

MacGREGOR

PRODUCT DEVELOPMENT

**A BRIEF LOOK INTO DEVELOPMENT OF NEW
PRODUCTS AND SYSTEMS**

PRODUCT DEVELOPMENT based on close contact with market and understanding the need for new systems and solutions.

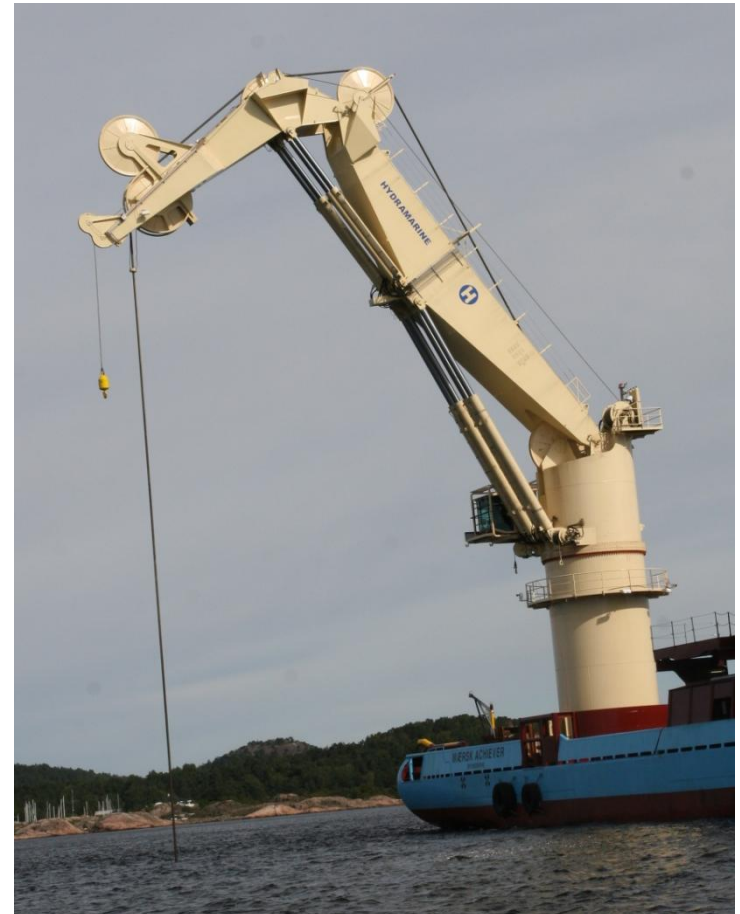
- MacGREGOR's offshore products features:
 - Heavy-weather capability (High end)
 - The right size range towards market
 - Cost-effective, safe and environment-friendly operations
 - More effective overall operations
 - Understanding the need



Subsea load-handling

- large offshore knuckle-jib cranes

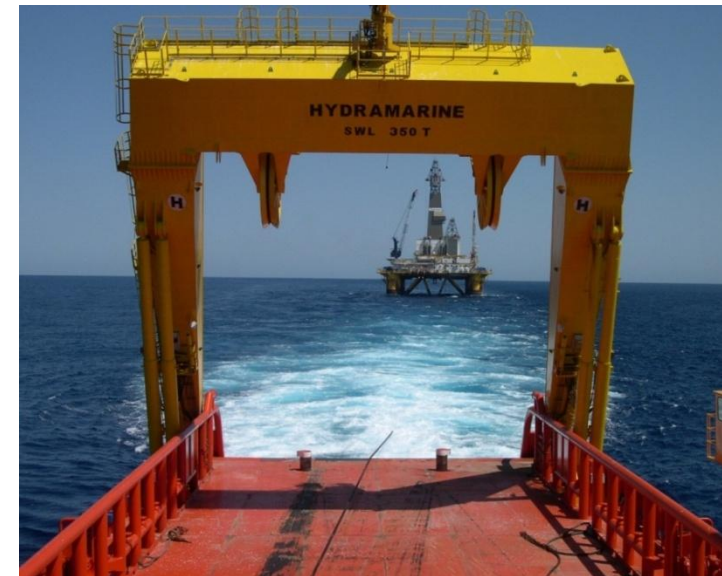
- SWL: 50 tons to 600 tons
- Hook travel to 3000m with traditional steel wire
- High performance AHC systems
- Self-contained systems with built-in electro-hydraulic power units
- Winch integrated on crane or below deck
- Complete integrated control system



Subsea load-handling

- stern and side-mounted A-frames

- Up to 600 tons SWL
- Built-in hydraulics
- Stabilization frames
- Winch systems
- Sheaves for chain and ropes



Subsea load-handling - ROV handling systems

- Overside, moonpool and overhead telescoping LARS
- Heavy weather launch & recovery systems for WROW and OBSROV`s
- Some systems designed for $H_s = 8$ meter operations
- Low release position with axis dampening to increase operational weather window
- Electric AHC umbilical winches



Subsea load-handling - module and ROT handling systems

- Heavy weather launch & recovery systems for subsea modules and ROT`s
- Deck skid systems for safe no-lift operations
- 4C cursor systems
- Electric AHC *liftline* and *guideline* winches
- Moonpool doors
- Module pallets



Subsea load-handling - advanced winch systems

- Winches with up to 10 000 m rope lengths
- High performance AHC systems (direct on winch)
- 4C cursor systems
- Electric AHC *liftline* and *guideline* winches
- Moonpool doors
- Module pallets



Rescue boat load-handling -Advanced davit systems

- SWL up to 20 tons
- Heave compensated
- Extreme weather capability



Ultra-deepwater lifting operations - MacGREGOR solution

- MacGREGOR's Ultra-deepwater Lifting System (UDLS)
 - A vessel side-mounted hang-off frame for transfer of loads from standard crane fitted with steel-rope winch to vertically suspended fibre ropes



Ultra-deepwater lifting system - UDLS - MacGREGOR solution

- Side-mounted frame with connection links
- Deck-mounted fibre rope drums
- Electro-hydraulic power pack
- Local control system



Sea to sea load transfer operations

Heave compensated ramp system for transfer of large loads in open sea

- 72 tons tanks transfer
- Sestate 5 operation
- Transfer in open sea
- Two vessels
- Semiautomatic

