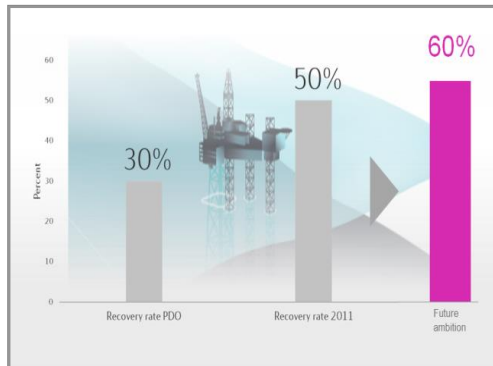


# IOR Peregrino case: challenges and learnings

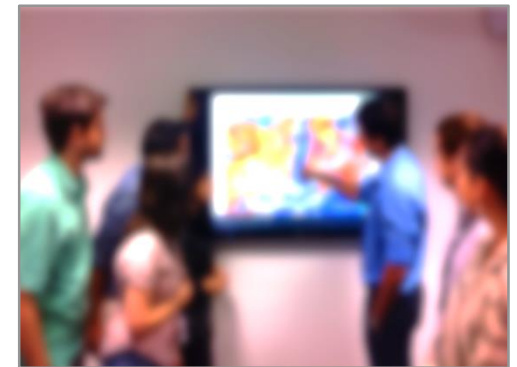
# IOR roadmap



Solid resource portfolio  
-> world-class track record, high ambitions

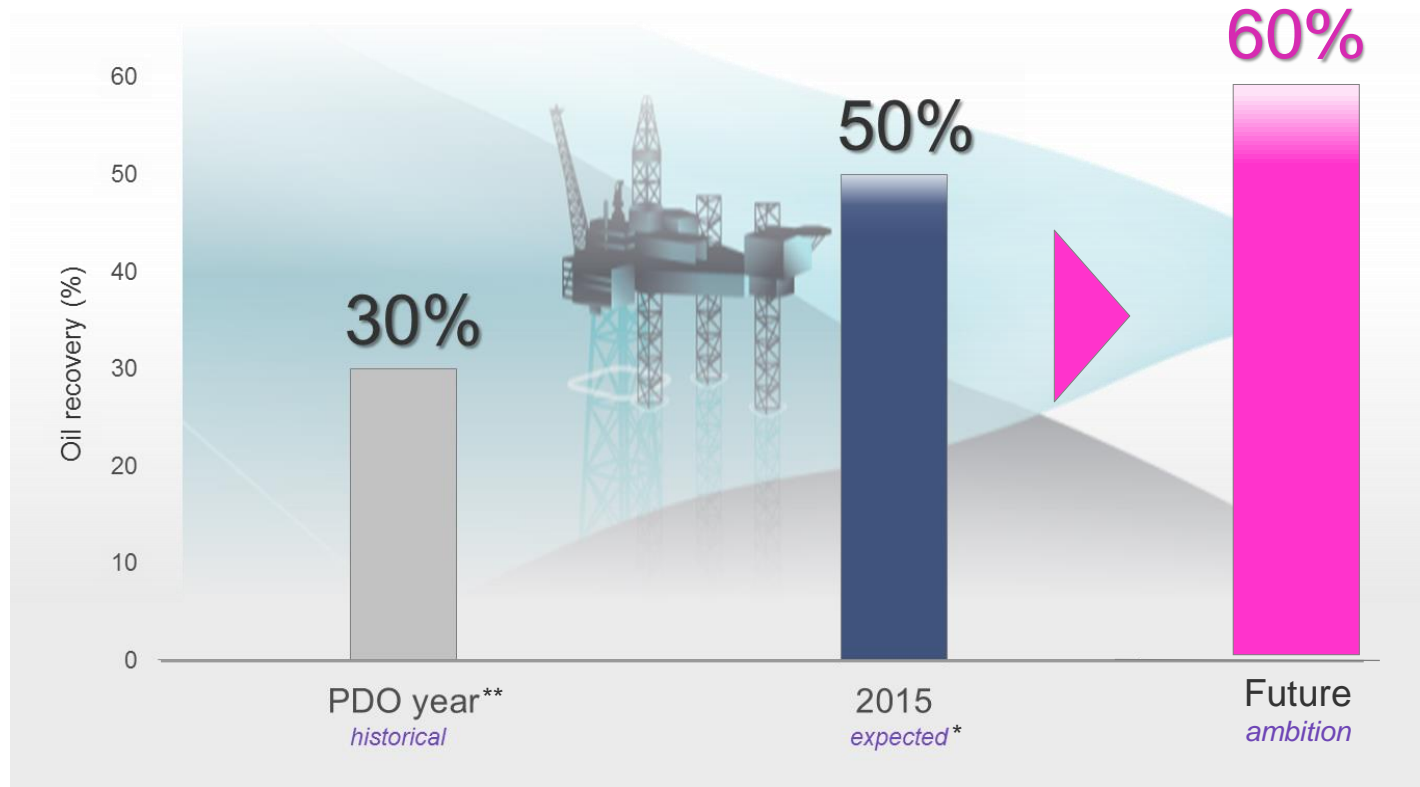


Technology portfolio  
-> 45 years experience, IOR toolbox



Hard focused work  
-> multidisciplinary collaboration

# World-class recovery rates – NCS



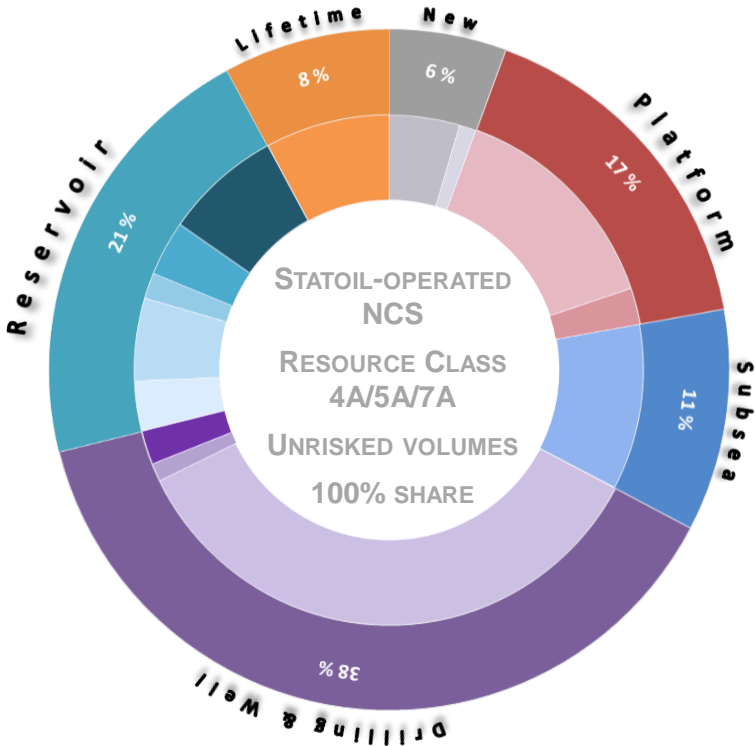
\* Average oil recovery factor for Statoil's operated fields on the Norwegian Continental Shelf (NCS).

\*\* PDO: Plan for Development & Operation

# IOR toolbox

## Improved Recovery Potential

- Based on RNB2013 IOR project portfolio (oil equivalent) -



- Standalone Solution
- New Template
- Existing Infrastructure
- Low-pressure Production
- Debottlenecking
- Subsea Boosting/Compression
- Subsea Separation
- Infill Drilling
- Advanced Wells
- Well Interventions
- Water Injection
- Gas Injection
- Water and Gas injection
- Enhanced Oil Recovery
- Mapping & Modeling
- Blowdown / Gas Export
- Life-time Extension

# Collaboration | Subsurface +++

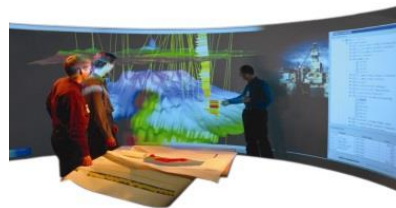
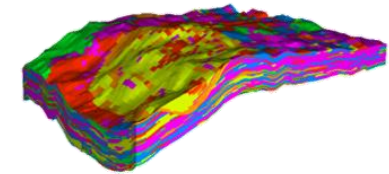
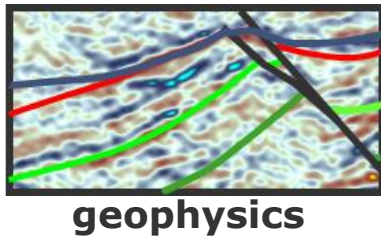
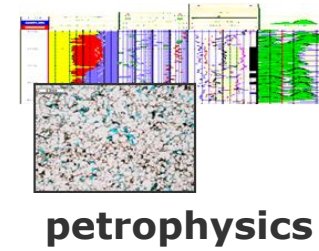
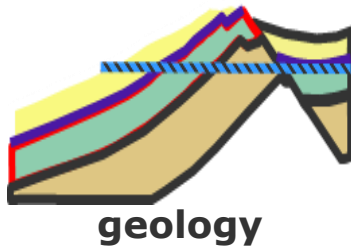
Offshore operations

Drilling

HSE

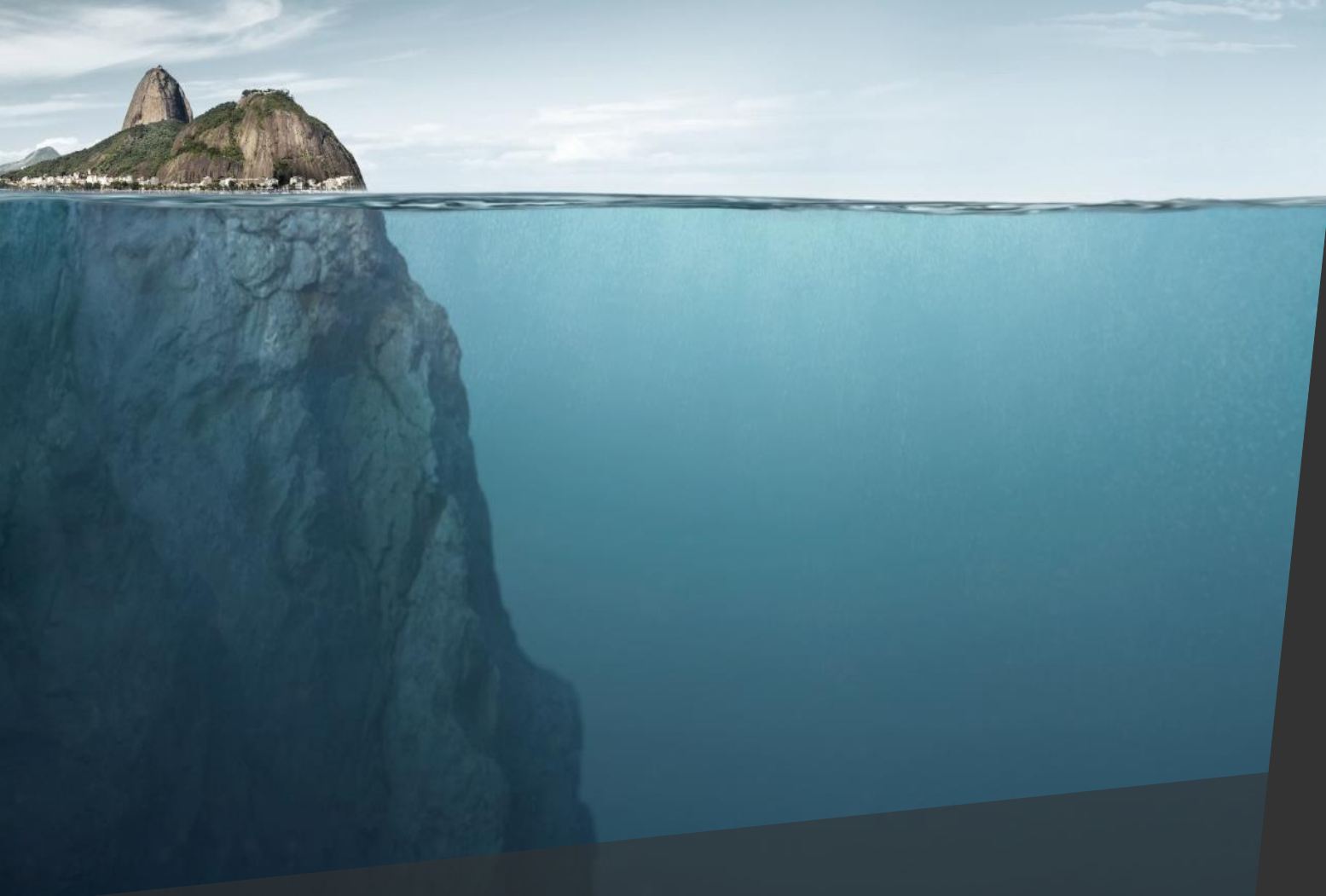
Finance

Management



**production engineering**

**reservoir engineering**

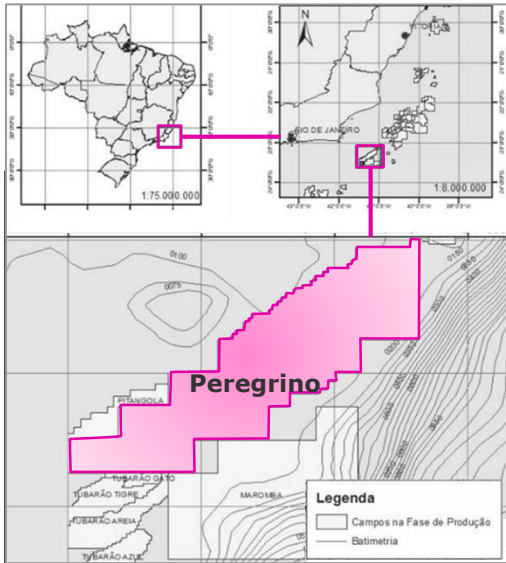


Statoil

# Peregrino case

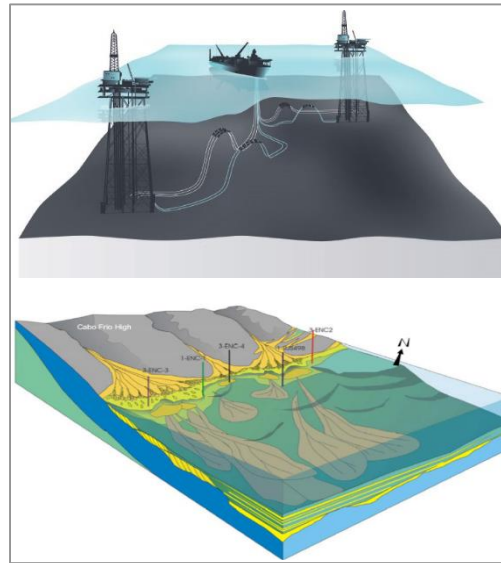
# Peregrino in brief

## Among the heaviest oil offshore Brazil!



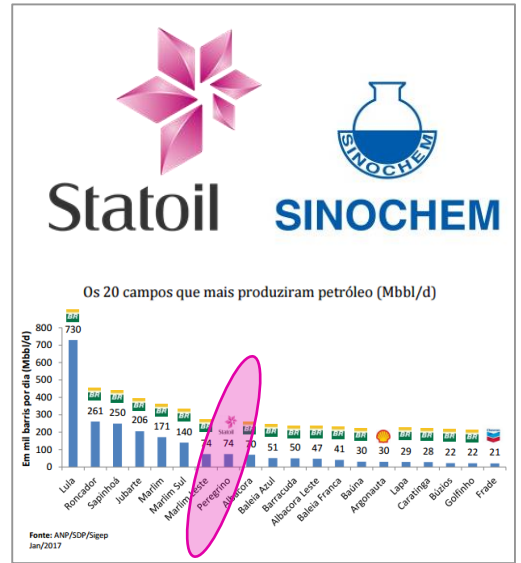
Campos Basin, 85km offshore  
Water depth: 120m  
Heavy oil (14°API / 130-400cP)

## Large volumes in the ground!



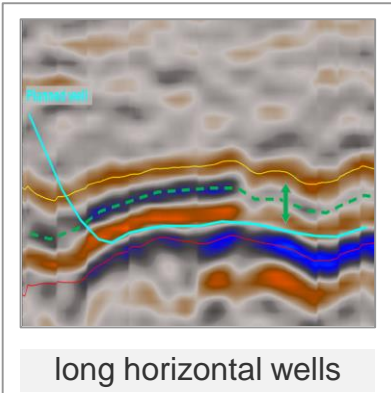
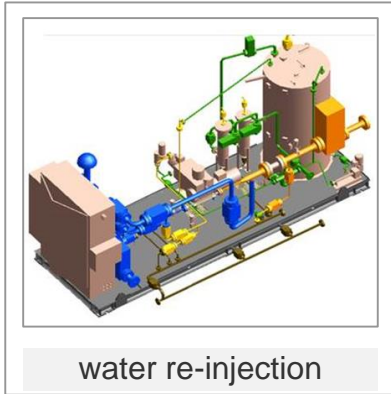
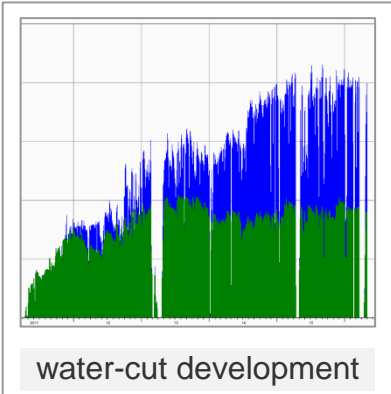
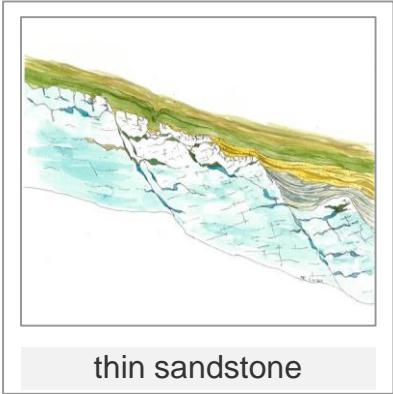
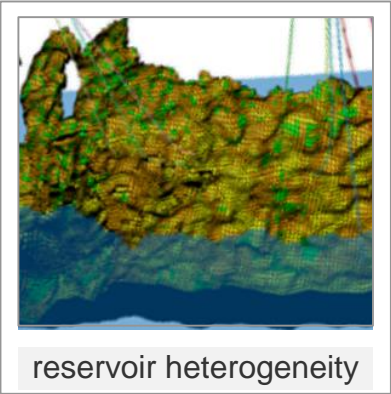
2(+1) WHPs | 1 FPSO  
Sandstone reservoir  
In-place volume: 4054Mbbbl

## Among the best producing fields in Brazil!



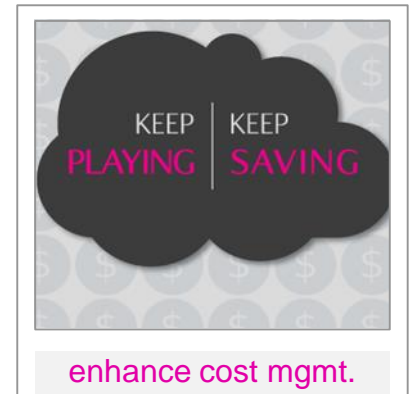
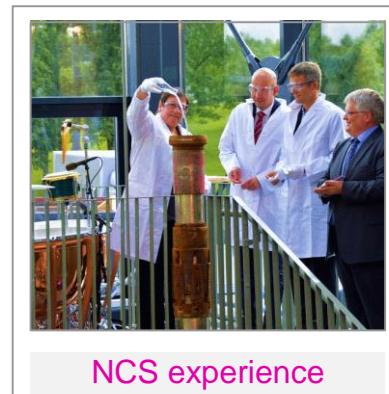
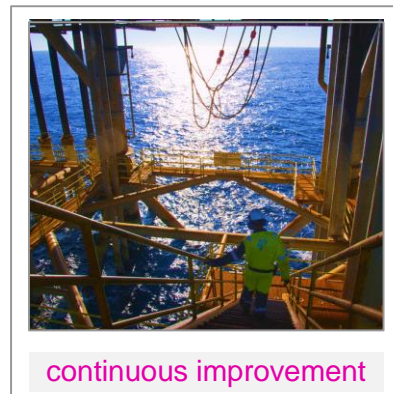
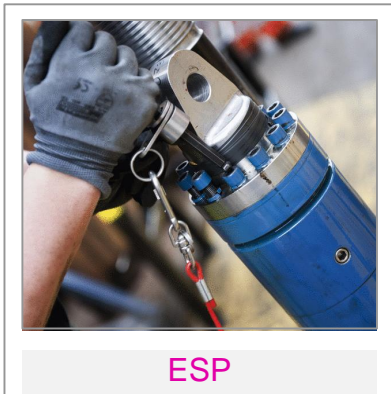
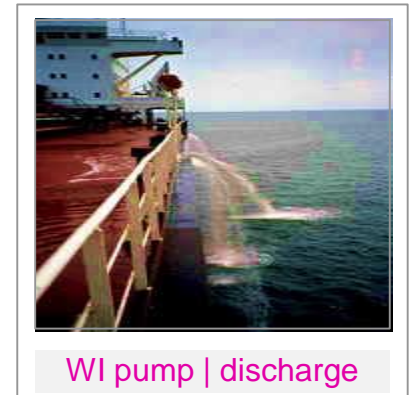
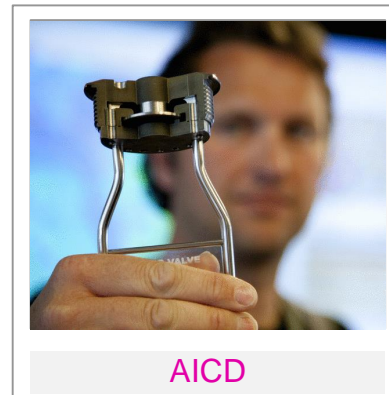
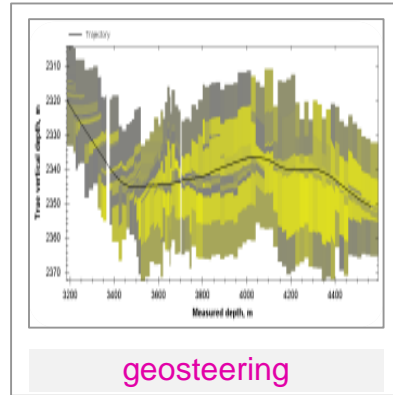
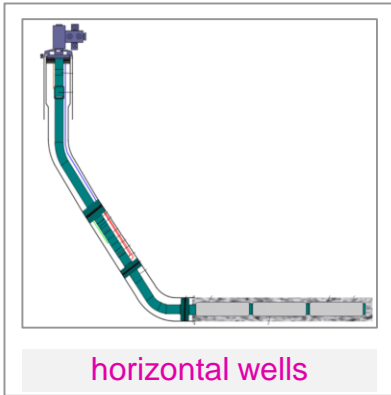
Statoil 60% + Sinochem 40%  
1st oil: 2011 | Plateau: 2013  
Cum prod. (Mar'17): 140Mbbbl

# Peregrino's challenges





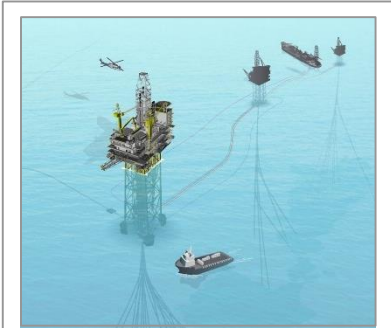
# Peregrino's solutions



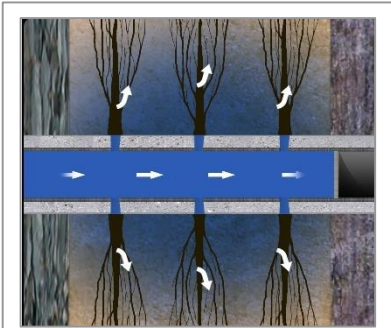
# Peregrino's solutions



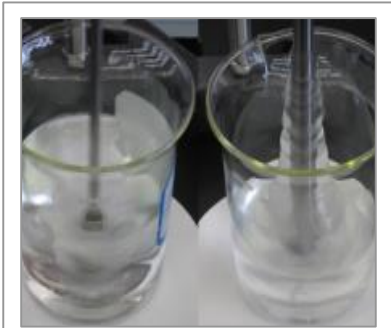
multi-lateral wells



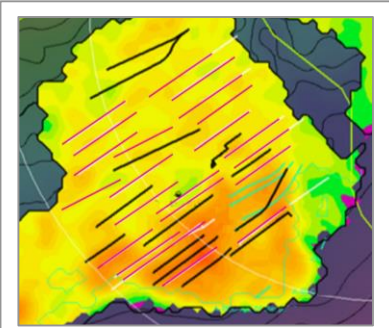
phased development



oil-leg injection



polymer



infill wells



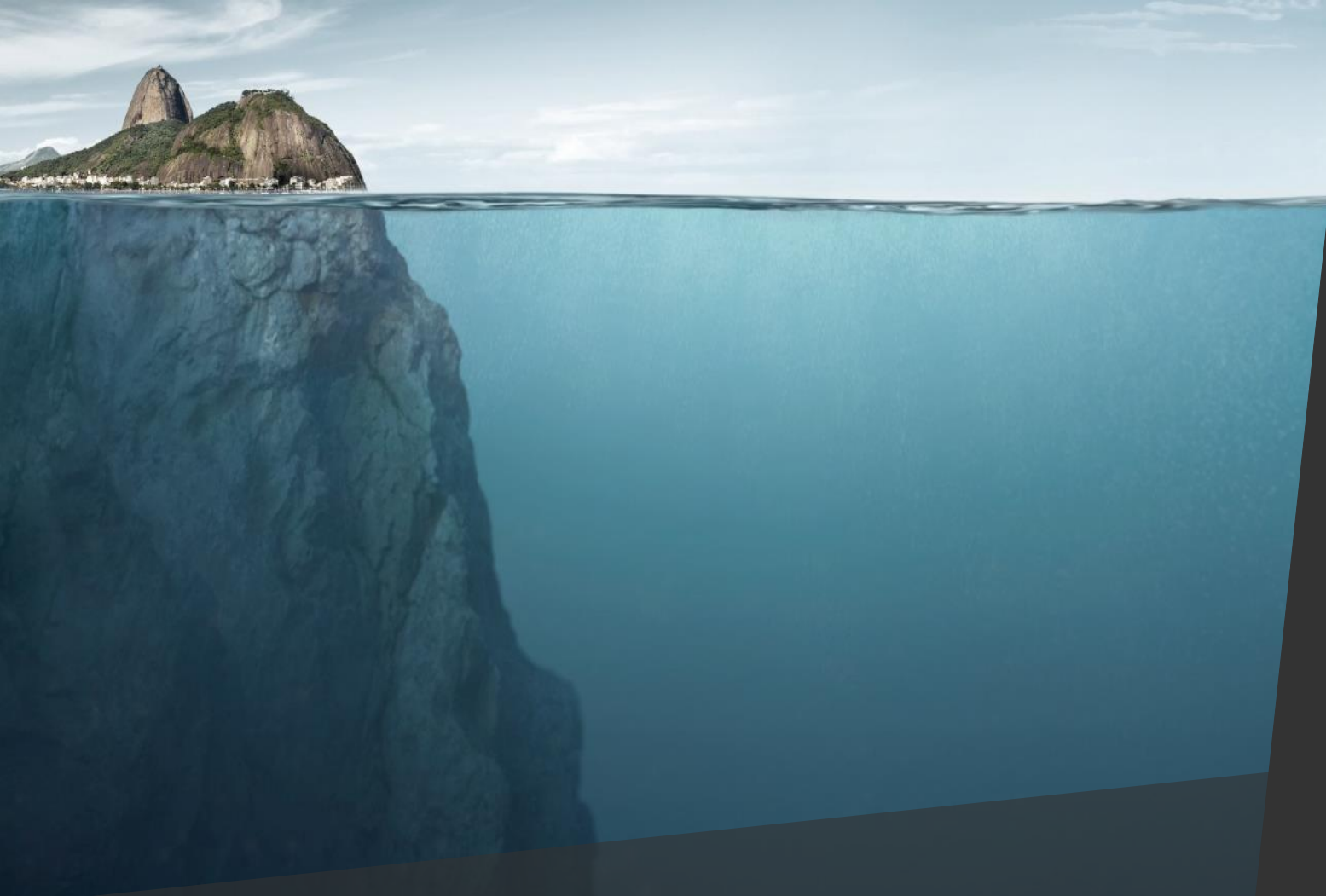
extended-reach wells



de-bottlenecking



reservoir monitoring



Statoil

# Closing the gap

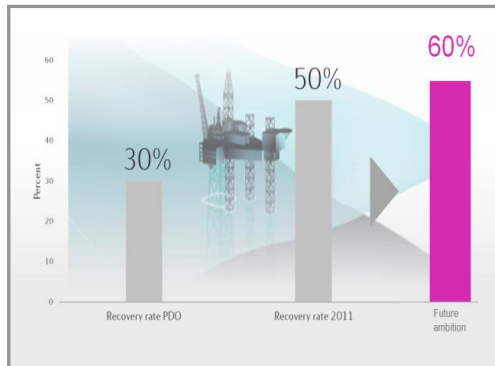
Peregrino IOR

# Peregrino IOR | Closing the gap

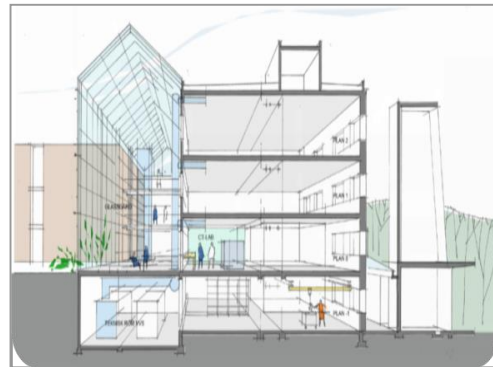
- How ANP and the Brazilian government can help oil companies to better develop the oilfields?



# IOR roadmap



Solid resource portfolio  
-> world-class track record, high ambitions



Technology portfolio  
-> 45 years experience, IOR toolbox



Hard focused work  
-> multidisciplinary collaboration

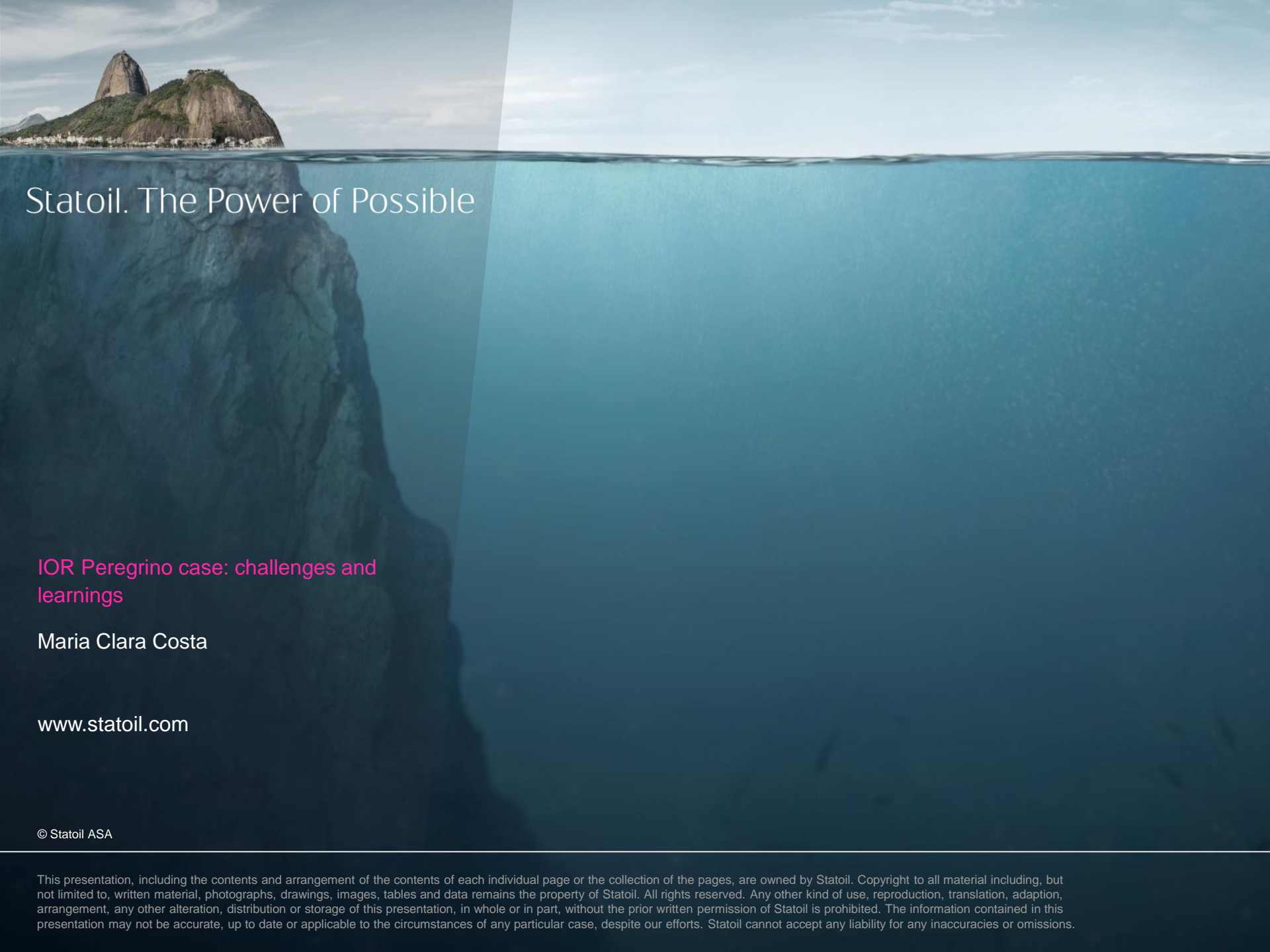
# Acknowledgments

- The author would like to thank the Peregrino Subsurface team
- Peregrino license owners:



- And also:





# Statoil. The Power of Possible

IOR Peregrino case: challenges and learnings

Maria Clara Costa

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