The Cluster Map

PARTNERS

Industry
Aker Solutions
DNV-GL
TechnipFMC
GASSCO
OneSubsea

R&D
CMR
Havforskning instituttet
SINTEF
un Research
un Research Polytec

Development Contributors
BORDALAND Fylkeskommune
SOGG OG JORDANE Fylkeskommune

Higher Education Institutions
BI
Høgskulen på Vestlandet
NTNU
Norges teknisk-naturvitenskapelige universitet

MEMBERS

DNB
DOF Subsea
Ejecto
ENI
ENI
ENERGIEN I BORDALAND
Energibladet
EXPRO
FieldCa PRODUCTS
Fluidsep
GOONTECH
Hellenes
Huisman

Imenco
Liner Maintenance AS
KNB VEDLIKEHOLD AS

Knutsen O&M
KNM Moholt
Kluge
Knowit
KVARNE INGEN

Lundin Energy
Marin Tech
eolar
Mژrcetech
Mærsk Mc-Kinney Møller
Merco

NaComas
NIVA

Ocean Team Gravimetry

Oe-J II Drilling

PWR
Repsol Perenco

Rystad Energies
Saipem

Sea Hook
Solstad Offshore

Trelleborg

Vesca Solutions

Supported by

Cluster Relations
Innovation Norge

National Relations
ACIMAR

International Relations
ACIMAR

Global Centres of Expertise
GCE Subsea
Aim with the Subsea Innovation Day

// Learn from each other

// Identify new opportunities

// Address challenges which can be solved jointly by the cluster going forward

// Get input to a new Innovation Centre (SFI) within Integrated Monitoring

Follow up from this event:

// The results from the event will be posted as an innovation challenge by GCE Subsea

// The best ideas will be supported with pre-project funding
**Programme**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 1: Overall challenges and needs</th>
</tr>
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<tbody>
<tr>
<td>09:00 – 11:20</td>
<td>- Opening Key Note; An autonomous underwater future, James Bellingham, WHOI</td>
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<td>- From a mechanical and analog to a digital subsea industry, Siddi Wouters, TechnipFMC</td>
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<td>- Cap-X – One step closer to a subsea ‘plug and play’ solution, Bjørgulf Haukelidsæt Eidesen, Statoil</td>
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<td>- Integrated Monitoring – From a marine science and aquaculture perspective, Geir Lasse Taranger, IMR</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Workshop Part 1: Overall challenges and needs</th>
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<tr>
<td>11:20 – 12:00</td>
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<th>Time</th>
<th>Session 2: Sensors and observation methodology</th>
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<tr>
<td>13:00 – 13:40</td>
<td>- The next step in condition monitoring, Stian Bless, Karsten Moholt</td>
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<td>- Integration and standardization, Bjarte Fageraas, Octio Group</td>
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<tr>
<th>Time</th>
<th>Workshop Part 2: Sensors and observation methodology</th>
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<td>13:40 – 14:40</td>
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<th>Time</th>
<th>Session 3: Big Data and integration</th>
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<tr>
<td>14:40 – 15:20</td>
<td>- Big Data analysis for improved operation and maintenance of subsea pumps, Ove Lampe, CMR</td>
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<td>- Thoughts on the future of IoT, Erik Fossum Færevaag, Disruptive Technologies</td>
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<th>Time</th>
<th>Workshop Part 3, Big Data and integration</th>
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<td>15:20 – 16:00</td>
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SFI – Integrated Monitoring

Initiative for a new Innovation Centre
Integrated Monitoring

«Integrated Monitoring»: combining models, sensors and big data/advanced data analysis, data fusion (OG21)

Common challenges: Safe and cost efficient asset, resource and environmental management and operations

Common trends:
- Automation and digitalisation
- Smart sensors
- Link models and monitoring
- BigData and Internet of Things
Centres for Research-based Innovation (SFI)

- GCE Subsea has ambition to be awarded SFI status
- An attractive funding platform to address realise new opportunities and solve joint challenges
- The SFI-programme main objective: Strengthen the companies’ innovation by focusing on long-term research in close collaborating between research-intensive enterprises and leading research groups
- Budget ~20MNOK/year over 8 years. (Max 50% public funding and Min 25% private funding)
- New call expected in 2018
- This event will be used to get input to scope and objective of a SFI centre
Example of SFI activities

// Integration model and monitoring
Data integration
Data analyse «BigData»
Work processes

// Quality assurance
Smarter sensors
Automated quality assurance
Automated image analysis

// Measurement technology
New sensors
Observation methodology
Distributed measurement
Session 1: Overall challenges and needs

Question: Where/how could Integrated Monitoring add most value?
Session 2: Smarter sensors and observation methodology

Question: What new sensors/observation technologies add most value?
Session 3: Data analysis, integration, BigData

Question: What new data integration/analyse technologies add most value?
Follow up from this event

// The results from the workshop sessions will be posted as an innovation challenge by GCE Subsea

// Innovation Challenge to be published - First half of May

// Deadline for submitting an idea – May/June

// Winner announced - June

// Most presentation given will be published at our web-page:
http://www.gcesubsea.no/page/5650/Download_Presentations
Pre-Project Funding and Support

GCE Subsea offers financial and professional support to realise your project idea.

We have supported 10-15 technical pre-projects every year since 2008.

Contact us at an early stage to find out how we can support your project.

For more information: www.gcesubsea.no/page/5662/Project_Funding