

# What can I do with a good idea and how to get help?

Camilla Jørås Larsen, Kjell Olav Skjølvik, Kristoffer Jan Zieba

NTNU OCEANS 

OCEAN  
SCHOOL OF  
INNOVATION

 NTNU  
Technology Transfer as



Kristoffer Jan Zieba  
Project leader OSI & Innovation coordinator IGP



Kjell Olav Skjølsvik  
Innovation Manager NTNU Oceans



Camilla Jørås Larsen  
Head of Ideas, NTNU Technology Transfer Office

# Examples of our events



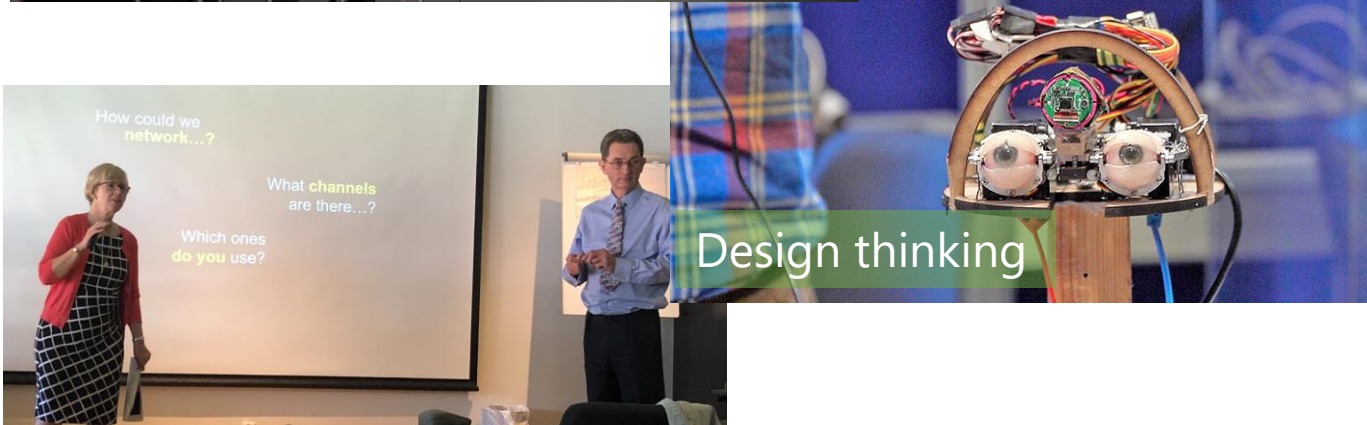
How to refine ideas from research?



Entrepreneurship and innovation – crash courses



Meetings with innovators



Design thinking

Good communication with industry and partners. Networking



How to present innovation and research?

Innovation is:

"the implementation of creative ideas in order to generate value, usually through increased revenues, reduced costs or both"

Innovation is:

"The application of

**IDEAS**

That are novel and useful"

Innovation is:

"Turning an idea into a solution that adds value from a customer's perspective"

Innovation is:

"I try not to define 'innovation' as we should tone down our use of the word and term"

Innovation is:

"a great idea, executed brilliantly, and communicated in a way that is both intuitive and fully celebrates the magic of the initial concept"

Innovation is:

**Innovation is something that is:**

- 1) NEW**
- 2) USEFUL**
- 3) IN USE**

Innovation is:

**anything that is new, useful, and surprising**

Innovation is:

"Any variation goes, as long as it includes 'new' and it addresses customer needs and wants"

Innovation is:

"the fundamental way the company brings constant value to their customer's business or life, and consequently shareholder stakeholder"

Innovation is:

"New, organic value creation by applying creativity, in-depth relationships with consumers and customers, and new thinking"

Innovation is:

"Creativity is thinking of something new."

**Innovation is the implementation of something new"**

viable business model that is perceived as new and is adopted by customers"

Innovation is:

**"The Future Delivered"**

OCEAN SCHOOL OF INNOVATION

# Innovation types

What can we build?

- Products
- Services
- Standards
- Methods (e.g. production)
- ...

Grades of innovation:

- Gradual
- Radical
- Disruptive

Unprecedented situation/disruption/crisis  
sparks innovation

# Rise of new IT companies after financial crisis of 2008



**WhatsApp**

2009



*Instagram*

2010



2010



2008

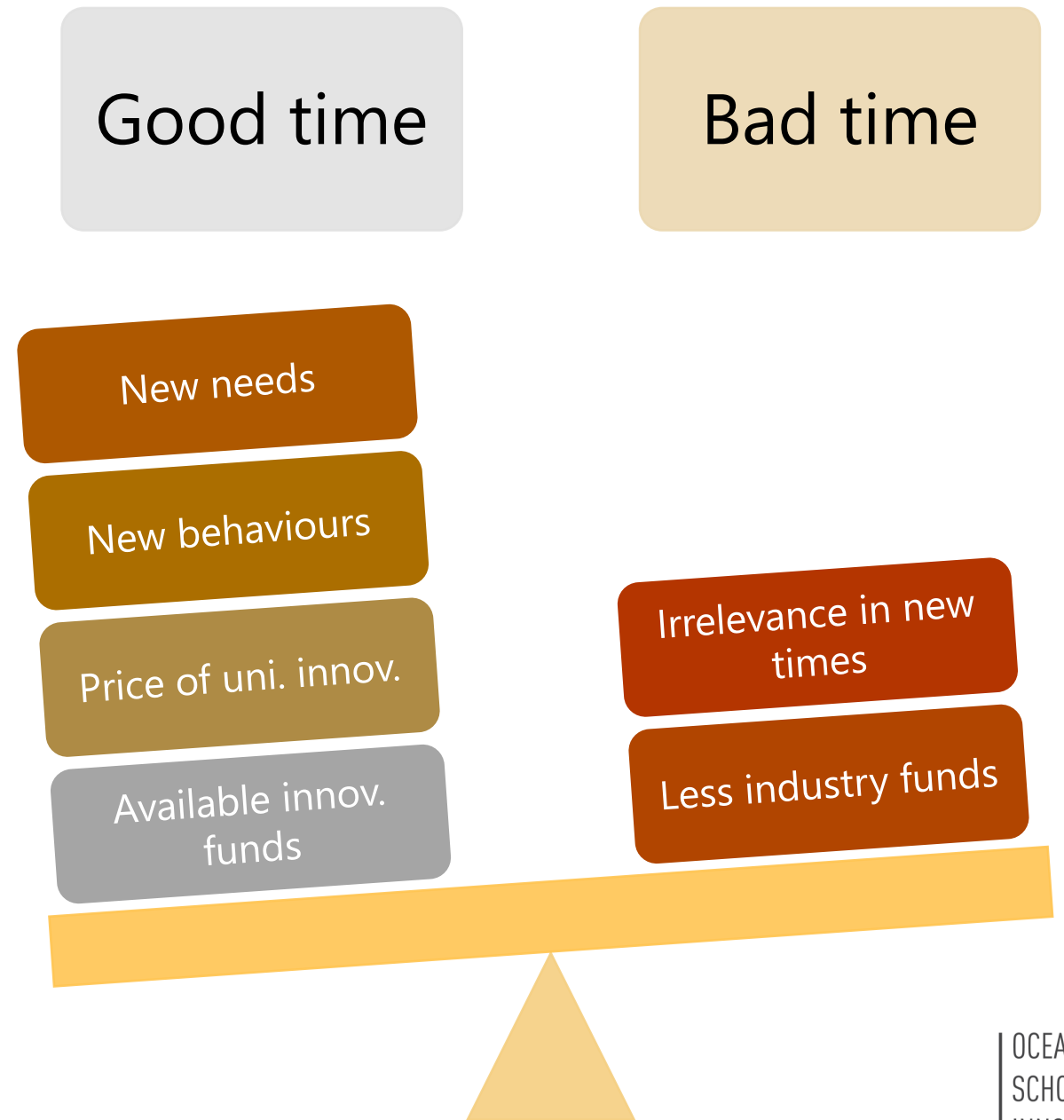


2009



2009

# A disruption – good or bad time for innovation at university?





# Why is innovation work good for a PhD carrier?

Enhanced collaboration with more people in research, industry, public sphere

Larger research outreach

Generate new research pathways

Showing proactive mindset to employers

Showing practical and applied skills to employers

Revenues from licensing/sales

# Innovation Managers @ NTNU

- 15 Innovation Managers appointed
- Key element in NTNU's strategy to increase our innovation capability
- The Innovation Manager will be a door-opener for new opportunities for cooperation, working with leading expert communities at NTNU and in a team with other innovation managers.
- **Available for you!**

## Faculty of Engineering



Kjell Olav Skjølvik  
*Marine Technology*



Rita Løberg  
*Civil & Env. Eng.*



Jonas Bergmann-Paulsen  
*Energy & process eng.*

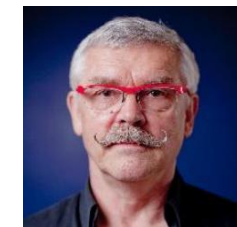
## Faculty of Information Technology and Electrical Engineering



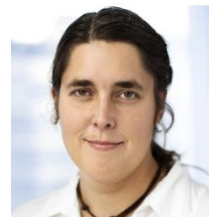
Reinold Ellingsen  
*Electronic systems*



Ida Fuchs  
*Electric Power Eng.*



Jan Onarheim  
*Eng. Cybernetics*

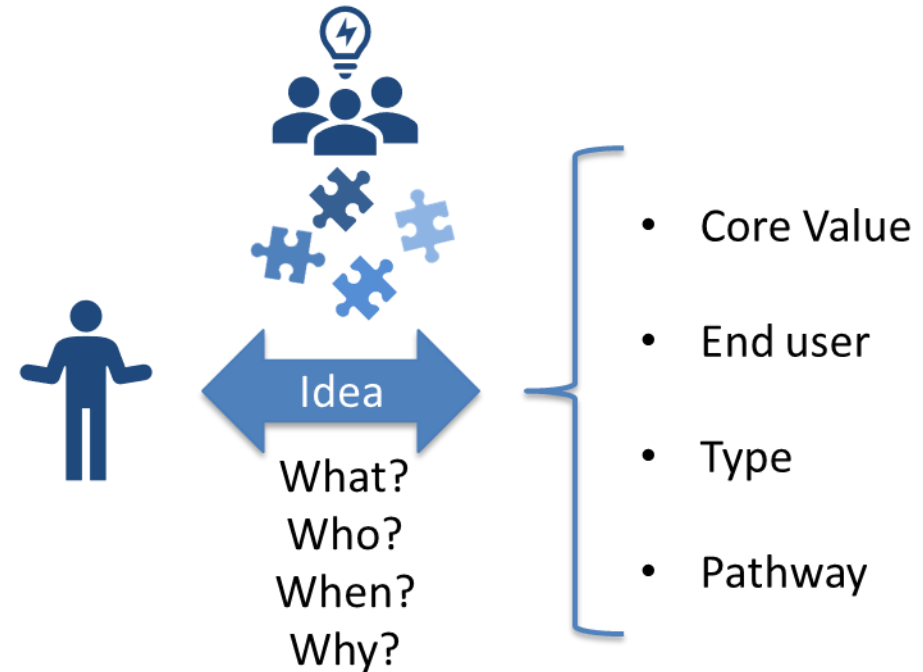


Anna Leida Mölder  
*Computer Science*

<https://www.ntnu.edu/innovation-resources/knowledge-based-innovation>

# How can we help?

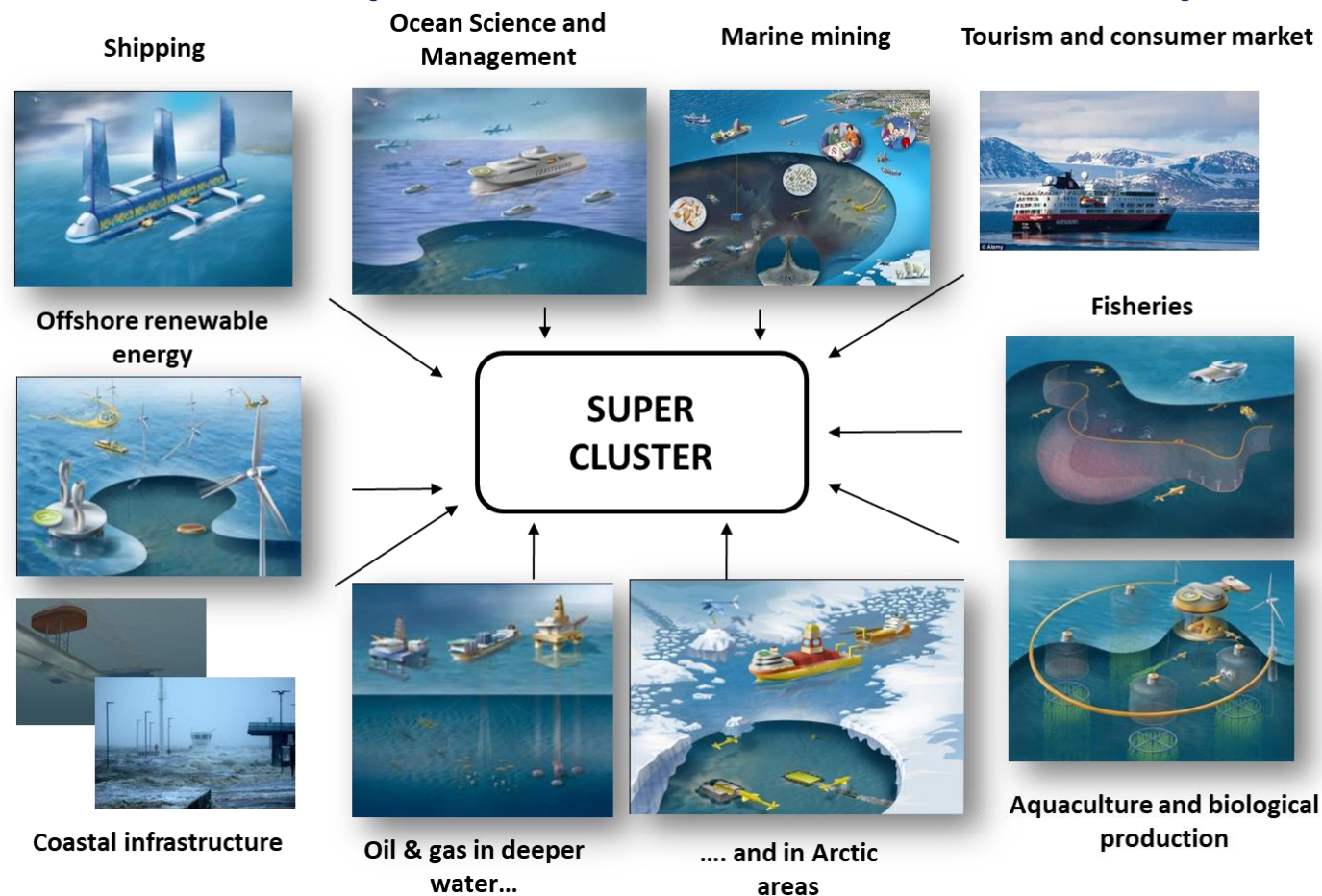
- Maturing the idea
  - What do we want?
  - Why is it relevant?
  - Who should be involved?



# How can we help?

- Maturing the idea
- Network
  - Within NTNU
  - Outside NTNU

## Ocean Space Industries- The blue economy



# How can we help?

- Maturing the idea
- Network
  - Within NTNU
  - Outside NTNU
- Financing

	Ideation - Discovery	Development	Demonstration	Deployment
TRL	1	2 - 4	5 - 8	9
NTNU	Discovery Scholarships/grants (PhD)			
Research Council of Norway	Skattefunn SFF/SFI KPI, CKP, Researcher projects		Forny2020 / STUD-ENT (PhD)	
Innovation Norway		Pre-seed funds	Start-up grants IFU/OFU Innovation / risk loans	
Regionale forskningsfond		Innovation project		
Enova			Pilot – Energy and climate technologies	
Private Equity		Pre-seed	Seed	Venture



# Research based invention?

*We have the competence, curiosity and determination to help you succeed*



**RESEARCH CREATES NEW OPPORTUNITIES  
INNOVATION CREATES NEW REALITY**



2076  
IDEAS



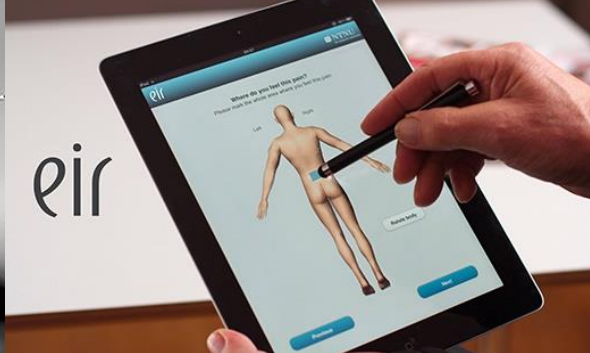
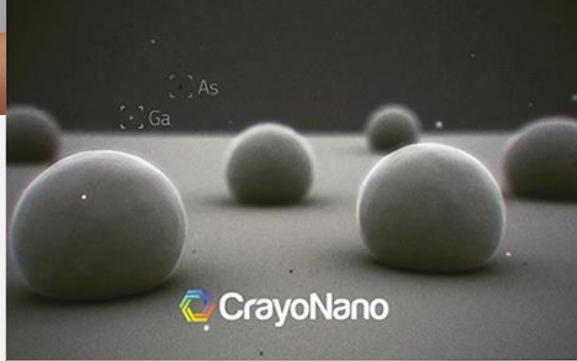
146  
SPIN-OFFS



239  
PATENT  
APPLICATIONS



163  
LICENSE AGREEMENTS





## DISCLOSURE OF INNOVATION/INVENTION

Please use this form to disclose any of your innovations/inventions.

An innovation/invention can be a product, method, component, process or sub process, model or sub model, concept, system (software/hardware), a service that is new or significantly improved with respect to properties, technical specifications or ease of use. An innovation/invention can also be a new application of existing knowledge or commercialization of R&D results.

After submitting this form to [ide@tto.ntnu.no](mailto:ide@tto.ntnu.no) and ([faculty@email](mailto:faculty@email)) or initiating any contact with NTNU Technology Transfer (TTO), you will be contacted by TTO to learn more about your innovation/invention and agree on the appropriate way forward.

**In order to obtain a valid patent, it is crucial that public disclosure of any information related to the innovation/invention does not occur until AFTER an appropriate patent application has been filed.**

*This form fulfills the requirements of the Norwegian law of "Arbeidstakeroppfinnelser" and NTNU's internal Guidelines and policy for IPR.*

### The innovation/invention

Title/Short name:   
Date of innovation/invention:

Description: (Purpose, Technical description, Applications, New Features, Advantages & improvements to existing solutions)

Potential utilization and users(s) of the innovation/invention:

### Status

At what stage of development is the innovation/invention?

Concept  Preliminary data  Tested in practice  Prototype etc.  Other (comment):

How is the work financed?

Is the innovation/invention dependent on further research and/or development in order to reach a product/solution?  No  Yes (comment):

### Innovator(s)/Inventor(s)

Department / Centre / Engineering area:

Main contact person:

Name:  E-mail:  Phone:

NTNU contributors to the innovation/invention:

Name:	Role/contribution:	Signature: *	Date:
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\* can be collected later

R&D partner(s):

Name:	Role/contribution:	Company
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## IDEA RECEPTION

### Relevance and formalities

First meeting with inventor(s). The idea is presented and the following is clarified:

- ✓ NTNU/HMN employee?
- ✓ IP owned by NTNU/HMN?
- ✓ Relevance and maturity

STAGE GATE



## IDEA EVALUATION

### Evaluation criteria

In this phase we do a further evaluation of the idea based on the following criteria:

- ✓ Commercial potential
- ✓ Technology, protection and IP strength
- ✓ Human resources

STAGE GATE



## PROJECT DESIGN

### Secure commitment

Together with inventor we define the goals and challenges of the project. We develop a plan for the commercialization process, and make a decision whether we want to go ahead to the execution phase of the project.

In this phase it can be relevant to apply for funding through Discovery, FORNY, or similar.

DECISION MEETING



## PROJECT

### Execution of project plan

A dedicated team consisting of inventors, TTO personnel and maybe also external resources is allocated to the project with the aim to commercialize the technology.

In this phase we often apply for funding through Discovery, FORNY, or other sources.

The end of this phase is called «Deal design» - in this phase we plan an execute the activities that lead to an industry license or the foundation of a new company (spin-off)..



## PORTFOLIO

### Follow-up and support

The purpose for all projects is to reach the market through either an industry license or a spin-off company. We will follow up and support the inventors as long as its needed.

SPIN-OFF COMPANY



INDUSTRY LICENSE





# Hypothesis 2: Sports arenas



# Hypethesis 4: Education



# A complete drone inspection solution for enclosed environments



[www.scoutdi.com](http://www.scoutdi.com)

## Contact:



Susanne Jäschke  
Innovation Manager  
[susanne.jaschke@ntnu.no](mailto:susanne.jaschke@ntnu.no)

## Technology:

Advanced indoor navigation and autonomy for drones

## Application areas:

Industrial inspection of ballast and oil tanks

## Market:

Classification of industrial infrastructure and ships in the maritime and oil and gas industry

## Uniqueness:

Autonomous inspection, high-quality data capture and automatic report generation through:

- Indoor collision avoidance,
- Advanced navigation and mapping,
- Software, sensors and AI

## Origin:

NTNU AMOS and NTNU Department of Engineering Cybernetics

## Status:

- NTNU spin-off company established 2017
- Industry verification and testing in progress
- Actively seeking investors





# Reduce inspection and intervention costs with resident autonomous intervention vehicles



**Eelume**  
SUBSEA INTERVENTION

eelume.com

#### Contact:



Anders Aune  
Innovation Manager  
anders.aune@ntnu.no

#### Business idea:

Subsea inspection, maintenance and repair

#### Market:

Oil and gas, military

#### Uniqueness:

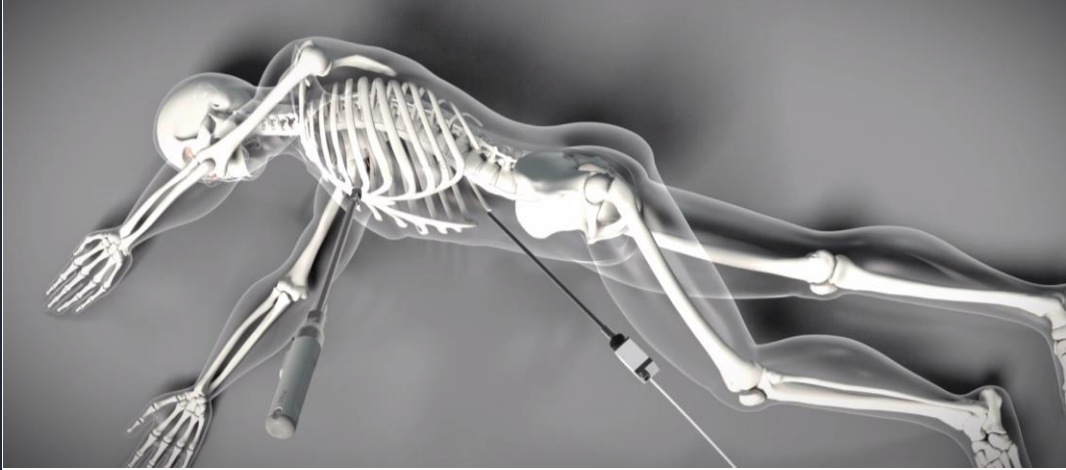
The hyper redundant and flexible manipulator arm of Eelume provides access to confined areas and takes inspection and intervention operations to a new level.

#### Origin:

NTNU AMOS and NTNU Department of Enigneering Cybernetics

#### Status:

- NTNU Spin-off company established 2015
- Partnership and testing with Equinor and Kongsberg Maritime



# A surgical bone cutter for video assisted thoracoscopic surgery

## SHEAR

<https://www.ntnutto.no/sites/shear/>

### Contact:



Sabina P. Strand  
Innovation Manager  
[sabina.strand@ntnu.no](mailto:sabina.strand@ntnu.no)

### Technology:

A new surgical bone cutter enabling thoracoscopic removal of bone tissue in a more effective and gentle way.

### Market:

Surgical instruments

### Uniqueness:

The first saw designed to be used during VATS; the saw head can be both rotated and angled allowing the surgeon to reach every rib in the thoracic with minimal damage to surrounding tissue.

### Origin:

St.Olavs Hospital

### Status:

Patent filled in august 2018, concept verified. We are now seeking commercial partners.





Kristoffer Jan Zieba  
Project leader OSI & Innovation coordinator IGP  
kristoffer.j.zieba@ntnu.no



Kjell Olav Skjølsvik  
Innovation Manager NTNU Oceans  
kjell.o.skjolsvik@ntnu.no



Camilla Jørås Larsen  
Head of Idea Evaluation, NTNU Technology Transfer Office  
camilla.j.larsen@ntnu.no

Thank you for your attention!

Questions?