We need to understand (our) data

Knut Sebastian Tungland, Statoil

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How we work

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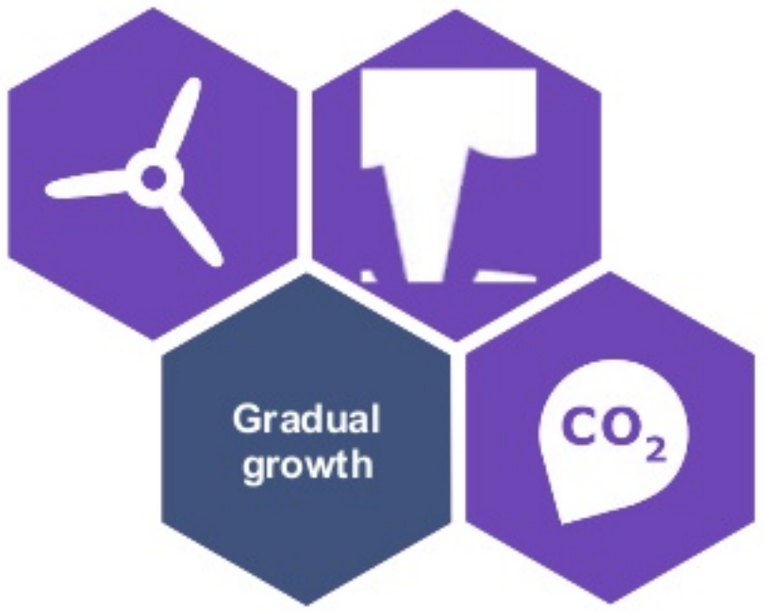
A strategy for superior profitability and growth

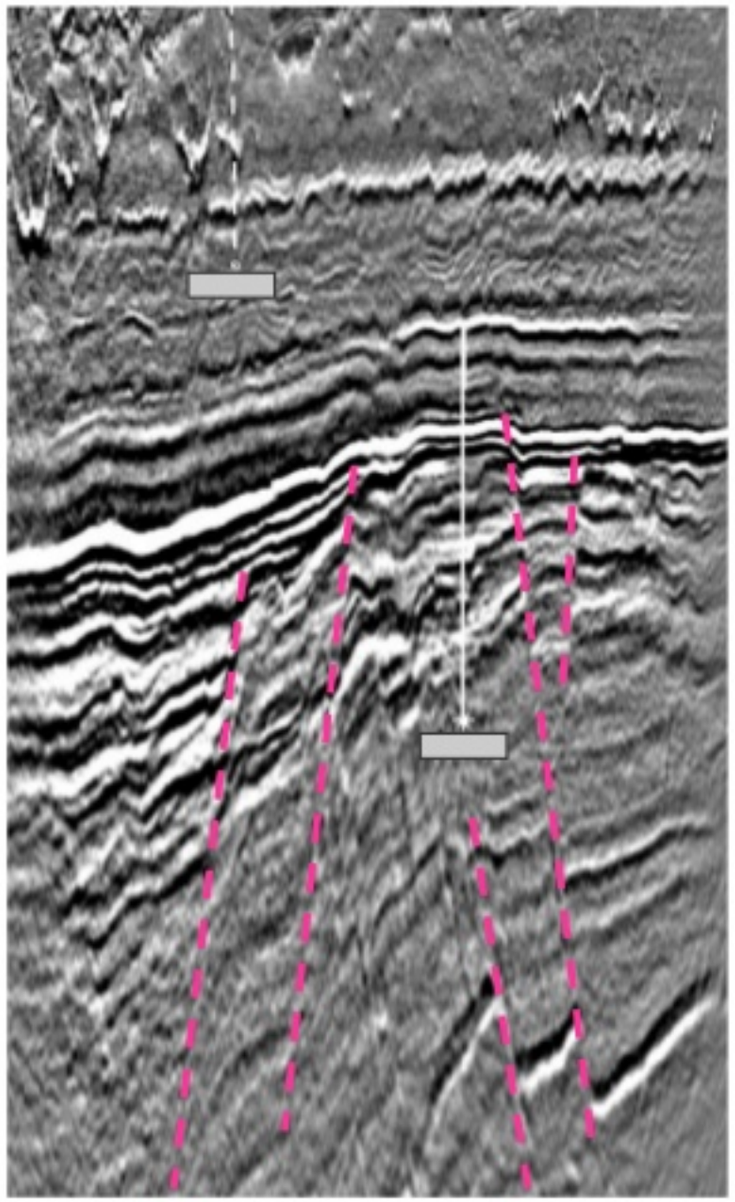
Upstream strategy

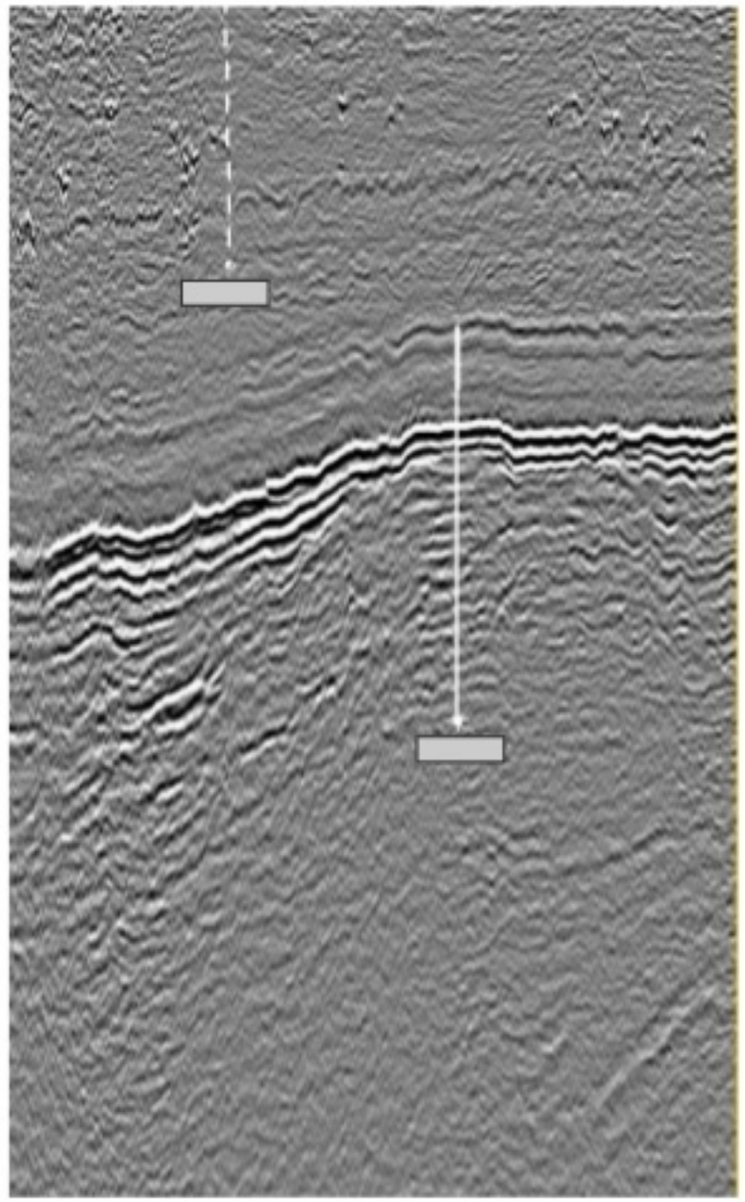
Strategic mid-
and downstream positioning



Renewable energy
and low carbon technologies

Seismic interpretation





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Some challenges in Seismic Interpretation

- Data logistics
  - Compression and transmission
- Processing time
  - Interactiv processing
  - Use of rock mechanics
- Simpler programming models
- Implementation in organization
- Could we get rid of the images?

- Real-time stream to Statoil intranet
- Quality checking and 24/7 monitoring
- Supporting all Statoil operations

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Some challenges in Real Time Operation

- Mixed set of data collectors
  - Changes in sensors and service providers
- Access to data hampered due to legacy - Infrastructure topology, models, software…
- Accountability – variability on who is responsible for data,
- Latency
- Data Quality and Semantics
- Integration into well know tools
- Could we automate drilling?

Research: Environmental monotoring over the lifecycle of a field

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Asset control room

Central support functions

Emergency response

Information & work processes

Domain experts

External organisations

Sensors & sensor platforms

Existing sensors & sources

Stationary ocean observatory

Mobile

Background photo: Harald Pettersen

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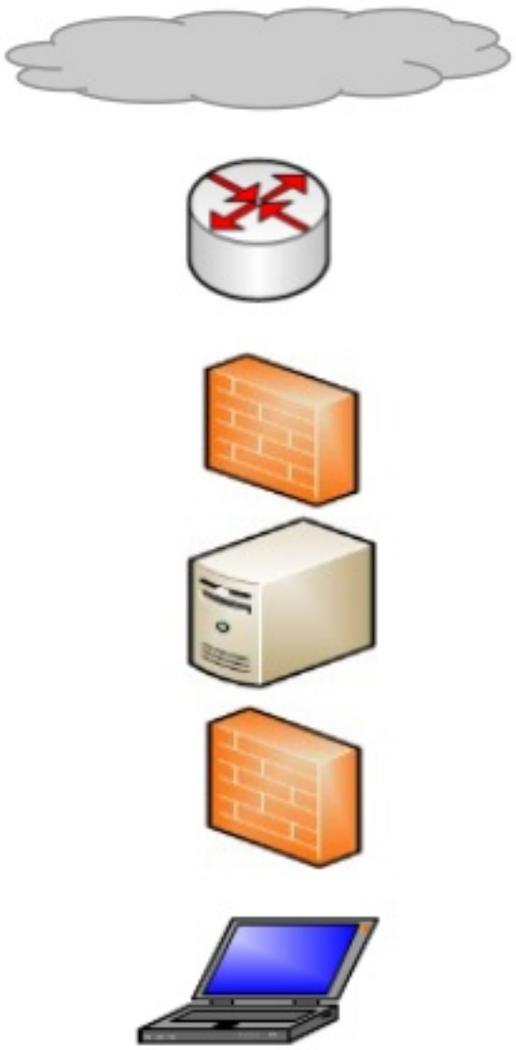
Some challenges in Enviromental Monitoring

- New types of sensors
- Sound/Images/Video – how to detect events in real time based on such sensors
- Noise – understand weak signals in noisy conditions
- Biological sensors – why does the heart rate of clams increase
- Understand long term trends
- Data management – we will use this though many years
- How to get information to all actors?

IT Security situation awareness

Sensors



Data collection
for IT operations

External events

Network logs

Load balancer logs

OS logs

Anti virus logs

Web Server logs

Proxy logs

Application logs

Database logs

Data correlation and post incident analysis

Central Repository Security logs

Pattern recognition and Cross log event detections

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Some challenges in IT Security security awareness

- Increasing numbers of logs/sensors - Volume
- Any change in the infrastructure is a change in semantic and normalization
- Don’t know the data quality and are unable to trace origins of data
- When are we under attack, and how to keep our guard up - Pattern and event recognition