



拡大するLNG輸送への挑戦 Challenges for meeting LNG shipping demand

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Koji Miyahara Chairman NYK Line



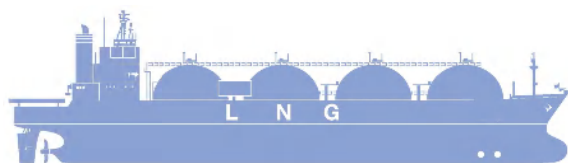
Awarded Projects, Customers



Current NYK LNG Fleet

66 tankers (Ownership)

38 tankers (Ship management)



Future

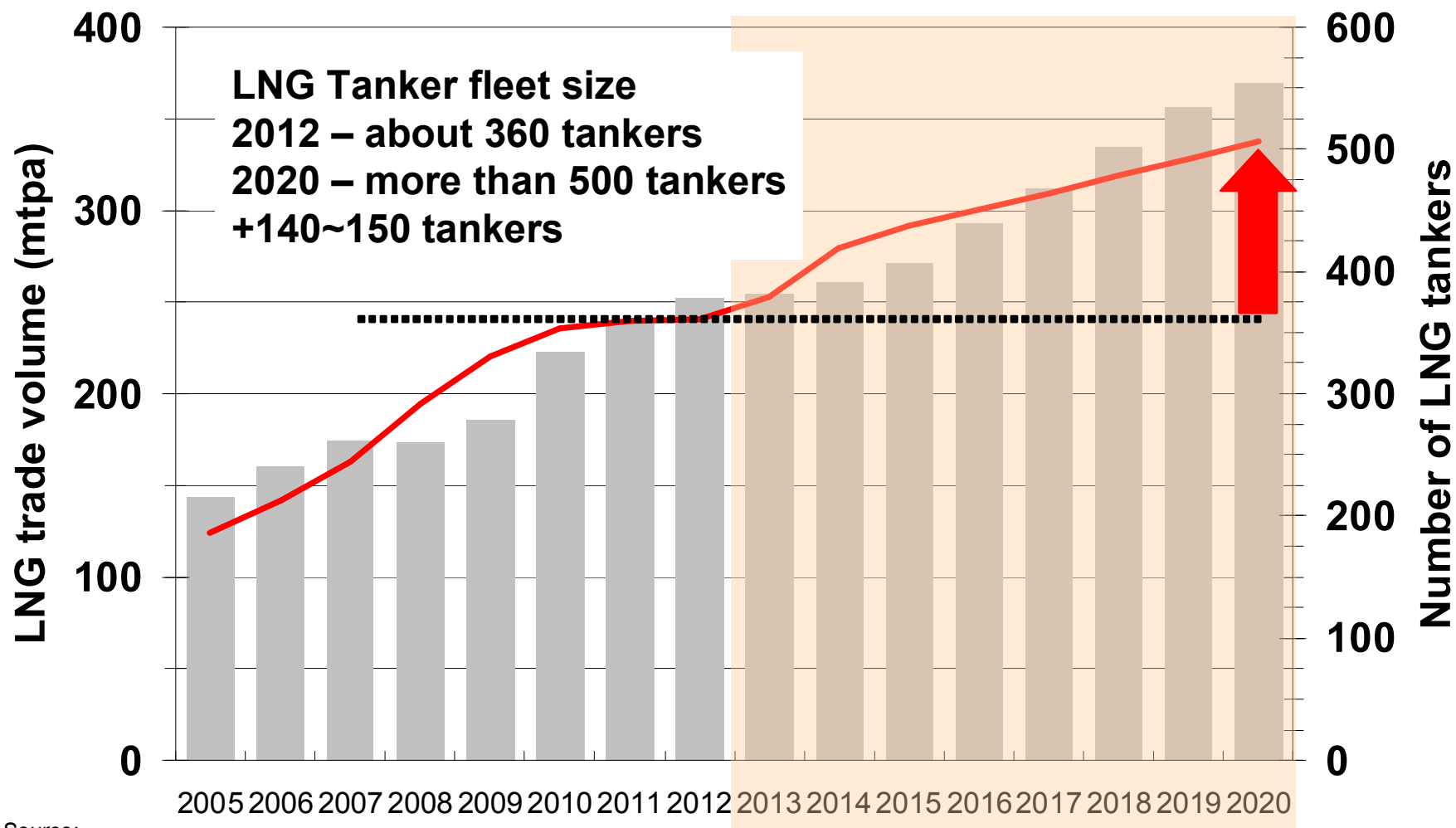
And More...

History

- 2013 Tepco VI
- 2012 Tokyo Gas II
- 2011 Angola
- 2009 CPC
- 2009 Petronet II
- 2009 Osaka Gas VI
- 2009 Tokyo Gas I
- 2009 Kyushu I
- 2008 Tepco IV
- 2008 Tepco III
- 2008 RasGas III
- 2008 Osaka Gas V
- 2008 Tangguh
- 2007 NLNG T6
- 2007 Sakhalin II
- 2007 GdF
- 2006 Osaka Gas IV
- 2006 Tepco II
- 2004 RasGas II (Qatar – Europe)
- 2004 QatarGas I(Qatar – Europe)
- 2004 Petronet I (Qatar – India)
- 2003 Tepco I
- 2000 Oman (Oman – Japan)
- 2000 Kogas (Qatar – Korea)
- 1997 Malaysia II (Malaysia – Japan)
- 1996 QatarGas I (Qatar – Japan)
- 1994 Badak I [Extension] (Indonesia – Far East)
- 1994 Badak IV (Indonesia – Japan)
- 1993 Malaysia I (Malaysia – Japan)
- 1989 NWS II (Australia – Japan)
- 1983 Badak II (Indonesia – Japan)
- 1983 Arun II (Indonesia – Japan)



LNG tanker demand forecast



Source:
 IHS CERA – Global Redesign Dec. 2011,
 NYK analysis

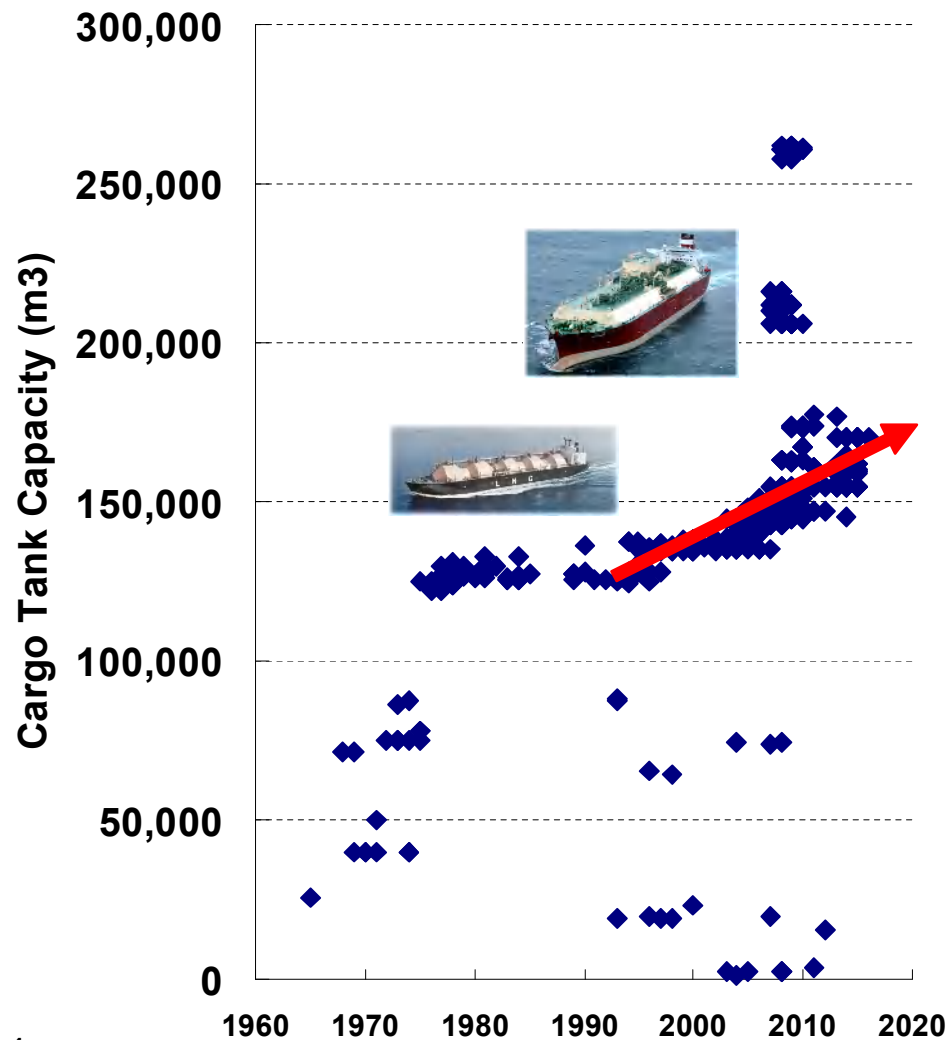
■ LNG (mtpa) — LNG tankers



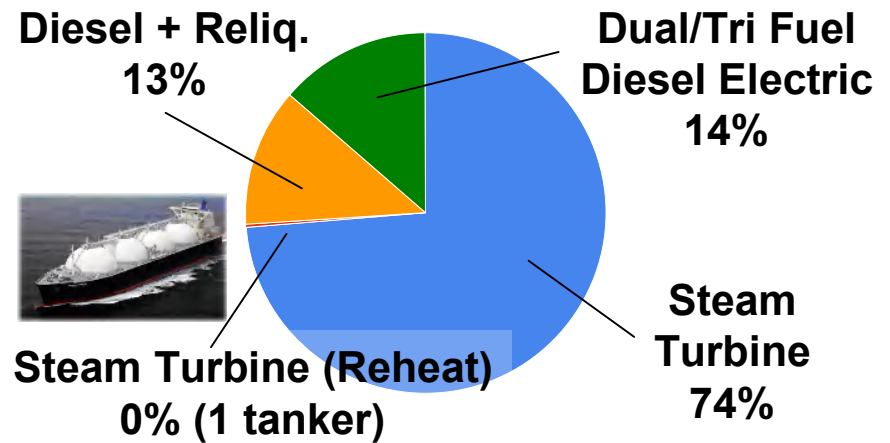


LNG tanker Spec trend

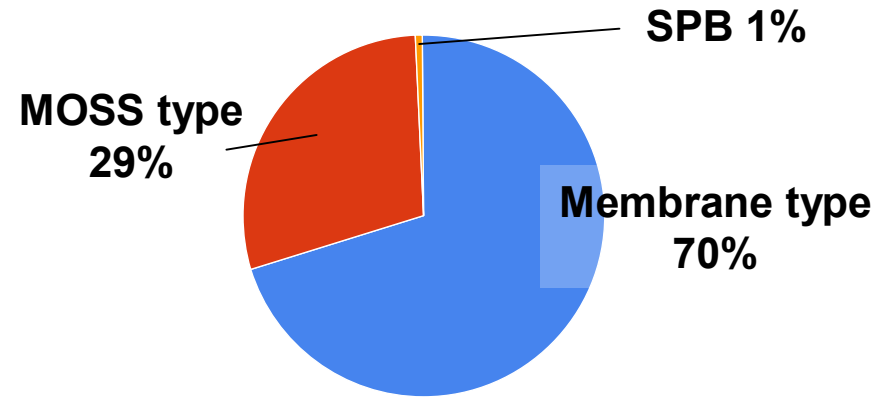
Ship size trend



Propulsion system by type



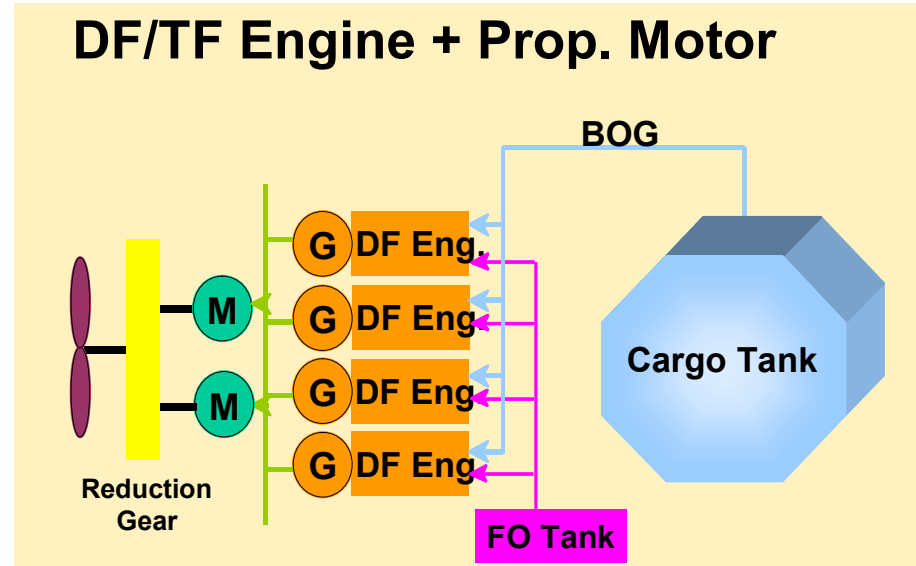
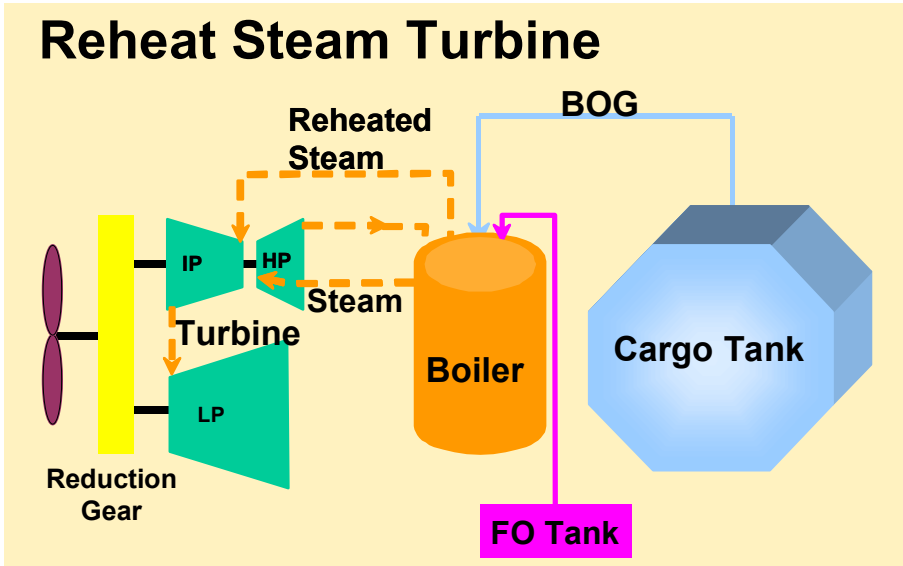
Containment system by type



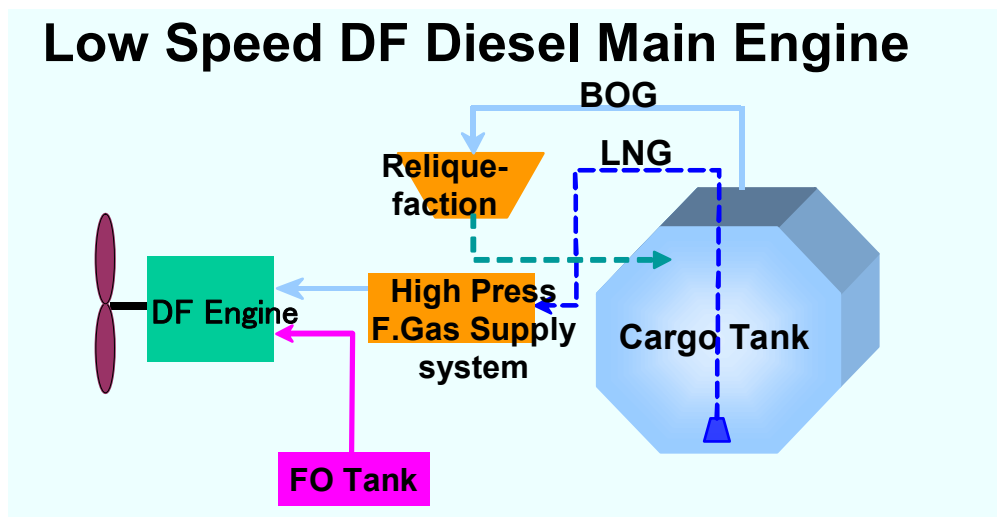
Source: NYK analysis



LNG tanker Propulsion systems



Source: NYK analysis



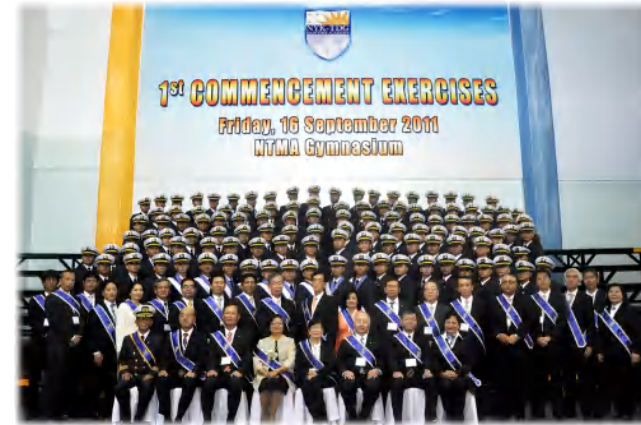
Various type of LNG tankers



Crew development & training



NYK-TDG Maritime Academy



Crew development & training



Cadet Ship

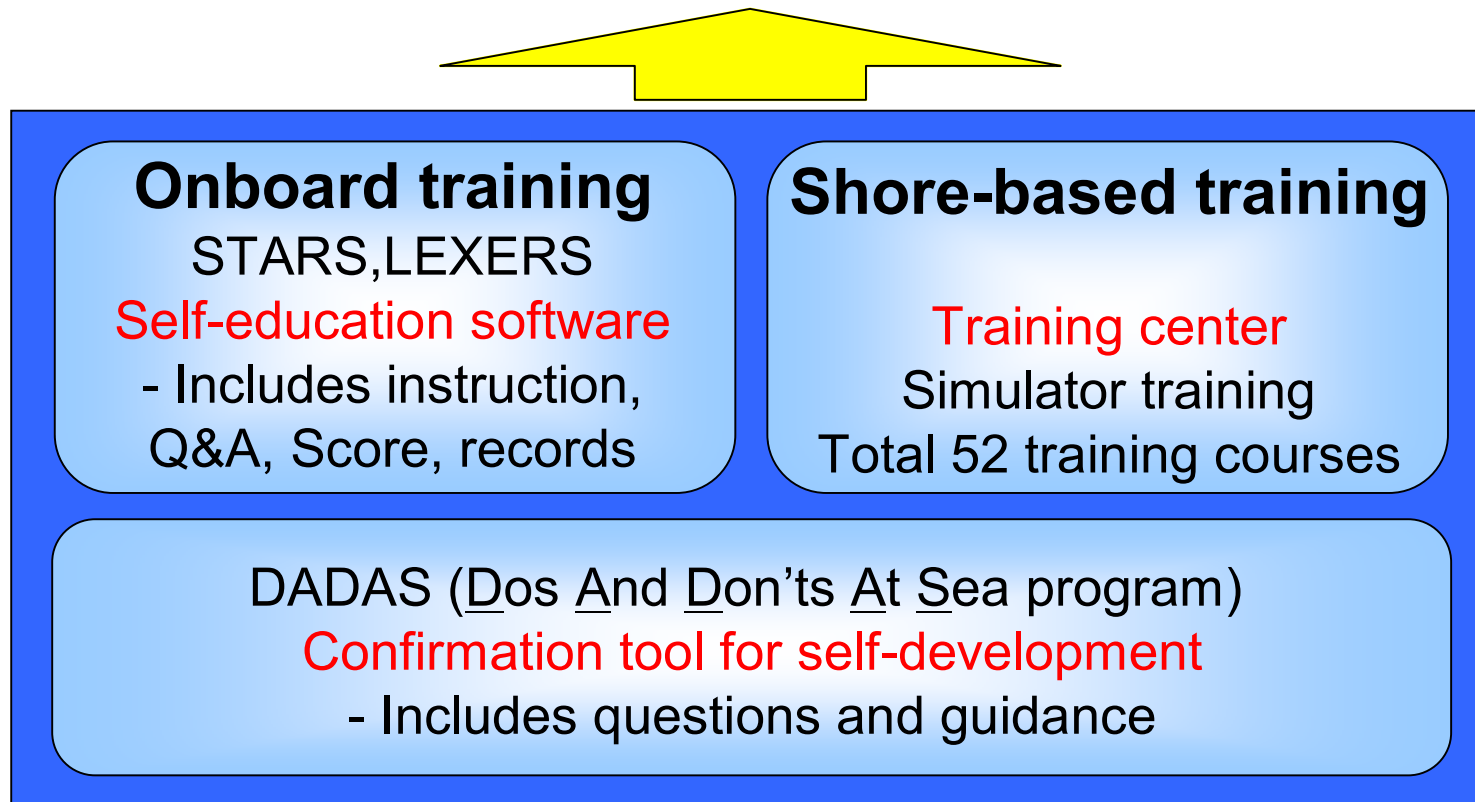


Crew development & training



Conceptual diagram of NYK Maritime College

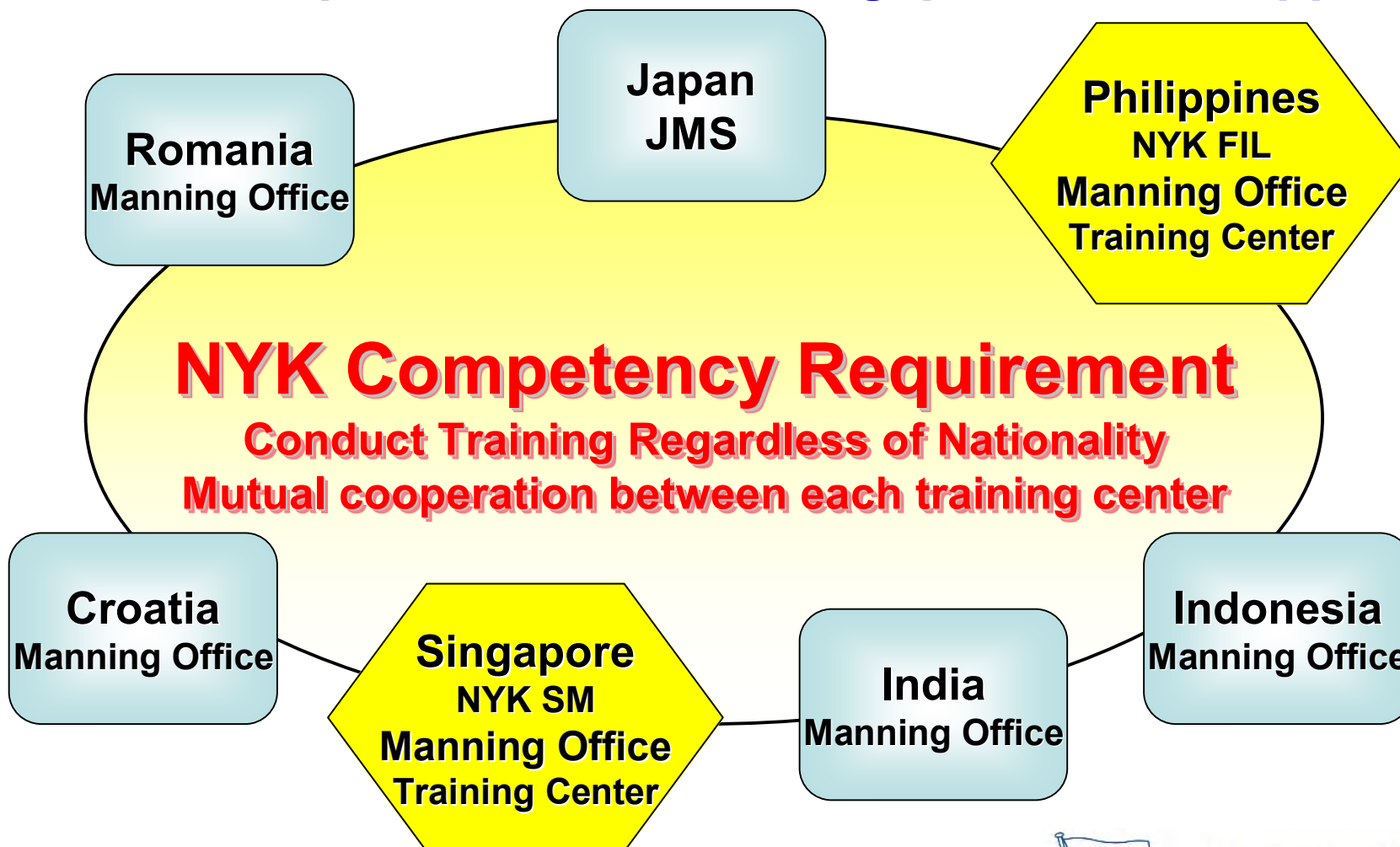
NYK Competency Requirements



Crew development & training



Worldwide expansion based in Singapore and Philippines



Crew development & training



NYK Maritime College



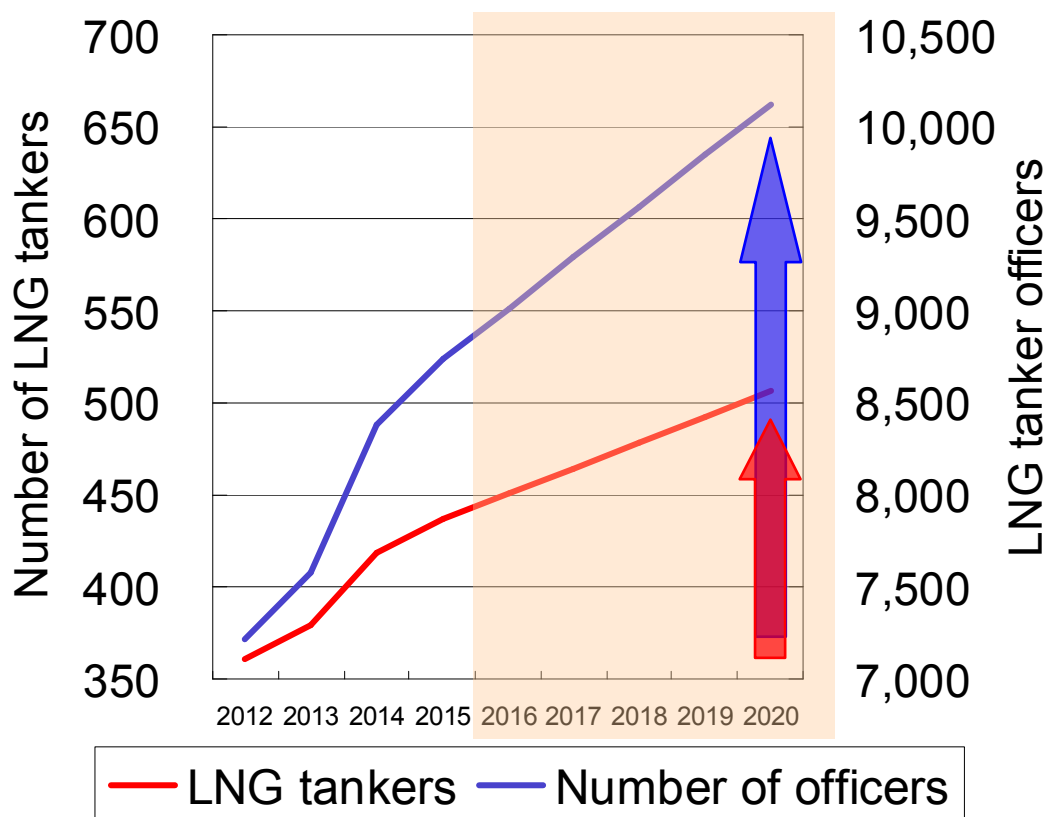
NYK Maritime College



Crewing and training challenges



- Number of tankers and required officers



- Increasing demand to meet standards to ensure quality

- Crew matrix
- SIRE* inspection
- TMSA** audit
- etc,

*SIRE – Ship Inspection Report

**TMSA – Tanker Management and Self Assessment





ご清聴ありがとうございました。
Thank you

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