets your business needs.

GAS AS FUEL

As the market leader, we work with gas carrier owners and operators worldwide. We can advise you on all aspects of gas-as-fuel design, from technical 'gas safe' design and engineering support to providing specialist training for crew members – all based on over 30 years' experience.

CYBER-ENABLED SHIPS

LR has drawn up a full ShipRight procedure, plus detailed guidance notes, on designing and operating cyber-enabled ships, to help owners and operators ensure cyber technology does not introduce a safety risk, and to help them comply with relevant LR rules and regulations.

BATTERIES

To support innovation in battery-powered ferry design, we've published a guidance note to help designers and builders identify and mitigate specific risks early in the project.

CFD MODELLING

Unlike typical models, all our computational fluid dynamics (CFD) simulations are performed at ship scale, providing reliable results, rapid solutions to technical issues, and significant cost savings.



Hovertravel hovercraft – British hovercraft designer and manufacturer Griffon Hoverwork has built two new craft for Hovertravel. Designed and built to comply with LR's Special Service Craft Rules, the new craft will be the most technically advanced and modern hovercraft available today.

ENVIRONMENT

Compliance, cost-effectiveness, and clean operations.

We combine a unique understanding of the maritime industry with specialist knowledge in environmental and energy efficiency solutions. This means we can better understand the pressures you face and help you find the best solutions for your business.

As a ferry owner or operator, perhaps your biggest challenge is complying with current environmental regulations, while also future-proofing your assets against new legislation in years to come. There

are many technologies available to you; we're here to help you turn innovative concepts into operational realities – safely, efficiently, and cost-effectively.

As well as ensuring compliance, your environmental strategy can give you a real competitive advantage. Your commitment to clean, efficient operations can help your cargo clients fulfil their own corporate and social responsibility agenda; for your passengers, you can offer a more

sustainable alternative to other transport modes.

Working with you, we can help you assess the fuel efficiency of both your fleet and supply chain, and develop plans to help improve performance, reduce costs, and meet stakeholders' expectations safely and sustainably.

EEDI

We work closely with owners and shipyards at the design and construction stages to help ensure your newbuild ships and major conversions comply with EEDI regulations.

BALLAST WATER MANAGEMENT

The Ballast Water Management (BWM) Convention presents you with your own specific compliance challenges and operational pressures – all of which we can address through our tailor-made BWM services.

MRV

We're here to cut through the complexity of the MRV regulations and help you comply. Our MRV services range from planning, modelling, and optimisation advice to practical crew training – all tailor made, and designed to ensure you get the best operational efficiency from your fleet.



Texelstroom – this 1,750-passenger, 350-vehicle, double-ended ferry operates between the Dutch islands of Texel and Den Helder. She has an advanced energy management system, operating principally on gas but also with batteries, solar auxiliary power, and the capability to run solely on diesel.

RISK MANAGEMENT

Understanding the threats to your business.

Whether it's new, novel, or complex technology, operations, or changing market conditions, there has never been a greater need to ensure you comprehensively understand what can affect your business. LR has leading capabilities in the use of risk-based techniques, helping you understand and manage the threats to your business.

Design innovation to meet new legislative requirements and increased competition is a necessity for ferry design today. While relatively simple to apply, the challenge with prescriptive rules is that they stifle innovation, since there is no 'wiggle room'. Class or flag approval requires the use of risk-based techniques, or the demonstration that an equivalent level of safety has been achieved.

To quote one of our clients:

"There is no such thing as a hazard we cannot manage. What there is, is a hazard we have not identified and have to cope with when it's on us. Not identifying hazards before they happen costs us money, loss of business and impacts our reputation. In the worst case we go out of business."

TAILORED RISK ASSESSMENT
We use risk assessment techniques tailored to your specific situation and needs, based on our decades of experience in working with owners and shipyards on innovative projects.

HUMAN FACTORS IN DESIGN
We employ user-centred design techniques to ensure that the human element is considered throughout concept, design, and build.

SAFE RETURN TO PORT
We can provide professional advice and practical assistance to help you comply with the IMO's safe return to port (SRtP) regulations, as part of your overall risk management strategy.



MV *Catriona* – this hybrid ferry is a sea-going passenger and vehicle roll-on, roll-off ferry incorporating a low-carbon hybrid system of traditional diesel power and electric lithium-ion battery power. Built in Ferguson Marine Engineering Ltd's (FMEL) shipyard, she is owned by Caledonian Maritime Assets Ltd (CMAL) and will be run by CalMac Ferries Ltd, the operator of the Clyde and Hebrides Ferry Service. Image courtesy of Gordon Law.

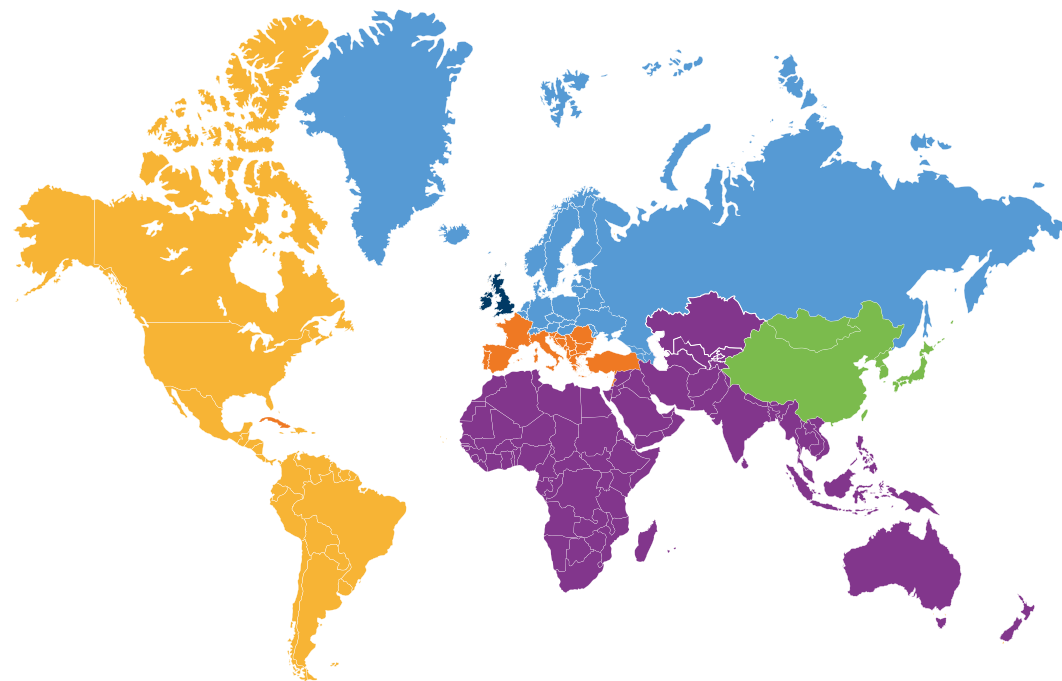
CAPABILITY

One constant, wherever
and whenever you need us.

Our network of 300 national and regional offices, spread across six operating areas, puts our clients first wherever they are in the world, giving you access to our advice and expert service delivery from Ålesund to Zhoushan.

Furthermore, wherever you are, you can be confident that our entire team of over 8,000 specialists is never more than a phone call or email away.

LR'S SIX OPERATING AREAS



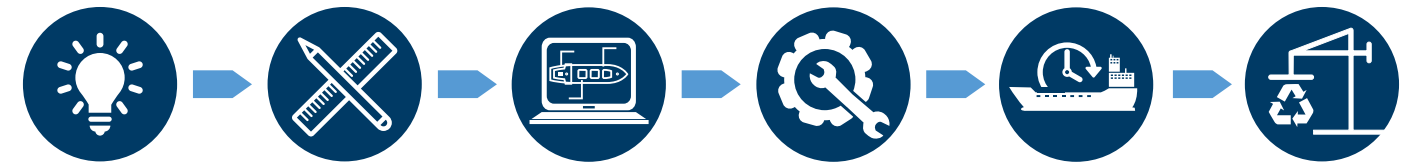
If you would like to speak to a member of our team to find out how we can help you, contact one of our Passenger Ship Support Centres (PSSCs) or our South Asia Business Development Team (BDT):

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Adding value at every stage.



Innovation

We are conducting world-class R&D into design, construction, and operation for the next 20 years and beyond. If you are developing novel technology, we can qualify its compliance and performance, helping you attract investment, prove your business case, and find a route to market.

Design

At the design stage, our appraisal services and software give you confidence that your asset will comply with all class and statutory requirements. We can work also with you to optimise your design so it achieves the best possible performance and return on investment.

Build and commissioning

At the build and commissioning stage, we help you ensure that assets are delivered to meet all contractual requirements. In addition, we help you make the right decisions when investing in designs and technologies.

Operation

In-service, we help you keep your assets compliant, safe, and performing reliably, ensuring you deliver business as usual and minimise downtime. We can also help you implement the latest technologies, and understand what return on investment to expect, so that you can increase performance and be more competitive in the market.

Life extension

We can help you best manage the operational life of your assets. By assessing their condition, we provide you and your clients with assurance of their integrity. We can also work with you to extend the life of your assets in line with your business needs, identifying any remedial work or renovations that are required.

Decommissioning and recycling

At the end of your asset's life, our services help you comply with recycling requirements and provide added confidence in a safe and sustainable decommissioning process.

With our advisors on your team, you have a solution for every challenge. To find your nearest office, visit www.lr.org/officefinder. We also have a global network of technical helpdesks, which are there specifically to answer your questions on applying marine class and statutory requirements. Send your questions to marine.technicalhelp@lr.org.



