STRATEGIES FOR THE SUBSEA OF THE FUTURE

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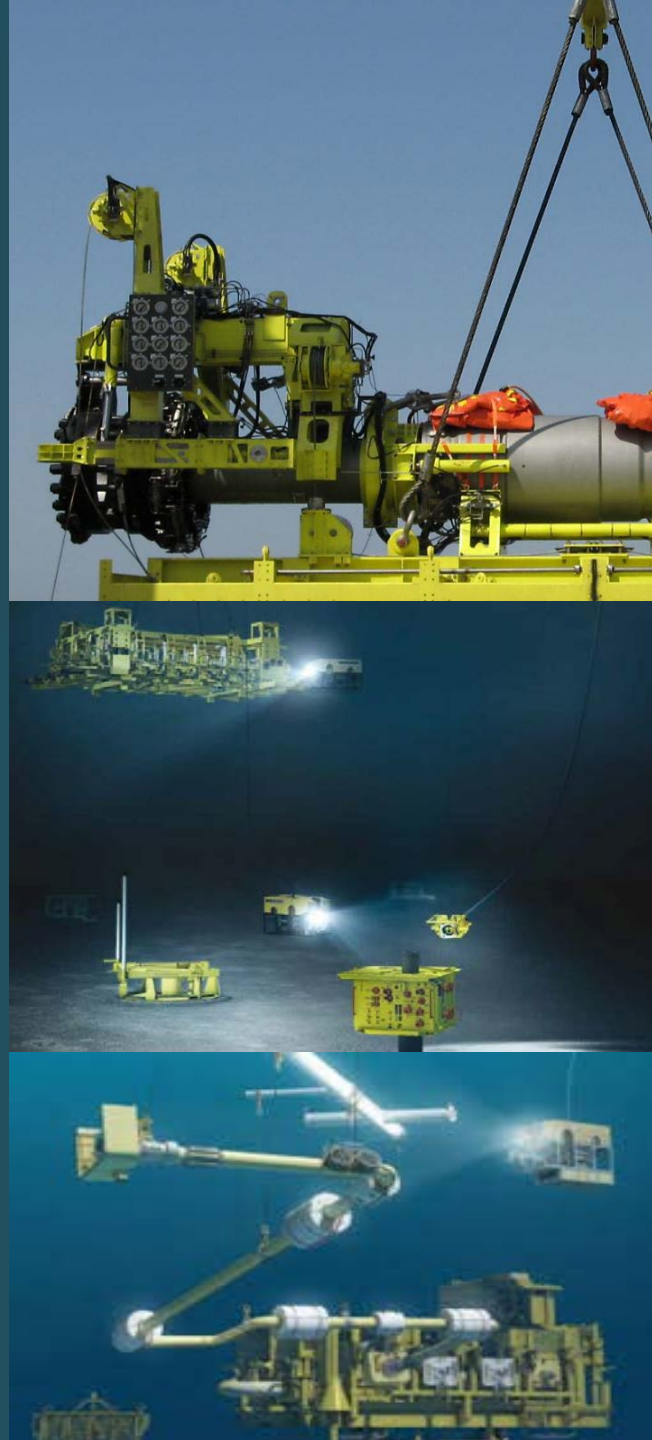
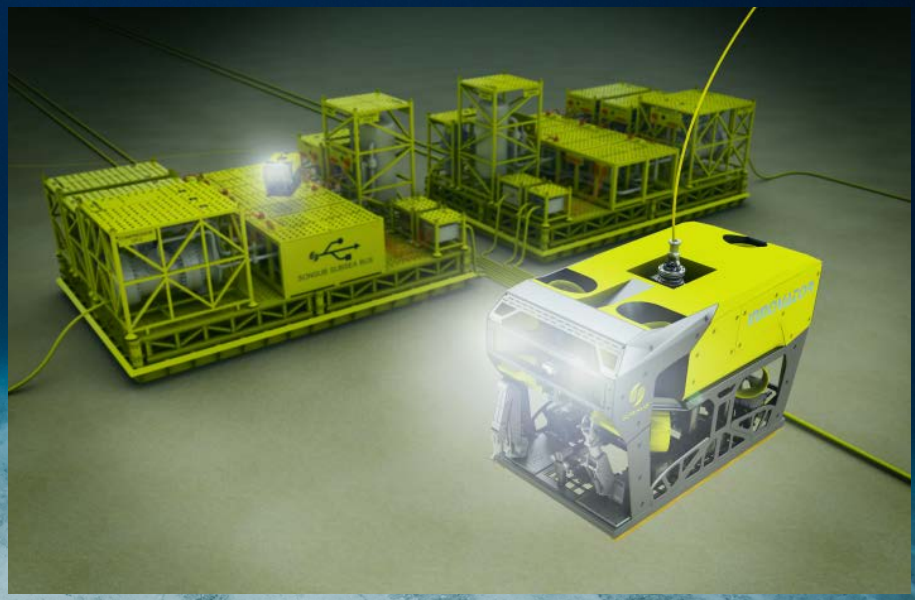


Which Future for Subsea?

Challenges

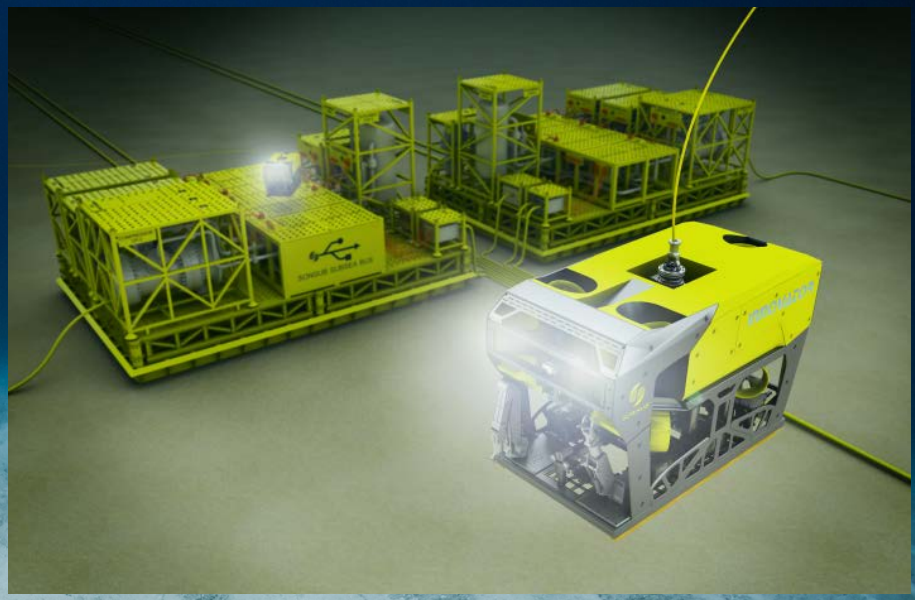


Oil Price Environment

Prolific Basins mostly in Deep & Ultra Deep Waters, Harsh Environments and Environmental Sensitive Zones

Which Future for Subsea?

Opportunities



Innovation in Technology & Execution Models

Cost Efficiency throughout the Field Life Cycle

Our Vision

Subsea Tomorrow

Process and systems will be such as to bring to surface and/or onshore only the purest products to export

What is currently processed and treated on topside and floaters will be processed and treated subsea

SURF
+
Subsea Factories

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O.Diaz - 2013

Which Strategy

The level of complexity and competences required to develop, construct and operate the SUBSEA of Tomorrow exceeds any mission, skills, and industrial model of the industry stakeholders as they stand today

EARLY ENGAGEMENT

TECHNOLOGY & ASSET INNOVATION

VALUE CREATION FROM NOVEL EXECUTION MODELS

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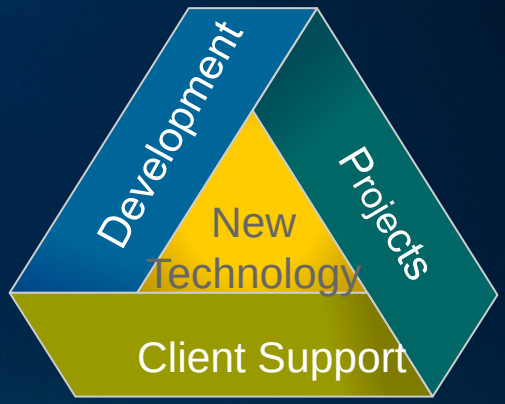
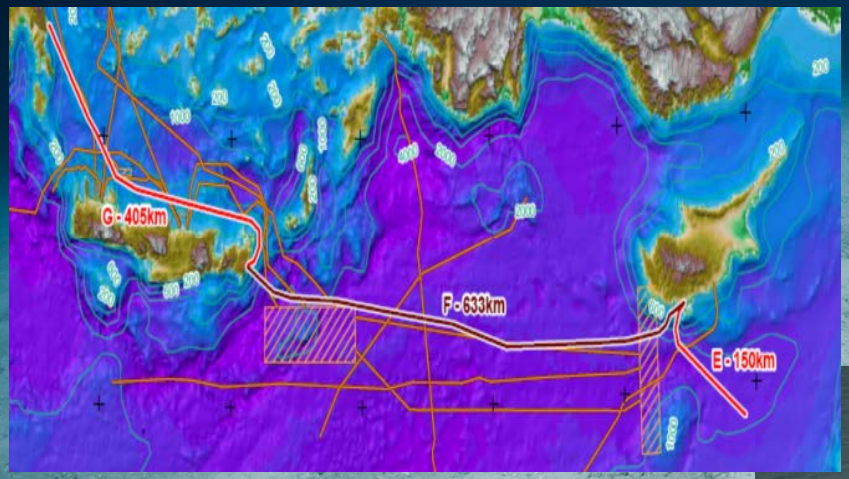
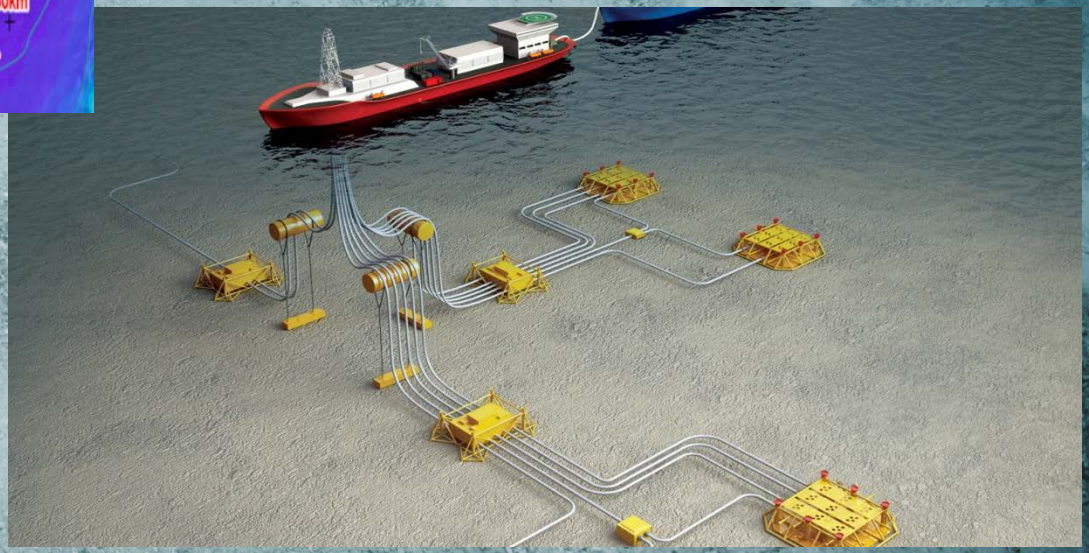
Early Engagement

Feasibility Assessment





Concept Definition



Total System Engineering

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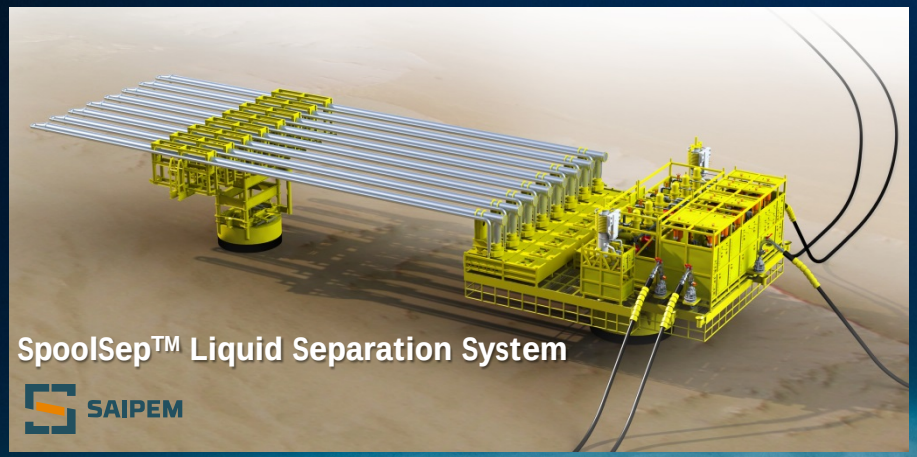
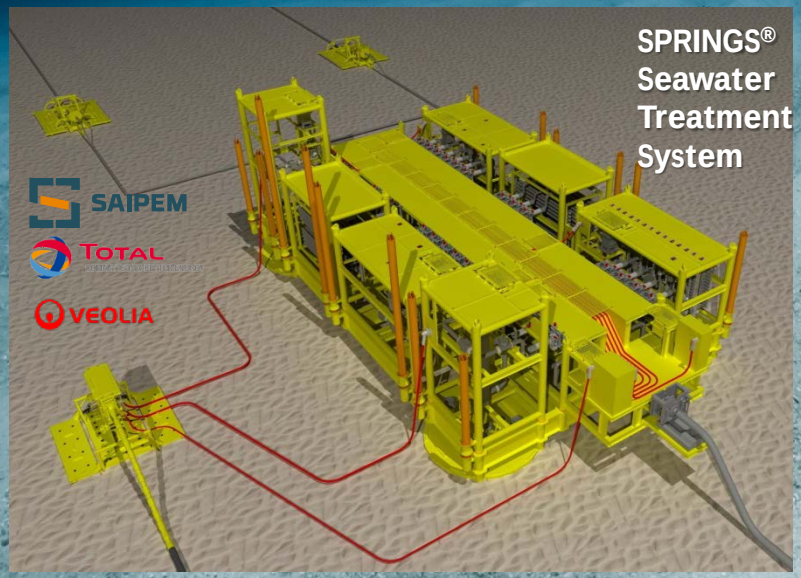
Technology & Asset Innovation





Subsea Processing Systems & Equipment

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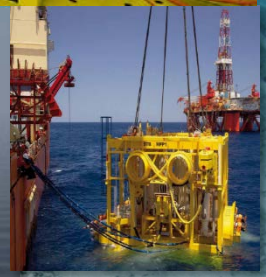
Remote Intervention Technology & Equipment



Combine Heavy & Lighter Construction/Intervention Asset Base

Novel Execution Models

The Saipem - Aker Solutions Alliance

Powering the Subsea Progress

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SAS
Subsea
Alliance

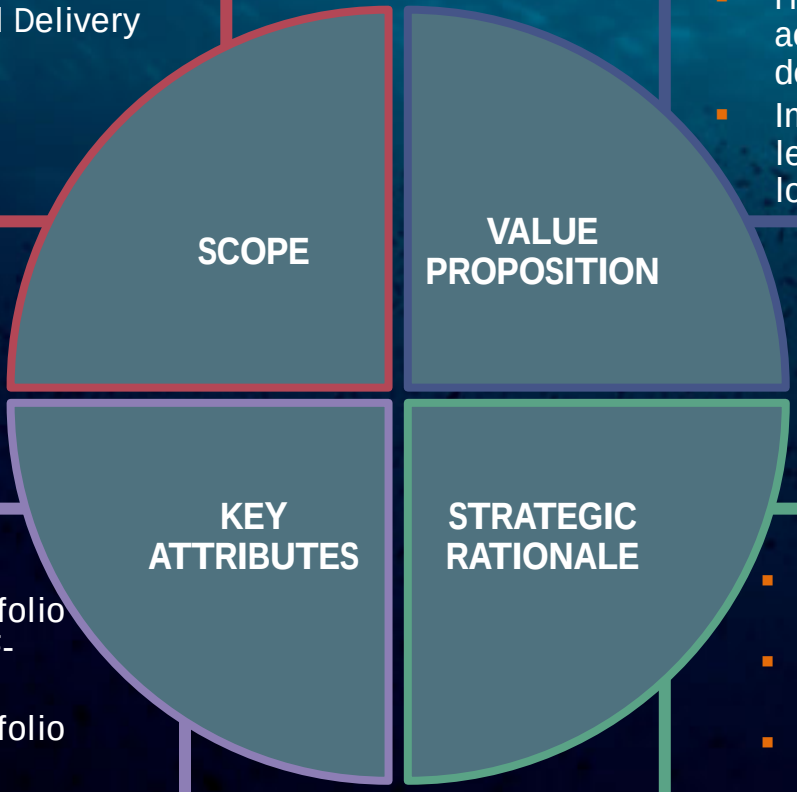
AkerSolutions™

Novel Execution Models

SAS Subsea Alliance

AkerSolutions

Re-Engineering the Subsea Space



- Field system engineering
- SPS/SURF Integrated Delivery Model
- Life of field services

- Product and installation optimization
- Higher project NPV through accelerated oil/gas and phased development
- Improved LoF management leading to higher IOR and lower costs

- Front end focused
- Access to Parents' Portfolio of SPS-Driven and SURF-driven Products
- Access to Parents' Portfolio of Technologies
- People/System Centric

- The market and buying pattern is changing
- Industry consolidation and partnering activity
- Ability to offer a competitive integrated SPS/SURF offering

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Which Future for Subsea?

"There is a significant amount of resource in deepwater and what is so important about deepwater is how prolific it is, not just the sheer amount of production you can get per well but also our ability to innovate and bring costs down

If you look at the production rate you get per well in Brazil, it is a couple of orders of magnitude more than you can get from shale resources in the U.S.

Therefore it is not just about the cost and not going for expensive projects, it is looking at unit costs and the best deepwater projects will compete with projects in other parts of our industry"

Andy Brown
Shell Upstream International Director