



Knowledge for a better world

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Innovation strategy – develop the  
culture: involve, lead, communicate

@ Faculty of Engineering



## IV Innovation group



- Vice-Dean innovation
- Faculty support
- Innovation managers
- Innovation committee members
- Innovation pilot leaders
- TTO representative
- Innovation PhD

# Who we are



**Mara Gabriela Diaconu**

PhD Candidate - Sustainable Innovation in  
Engineering and Exploitation of research  
**Faculty of Engineering, NTNU**

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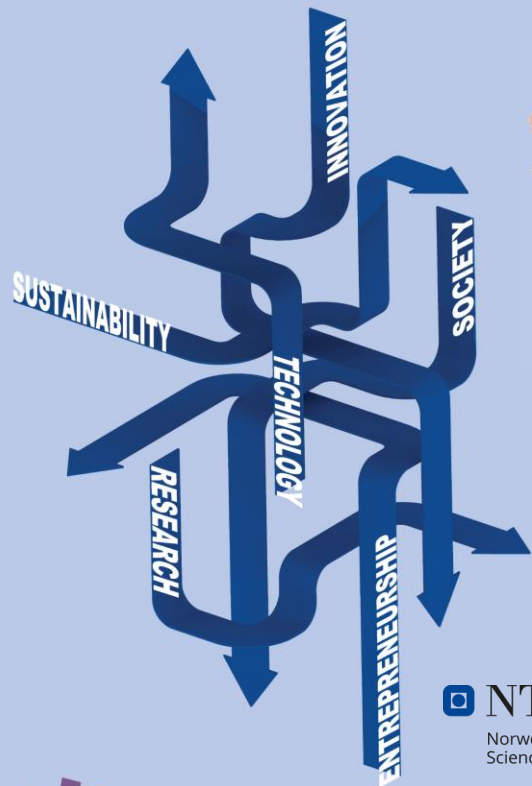


**Astrid Vigtil**

Senior Advisor  
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#WomenInInnovation #WIN  
#Empowerpeople #InnovationCulture



*“On the innovation path, be inspired, share and connect ideas and people. Every woman, regardless of her background, has the potential to impact our future. ”*



**Prof. Alenka Temeljotov-Salaj**

Vice-Dean Innovation Faculty of Engineering,  
Norwegian University of Science and Technology



**Let's talk Innovation**

# Why are we here

- Share insights into our best practices
- Present the Innovation pilots programme
- Share our innovation mechanisms and tools
- Future of innovation at Faculty of Engineering.

# Innovation competencies and culture actions




## Let's talk Innovation

*Here is the One-Stop Innovation point at  
Faculty of Engineering!*

Explore our innovation resources, innovation products, best practices, events, news, and the Innovation Box that will guide you to the best innovation tools in NTNU, Norway and International!

## Let's talk Innovation Website

Home  
Events  
News  
Innovation Box  
About  
Video

Innovation Wednesday Talks



**Innovation**

Build upon knowledge, ingenuity, talent, opportunities and, above all else, focus.



**Sustainability**

Develop intentional changes to build a sustainable future and a better world for all.



**Society**

Anticipate special needs and make a societal impact that might save the world.



**Entrepreneurship**

Create of added value, changes, business, economic value and growth.



**Technology**

Support all aspects of human activities and improve our quality of life.

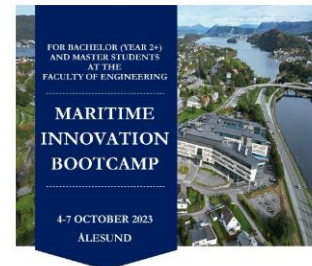


**Research**

Discover, produce new knowledge, investigate, experiment, analyse, improve.



## Maritime Innovation Bootcamp



Source: <https://www.ntnu.edu/lets-talk-innovation/>



# Workshops on Innovation Thinking and Innovation culture

- PhDs students at Faculty of Engineering, January 023
- PhDs students visiting NTNU, May 2023
- Departments and Research group leaders
- PhDs and young researchers, December 2023



CIB W070 Conference on  
Facility Management and Maintenance 2023

**Innovation impact for a Sustainable and Dynamic Future**

# Innovation and Commercialization



**Jamie Urquhart**

Innovator | Mentor | Venture Partner  
| Business advisor



**Lodve Berre**

Business Development Manager  
NTNU TTO

Lead Innovation - The potential of education and research in harnessing Innovation for Lasting Impact

TTO & Innovation ; Innovation frameworks: Innovation Readiness Level  
IP readiness level, Customer readiness level ; Impact cases from IV

Source: <https://www.ntnu.edu/lets-talk-innovation/news>



Norwegian University of Science and Technology  
Faculty of Engineering



[Register here](#)


## Next-Gen Innovators

**13 Dec 2023**

**Location: DIGS, 5th Floor Trondheim**

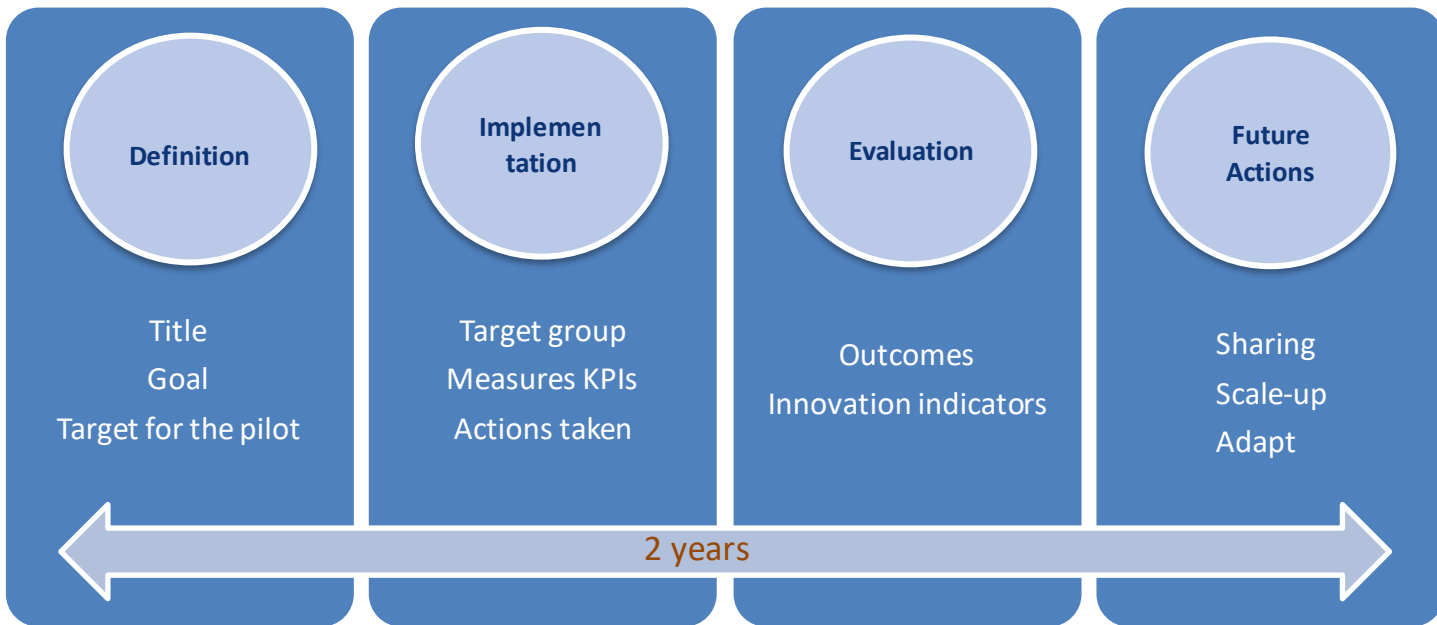
<b>Inspirational talk</b>	09.00 a.m.
<b>Jamie Urquhart</b> Innovator   Mentor   Venture Partner   Business advisor	
<b>Pitch and feedback</b>	09.30 a.m.
5-6 pitches from the PhDs/Postdocs at Faculty of Engineering	
<b>Innovation and business models</b>	10.15 a.m.
<b>Jamie Urquhart</b> Innovator   Mentor   Venture Partner   Business advisor	
<b>Reflection and group discussion</b>	10.50 a.m.
<b>TTO Innovation and DOFI</b>	11.10 a.m.
<b>Lodve Berre</b> Business Development Manager TTO	
<b>Wrap-up</b>	11.50 a.m.
<b>Alenka Temeljotov-Salaj</b> Vice Dean Innovation	
<b>Lunch and networking</b>	12.00 p.m.

**Event agenda**



# Innovation Pilots programme

Faculty of Engineering – 8 Departments



# En bottom-up strategi

Increase innovation awareness in the final year of Machine and Design bachelor students

Innovasjon som integrert del av PhD studiet

Økosystem for innovasjon

Description of innovation in typical research projects at KT

Fremming av innovasjonskultur ved IBM

Creating an infrastructure facilitating innovation in teaching (and research)

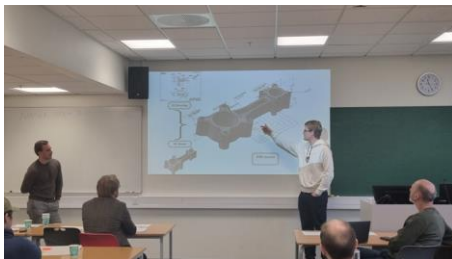
Innovation Platform - Communication Bridge

Inventor's role for innovation

## Hvert institutt:

- Hvordan vil du jobbe for å styrke innovasjon, kompetanse, kultur og omfang ved ditt institutt?
- Økonomisk bidrag fra fakultet: 150.000 kr pr år i 2 år
- Prosjektbeskrivelse
- Lessons learned, overføring til andre institutter
- Rapportering til prodekan innovasjon
- Rapportering til fakultetsstyret

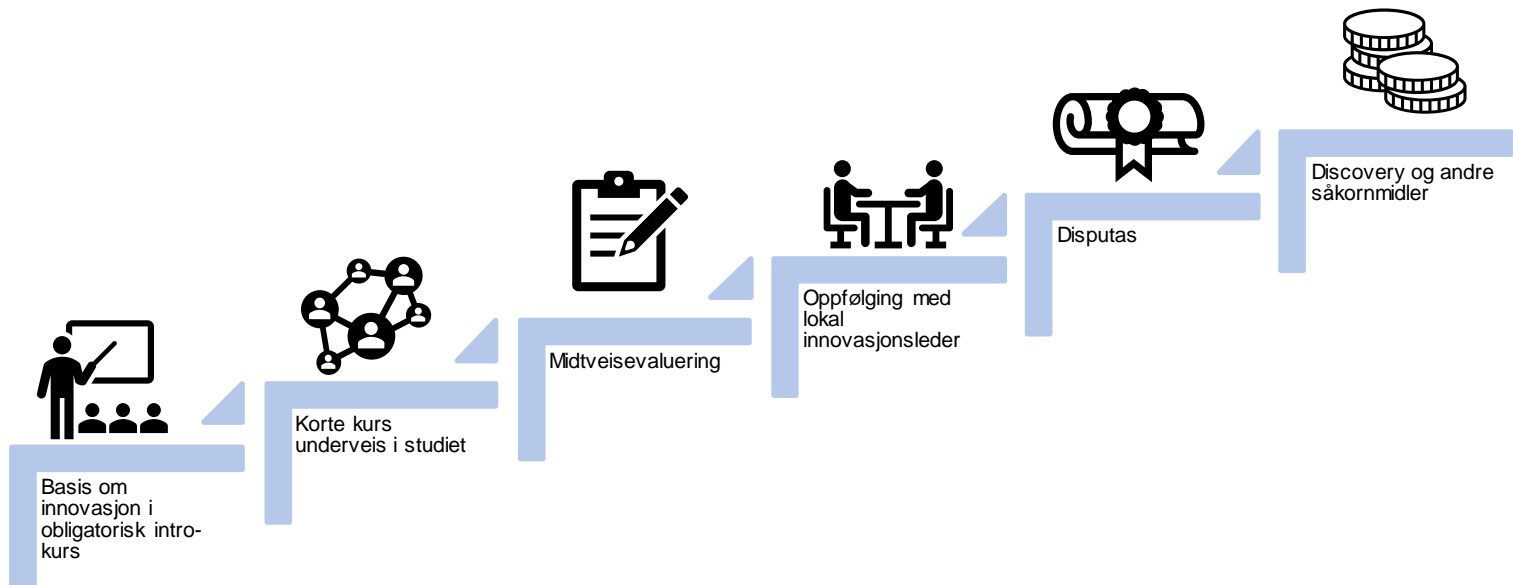
# Innovasjon i bacheloroppgaver, Institutt for vareproduksjon og byggteknikk (IVB)



## Program

- 08:45 Oppmøte NTNU i Gjøvik Smaragdbygget [S206](#) og registrering: - Kaffe servering
- 09:00 Velkommen ved Instituttleder Torbjørn Skogsrød og kort om Innovasjonspilot v/prosjektansvarlig Michael Cheffena
- 09:15 Hva er praktisk entreprenørskap? v/UE
- 09:40 Pause
- 09:50 Gruppeinndeling og øvelser
- 11:30 Lunsj
- 12:15 Oppstartsovelse
- 12:25 Presentasjon Luminar v/ Maria Heggelund Grave
- 12:40 Oppdrag fra næringslivet
- 13:00 Idéworkshop v/UE
- 13:40 Oppstart gruppearbeid. Gruppene fordeler seg etter romplan
- GJ-S [S307](#)
- GJ-S [S308](#)
- GJ-S [S312](#)
- GJ-S [S313](#)
- GJ-S [S314](#)
- GJ-S [S408](#)
- GJ-S [S409](#)
- GJ-S [S411](#)
- GJ-S [S415](#)
- Samt tilgang til klasserom S314, S411 og S415
- 14:00 Veiledning:
  - Veiledere: Arild Aune Berger, NTNU, Atle Dyrli, Vaager Innovasjon, Maria H. Grave, Luminar, UE Innlandet
- 15:00 Mat kan hentes utenfor S206 og bringes til grupperommene, gruppene bestemmer selv pauser.
- 16:00 Vi samles til presentasjoner i auditorium [S206](#)
- 16:10 Bedriftspitcher á 2 min (Vaager Innovasjon v/Atle Dyrli, Innovasjon Norge v/Torunn Linneberg)
- 16:30 Studentpresentasjoner 10 x ca 5 min
- 17:30 Pause og vurdering jury
  - Jury: Torunn E. Linneberg, Innovasjon Norge, Atle Dyrli, Vaager Innovasjon, Arild A. Berger NTNU, Maria H. Grave, Luminar, Torbjørn Skogsrød, NTNU
- 17:45 Kåring og avsluttende ord Torbjørn Skogsrød, NTNU/Jo Sterten NTNU

# Innovasjon som integrert del av PhD-studiet, Institutt for marin teknikk (IMT)



# Innovation Platform - Communication Bridge

## Institutt for geovitenskap og petroleum (IGP)



**BRU21 research projects  
2023**

Geoscience and Petroleum - NTNU

<https://www.youtube.com/playlist?list=PLpCqoDO7pj26RTSvJ7OwYyg5KtlmcZ972>



1

**Rialda Spahic: Risk-informed Artificial Intelligence for Autonomous Subsea Pipeline Inspection**

Geoscience and Petroleum - NTNU • Sett 229 ganger • for 4 måneder siden



2

**Gianluca Tabella: Data fusion for high performance leak detection.**

Geoscience and Petroleum - NTNU • Sett 130 ganger • for 4 måneder siden



**Seok Ki Moon BRU21 project presentation**

Sett 80 ganger • for 2 år siden

Geoscience and Petroleum - NTNU

Seok Ki Moon is a PhD student in #BRU21 - Norwegian University of Science and Technology (NTNU)'s Research and Innovation ...

My project is called Improved planning methods | reduce the environmental footprint while... 4 eyeblikk



**BRU21 Andreas Teigland**

Sett 147 ganger • for 3 år siden

Geoscience and Petroleum - NTNU

Andreas Teigland is a PhD student in #BRU21 - Norwegian University of Science and Technology (NTNU)'s Research and ...

Introduction | What do you do | What is your project 3 kapitler



**BRU21 Veronica Torres**

Sett 64 ganger • for 3 år siden

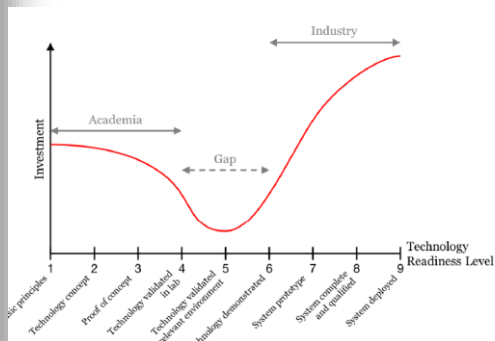
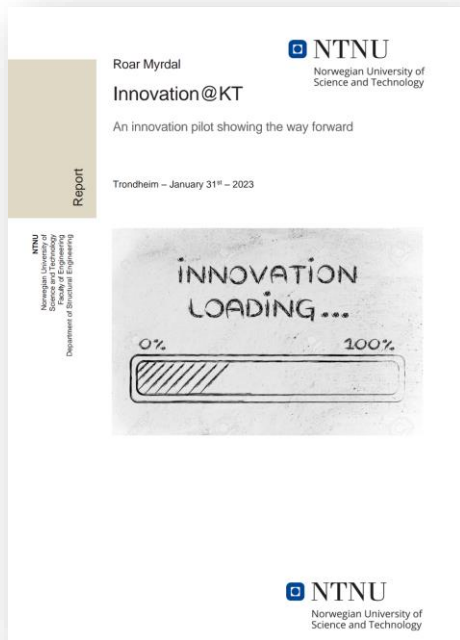
Geoscience and Petroleum - NTNU

Veronica Torres is a PhD student in #BRU21 - Norwegian University of Science and Technology (NTNU)'s Research and ...



# Hva er typisk innovasjon ved Institutt for konstruksjonsteknikk (IKT)

Hvor er vi, hvor vil vi og hvordan kommer vi dit



*“Is your research group innovative?” - “Yes, but we develop the foundation (approx. TRL 3) for the industry, society, and public sector, for them to further innovate”.*

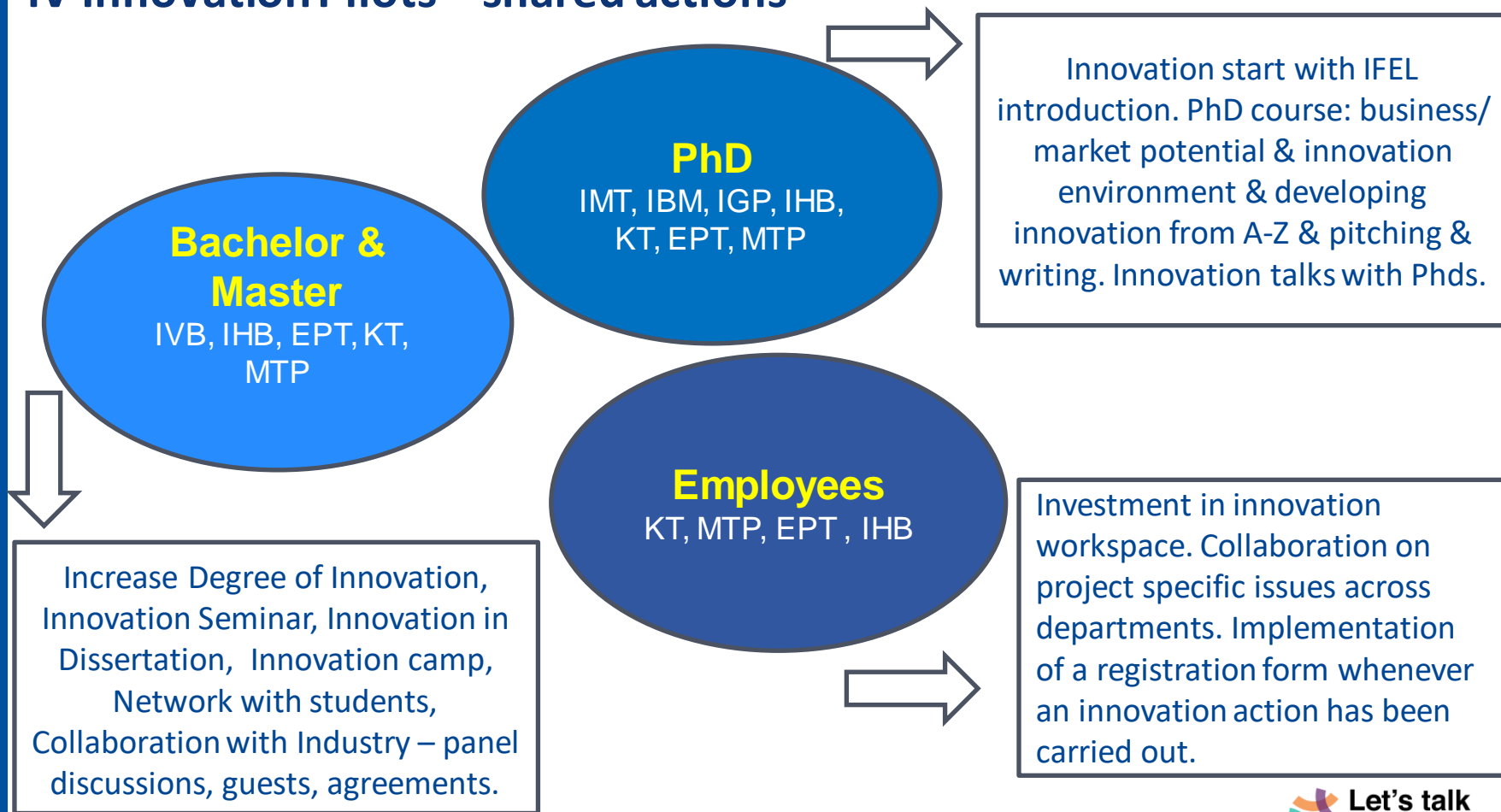
Current use of TTO and DOFI among the KT research groups, the answers vary from *“we have used”* to *“we don’t see the need”*.

The use of innovation indicators, or how to measure innovation - *“We don’t measure”, “Difficult, and how should we measure?”*.

When it comes to teaching, none of the group leaders see any need to innovate the way we teach and supervise students.



## IV Innovation Pilots – shared actions



# Innovation competencies and culture actions

## Innovation inspirational talks

Let's talk innovation Wednesdays – online and live events (2022-2023)  
2024 - Fridays



# Innovation competencies and culture actions

## Innovative students

### Innovation Thesis Competition for Master and Bachelor Students



### Maritime Innovation Bootcamp in Ålesund



Students from **three campuses** were challenged by a case within offshore wind and the transition from fixed to floating installations

Source: <https://www.ntnu.edu/lets-talk-innovation/news>

# Innovation and Commercialization

## Innovation funding

### Innovation Scholarship



Additional funding to facilitate innovation based on results from Ph.D. education

### Innovation Award – supporting successful ideas

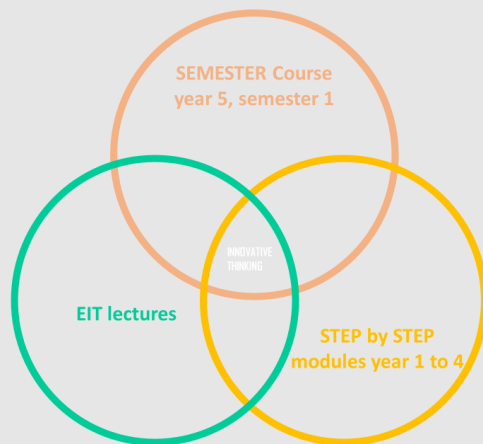


Supporting DOFIs which are in the project phase

# Next steps

## Innovation competences in the study programs at Faculty of Engineering, NTNU

### Courses proposition



- Develop a deep understanding of innovation thinking and entrepreneurship principles.
- Introduce the methodology and processes of developing a new product, including ethics, legal, and sustainability principles.
- Foster a mindset that embraces risk-taking, creativity, and problem-solving.

- Yearly modules that will be added in the already existing courses
- Integrate innovation and entrepreneurial principles into engineering education.
- Develop a seamless progression of knowledge from basic principles to practical application.

Lecture one: Innovation Thinking and Innovation Process  
 Lecture two: Business Models and Value proposition design  
 Lecture three: Pitch Training



# Innovation team together!

Inspiring **Sharing** Arranging **Contributing** **Growing** Supporting



## Innovation

Build upon knowledge, ingenuity, talent, opportunities and, above all else, focus.



## Sustainability

Develop intentional changes to build a sustainable future and a better world for all.



## Society

Anticipate special needs and make a societal impact that might save the world.



## Entrepreneurship

Create of added value, changes, business, economic value and growth.



## Technology

Support all aspects of human activities and improve our quality of life.



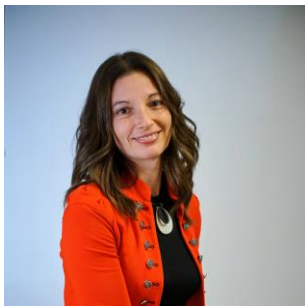
## Research

Discover, produce new knowledge, investigate, experiment, analyse, improve.





# Takk for oss!



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[www.ntnu.edu/lets-talk-innovation](http://www.ntnu.edu/lets-talk-innovation)

Let's work together to generate knowledge that will be utilized by  
the wider society!

## Questions from the audience

# Workshop with the audience

What is your organisation biggest challenge in developing an innovation thinking approach/model?

- 1 answer per participant
- 1 challenge to solve on each table
- presentation



Knowledge for a better world

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