

COOEC SUBSEA



1

COMPANY OVERVIEW

2

ASSETS

3

CORE BUSINESS

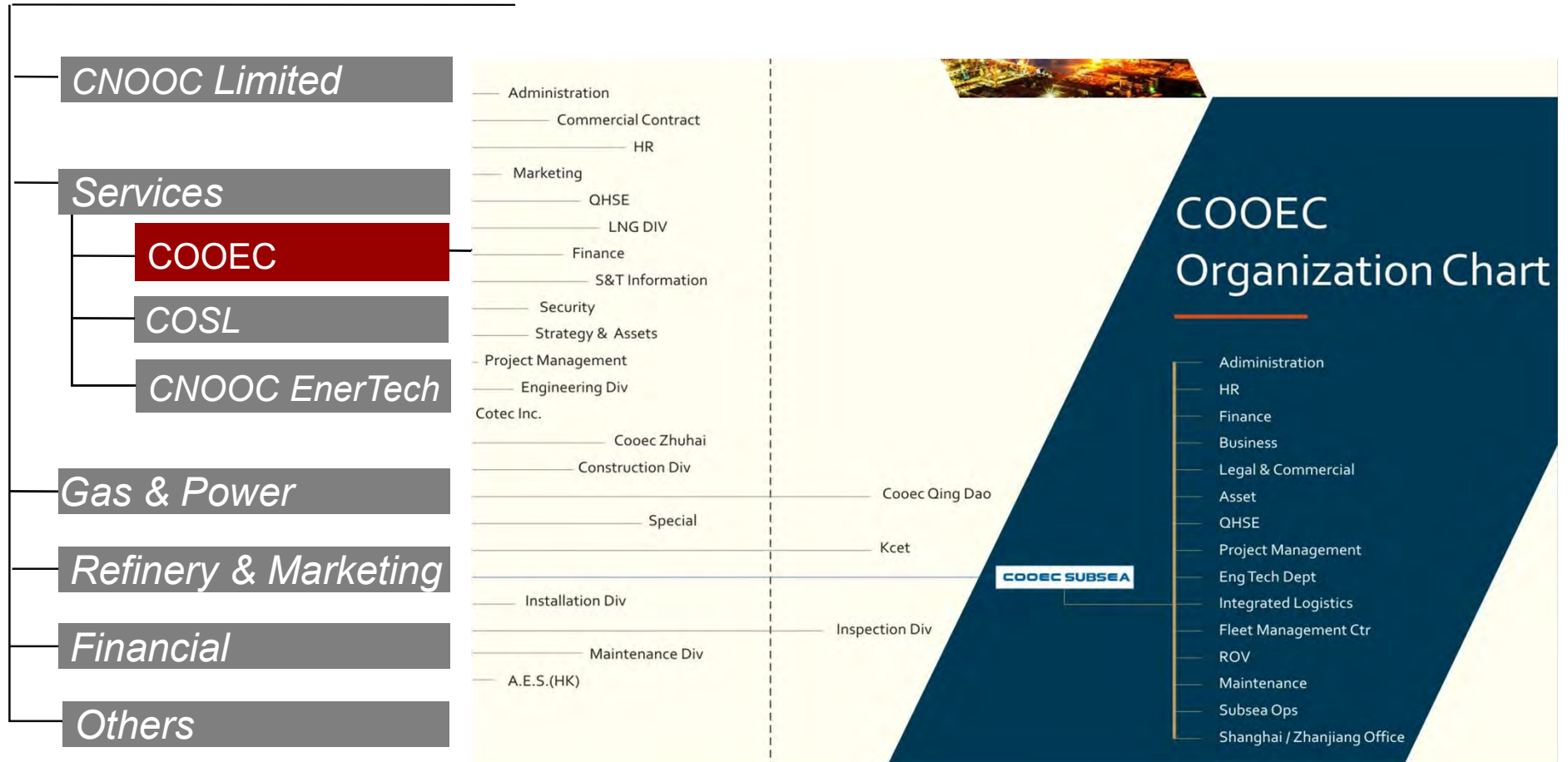
4

PROJECT EXPERIENCE

Company Overview

COOEC SUBSEA

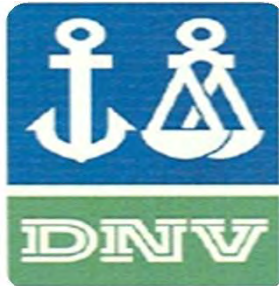
CNOOC GROUP ORGANIZATION



COOEC Subsea Technology Co Ltd; is a wholly owned subsidiary of COOEC. It was established in 1993 as a Hi-Tech enterprise and has since become the leading subsea engineering contractor in China

- 3x 'State of the Art' MSV's
- 17x high specification WROV's
- 70+ Subsea Projects successfully completed
- 535 Employees
- 600m US\$ Revenue 2014. 200m US\$ Revenue 2015
- Collective Income 5 years: 1712m US\$

ISO / OHSAS Management



ISO 14001 Environmental: 2004

OHSAS 18001 Occupational Health & Safety: 2007

ISO 9001 Quality: 2008

Fleet SMS Management

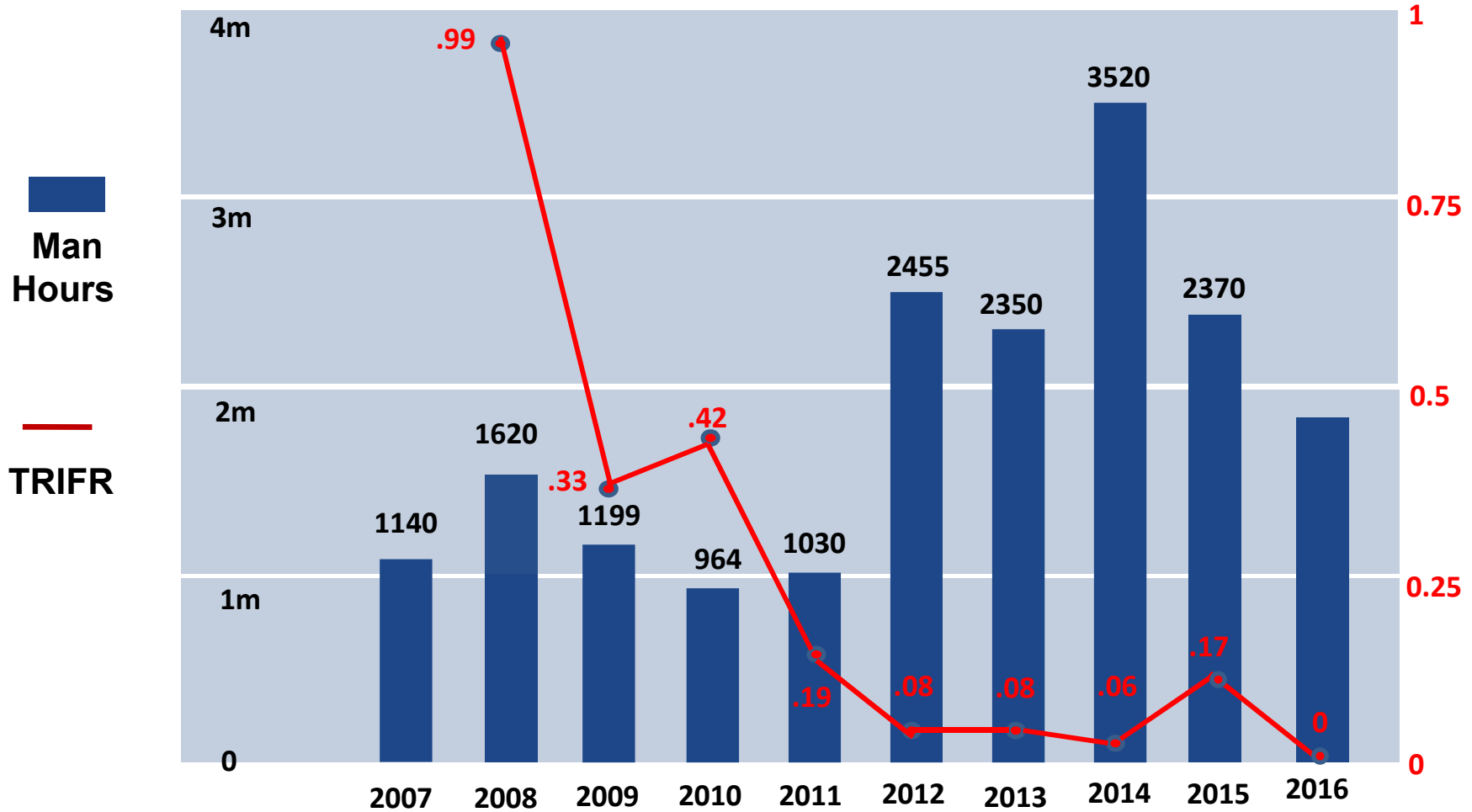


Unisea AS fully integrated safety management systems onboard COOEC Subsea vessels

IMCA Membership



Remote Systems & ROV Services and Training



Past 10 years Safety Record

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PROJECT EXPERIENCE

Assets

COOEC SUBSEA



- 30,000m² Fabrication Yard
- 1300m² Workshop
- 1000m² ROV Workshop
- 2 Working Offices



HYSY 289 MPV (DP2)

Overall length	120.8m
Breadth molded	22m
Draft (max)	6.6m
Deck	1350m ² , 10T/m ²
Crane (NOV)	250T (AHC)
Accommodation	100 Persons



HYSY 291 MPV (DP2)

Overall length	109.5m
Breadth molded	24m
Draft (max)	7.8m
Deck	1070m ² , 10T/m ²
Crane (NOV)	250T (AHC)
Accommodation	90 Persons
Bollard Pull	361t

HYSY 286 MSV (DP3)



Overall length	140.75m	Crane (Huisman)	400T (AHC)
Breadth molded	22m	Carousel	2500T
Draft (max)	6.6m	Accommodation	150 Persons
Deck	1900m², 10T/m²		

ROV Classes

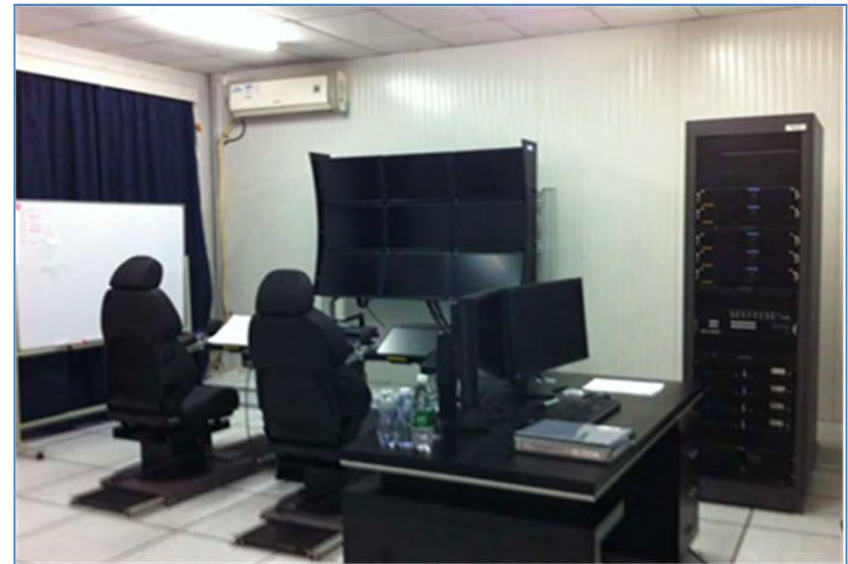
- 2x Observation
- 2x Work
- 13x Heavy Work



ROV training simulator



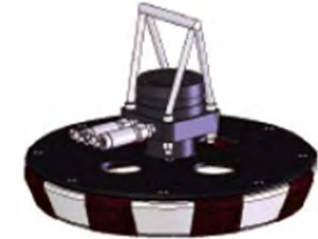
COOEC SUBSEA



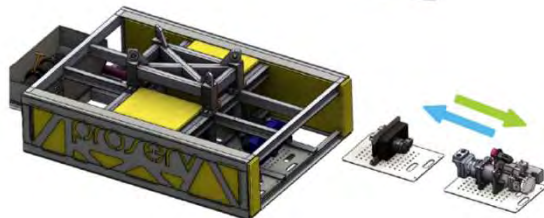
c/w Outdoor Wave Pool



- Intervention Skids
- Fluid Injection Skids
- Modular Anchor Suction Pumps
- Modular IHPU
- Torque Tools
- Torque Analyzers
- Hydraulic Cutters
- Hot Stabs
- CP Probes



- Well Head Cleaning Tools
- Hydraulic Grinders
- High Pressure Water Jets
- Excavation/Jetting Pumps
- Cable/Pipe Trackers
- Leak Detectors
- PH Meters
- Docking Probes
- Profilers





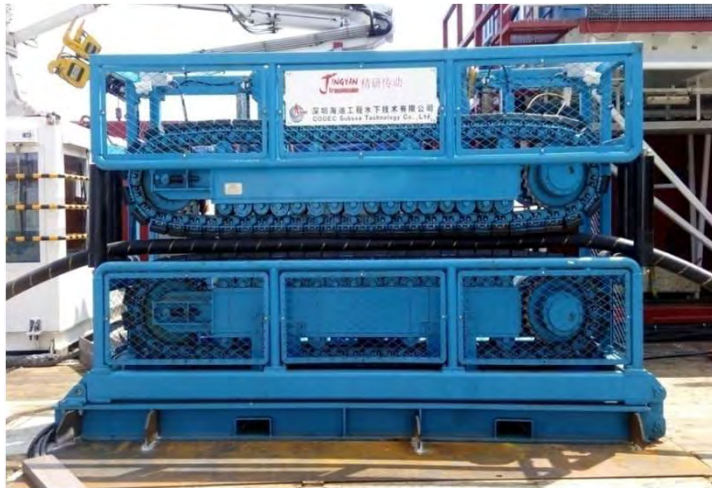
350Te Reel Hub Drive System (RHDS)

Maximum Tension on 9.2 Reel
= 15Te at 4.6m Radius



100Te Tensioner

Speed (Installation): 1200m/h
Product Diameter Range: 50~600mm

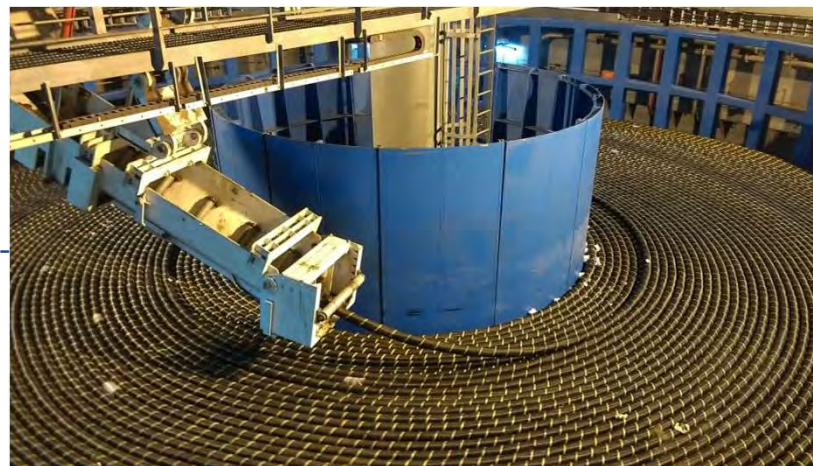


15Te Tensioner
Speed (Installation): 1200m/h
Product Diameter Range: 50~350mm



5Te Power Sheave
Sheave Diameter: 7m
Speed (Installation): 1200m/h
Product Diameter Range: 50~350mm

2500Te Carousel
Speed (Installation): 1000m/h
Product Diameter Range: 50mm-480mm





Hydraulic Test Pump
Rated Capacity: 1.5m³/h&2.5m³/h
Head of Delivery: 4000m



Pigging Pump
Rated Capacity: 150m³/h&250m³/h
Head of Delivery: 400m



55 Te Spooler
Max. Rotate speed (Installation): 6RPM
Maximum Torque: 55KNm

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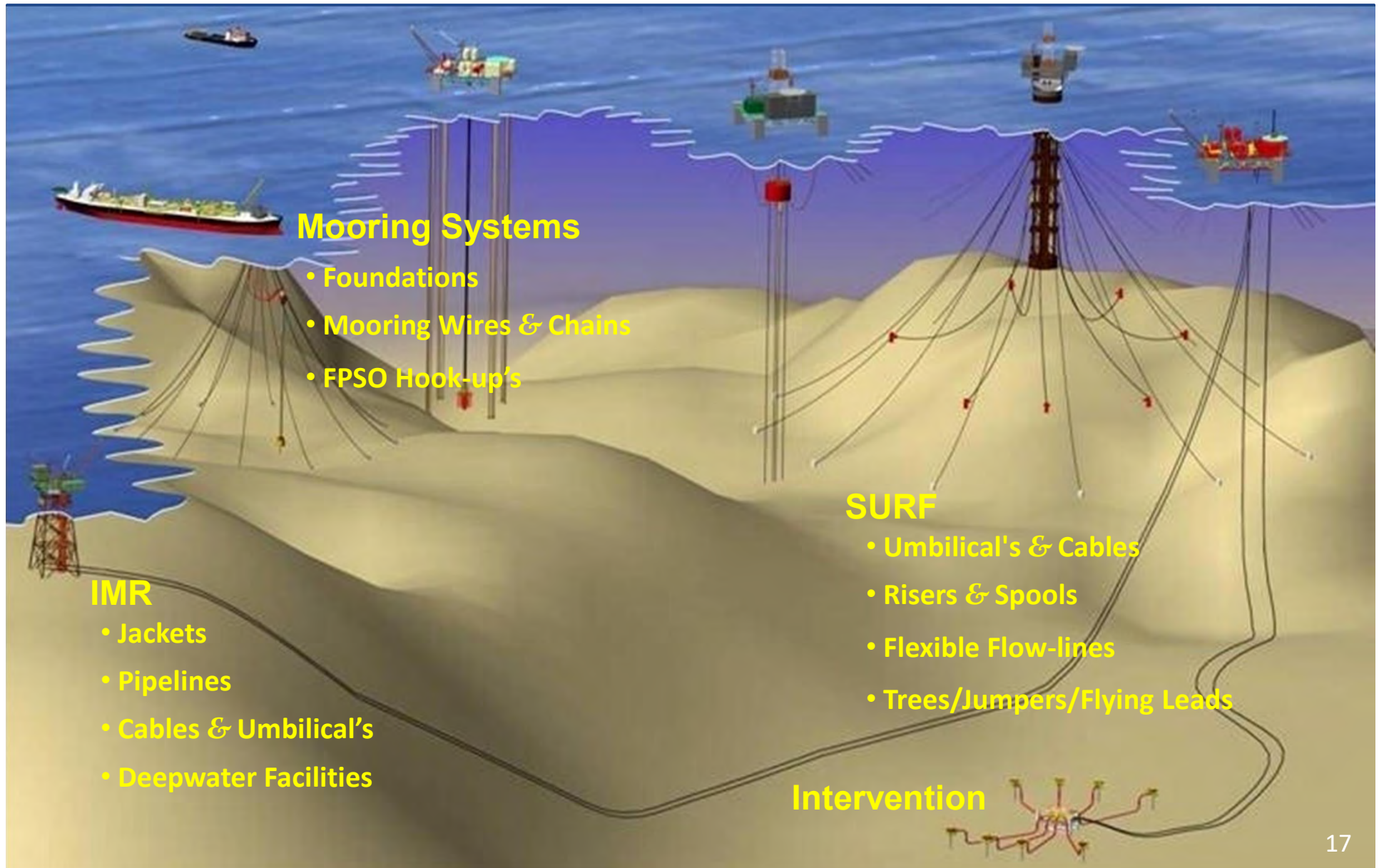
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Core business

COOEC SUBSEA

International Vessel Management



2009/2010
2xDSV, 3xMSV



2011
2x DSV, 1x MSV



2012
4x DSV, 3x MSV



2013
4x DSV, 4x MSV,
1x HLB



2014
4x DSV, 6x MSV



2015/16
1xDSV, 4xMSV,
1x DLB, 1x HLB,
2x AWB



Overall International Co-operation



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PROJECT EXPERIENCE

Project Experience

COOEC SUBSEA



Past 5 years Subsea Installation Summary					
Time	SPM (Set)	Spool & Riser (Set)	Submarine Cable and Umbilical (km)	Flexible (km)	Pipeline Trenching (km)
2011	1	12		4	
2012	1	18	10.5	3	120
2013	1	22	22.5		210
2014	3	22	123	10.2	195
2015		28	121	24.5	145
Total	6	102	277	41.7	670

Project experience

COOEC SUBSEA

Mooring Systems

- SOFEC/APL/SBM
- 3 new mooring system Installations
- 6 mooring system replacements



Project Experience

COOEC SUBSEA

No.	Year	Project Name	Location	Water Depth
1	2011	CACT BTM Installation and Munin Salvage Project	South China sea	115m
2	2011	HYSY111 Mooring Replacement Project	South China sea	105m
3	2011	HYSY115 Mooring Replacement Project	South China sea	94m
4	2012	"NHSK" Single Point Mooring Modification Project	South China sea	145m
5	2012	Lufeng Single Point Mooring Flexible Riser Repair Project	South China sea	100m
6	2013	Enping oil field Single Point Mooring Installation Project	South China sea	105m
7	2014	"NHFJ" FPSO Single Mooring System Replacement Project	South China sea	117m
8	2014	HYSY111 Single Mooring System Online Replacement Project	South China sea	105m





“NHFJ” Mooring Repair Project



Project experience

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Liuhua 11-1 2006

Nan Hai Sheng Li

Mooring System Installations



Huizhou BTM 2011

Nan Hai Fa Xian



Lufeng 13-2 2012

Nan Hai Kai Tuo



Wenchang 13-1/2 2014

Nan Hai Fen Jin



Enping 24-2 2014

Hai Yang Shi You 118



Panyu 4-2/5-1 2014

Hai Yang Shi You 111

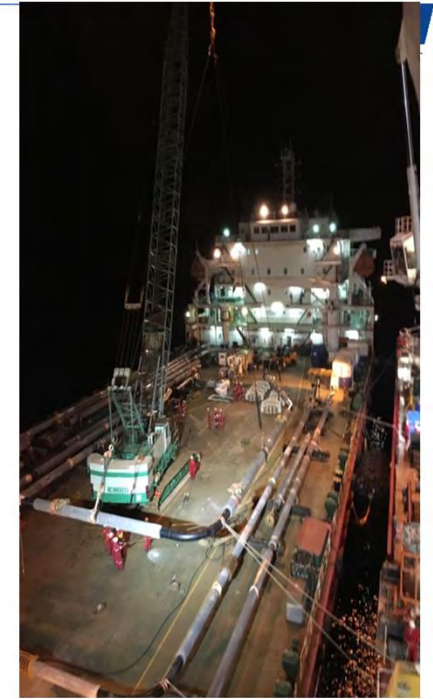
Project experience

COOEC SUBSEA



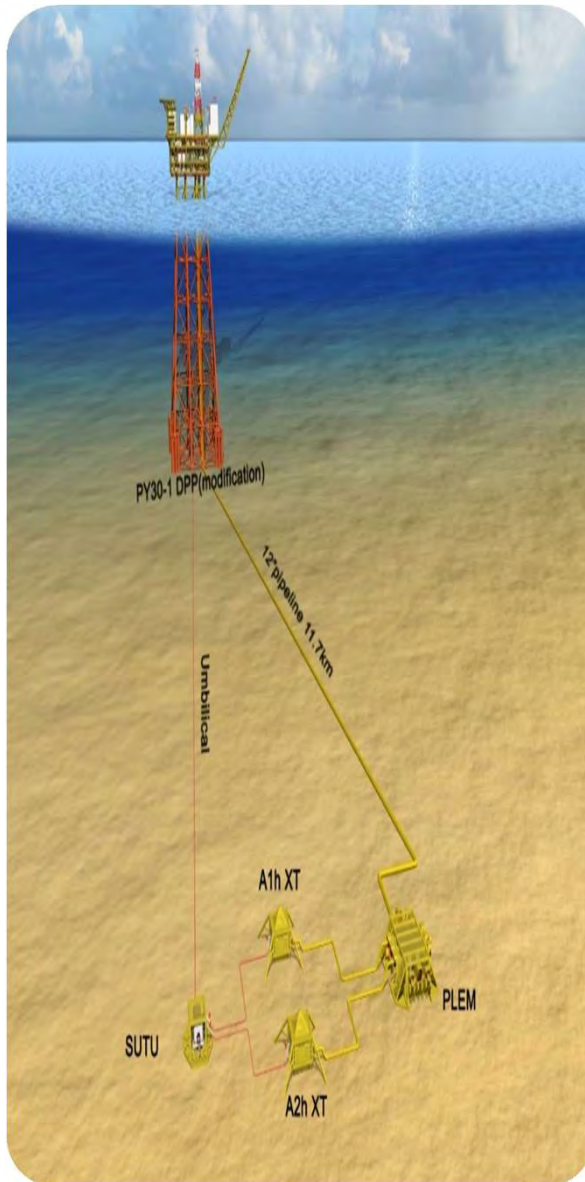
EPICI Project Zawtika 1B Myanmar Oct 15 to Apr 16

- Engineering & Fabrication
- Transport & Installation:
- 4x Jackets
- 4x Pipelines
- **20x Spools**
- Platform modifications
- 37 vessels utilised



Project experience

COOEC SUBSEA



EPIC Project Liuhua 19-5 Subsea Tie- Back Mar 12 to Dec 13

- 1x Pipeline
- 1x Umbilical
- 1x PLEM
- 2x Spools
- 2x Jumpers
- Platform modifications
- Subsea Structural Engineering & Fabrication



Project experience

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Flexible Pipe Laying Project Feb-Apr 2015, Malaysia (Hai Yang Shi You 289 Time Chartering)

- 8KM 5.5' Flexible Pipe laying
- 155 pcs mattress installation
- Pre-commissioning
- Installation of J-Tube, etc

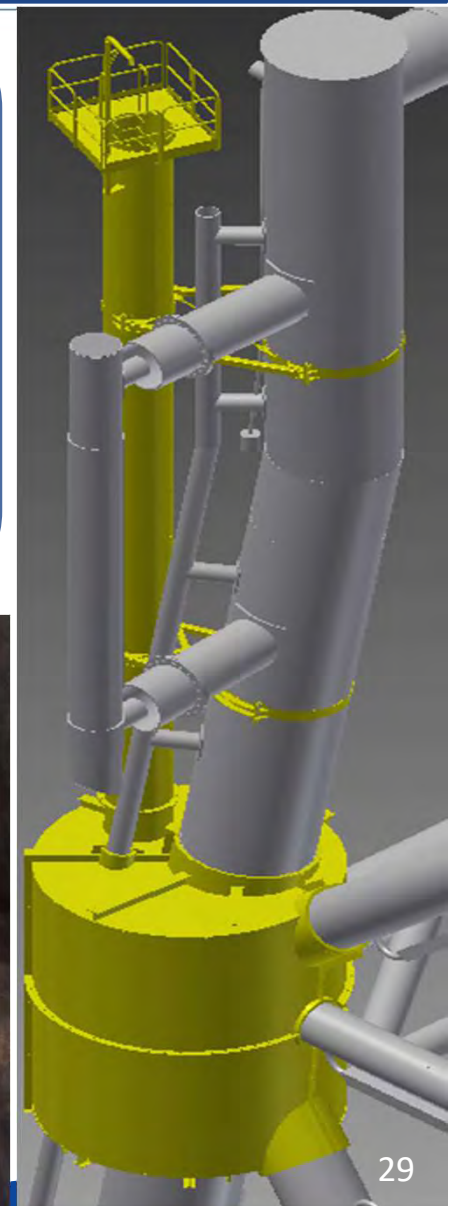
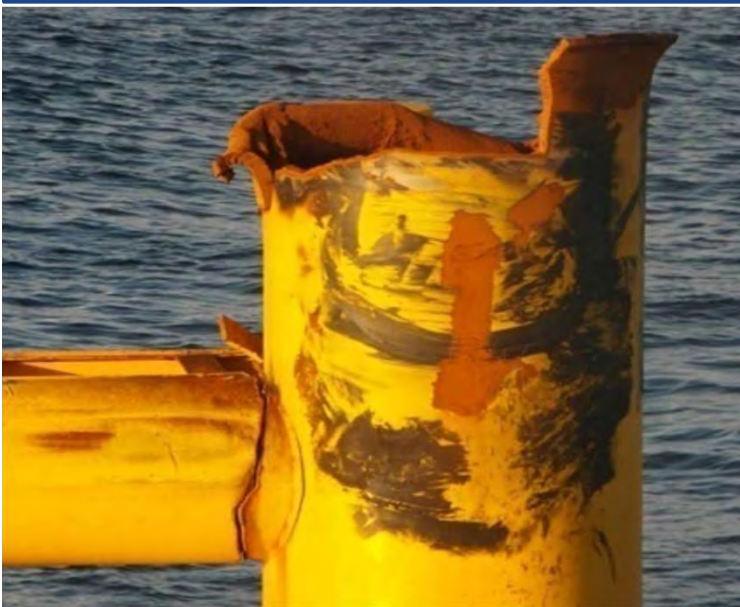


Project experience

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IMR (LF7-2 Jacket Repair)

- Jacket Inspection using AIR/SAT diving and ROV
- Dimensional surveys
- Above water weld repairs
- Complex subsea weld repairs using 2x 1ATA dry Cofferdams

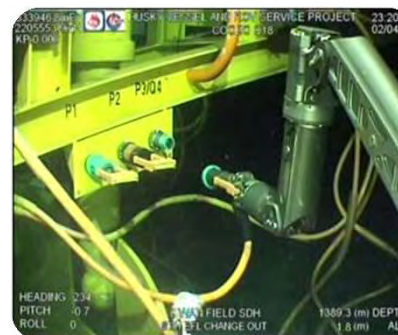


Project experience

COOEC SUBSEA

LH19-5/LH34-2/LW3-1 Deepwater Intervention Vessel and ROV Services

- General WROV interventions
- Subsea tree SCM replacement & valve operations
- E/HFL & Manifold CIMV replacements
- PLEM retrieval for both refurbishment & reinstallation
- Work-pack based IRM





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