

EMERGENCY PREPAREDNESS AND TS TAIPEI RECOVERY OPERATION





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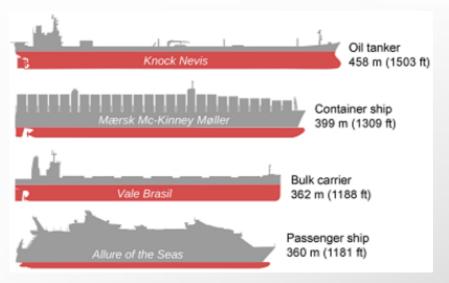


TODAY'S CHALLENGES IN MARINE EMERGENCY RESPONSE



OPERATIONAL REQUIREMENTS & TECHNIQUES

- Increasing Size of Ships
- Salvage in Offshore Energy Environment
- Recovery from Increasing Water Depth
 - Pollutants
 - Wrecks (Nairobi Convention)
- Increasing Level of Authorities Participation











SMIT - PART OF BOSKALIS GROUP



DREDGING & INLAND INFRA

- Construction & maintenance of ports & waterways, land reclamation and coastal defense
- Civil construction, global environmental development





OFFSHORE ENERGY

- Heavy marine transport
- Logistical management services
- Offshore transport & installation and decommissioning









TOWAGE & SALVAGE

- Harbor towage
- Terminal services
- Emergency response
- Wreck removals













BOSKALIS GROUP









UPDATE PROJECTS 2015







TOWAGE CAPACITY

HARBOUR & OCEAN GOING TUGS

470 Harbour & Terminal Tugs40 - 90 TBP

30 Ocean Going Tugs

80 - 205 TBP





LIFTING CAPACITY



SHEER-LEGS

Asian Hercules III 5,000T

Asian Hercules II 3,200T

Asian Hercules 1,600T

SMIT Cyclone 1,000T

Taklift 4 2,200T

Taklift 6 1,200T

• Taklift 7 1,200T





TRANSPORT CAPACITY



BARGES	CAPACITY	LENGTH/DECK	BEAM	
Giant 7 incl. 300t heavy comper	21,000 DWT nsated crane / 80		36.0m mooring	semi-submersible
Giant 5 + 6	21,000 DWT	137.0/120.0m	36.0m	semi-submersible
SMIT Barge 2	14,000 DWT	91.5m	30.5m	ballastable
■ SMIT Barge 6 – 9	8,000 DWT	84.0m	23.5m	ballastable
■ SMIT Barge 10 – 14	5,500 DWT	75.0m	23.5m	ballastable
E-type Barges	< 3,500 DWT	50.0-67.0m	13.0-23	.0m







HUMAN CAPACITY - MOST IMPORTANT















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SALVAGE OF MODERN EXPRESS

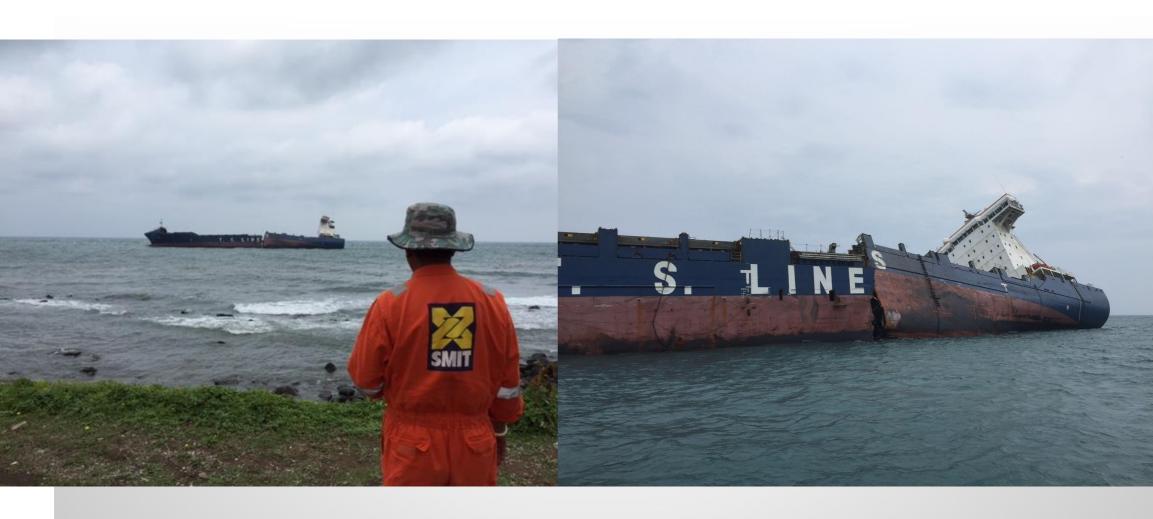






CASE STUDY: RECOVERY TS TAIPEI JUNE – AUGUST 2016









RECOVERY OF TS TAIPEI - CHALLENGES

- Location exposed to weather, seastate & currents
- Typhoon season Autumn season
- Container recovery from holds 188 containers
- Hydrocarbons trapped inside Pollution Control
- Unknown damages to hull Refloating possible?
- Difficult & dangerous working environment



TS TAIPEI - OPERATIONAL MILESTONES

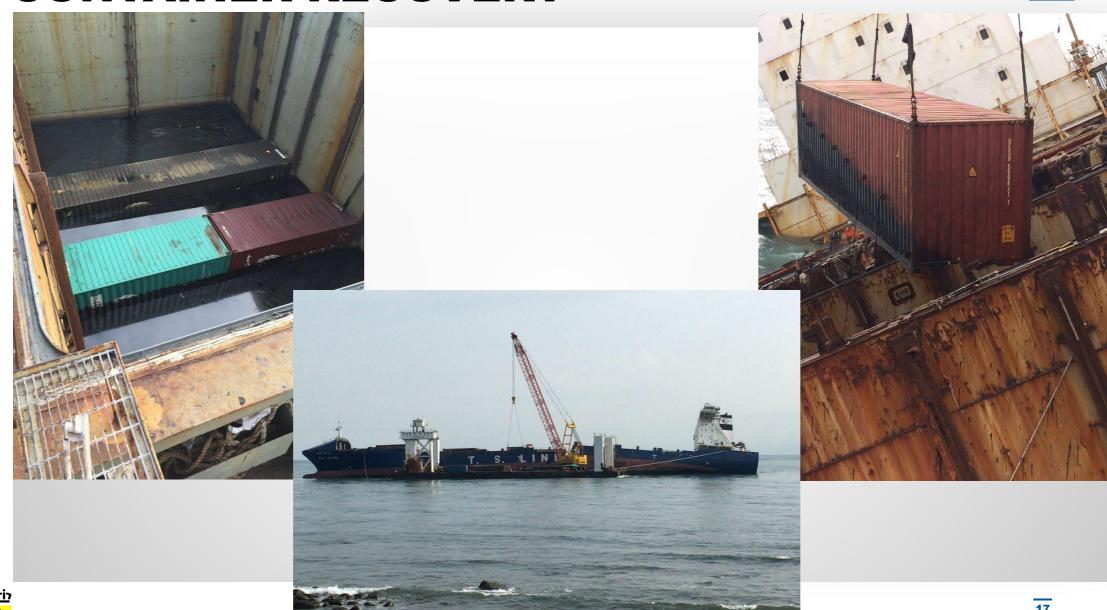






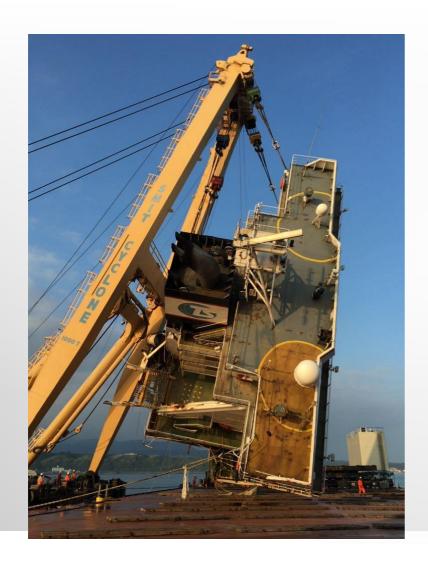
TS TAIPEI – OPERATIONAL MILESTONES CONTAINER RECOVERY

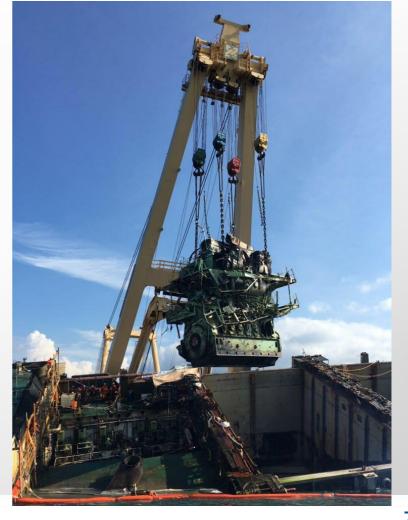




TS TAIPEI – OPERATIONAL MILESTONES MAKE AFT SECTION LIGHTER



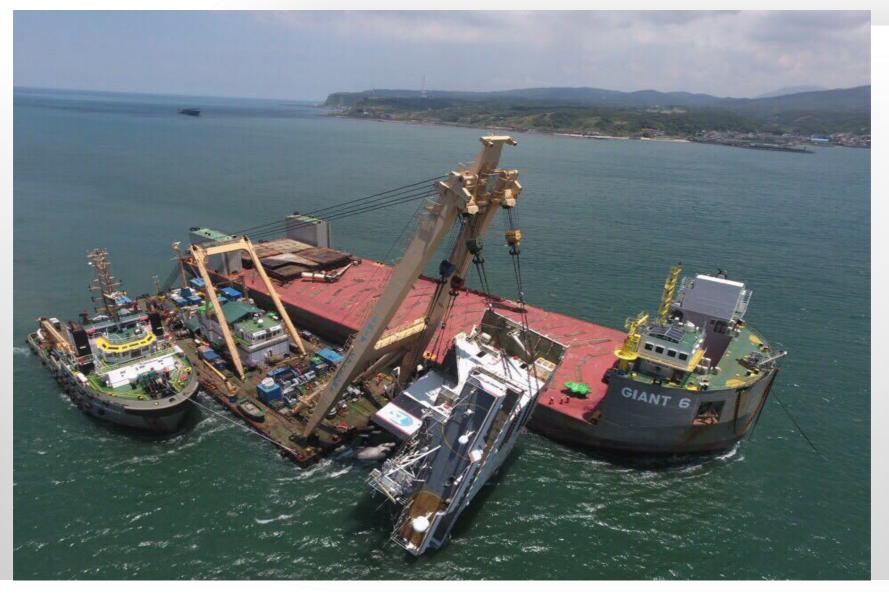






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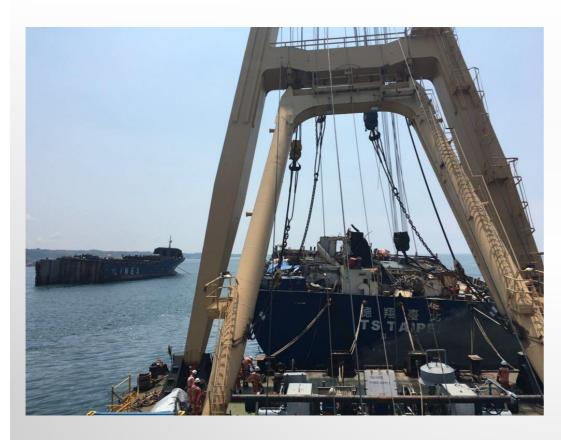






TS TAIPEI – OPERATIONAL MILESTONES REFLOATING AFT SECTION



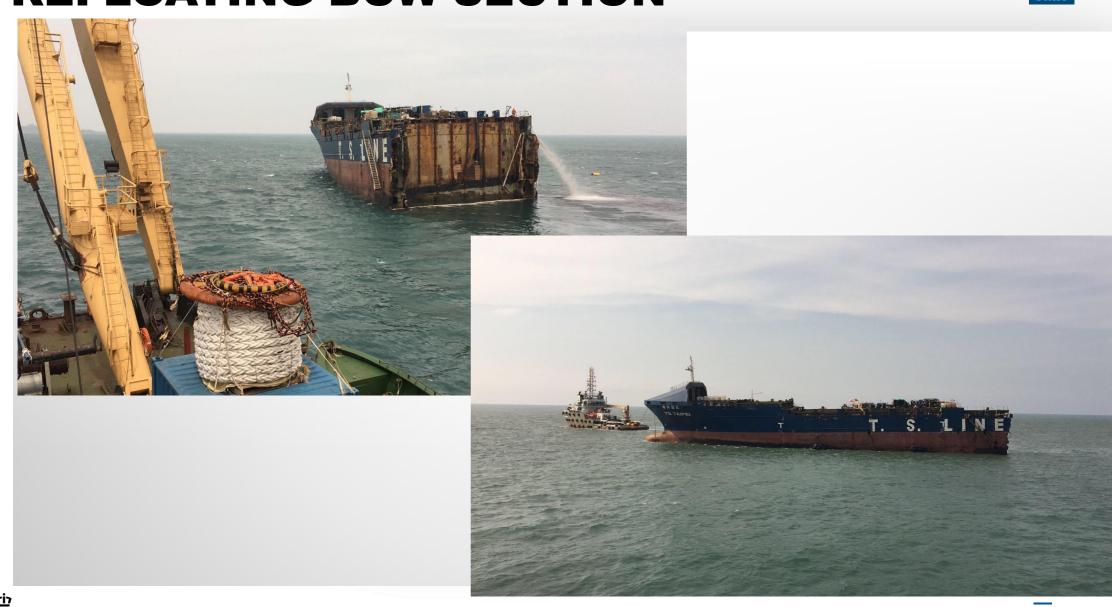






TS TAIPEI - OPERATIONAL MILESTONES REFLOATING BOW SECTION

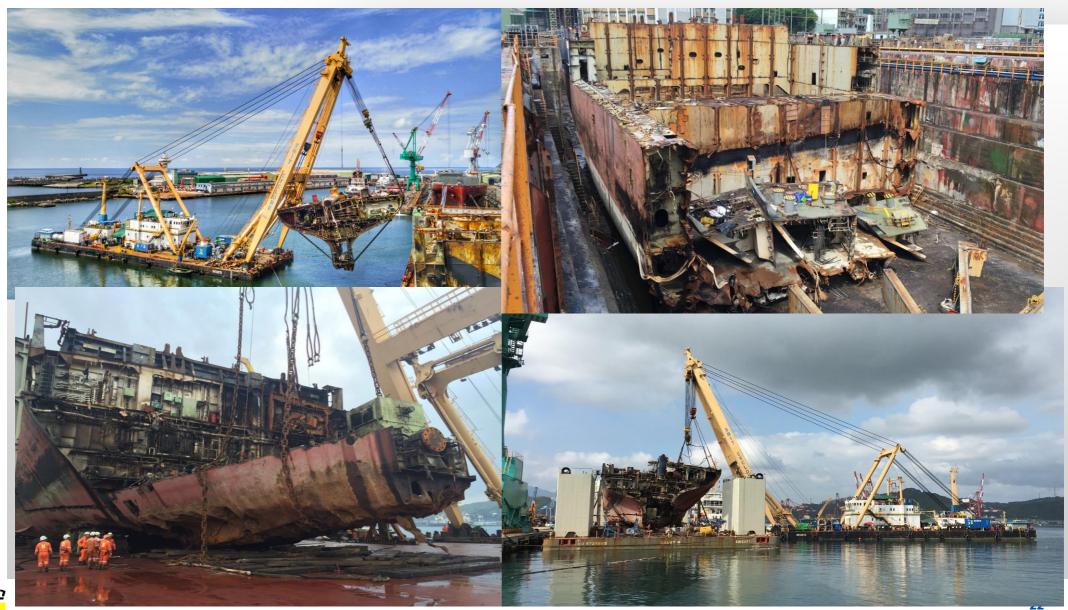






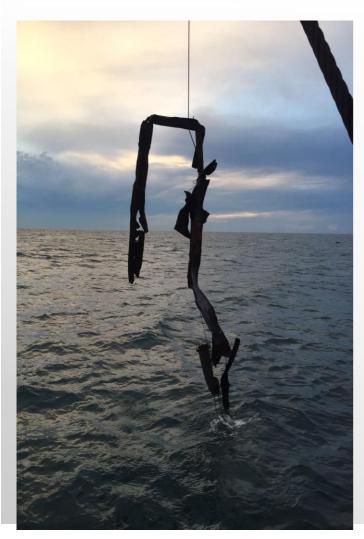
TS TAIPEI - OPERATIONAL MILESTONES KEELUNG PORT SCRAPPING OPERATION





TS TAIPEI - OPERATIONAL MILESTONES DEBRIS CLEARANCE & TURTLE SAVING











TS TAIPEI - OPERATIONAL MILESTONES COMPLETION



THANKS TO:

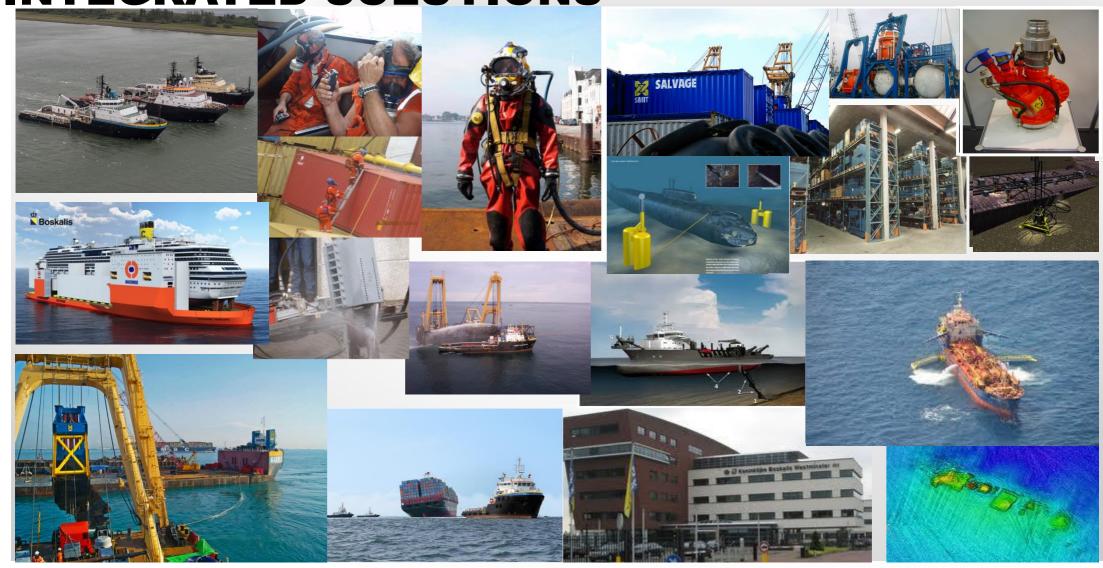
- TS LINES & SWEDISH CLUB P&I
- MPB / EPA / COAST GUARD
- OUR PARTNERS: ASIA PACIFIC HARBOUR ENGINEERING
- OUR CONTRACTORS:
- TAI SHIN (CONTAINER RECOVERY)
- JANG CHUNG & CSBC (SCRAPPING OPERATION)





SMIT SALVAGE INTEGRATED SOLUTIONS





THANK YOU FOR YOUR ATTENTION!



