

### Lloyd's Register understands the challenges that face the industry with the new generation of high specification drilling rigs

These rigs make considerable use of complex Integrated Software-intensive Systems to achieve unprecedented levels of automation, quality, performance and safety.

However, software is invisible so are its faults, yet its failure's consequences are visible and costly. Software-intensive systems become more complex to understand and manage, also their complex components may be very hard to specify. To have reliable, operable and manageable software requires a standardized development process, a strict and accurate yet practical testing method and system right from software specification at design phase to software change management at operation phase.

In order for these benefits to be achieved the development and assurance of such systems needs to take account of the special requirements for this technology. If these are not addressed a number of problems may result. These include:

- High levels of non-productive downtime
- Project delays including late delivery of an asset
- Software security concerns
- Lack of crew confidence in the systems
- Uncertain environmental and safety performance
- Maintenance and upgrading issues

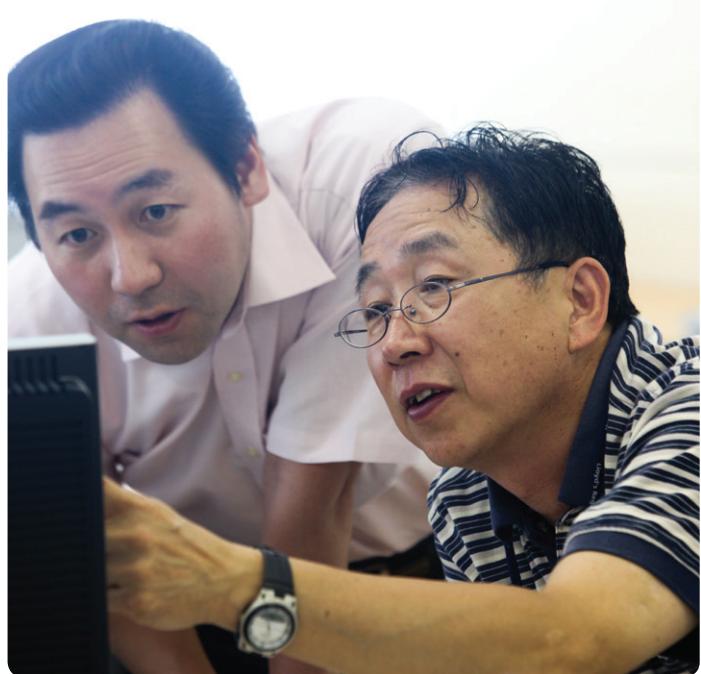
#### Lloyd's Register's industry leading experience

Lloyd's Register has more than 20 years of experience in research and understanding of the issues associated with software and systems assurance through LR Global Design Services. We have worked and applied our knowledge to high integrity software-intensive systems in a range of industries including Nuclear, Defence, Rail and Marine.

Lloyd's Register is also the only class society to participate in the ISO/IEC Committee that develops standards for systems and software engineering (e.g. ISO/IEC 15288 and 12207). The insight gained allows us to apply these and related standards to the drilling industry in the most practical way.

ModuSpec and WEST (now Lloyd's Register Energy – Drilling) complement our existing experience with practical insight on the drilling industry

Given the rate of innovation within the drilling industry and increased complexity and integration of software and systems, Lloyd's Register's tools, methods and experience in this area are becoming increasingly relevant.



#### Benefits of ISIS

ISIS provides a perspective of Total System through Life in Context, reduces the risk of ambiguity on roles and responsibilities of stakeholders among owners, operators, shipyards, and suppliers when dealing with software and integrated systems, improves the visibility and requirements on development process of software, and provides the state-of-the-art and relevant software inspection techniques.

By choosing Lloyd's Register you can be assured of:

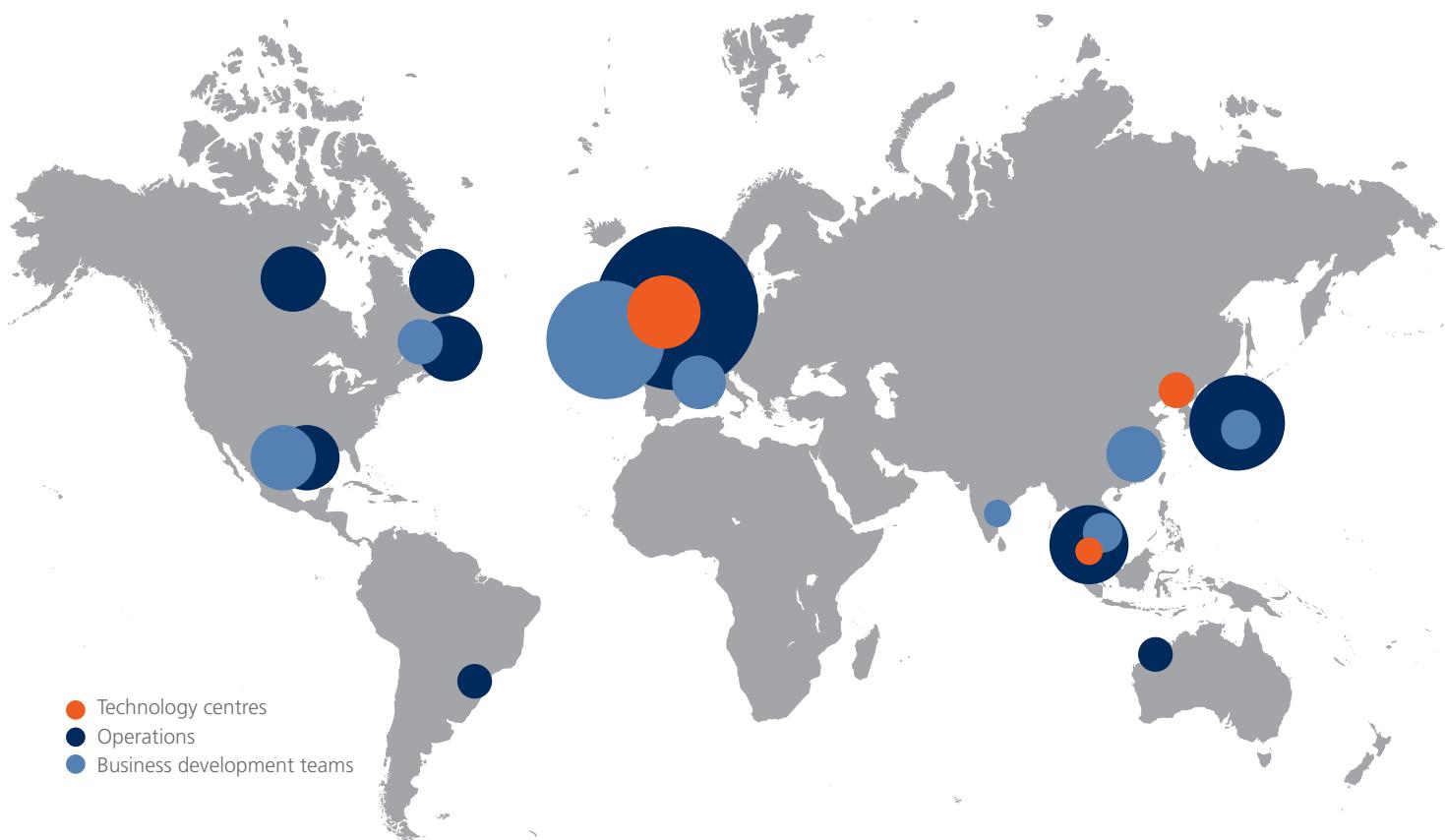
- Practical experience of and expertise in providing a systems orientated view of integrated software intensive systems development
- Improved reliability and safety of critical systems in context and through life
- Support for Innovation both in your approach to development and assessment of designs
- Evidence of Software and Systems dependability and integration for owners and charterers

# Global reach

Lloyd's Register's reputation is built on more than 250 years of protecting life and property. We are dedicated to helping industry meet increasingly complex challenges and to making the world a safer place.

**186**  
countries  
covered

Offices in  
**247**  
cities and  
towns



## Get in touch

Visit our website [www.lr.org](http://www.lr.org)

Or contact our local teams to find out how Lloyd's Register can help your business.

### Lloyd's Register Global Technology Centre Singapore

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#### Related services

To get a copy of the updated 2013 Offshore Rules (including new sections for Mobile Offshore Drilling Units and Floating Offshore Installations at a Fixed Location) go to [www.lr.org/offshoreroles](http://www.lr.org/offshoreroles)