



Supporting the construction of Quality Ships – the role of the Classification Society

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This presentation

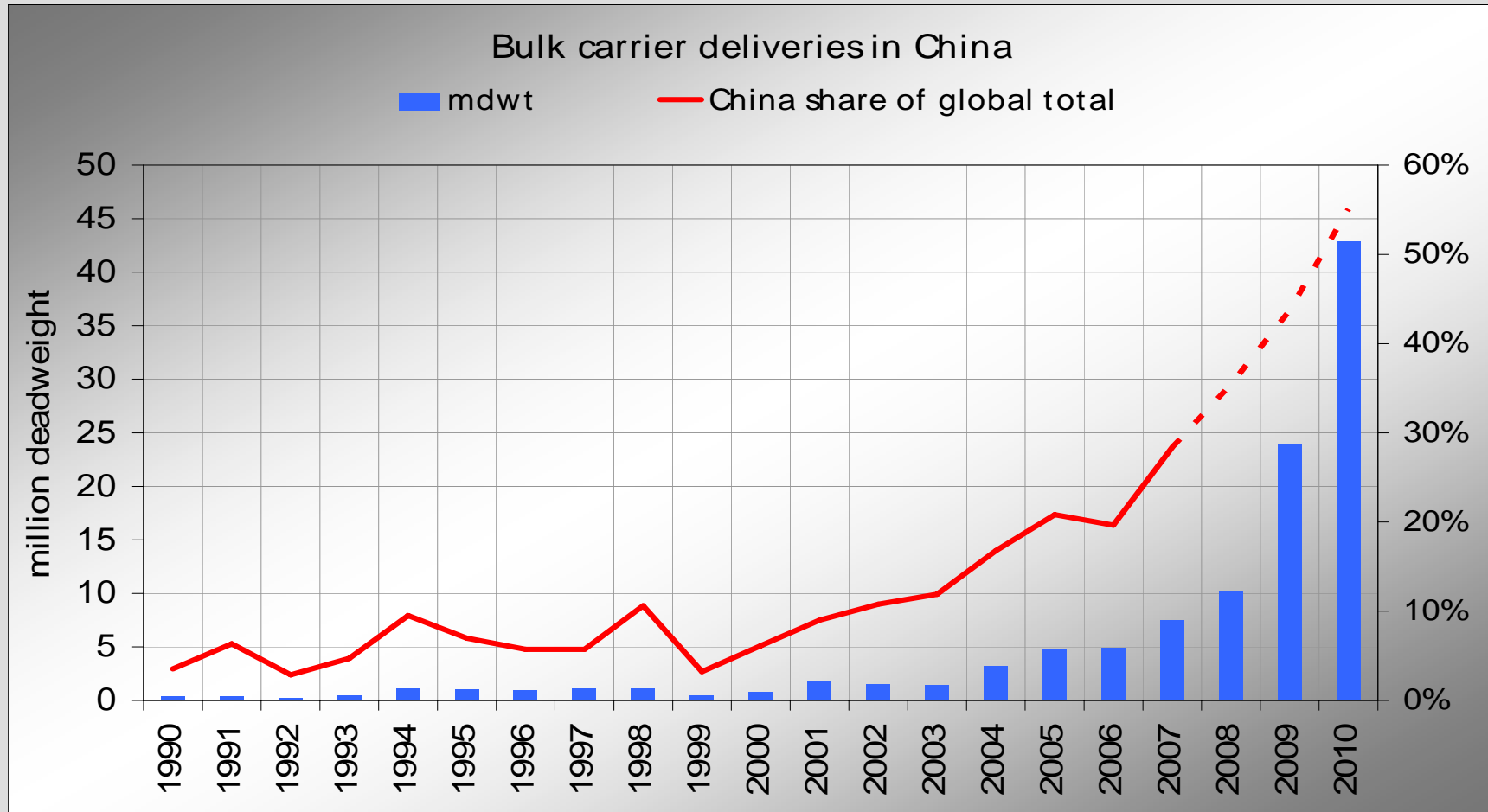
- Do we have a problem with sub-quality shipping?
- What and where are the main issues?
- The China market and challenges
- What is Class doing to address the issues?
- Can sub-quality shipping be eliminated?

Do we have a problem with sub-quality shipping?

- An aging fleet, but little scrapping
- Crew training and resource issues, concerns about maintenance
- Greater public scrutiny of the shipping industry
- Increasing PSC awareness and regime
- Huge order book, but many unproven yards
- IACS Common Structural Rules (CSR) for Bulk carriers
- Protected Spaces Protective Coatings (PSPC) requirements

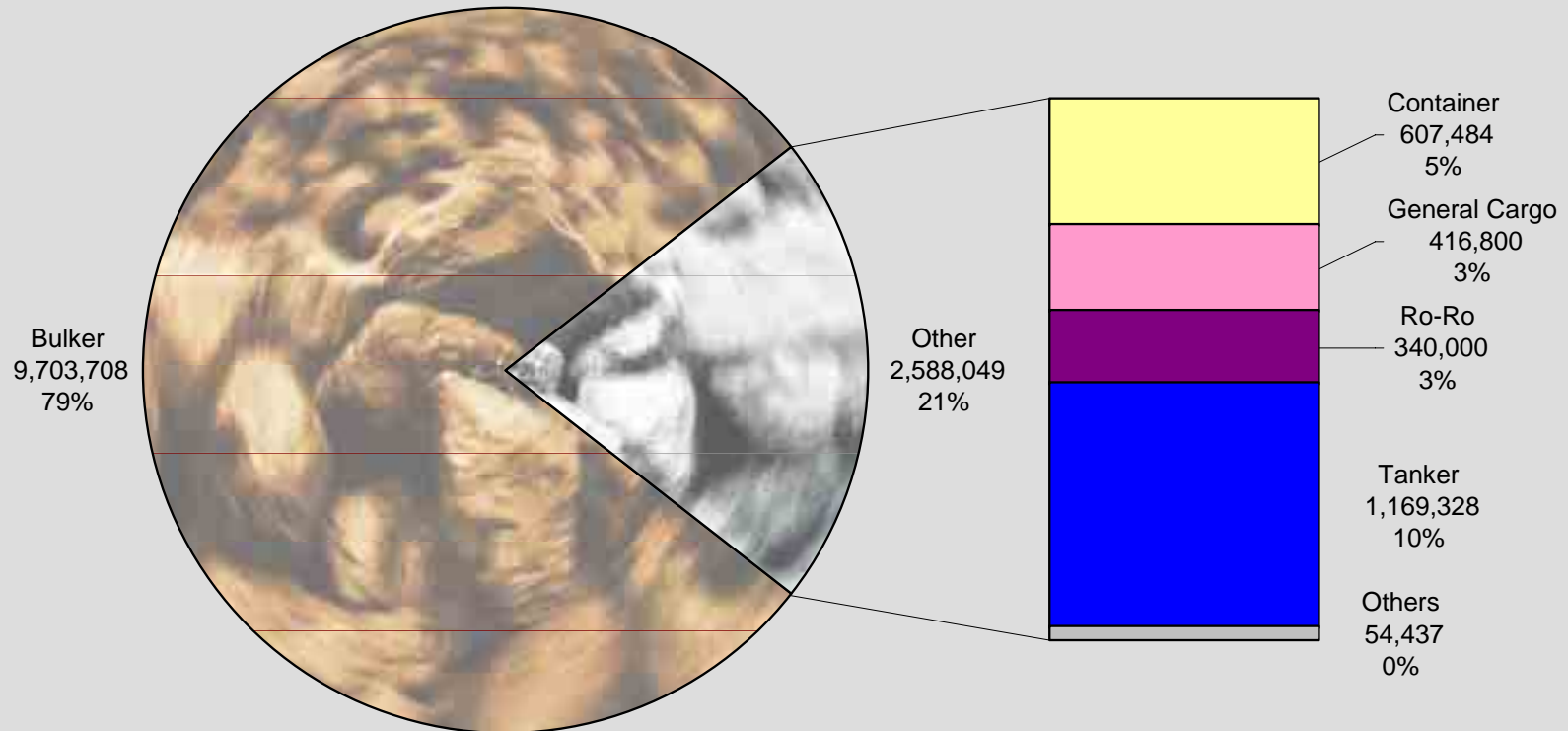


Bulk carrier deliveries – China 1990 to 2010



Data source: LR-F

Contracts Awarded to Lloyd's Register Class in China from 1st January to 31st December 2007



During 2007 we contracted 428 ships totalling 12.3 million GRT

LR China's total order book stands at 573 ships and 16.4 million GRT
(63 Ship yards)

What are the Quality Challenges in the Chinese Shipbuilding industry?



What are the Quality Challenges in the Chinese Shipbuilding industry?



Example of range of facilities



Example of some of the best yard facilities.



– Mare Forum Indonesia
2008
LLOYD'S REGISTER ASIA



What is Class (IACS) doing to address the issues?

- All societies are focused on eliminating sub-quality shipping
- IACS Common Structural Rules (CSR)
- Early adoption of IMO's Protected Spaces Protective Coating (PSPC)
- Training – surveyors
- Training – clients
- IACS – UR Z 23



What is Lloyd's Register doing to address the issues?

- Huge investment in quality and training
- Target ship list, “At Risk” register, removing sub-standard vessels
- Regional Technical Performance Managers
- Staff recruitment campaign
- Training – surveyors
- Training – clients



What is Lloyd's Register doing to address the issues?

- **Technical Performance Group (TPG) – Global coverage**
- Main areas of concern:
 - Existing Ships (including conversions)
 - New Ship Construction, Materials, Components & Equipment
 -
- Depending on location, may involve:
 - Port State Control investigations, Unscheduled survey regime, Independent inspections, Specialist services - Materials, NDE, Protective Coatings
- Internal Technical Training – Mentoring, Activity Monitoring
- Technical Quality – Vertical Contract Audits, Technical Investigations, External Audits (EMSA etc), Complaint Cases

Training – technical and non technical

- In Asia in 2007-08 we are delivering 2500 technical training course days to our Surveyors, next year this will increase to 3800.
- This represents >4 days classroom technical training for every Marine Surveyor
- In addition we have appointed a number of full time technical mentors who provide on the job training
- We are also delivering 1200 non technical training days

Technical courses:

- Eliminating Sub-standard Shipping
- Periodical Survey Course
- New Construction Course
- Equipment and Components
- New Construction Project Management
- Marine Technical Induction Course
- Materials and NDE
- Hull Inspection
- Transfer of Class
- Gas Ship Course
- Statutory Surveys
- PSPC course
- Report Vetting
- Activity Monitoring

What is Lloyd's Register doing to address the issues?

Lloyds Register's Maritime Training Institute, Shanghai



What is Lloyd's Register doing to address the issues?

- **Training of Shipyard Management and Personnel**
- The opening of Lloyd's Register's Maritime Training Institute in Shanghai, delivering seminars, and formal courses to the Chinese shipbuilding industry on:
 - Specialist management techniques
 - Optimization of yard layout
 - Competence to develop new designs
 - Sound understanding of construction methodologies
 - Awareness of latest technical advances
 - Consistently improving manufacturing processes
 - Seminars/presentations by specialists from London
 - Joint Industry Project (JIP) – A new service to assist the design institutes and shipyards to develop new designs using up to date technologies

IACS UR Z 23 – Hull Surveys for New Construction

- Applicable to new building contracts signed on or after 1st January 2008
- **Review of Construction Facilities:**
- Where the society has no or little recent experience – typically less than 1 Year, or when significant new infrastructure has been added
- Where there has been significant management or personnel restructuring which could have an impact on the new construction process
- Where the shipbuilder contracts to construct a ship of a different type or substantially different design
- Requirements for New Construction survey planning – kick-off meeting etc

What is Lloyd's Register doing to address the issues?

- **Preparing for Performance Standards for Protective Coatings (PSPC)**
- Currently the yard's fall into 2 main categories:
 - Existing experienced yards which need to invest in new facilities
 - Brand new yards with workers with little experience
- In general all yards need to improve co-operation between production departments in order to be able to meet PSPC requirements smoothly

What is Lloyd's Register doing to address the issues?

PSPC: Gap analysis from Lloyd's Register and International Paints

- Providing assistance to Chinese ship yards on practical guidance on preparations for the IMO PSPC.
- Providing guidance and assistance on practical aspects of coating application and the equipment and infrastructure required
- Providing guidance on interpretation of the standard and procedure and document preparation and implementation



What is Lloyd's Register doing to address the issues?

- Planning in Production
 - Allocating the increase of man-hours and co-operation between departments.
- Upgrading/Improving facilities
 - Primer line, blasting & painting cells
 - Other related equipments
- Technical training/qualification
 - Inspector & Painter training
- R&D – Improved design and production techniques
- Preparing documentation for PSPC
 - Coating specification
 - QA & QC procedure of coating work
 - Inspection procedure
 - CTFs

What is Lloyd's Register doing to address the issues?

- NACE Training for LR's Client Shipyard's Personnel
- Training being facilitated by Lloyd's Register
- Training delivered to shipyard coating inspectors in Mandarin
- Training Delivered by NACE Certified Trainers
- A first for China

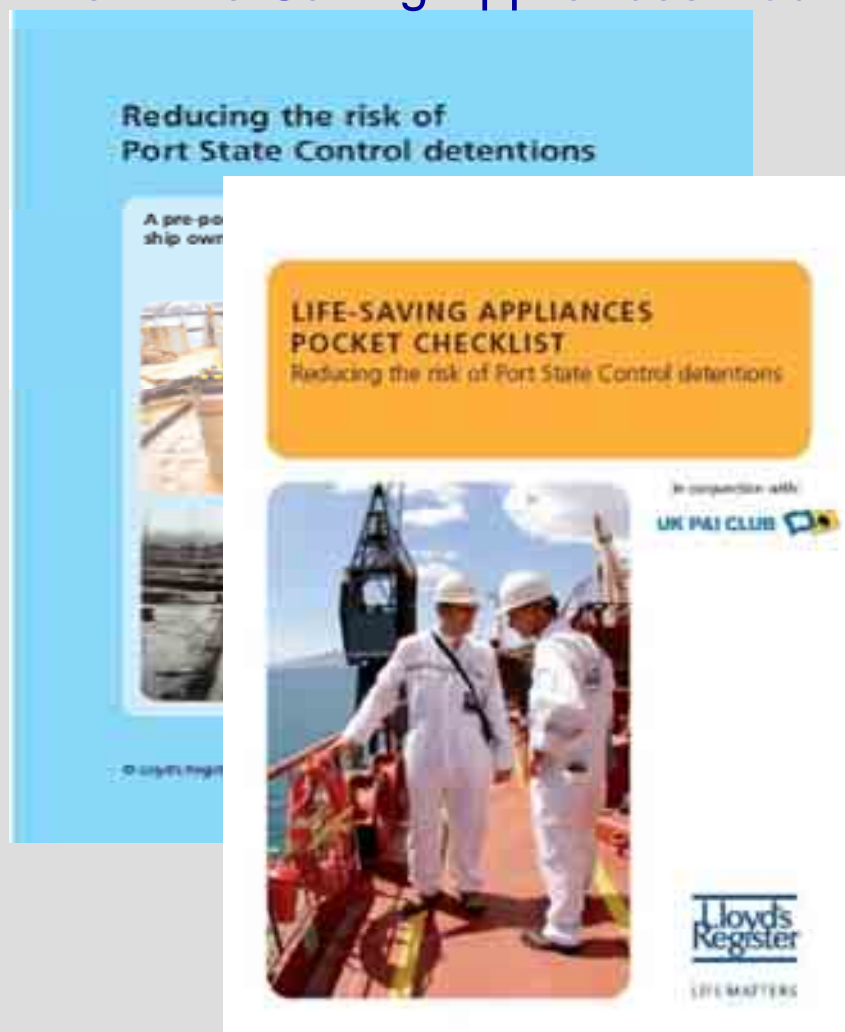


What is Lloyd's Register doing to address the issues?



When it all goes well - high quality stripe coating and finishing

New Life-Saving Appliances Pocket Checklist



Produced particularly with lifeboat accidents during drills in mind

The checklist reinforces the need for crew to be appropriately trained in equipment use

One third of all life saving appliance deficiencies reported to Lloyd's Register concerned lifeboats

Latest in series of pocket checklists of which >200,000 distributed worldwide

Supporting the construction of Quality ships

- The role of Class has changed and continues to evolve. There is a huge body of expertise within the IACS societies
- The problem of sub-quality shipping will not be solved by Class alone, it will require the commitment of all stakeholders
- The primary responsibility for the standard and quality of the ship has and always will belong to the owner

For more information
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LIFE MATTERS

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