

Hovedprofil Innovasjon og Entreprenørskap IE (for MTIØT studenter)

Gjennom denne fordypningen gis du muligheten til å bli ekspert i **(1) forretningsutvikling og kommersialisering av teknologi**, og/eller **(2) entreprenøriell læring**. I forhold til **(1) forretningsutvikling og kommersialisering av teknologi**, er det flere mulige problemstillinger og temaer. Eksempelvis, hvordan utvikle teknologi i ett kommersialiseringsprosjekt? Hvordan identifisere riktig kundesegment, hvordan gå til markedet, hvordan velge optimale forretningsmodeller (inklusive hvordan starte en tosidig plattform)? Strategiske utfordringer knyttet til vekst, finansiering av vekstbedrifter, herunder risikovillig kapital (business angels, såkornkapital, venture capital, osv.). Eller hvordan få tilgang på ressurser du ikke besitter selv? Du vil få muligheten til å studere caser ved NTNUs Entreprenørskole eller andre oppstartsbedrifter. Det er også mulig å studere forretningsutvikling og kommersialisering i etablerte bedrifter. Faggruppen har flere partnere som også er interessert i å utvikle ny kunnskap gjennom prosjekt- og masteroppgaver.

I tillegg vil du kunne fordype deg i **(2) entreprenøriell læring**, som er fokus i Engage. Dette er et senter for fremragende utdanning (SFU) tildelt av NOKUT i 2017, innen entreprenørskap, i sterk nasjonal konkurranse. Et hovedmål for Engage er å bidra til utdanning som vil utvikle entreprenørielle ferdigheter og tankesett blant studenter innenfor et bredt spekter av utdanninger, slik at de kan opptre som endringsagenter i de organisasjoner de senere skal jobbe innenfor. Engage er et konsortium bestående av NTNUs Entreprenørskole, Handelshøgskolen Nord, NTNU Eksperter i Team og Spark NTNU.

Her kan aktuelle problemstillinger være knyttet til prosesser som foregår under og etter gjennomføringen "Venture Creation Program" (som eksempelvis NTNUs Entreprenørskole eller andre tilsvarende internasjonale programmer). Her er det aktuelt å med masteroppgaver relatert til alumner fra NTNUs Entreprenørskole. Eksempler på tema er: Hvilke effekter har slike programmer? Hvordan kan man måle effekter? Har studenter fra VCP annerledes karrierer enn andre studenter? Hvordan vurderer arbeidsgivere kunnskapen og ferdighetene til kandidater fra VCP'er? Andre eksempler på forskningstema er hvordan entreprenørielle metoder i nye student – industrisamarbeid, i EiT landsbyer, entreprenørielle metoder i helseutdanninger, i musikkutdanningen osv. Hvordan kan mer aksjonsorienterte læringsformer bidra til å øke læringsutbyttet, bidrar det til at man utdanner fremtidens endringsagenter?

Forskningen innenfor begge hovedområdene gir muligheter for å samle inn internasjonale sammenlignende data. Fordypningsprosjektet skrives i grupper på 2-3 studenter.

Mulige veiledere:

Professor Øystein Widding

Professor Roger Sørheim

Professor Lise Aaboen, koordinator

Professor Elsebeth Holmen

Førsteamanuensis Ann Elida Eide

Førsteamanuensis Torgeir Aadland

Førsteamanuensis Dag Håkon Haneberg

Førsteamanuensis Øyvind Bjørgum

Førsteamanuensis Elli Verhulst (EiT)

Førsteamanuensis II Jørgen Veisdal

Førsteamanuensis II Haakon Thue Lie

Forsker Fufen Jin

Postdoktor Sara Maryami

Postdoktor Mukesh Hasirumane Venkatesh

Stipendiat Sophie Hunt

Stipendiat Sigrid Westad Brandshaug (EiT)

Stipendiat Jicky Lullies

Stipendiat Meike Siefkes

Stipendiat Nurina Heratri

Veileder tildeles på bakgrunn av kompetanse, interessefelt og kapasitet. Vi kommer til å kjøre eget infomøte **19 april 10:00** for denne spesialisering i Undervisningsrommet på Entreprenørskolen i fjerde etage på Oppredningen, Sem Sælands vei 1.

Forutsetninger for å velge fordypningen

De studentene som skal ta fordypningen i Innovasjon og Entreprenørskap må ha tatt:

- TIØ4265 Strategisk Ledelse og
- TIØ4235 Industriell Markedsføring og Internasjonal Handel.

Studenter som har vært på utveksling må ha tatt kurs med tilsvarende innhold.

Suggested themes and topics

IE01 – Artificial Intelligence and Entrepreneurs' Nexus in the Opportunity Development Process

Artificial intelligence (AI) is an emerging reality of economic and entrepreneurial significance. The generative AI tools can potentially transform how entrepreneurs think and innovate. There is growing potential for early-stage entrepreneurs to use generative AI tools at different stages of venture creation, like identifying, evaluating, and communicating new business ideas. Recent research shows that AI can work alongside humans to improve productivity and creativity. Generative AI tools like ChatGPT use reinforcement learning from human feedback and vice versa to perform collective improvisation and facilitate co-creation. However, there is still much to learn about how AI and early-stage entrepreneurs

work together to develop these new venture ideas. By understanding this relationship better, we can find new ways to help entrepreneurs improve the process of developing new business opportunities. Against this backdrop, this study will focus on how generative artificial intelligence assists early-stage entrepreneurs in developing new business opportunities. The findings of this study have the potential to develop a model that explains the interaction between AI and early-stage entrepreneurs in the opportunity development process. The research can be studied using qualitative approaches through interviews and observation of early-stage entrepreneurs using generative AI tools in different activities of opportunity development.

Supervisors: Mukesh Hasirumane Venkatesh and Lise Aaboen

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE02 – Success Factors and Outcomes of National Funding-Winning Startups

Student startups play a crucial role in driving innovation, economic growth, and job creation. The Norwegian government has been actively supporting student entrepreneurship through national funding schemes such as STUD-ENT. However, the effectiveness of such funding initiatives in promoting startup success and long-term sustainability remains a topic of debate. This master thesis aims to investigate the success factors and outcomes of startups that have been awarded funding through STUD-ENT, with the goal of providing valuable insights for student entrepreneurs, educators, policymakers, and stakeholders in the startup ecosystem. Potential research questions include: What are the key success factors that differentiate funded startups that achieve sustainable growth and long-term viability from those that struggle or fail? What role do founder characteristics, team composition, and entrepreneurial experience play in the success or failure of funded startups? To what extent do the funding winning startups contribute to job creation, innovation, and economic development within their respective regions or industries? To answer the research questions, students are encouraged to conduct in-depth case studies with a sample of startups that have received for example STUD-ENT. Cross-case comparison can be utilized to identify overarching trends, success factors, and lessons learned.

Supervisors: Fufen Jin and Lise Aaboen

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE03 – New Venture Teams

New venture teams (NVTs) differ from teams in established organizations in several ways. NVTs are characterized by the composition (self-selected and often homogenous), the economic context (uncertainty and company development), and the dynamic interactions (no managers or contracts and the need for mechanisms to manage stress and setbacks).

Scholars have also pointed out that novelty, ambiguity, and uncertainty, coupled with a lack of routines and established behavior patterns, influence the dynamic of entrepreneurial teams. However, many unresolved questions are related to teams that work in an entrepreneurial context. For instance, how do team dynamics (and its related structures, routines, and processes) influence the teams' business ideas and development, and vice versa?

Such questions can be explored in teams in an early development phase, in teams that have failed, or in teams that have succeeded. What can we learn from these different teams? Empirical data could be collected at NTNU School of Entrepreneurship, Gründerbrakka, or other arenas where NVTs collaborate.

Supervisors: Sigrid Westad Brandshaug and Roger Sørheim

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE04 – Collaboration in the transition towards circular/sustainable business models

The change from a linear to a sustainable, circular economy is a necessity for staying within planetary boundaries. Businesses play a significant role in this transition: they are the ones making sustainable production possible and supporting sustainable consumption within their markets. With its high overall presence worldwide and in Europe, and thus a cumulative large impact on economic, social and environmental issues, also start-ups and small businesses need to take their responsibility. In recent years, attention has grown for the development and implementation of sustainable business models (SBM). These "aim at solutions for sustainable development by creating additional monetary and non-monetary value by the pro-active management of multiple stakeholders and incorporate a long-term perspective" (Geissdoerfer et al., 2018). Different studies have looked at available methods and practices that support small business to shift from traditional to SBMs (Tsvetkova et al., 2020) and mapped supporting and hindering factors for the development and implementation of SBMs. Literature shows that a lack of interdisciplinary collaboration and coordination comes forward as the largest barrier, hindering the establishment and growth of SBMs in start-ups or small businesses and their supply chains. However, collaborations and partnerships that bring together multiple stakeholders in the development and implementation of SBMs remain underexplored (Pedersen et al., 2020). In addition, working with SBMs asks for interdisciplinary approaches, integrating different perspectives and knowledge from different fields, as well as a variety of skills that are needed to shed light on social, economic and ecological aspects of SBMs. An overarching research question within this topic is: How can interdisciplinary collaboration support start-ups and small businesses in the transition towards sustainable business models?

Students are welcome to work in pairs and can choose a specific industry or industrial value chain to focus on, such as battery or other renewable energy, textile, construction, or another industry in agreement with the supervisor.

Supervisor: Elli Verhulst

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE05 – Impact measurement for investments in sustainable start-ups

Sustainability, ESG and impact are huge trend topics, and many start-ups can refer to some kind of positive impact they want to have. One way to validate these sustainability claims is the measurement and quantification of this impact. For established companies, this process has been systematized, often looking at the saved tons of CO₂e emissions. For a start-up that is still in the early stages and might not even have a MVP yet, this impact measurement is rather a prediction of the potential impact once the product or service is on the market. It might be a hassle to deal with such theoretical concepts in the exciting and stressful early stage. Yet, a quantitative or quantifiable impact calculation can be an important tool to prevent greenwashing and verify the sustainability aims in investor conversations.

In this master thesis project, it could be investigated which approaches can be applied to measure this potential impact of a start-up and to communicate it to potential investors. This includes all dimensions along the product/service life cycle, both from an ecological perspective and the social side. The project can be approached from the start-up perspective, investigating how early-stage start-ups can measure their (potential) impact and which indicators can be integrated into the decision-making early on. In this line, a discussion of the impact versus profit issue could be addressed. It is also possible to take the investors' perspective. Here, it is interesting to explore what impact performance indicators investors ask for. Do the indicators vary between different types of investors (e.g. angel investors, VC, institutional investors)? What does that mean for start-ups and their impact measurement and reporting?

This project is connected to a PhD project looking at green angel investors. We invite interested students to contact supervisors listed below for more information about the possibilities in the project. The project is suitable for one group consisting of 2 to 3 students.

Supervisors: Meike Siefkes and Øyvind Bjørgum

This project suggestion relates to the department's strategic research initiative *Green Value Creation*

ENT06 – Ownership structures of green Venture Capital Firms

Green technology start-ups play a pivotal role in mitigating and minimizing the negative effects of products or services on the natural environment. The development and commercialization of green start-ups require more capital than traditional start-ups, consequently leading to a prolonged timeline and substantial increase in investment needs. Thus, investors seeking a timely and large return on investment (ROI) are less inclined to invest in greentech, despite the critical role of financial resources for technology entrepreneurs. However, there has recently been a surge of investments into green start-ups, especially by dedicated green venture capital firms (VCs). Recent studies support that VC funding can significantly promote green innovation, however there are also sceptic voices that question the suitability of VC for sustainable start-ups due to their challenges in combining the aims for both profit and sustainability. The nature of the VC model is that VCs maximize the ROI for the limited partners (LPs), who invested in the

fund. Yet, the knowledge on the LPs who invest in green VCs is scarce – VC ownership can seem like a blackbox. Recent studies suggest that public LPs push for impact assessments while private LPs remain indifferent about the impact created by green VC. LPs have a large potential to leverage their influence on the VCs and implement environmental impact performance into their assessments of the VCs. Is there a disconnect within the green investment ecosystem regarding profit and impact?

In this master thesis project, it could be investigated who the LPs for green VCs are and how they differ, e.g. regarding relationship with the VC, motivation to invest, impact expectations, and return expectations. The project can be approached from the VC perspective, investigating how green VCs raise funds from different LPs and how they then maintain the relationship with their LPs. In this line, a discussion of the impact versus profit issue could be addressed. It is also possible to take the LPs' perspective. Here, it is interesting to explore their motivation to invest in green VC. What drives public vs. private LPs to invest in green VC? Do they require different success indicators? How much does a sustainable portfolio matter to them? How does that affect the expectations they have toward VCs? How do they manage their own stakeholders, e.g. family office owners, corporates, or governments? Why do some corporates invest both in VCs and also have their own corporate venture capital arm?

This project is connected to a PhD project looking at green investors. We invite interested students to contact supervisors listed below for more information about the possibilities in the project. The project is suitable for one group consisting of 2 to 3 students.

Supervisors: Meike Siefkes and Øyvind Bjørgum

This project suggestion relates to the department's strategic research initiative *Green Value Creation*

IE07 – Innovation Readiness, Openness, Access and Knowledge Flow

The public is funding innovation through research from universities and with funding to R&D projects. Contribution to innovation, through knowledge transfer and commercialization of research results, is a core objective for universities. Collaboration between universities, industry and the public sector is crucial to ensure the utilization of the research. The Norwegian government spends around 15 billion NOK on sponsoring firms' R&D with public grants, loans, advice, and other services.

A question is to what regard the tax-payers' money is used to create knowledge monopolies - where one firm alone profits – or open science where the knowledge can be used by all for more innovation. Another question is that research shows that open science can be a profitable strategy for a firm, independent of possible public funding.

The contracts between the parties frame how they control access to the R&D results. Intellectual property such as patents, copyright and trade secrets are key mechanisms in controlling and leading transitions. The understanding of open innovation and collaboration between universities, research institutes, firms and the public sector is essential for creating circular economies and technology standards. Developing technology platforms as diverse as the 5G mobile networks and the gene-editing CRISPR technology depends on successfully managing openness and thus the related intellectual property. Openness, access

and knowledge flow from public-funded research can be studied both on an innovation system level or at the firm level. There is a rich material of publications from the supervisors. Data can be analysed further or enhanced with qualitative studies (see <https://www.fpol.no/dehns/> and <https://hdl.handle.net/11250/3054379>).

The project connects to developing practical tools for R&D project managers, steering groups and sponsors with a base in NTNU Technology Transfer AS www.ntnutto.no and Dehns www.dehns.com. An interesting option is to create an add-on to the KTH innovation readiness level tool, see [KTH Innovation Readiness Level™ – A method, visual tool, and resource library guiding the development from early stage idea to innovation on the market](#)

The project can be solved qualitatively through case studies with interviews or quantitatively through surveys and public data. We invite interested students to contact the supervisors listed below for more information about the possibilities in the project and to define more precisely what this project can entail for you. The project is open for one group of two or three students.

Supervisors: Haakon Thue Lie (and Knut Jørgen Egelie)

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE08 – Innovation, trade secrets, psychological mechanisms and workforce mobility

Firms control their innovation through what the research literature calls “appropriation mechanisms”. These mechanisms are primarily intellectual property such as copyright, trade secrets, patents, designs and trademarks – but combined with, for example, human resource management, lead time advantages and revealing strategies. Whereas patents and copyright are legal constructions, trade secrets are more dependent on mechanisms such as psychological contracts.

There is rich literature on each of these mechanisms used separately. However, firms use the mechanisms in combination. For example, a crucial part of an artificial intelligence solution could be controlled by copyright to the software, database rights to the collection of data used for machine learning combined with trade secrets in the form of the researchers' skills in selecting the datasets for training. There are few publications on how firms manage this mix of appropriation mechanisms, how the managers decide on their blend of openness and secrecy and how this affects the personal knowledge of employees.

A theoretical foundation is in the knowledge-based view of innovation and in the framework “Profiting from Innovation” by David Teece. At the core is value creation and the interaction of the firms' processes with the available appropriation mechanisms. However, in the future the technology-based organizational design that creates the appropriation mechanisms will be supported by artificial intelligence. In parallel our understanding of the psychological mechanisms evolve.

There is data that can be analysed further or be enhanced with qualitative studies (including a 2021 survey for the Department of Trade and Fisheries). The workforce mobility issues are discussed in Chapter 19 of “Norsk arbeidsliv mot 2050”, see <https://oa.fagbokforlaget.no/index.php/vboa/catalog/view/6/7/39>

The project can be solved qualitatively through case studies – both in entrepreneurial firms or established enterprises - or quantitatively through surveys and public data. I invite interested students to contact me for more information about the possibilities in the project and to define more precisely what this project can entail for you.

The project is open for a single student or one group of two or three students.

Supervisors: Haakon Thue Lie

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE09 – Handling Uncertainty in Entrepreneurship

Entrepreneurs continually encounter uncertain situations throughout their careers, often with significant implications for their ventures. The ability to adapt and pivot under uncertainty is a hallmark of successful entrepreneurship. However, the extent to which seasoned entrepreneurs handle uncertain situations remains largely unexplored. *This master project aims to investigate how entrepreneurs handle uncertainty in their entrepreneurial efforts, for example, through their use of previous experiences, networks, team members, and external expertise.*

By exploring the topic of approaches to handling uncertainty, the study will bring new knowledge for researchers and practitioners about a central topic of entrepreneurship. For instance, the research could provide new insights into how entrepreneurs leverage their learning from experience and networking to navigate uncertainty effectively. Furthermore, identifying best practices and strategies employed by successful entrepreneurs in managing uncertainty will offer valuable insights for support systems, ecosystems, and education. This research will contribute to advancements in both theory and practice within the field of entrepreneurship.

Supervisors: Sara Maryami and Torgeir Aadland

This project suggestion relates to the department's strategic research initiative *Leading Transitions: Co-create a sustainable future*.

IE10 – Identity Fusion in Entrepreneurship Education

Identity fusion refers to a deep sense of connection and alignment with a group, wherein individuals perceive their identities as intricately linked with the collective identity. Identity fusion can arise through shared experiences, rituals, or symbolic acts that reinforce a sense of belonging and common identity. It is associated with increased willingness to make sacrifices for the group, heightened levels of cooperation, and a stronger sense of resilience in the face of adversity.

In the context of venture creation programs, researchers have yet to investigate the role of group alignment (such as identity fusion) on students' learning, the development of entrepreneurial passion and other outcomes. That is, beyond investigations of entrepreneurial teams, the literature on venture

creation programs has yet to determine what role, if any, individuals' group alignments and experiences have on important outcomes, including learning and the development of entrepreneurial passion, mindset and intentions.

This specialization project seeks to investigate the role of the collective (the class) on individuals' outcomes in the context of venture creation programs. It consists of a literature review on group dynamics in the context of entrepreneurship education, with a master's thesis investigating empirically what role (if any) group alignments play in determining outcomes in the context of venture creation programs.

Supervisors: Jørgen Veisdal and Lise Aaboen

This project suggestion relates to the department's strategic research initiative *Leading Transitions: Co-create a sustainable future*.

IE11 – When public customers matter: Born-public ventures and GovTechs

Many startups imagine that they will sell to private customers, only, and do not think about the many opportunities to develop and sell products and services to public customers. Furthermore, many do not realize that the public sector is in urgent need of innovative products and services to solve the many current and future challenges in society.

Particularly related to solving future challenges in terms of health and pandemics, an aging population, sustainable energy, higher environmental and social requirements, in the face of expected lower tax revenues, the public sector must become more innovative and also purchase more innovative solutions.

In Norway, the public sector buys for approx NOK 600 billion annually. New innovative procurement methods enable the public sector to engage with innovative suppliers. The role of public organizations as business developers is becoming increasingly important, and through innovative procurement, the public sector can contribute to the development of Norwegian businesses and industry, both startups and established companies.

However, public organizations and companies need knowledge about how they can meet and collaborate in a good way when it comes to "innovating together" with startups.

In this project, we will look at challenges and opportunities for startups that orient themselves towards public customers, engage in innovative procurement processes, or who see unresolved needs in the public sector as an important basis for their development, so-called Born-public ventures or GovTechs.

For a recent example, see the article about Leasi, <https://www.universitetsavisa.no/entreprenorskolen-grndere-oslo-kommune/ntnu-grndere-inngar-kontrakt-pa-en-halv-million-med-oslo-kommune/377128>.

The project focuses on how a startup experiences public customers who drive innovation and business development in the startup. The task will address challenges and opportunities startups experience in their business development when they work to solve needs for public customers. It is also possible to focus on how startups experience differences and similarities between interaction with public customers versus interaction with private customers.

The project is linked to various research projects, including the research council project FORAN -Anchoring innovative public procurement in municipalities, which is a collaboration with the National Program for Supplier Development, Sintef Digital and three Norwegian municipalities.

Supervisor: Elsebeth Holmen

This project suggestion relates to the department's strategic research initiative *Health and the Public Sector*

IE12 – How can established firms run “startup supplier programs”?

Collaboration between established firms and startups are increasingly considered an ingredient of corporate strategy, and many established firms have created corporate startup accelerators and corporate venture capital arms dedicated to investing in ambitious early-phase ventures with growth potential. Many such programs mainly aim to build a promising investment portfolio using profits originating from the established firms' main operations. Hence, the *startups* are seen as *investment opportunities*.

However, an increasing number of established companies have started to develop programs that focus on gaining access to the innovations the startups create. In such programs, the suppliers are seen as future suppliers which can help improve the competitiveness of the products the established firms offer and increase the productivity of operations of the established firms. The *startups* are seen as *potential suppliers*, and the established firms aim to build supplier relationships to the startups, with the startups becoming part of the supplier portfolio of the established firms.

In programs aimed at developing startup suppliers, the established firms focus on developing the actual offerings and technology of the startup, and its capabilities be an actual supplier. This means that the established firms pay attention to connecting the startup with managers from their core business, giving the startup access to the business units which eventual will be customers, and involving them in problem-solving processes, pilots, trials and tests. This contrasts the venture programs, where the focus is on more on giving generalized advice on business development often facilitated by professional venture developers far from the core business of the established firm.

Some such “startup supplier programs” have been identified in different countries, and literature has started to emerge on the issue, see for example Kurpjuweit and Wagner (2020) Startup supplier programs: A new model for managing corporate-startup partnerships, *California Management Review*, 2020, 62(3), pp.64-85 and Wouters, Anderson and Kirchberger (2018) New-technology startups seeking pilot customers, *California Management Review*, 60(4), pp.101-124.

In Norway, there are examples of initiatives that resemble startup supplier programs or contains modules or tracks which focus on building startups as suppliers. For example, some processes in Equinor Ventures focus on piloting and testing technology developed by a startup for use in Equinor's core operations. Others, like Schibsted Ventures, have indicated that after realizing large losses related their general business venture capital arm, they will focus more on investments in startups that are more closely related to their core business.

The project and master thesis will focus on startup supplier programs in Norway, and attend to how such programs are designed, and the experiences and results gained from them. The project will contain a

literature study of startup supplier programs, and empirical studies of Norwegian startup supplier programs. The project can take the perspective of the established firm, the startups, or both.

Supervisor: Elsebeth Holmen

This project suggestion relates to the department's strategic research initiative *Leading Transitions: Co-create a sustainable future*.

IE13 – Exploratory study on team member exit in new venture teams – what happens when one leaves?

Pre-venture and new venture teams are fragile in their first stages of existence. At NSE, team member exits in the first or second year of venture development are not a rare occurrence. But what happens when somebody leaves the team? How do remaining team members learn from the team member exit and how do they cope with it? The processes in nascent teams are under researched, also due to the difficulty of accessing such teams – NSE is a spot in which such ventures are abundant. Nonetheless, learning about these very early stages can be very interesting and prove useful to understand how teams get from inception and pre-venture status to a strong new venture team. Team member exit introduces a disruption and a challenge to the team. Understanding how teams cope with, or learn from team member exit, can therefore prove vital to understanding why some teams thrive regardless and others don't. How does team member exit take place? How do these teams experience team member exit and how do they cope with it? What are potential learnings?

Supervisors: Jicky Lullies and Roger Sørheim

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE14 – Innovating Norwegian welfare: a social endeavour

Social enterprises are organisations created to solve or at least alleviate a range of social problems, e.g., social exclusion, unemployment, marginalisation of vulnerable groups e.g., youth, immigrant integration, the elderly, and healthcare support using entrepreneurial means and viable business models. In Norway, the welfare state is massive but still, it faces rising challenges e.g., of an ageing population, digitalisation of the workforce, and social exclusion. The MSc projects/theses could look at how social entrepreneurs are tackling these challenges and creating innovative solutions. Or else, how do they fit in the Norwegian welfare system when the public sector is the main provider? How can social enterprises 'compete' with the public sector or gain them as customers for their services and social solutions?

(Other research topics) Common challenges social enterprises and the entrepreneurs who run these organisations face include:

- Balancing their social aims with economic viability.
 - Creating a successful business model

- Mission drift (e.g., sole focus on the social mission can lead to mismanagement of finances, bankruptcy, and dissolution of the company. Alternatively, too much focus on economic issues can result in losing sight of the social goal). Therefore, the careful management of the sometimes conflicting aims is imperative.
- Resource challenges/restraints (often face challenges with investors and funding)
- Conceptual ambiguity
 - Lack of awareness and support
- Scaling & outreach, as well as replicating impact

The master projects/theses could also investigate the operations of social entrepreneurs in Norway. Examples of social enterprises: NewUSE and Hogst AS

Supervisors: Sophie Hunt and Dag Håkon Haneberg

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE15 - Corporations as investors (CVC) in emerging green technologies

Green technologies are necessary to reduce emissions, and there is an urgency to accelerate the development from emerging to mainstream technologies through diffusion and market commercialization. Green ventures, referring to entrepreneurs who bring forward green technology, have increasingly raised investments from Venture Capital (VC) to finance their commercialization phase. Among the VCs, Corporate Venture Capital (CVC) is perceived as having great potential in accelerating technology commercialization. It provides startups with access to corporate resources such as R&D capabilities, market knowledge, and distribution channels, thereby aiding them in commercializing innovations. The heightened focus on the green transition has resulted in increased pressure on corporations from both external and internal stakeholders to invest more in green technology. However, this might lead to an increase in tensions from between stakeholders in the corporations because there are different expectations regarding long-term innovation and short-term profitability. Particularly, the green elements might create additional tensions since pursuing sustainable innovation might affect the firm's short-term profitability.

In this master thesis project, we would like to explore CVC investors, and especially the interplay between different stakeholders in the CVC green investment, including the parent firm, CVC unit, and co-investors (other VCs), and how this impacts their strategies and green technology commercialization.

The project can take the perspective of the parent firm: How do they diversify their investment portfolio? How does the green transition influence their risk approach? How do they balance tensions between long-term innovation and short-term profitability? Another perspective can be from the CVC unit: How do they develop their investment strategies? How do they collaborate with other VCs as co-investors?

This project is connected to a PhD project researching green CVC investors. We invite interested students to contact the supervisors listed below for more information about the project's possibilities. The project is suitable for a group consisting of 2 to 3 students.

Supervisors: Nurina Heratri, Øyvind Bjørgum and Roger Sørheim

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE16 – Venture Capital and Gender

Venture capital is an important driver for the development of new Norwegian growth companies. In Norway, more than 90 percent of the capital is invested in founder teams consisting of men only, and less than 1 percent is invested in all-female teams. In this context, Norway is among the worst in Europe. There are many reasons for this, but a key point is that more than 90 percent of partners and investment managers in venture funds are men. The gender balance is slightly improving, but if you exclude state-owned actors like Investinor and SNÖ, the development is very poor. At the same time, there is research showing that a more diversified investment portfolio makes VC funds more profitable. *Why is the change so slow and what could be done to change it?*

Supervisor: Roger Sørheim

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE17 – Impact investing

Impact investing is an investment strategy where investors seek to generate not only financial returns but also create a positive, measurable social and environmental impact. They aim to contribute to specific beneficial outcomes in social or environmental areas (in addition to achieving competitive financial returns). The research related to this type of investment is limited. Examples of interesting research areas to be explored: Who is the impact investor and why do they do it? How can you measure impact? How can impact investment funds be drivers of change?

This thesis could be done in cooperation with Wire group in the Netherlands.

Supervisor: Roger Sørheim

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE18 – The Trondheim entrepreneurship community in Oslo

“Entrepreneurial ecosystem” (EE) has been developed as a concept to understand how entrepreneurial activities develop beyond a firm-level scope (Cantner et al., 2021). The ecosystem model is traditionally viewed as consisting of “all the elements that are required to sustain entrepreneurship in a particular territory” (Stam & van de Ven, 2021, p. 821). The territory can be based on major universities (Miller &

Acs, 2017), established firms (Audretsch & Feldman, 1996), and influential entrepreneurs as role models (Brown & Mason, 2017). Most previous research and famous examples (Silicon Valley etc.) assume that entrepreneurs remain in the area to develop it further. Even though the Trondheim entrepreneurship community has developed a lot in recent years, the majority of the graduated students and student entrepreneurs move to Oslo. This is an interesting phenomenon that could be investigated further from many different perspectives. For example: Do these student entrepreneurs create a community within the community in Oslo? Do they become embedded in the Oslo community? Why did they move and how to they interact with each other and those that remained?

Supervisor: Lise Aaboen

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE19 – Start-ups creating their first supply chains

How do you initiate and develop a business relationship with your first customers and suppliers? How do you become an attractive and prioritized customer to your important suppliers? What does it take for someone to be willing to refer or recommend you to a potential customer? This topic can be adjusted so that you get to explore the angle that you want to know more about due to your start-up and/or curiosity.

Supervisor: Lise Aaboen

This project suggestion relates to the department's strategic research initiative *Leading transitions: Co-create a sustainable future*.

IE20 - Other project in the area of business development or entrepreneurial learning

This is a project in the area of business development or entrepreneurial learning that is suggested by the student team. In order to select this project the group need to prepare a proposal showing the topic, potential research questions and relevant literature that you will present to the fagstab before submitting the selection. The assignment of supervisors to these projects is dependent on the feasibility of the proposal and total resource situation for supervision so make sure to also select themes from the list above. The alternatives above are themes that are used as a starting point for defining a project and not pre-defined projects.