



Subsea IOR in a Broad(er) Perspective



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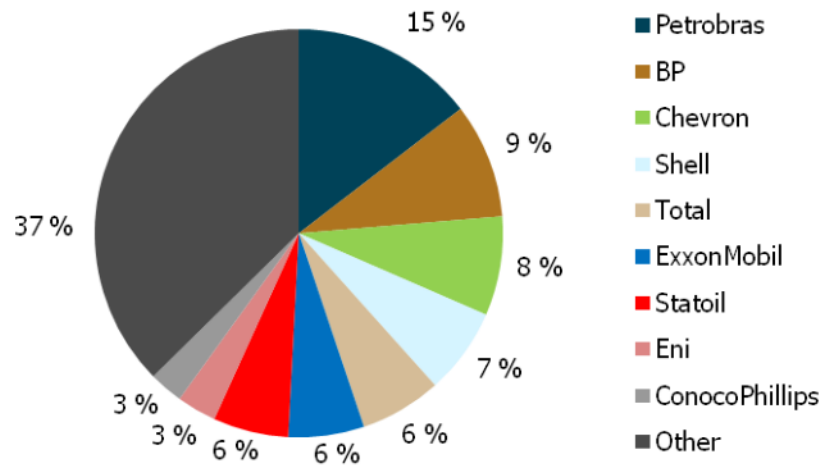
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Current Trends

Increasing Dependency of Subsea

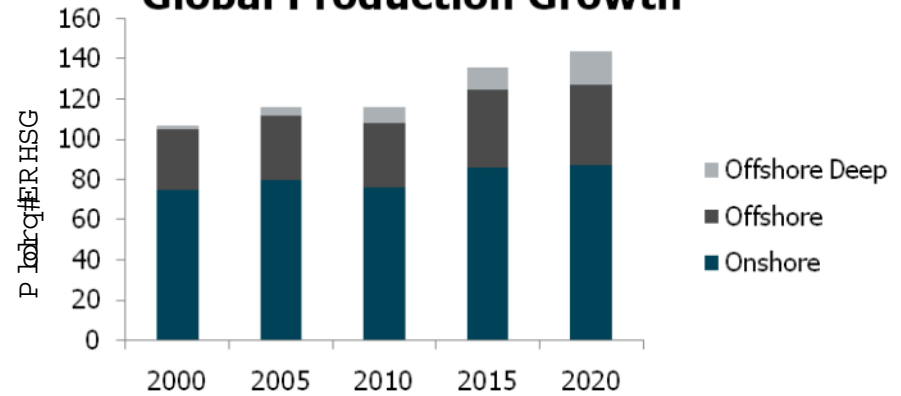
Subsea Tree Deliveries 2010-2014



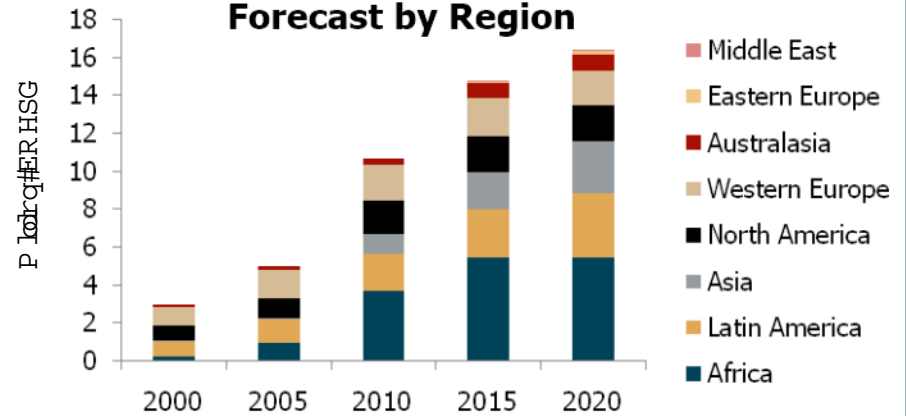
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Global Production Growth



Subsea Production Forecast by Region

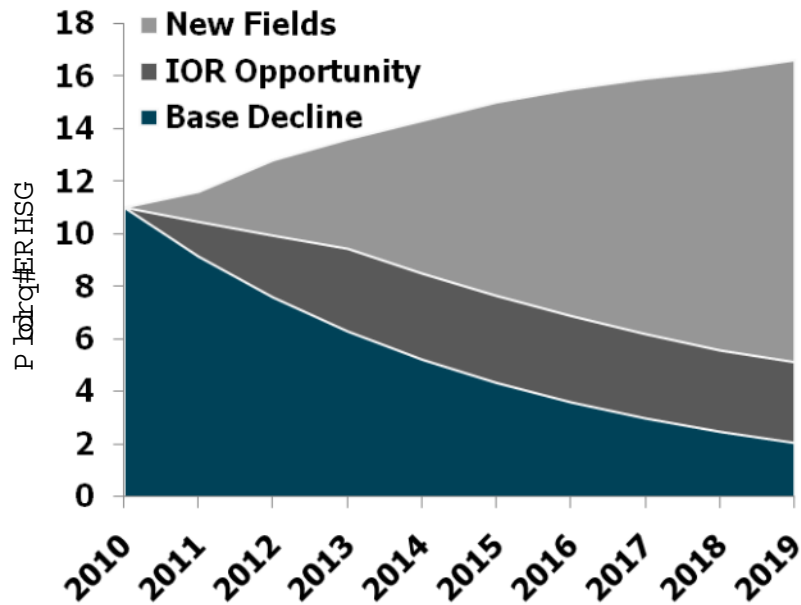


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Current Trends

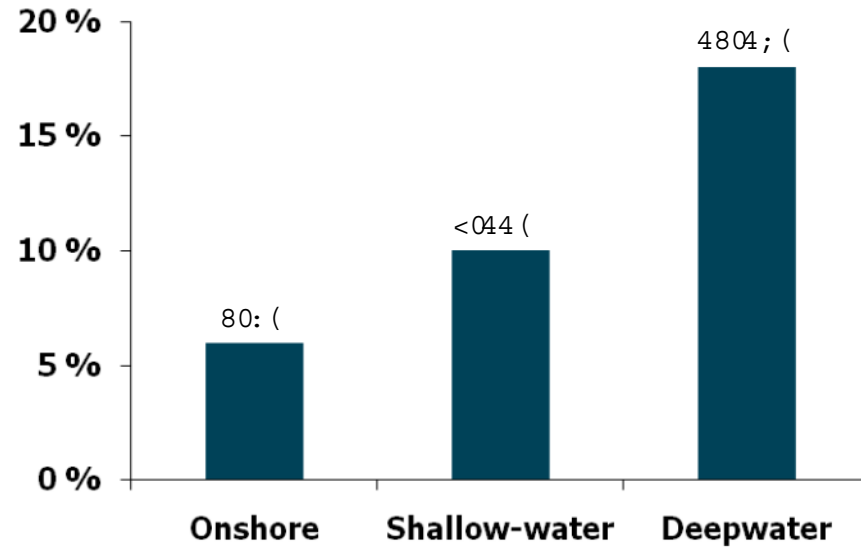
Stronger Focus on Increased Recovery

Subsea Fields Production Profile



Source: FMC Technologies

Post Peak Annual Field Decline Rates



Source: FMC Technologies

16 milliarder fat står på spill

Sædvhw#R iivkrulqr#
3713415344

Subseabrønner er vanskeligere å overhale. Vi trenger derfor en kraftinnsats på subseabrønner, slik at vi får en like god utvinningsgrad i disse som for plattformborede brønner.



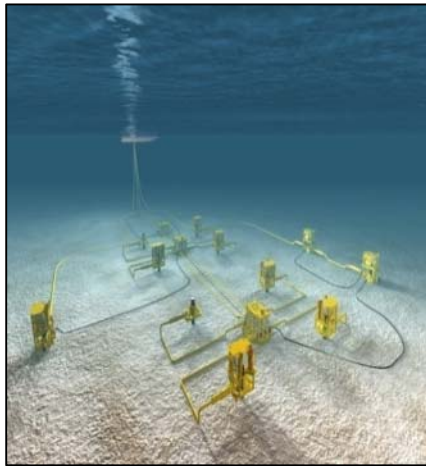
Åm og Terje Riis-Johansen (bildet), er enige med Oljedirektoratet i at **økt boring er hovedresepten for på kort sikt å øke utvinningen på modne feltene.**

FMC Responding to Trends

Expansion of the Subsea Focus – Subsea IOR

IRU

Production Systems



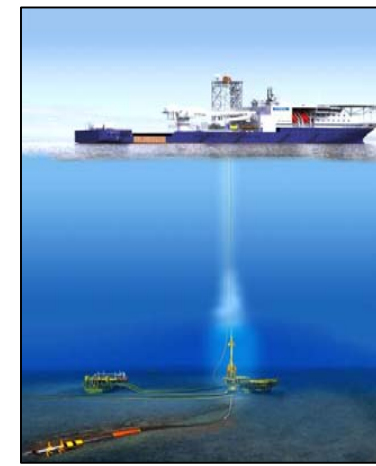
- Deeper water
- HP/HT
- Longer distance

Processing



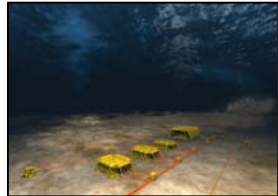
- Separation
- Pumping/Boosting
- Compression

Production Operations



- Light Well Intervention
- Through Tubing Rotary Drilling
- Production Performance Services

Subsea Processing Evolution



Subsea to Market



Subsea Compression



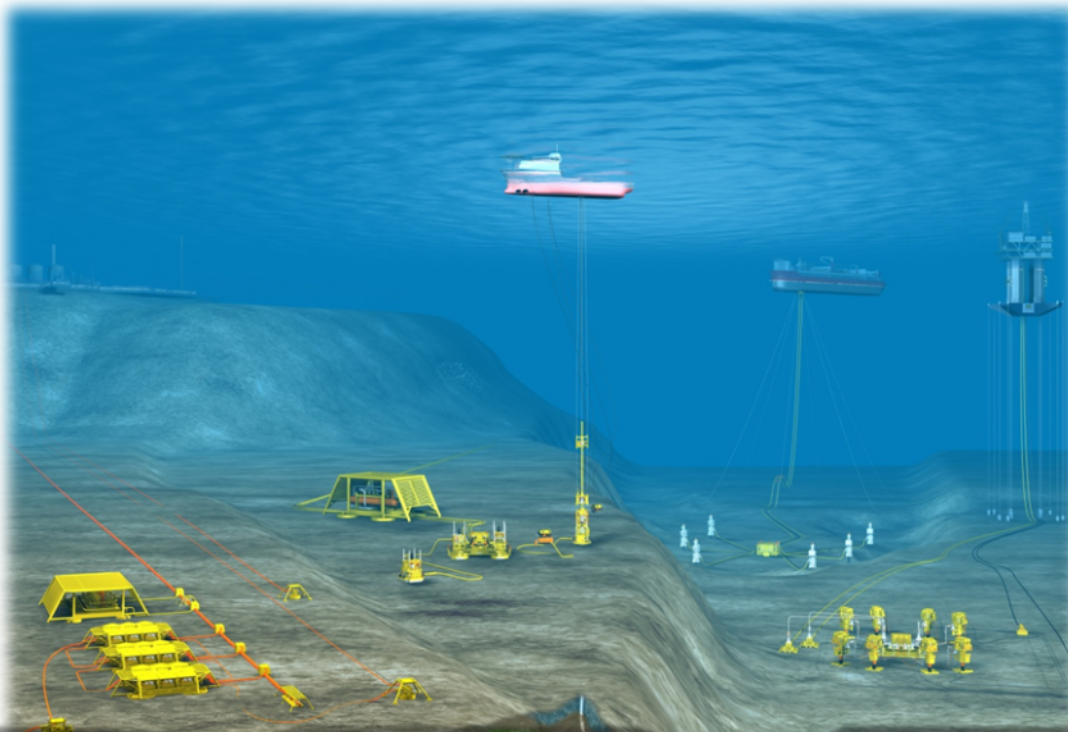
Compact Separation



Heavy Oil applications



Gravity Separation

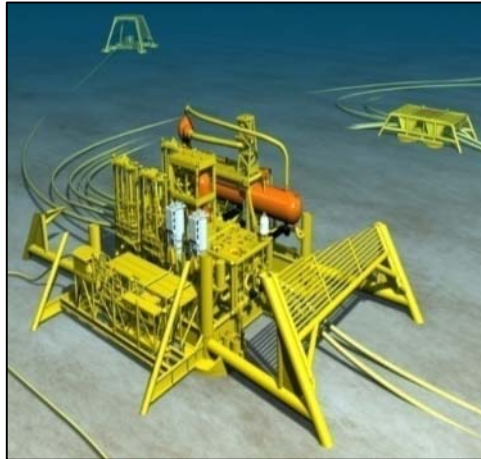


Boosting Station



Raw Seawater Injection

Subsea Processing Road Map



Statoil Tordis



Total Pazflor

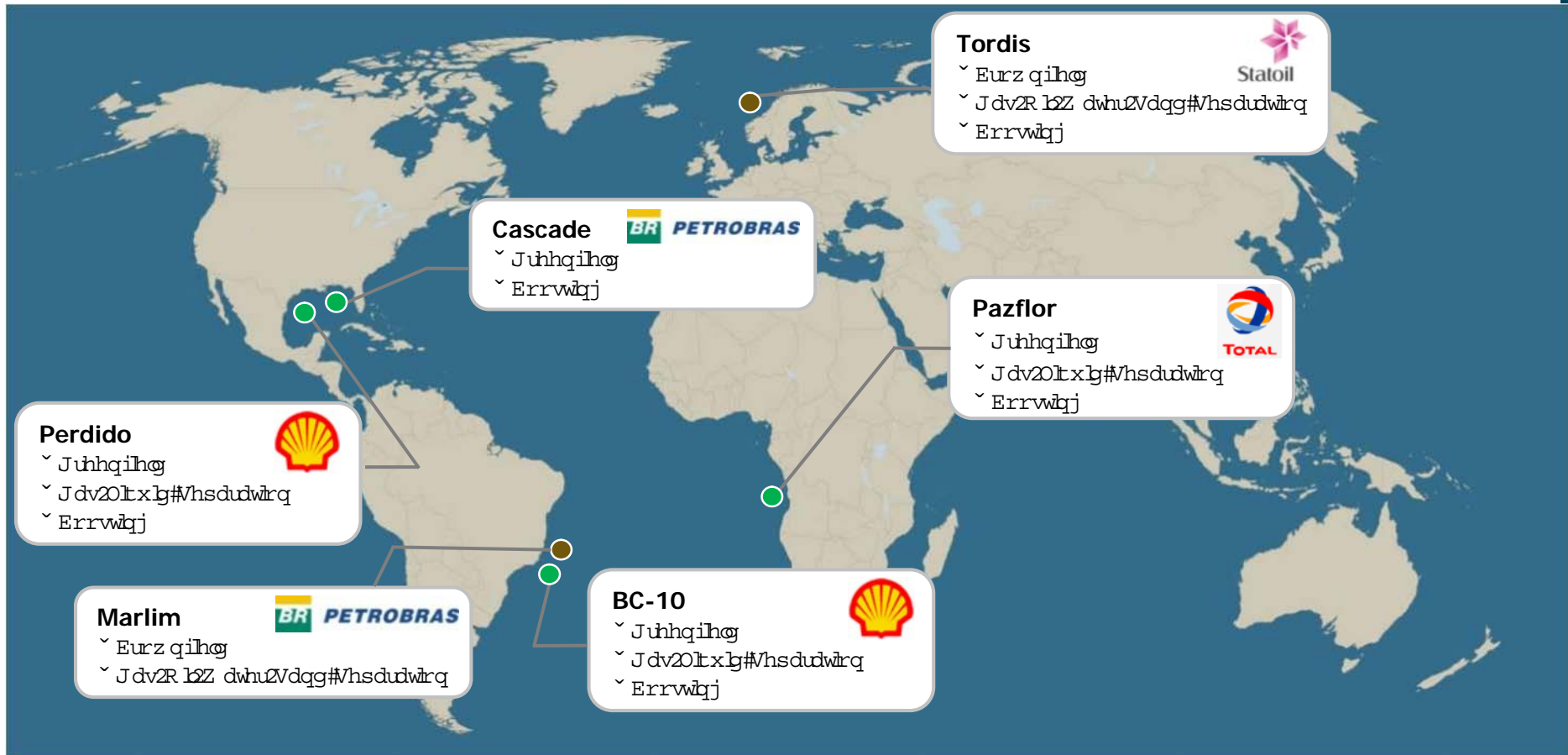


Petrobras Marlim



FMC's Subsea Processing Projects

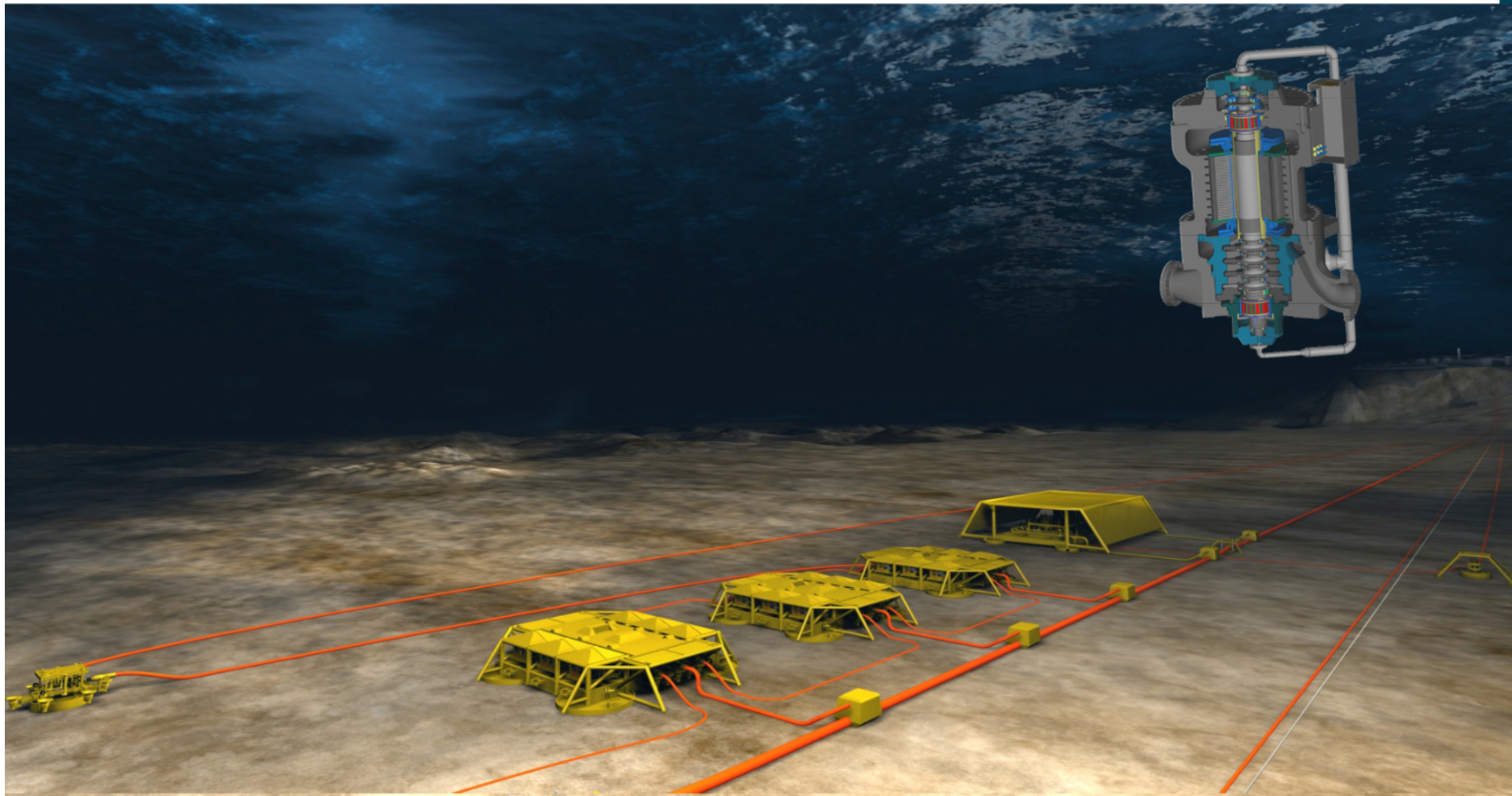
Activity in every major deepwater basin



● Greenfield ● Brownfield

Subsea Gas Compression

The next gamechanger in subsea



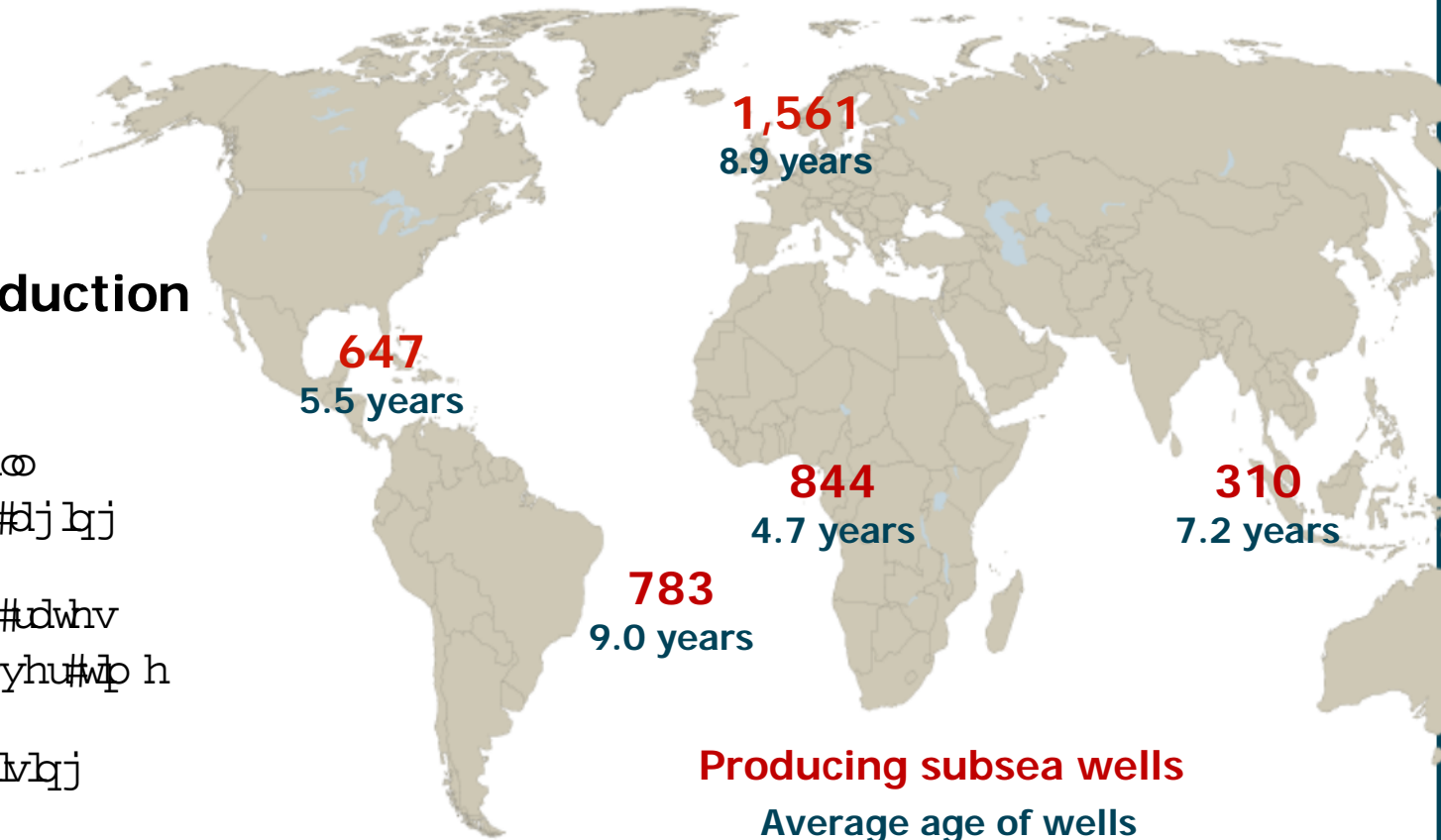
Light Well Intervention

Opportunity to extend well life and increase oil recovery

Subsea Installed Base

Subsea production challenges:

- Vxevhdz hō srsxōwlrq#dj lqj
- Surgxfwlrq#udwhv ghfdq lqj #ryhu#p h
- Ulj #frrw#ulv lqj



Vrxufh=#f xhw#R iivkrub#Uhnvrxufhv/#qf1

Light Well Intervention

Patented technology solution

- Orz hu#Erw#0 ulj dnv
- Idvhu#bwhuyhqwrqv
- Qr#k |gurfduerqv#wr#xuidfh#0 ulvhu dnv
- Iqfuhdvhg#r buhfryhu|

Contracts Awarded to FMC

Operator	Location	Term	Start-up
Vwdwr b	Qruwk#Vhd	9#\w	5T #5339
Vwdwr b	Qruwk#Vhd	7#\w	5T #533<
ES	Qruwk#Vhd	6#\w	5T #533<



Through Tubing Rotary Drilling - TTRD

- Hqdedh#hiilfhq#gulogj /#lqwhuyhqwlrq#dqg#kkurxjk#
 wxelbj#frp sdwlrq#kkurxjk#kxh#h{lwlgj#xevhd#
 frp sdwlrq1
- Pruh#hiilfhq#gulg#p ruh#frw#hiihfwyh#frp sdhg#
 wr#frqyhqwlrqdg#gulogj

 - μ Srwledh#r#ghyhars#p duj lqdz h#dujhw
 - μ Lqfhdvng#hfryhu|
- Lq#533<#Vdwr lqghp rqwudwhg/#kkurxjk#vz r#
 vxfhvixq#WUG#rshudwlrqv/#lqwhuyhqwlrq#dqg#
 gulogj#kkurxjk#vdp h#v|vhp



WWUG #txisp hqw#Orz hu#Saw



NPD IOR 2009 Award

Wrjhwkhu#z lk#Vdwr lq#P F#
 ghyharsg#dqg#hwvhg#kxh#WUG#
 wfkqraj|#lq#kxh#vjduj#lhq#/
 gulogj#kxh#z rug#v#arqjhw#
 vghwdfn#hyhu#iurp #h#arwlgj#ulj1



Teknisk Ukeblad 2010 Engineering Award

Dz dughg#ru#kxh#
 ghyharsp hqw#c#RU#
 wfkqraj#lv#Dljkw#z ha#
 lqwhuyhqwlrq#WUG#dqg#
 Vxevhd#Surfhvlgj



ONS 2009 Innovation Award


Dz dughg#ru#kxh#
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 wkh#RU#iiruw

FMC Technologies – Watch

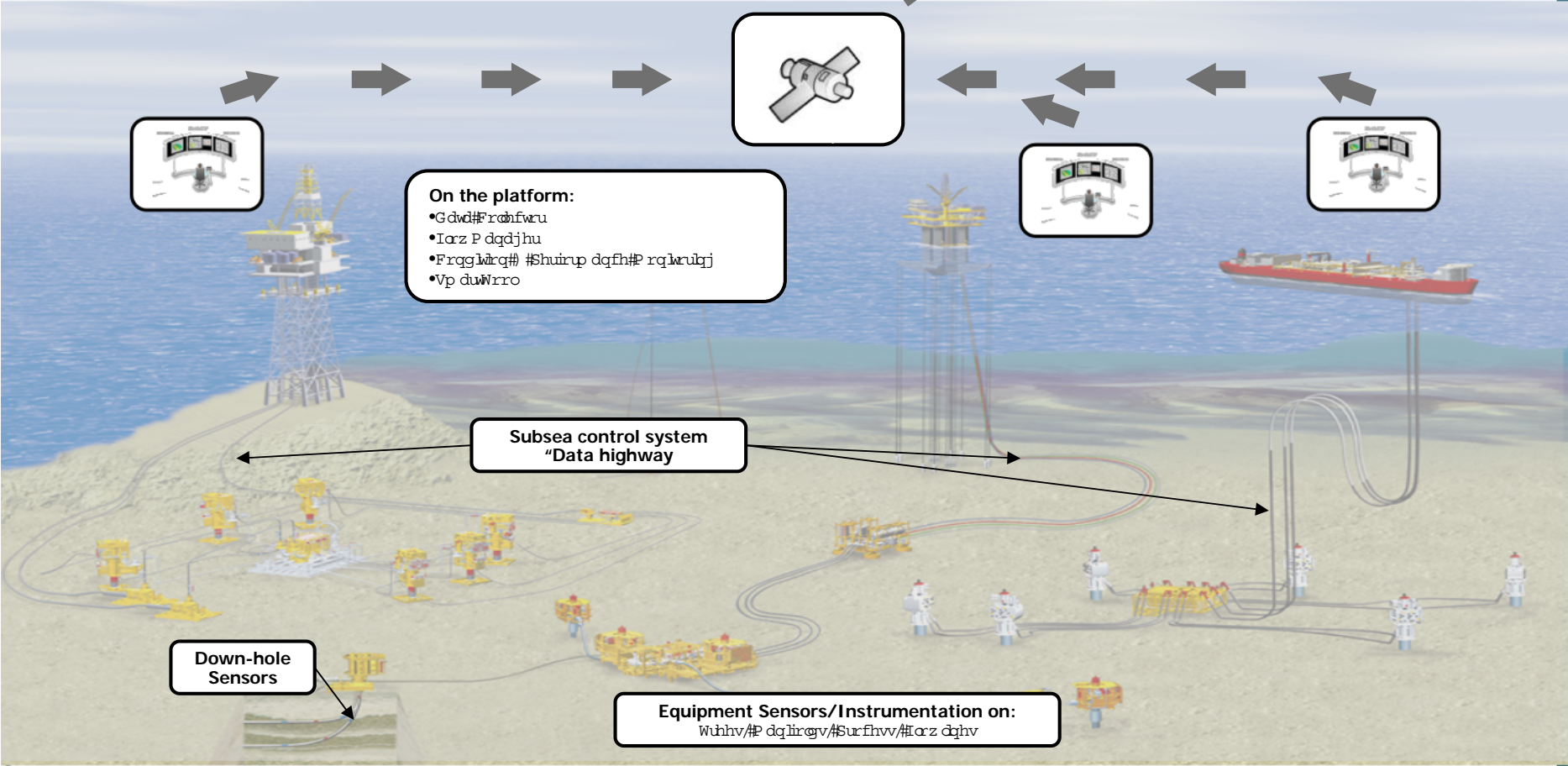
ONSHORE SUPPORT
In the collaboration room

- Nqrz dngj h#lqg#lqkdqfnp hqw#
- Dgylfh#lqg#Surdfwlyh#Wuylfh

WATCH 24/7



Datalink to shore



FMC Watch System

Real-time monitoring, operational support and services

FlowManager™ Metering

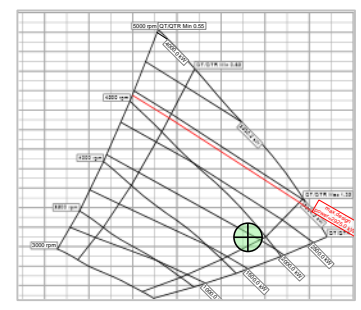
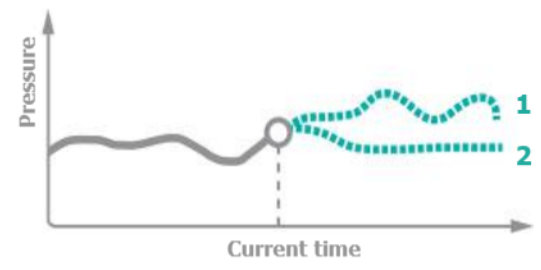
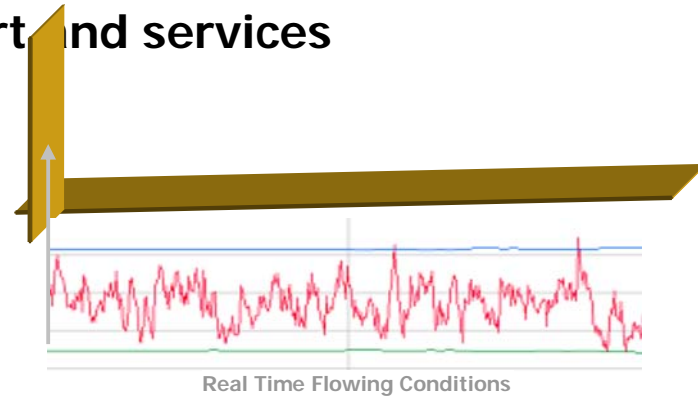
- μ Edvly#iru#hvhuyr l#p dgdjhp hqw#
- μ Surgxfwlrq#R swp lvdwlrq
- μ Dffhdudwhg#surgxfwlrq#dggzru#lqfuhdvhg#
uhfryhu|

FlowManager™ Advice

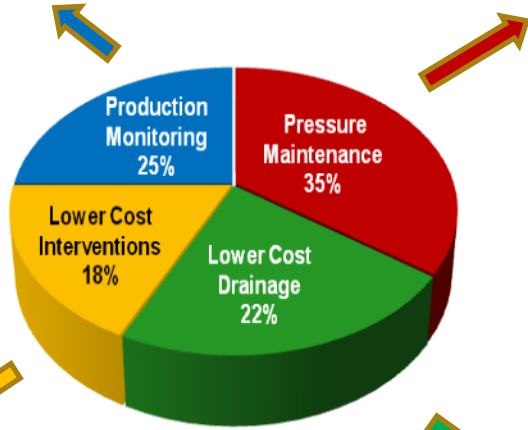
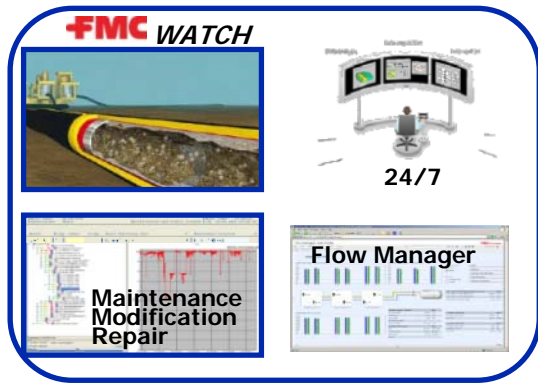
- μ Edvly#iru#surgxfwlrq#sdlqqbj
- μ Vhfxuh#vdih#dgg#suxghqw#surgxfwlrq#sdlqqbj

FlowManager™ Performance

- μ Iqwhjulw|#ntx|sp hqw#p dgdjhp hqw
- μ Iqfuhdvh#xswp h



FMC current subsea IOR Tool box



FMC's vision - the Field of the Future

