Digitalization perspectives from the oil and gas domain

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# The SIRIUS Centre

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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<tr>
<td>Eight years’ financing from RCN</td>
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<tr>
<td>12 Industrial Partners (11 in 2017)</td>
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<tr>
<td>3 Leading Academic Institutions</td>
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<tr>
<td>Centre for Research-Based Innovation</td>
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<td>Funding for 20 Ph.D. students</td>
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<td>Innovation through prototypes and pilots</td>
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<tr>
<td>45 affiliated researchers</td>
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[Logos of partners]
The digital world
Machines

• Are machine learning and artificial intelligence oversold?
• Are systems safe? Reliable? Resilient?
• Do we have the data? Is the data good enough?
• How do machines support better work practices?
• How much of our decision-making is decided by science fiction?
Platforms

- Whose platform?
- Whose data?
- Platforms as the new silos?
- Sovereignty, ownership and integrity?
- Security?
- Design of platforms?
- Interoperability?
Crowds

- Capturing the contribution of each engineer, geologist or planner
- Open supply chain to share data
- Work with vendors in co-design
- Expand access to start-ups and SMEs
- Build an agile culture without anarchy
- Self-service access to data and analytics
Building bridges to fill gaps

Publish!
Get Tenure!
Eventually..

Sell!
Now!

The other Gap

Researchers  →  Technology push  →  The Gap
Terminology
Problem description
Rewards
Time-scale
Agility
Domain knowledge

Industrial end-users

Problem pull

Product and Service Vendors  ←  Technology push

Pump Oil!
Earn Money!
Now!
An interdisciplinary computer science approach
Through beacon projects

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<th>WP1 Exploration</th>
<th>WP2 Operations</th>
<th>WP3 Cross-domain applications</th>
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<td>Digital Support for Exploration Processes</td>
<td>Planning</td>
<td>Personalized Medicine</td>
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<td>Access to Exploration Data</td>
<td>Digital Twins</td>
<td>Arctic Earth Observation</td>
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<td>Digital Field and Reservoir Management</td>
<td>Digital Thread</td>
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<th>WP4 Supporting technologies</th>
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<td>Migration to the Cloud</td>
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<td>Sustainable Large-Scale Ontologies</td>
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<td>Cross-cutting Technology Stack</td>
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