Using the Industry Collaboration Canvas in the Mid-Term Review.

Experience in applying the framework in the oil and gas industry.

David Cameron, Arild Waaler, University of Oslo

Knut Sebastian Tungland, Equinor

Elisabeth Nøst, TechnipFMC

The SIRIUS Centre

Eight years' financing from RCN

14 Industrial Partners (11 in 2017)

4 Leading Research Institutions

Centre for Research-Based Innovation

Funding for 20 Ph.D. students

Innovation through prototypes and pilots

50 affiliated researchers

Schlumberger

equinor

SAP

IBM

EVRY

DNV·GL

Dolphin
INTERCONNECT SOLUTIONS

NUMASCALE
BIGGER DATA ANALYTICS

OSIsoft.

KADME
Knowledge and data management expertise

TechnipFMC

aibel

computas

AkerSolutions

UiO : University of Oslo

NTNU
Norwegian University of
Science and Technology

DEPARTMENT OF
COMPUTER
SCIENCE
UNIVERSITY OF OXFORD

simula

SINTEF

sfi Centre for
Research-based
Innovation
The Research Council of Norway

Building arenas for establishing common understanding

"It is hardly possible to overate the value (...) of placing human beings in contact **with persons dissimilar to themselves**, and with **modes of thought and action unlike** those with which they are familiar (...) Such communication has always been, and is peculiarly in the present age, **one of the primary sources of progress**"
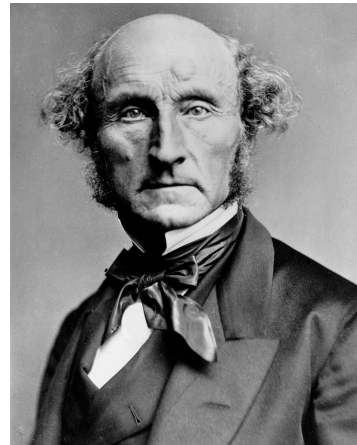
By London Stereoscopic Company - Hulton Archive, Public Domain, https://commons.wikimedia.org/w/index.php?curid=30913285

John Stuart Mill (1842)

Quoted by Frølund and Riedel, Strategic Industry-University Partnerships, 2018.

Research programs build a foundation for …

Analysis of Complex Systems		Ontology Engineering	
Semantic Integration		Data Science	
Scalable Computing		Industrial Digital Transformation	

... Beacons addressing industry challenges

Geological Assistant		Integrated Digital Planning	
Subsurface Data Access & Analytics		Digital Twins	
Digital Field & Reservoir Management		Digital Field Development	
Personalized Medicine		Environmental Applications	

The mid-term review

How do we relalize the aims of the SFI program?

- Encourage enterprises to innovate by placing stronger emphasis on long-term research, and by making it attractive for enterprises that work on the international arena to establish R&D activities in Norway.

- Facilitate active alliances between innovative enterprises and prominent research groups.

- Promote the development of industrial research groups that are on the cutting edge of international research and are part of strong international networks.

- Stimulate researcher training in fields of importance to the business community, and encourage the transfer of research-based knowledge and technology.

SIRIUS Center for Scalable Data Access in the Oil and Gas Domain

UNIVERSITY PARTNERSHIP CANVAS

MIT innovation initiative

Created for:	Created by:	Date:	Version:

FOCUS AREAS
What are the key focus areas of your university partnerships, and how are they selected to ensure alignment with your business goals? ②

WHAT?

PARTNERS ③
Who are your primary university partners, and by what criteria are they chosen?

GOALS ①
What business goals drive your university partnerships?

FORMATS ④
What collaboration formats match your focus areas and business goals?

WHO?   # WHY?   # HOW?

PEOPLE, PROCESSES AND ORGANIZATION ⑤
What people, processes and organizational structures support your university partnerships?

EVALUATION ⑥
What key performance indicators are most useful to evaluate your university partnerships?

SUPPORT?   # CONTROL?

Designed and developed by Lars Frølund, Max Riedel and Fiona Murray

Canvas used to avoid surprises

| Canvas description	Keyword	Research Council questions
GOALS **What business goals drive your university partnerships?**	WHY?	1.Describe the focus of own R&D in thematic area of the centre, within and outside the centre (strategic platform) 2. What is total volume of R&D within company in thematic area of the centre.
FOCUS AREAS **What are the key focus areas of your university partnership, and how are they selected to ensure alignment with your business goals?**	WHAT?	5. What opportunities have been created that would not have existed without the centre?
PARTNERS **Who are your primary university partners, and by what criteria are they chosen?**	WHO?	3. How has the participation in the centre influenced the R&D activity of your company?
FORMATS **What collaboration formats match your focus areas and business goals?**	HOW?	4. How has the partner interacted with the centre?
PEOPLE, PROCESSES AND ORGANIZATION **What people, processes, and organizational structures support your university partnerships?**	SUPPORT?	8. On a scale from 1 (Low) to 6 (High), please give your score for each of the following questions: this was scoring of influence on strategy, management and academic competence and impact. 6.Has the centre contributed to specific innovations within your company?
EVALUATION **What key performance indicators are most useful for evaluating your university partnerships?**	CONTROL?	7.Can you give any estimate of potential for increased income or reduced cost in net present value as a result of being a partner in the centre?

How we ran the canvas

- Not canvas on wall, rather worksheets for discussion - a page for each item.
- Meetings preferably held at partner's site
- 1.5-3 hours meetings
- Partner met with contact, technical staff and sponsor (with some exceptions)
- Centre met with centre coordinator and others as possible

Equinor: a cornerstone partner

- We need to build a stronger framework for inter-company collaborations in the centre
- We need to establish sensible and meaningful KPIs, but this is difficult.
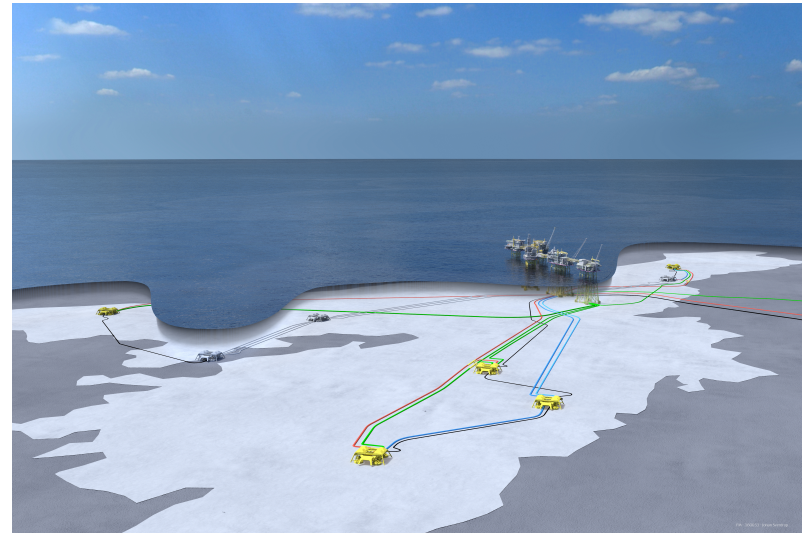
TechipFMC: a new partner

- Ally with academia and build skills in data science and digital services.

- Build research collaboration around other companies' digitalization projects.

- Canvas provided a map of TechnipFMC's complex global organization.

Goals

- Industrial
  - Gain access to end user's problems and thereby expose, benchmark and improve their hardware, software and services.
  - Forum for building collaboration between companies around research problems in the centre. Several partners talked of a "forum" or a "community vision".
  - Build the digital competence of their personnel and influence internal R&D.
  - Build on existing relationships in European research projects.
- Academic
  - work with real industrial problems and real data sets
  - engage with end-users of technology and
  - prototype our technologies in our partner's products and systems

Formats

- Places to meet and share research ideas and results
- Laboratory for software and hardware.
- Innovation projects, with several companies and research groups.
- SMEs and service companies need external funding or payment from operating companies to participate in innovation projects.
- Placement of researchers in companies is possible and desirable.
- Seminars and workshops are vital for building collaboration networks and shared understanding.
- SIRIUS' mentoring program is a valuable way of building relationships.
- Interns, M.Sc. projects and summer students.
  - Needs to be met with recruitment of suitable students and changes to curricula that support this exchange.

Acknowledgements

The SIRIUS partner companies.

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Evaluation

Milestones and deliverables

- Compelling demonstration of a prototype or pilot at a corporate customer or end-user conference.
- Innovation projects initiated and run successfully.
- Number of workshops or knowledge exchange events held.
- Changes made to work processes, products or systems in company.
- Exchanges of personnel, internships and M.Sc. projects.
- Joint publications.
- Recruitment of students and graduating centre personnel.

Qualitative criteria

- Qualitative description of value of collaboration.
- Competence transfer and increases in organization.