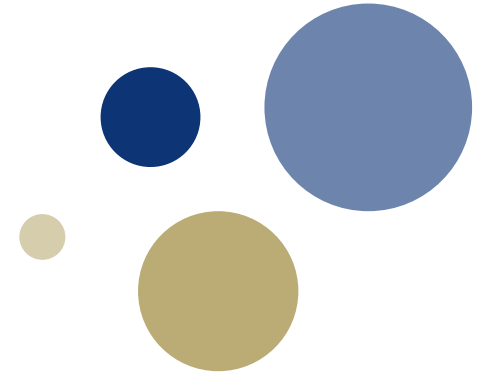




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Integrated operations in the energy sector

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GEOPHYSICS

Parallell session 2: New uses for oil and gas technology

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September 2016

What is integrated operations?

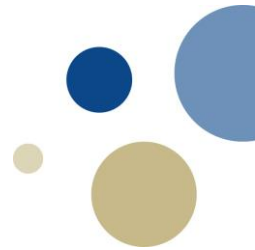


<https://www.youtube.com/watch?v=xVyYas0CmpY>

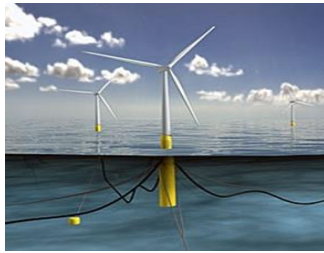
Bringing integrated operations to new domains

- Advances in communication infrastructure, real-time sharing of data and information and communication technologies
- Integration of technological, organizational and competence capabilities
 - Enabling collaboration across boundaries
 - Remote operation and autonomization
 - Reduced costs and increased value creation
 - Interoperability and standardization

Bringing integrated operations to new domains



Offshore wind el.production



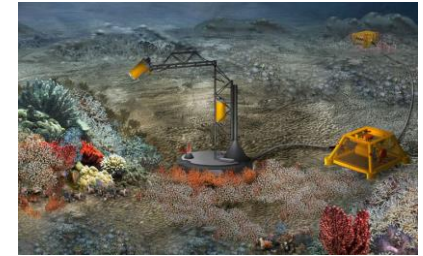
Full-scale Offshore CO2 storage



Smart grid



Real time environmental monitoring



Why IO

- Take IO operational concept for operation and maintenance
 - Cond.b.monitoring
 - Marine operations
 - Integrated planning

- Take IO operational concept for remote monitoring and control
- Simplify the CO2 value-chain

- Smart instrumentation and interoperability
- Collaboration across boundaries
- Remote operations

- Real time understanding of basic short and long term biological parameters
- Sharing and analysing large data sets across domains
- Licence to operate and increasing operational windows
- Integration with daily operations

Business challenge

- Integrate with existing offshore infrastructure
- Economies of scale
- New business models

- Create profitable business concept and business model
- Simplify tech. concept, remove 'need to have'

- Interoperability
- Understanding markets and consumer behavior

Examples

- [Dugdeon offshore wind](#)
- [Sharnham Shoal](#)

- [Northern Lights; Full scale CO2 handling](#)
- [Statoil CCS](#)

- [Norwegian Smart grid centre](#)
- [CenSES](#)

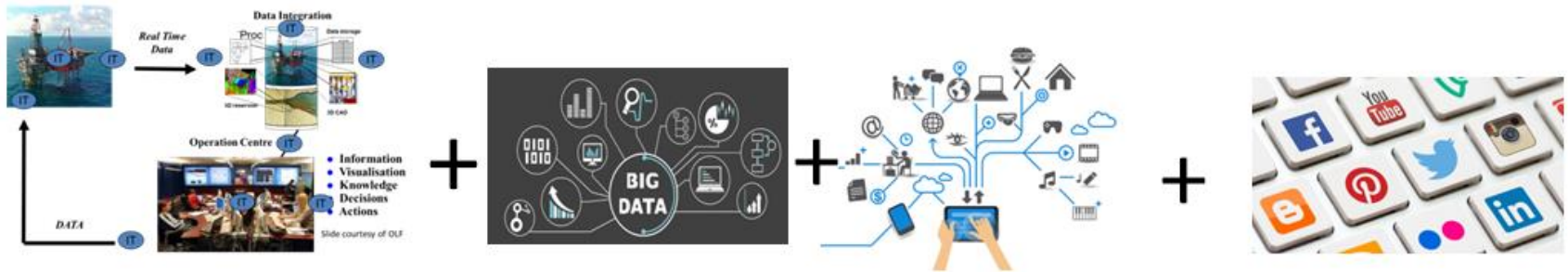
- [LoVe Statoil](#)
- [IEM-Kongsberg](#)



Conclusion

- Integrated operations moving into new domains

Digitalization of the oil and gas industry



Integrated operations

Big Data

Internet of things

Social media

- New products and services developed that are capabilities of unique mixes of technologies, organizational and competence elements
- Integrated operations will continue to be a Norwegian export business