

Interested in writing a master thesis in collaboration with researchers and partners in INTRANSIT?

We have five thesis proposals but also welcome other suggestions connected to our research themes.

INTRANSIT offers students access to a vibrant research community, the opportunity to work with and be supervised by leading scholars and industry partners, access to data and partners.

Theses should preferably be written in English due to the international nature of our research group.

Reach out to INTRANSIT director taranmt@uio.no for further information.

Potential master thesis topics for TIK master students, March 2022

Ports as facilitators of multi-sectoral sustainability transitions (in collaboration with INTRANSIT partner Sintef).

Ports are central actors of commerce and key facilitators and enablers of industrial activities and transport systems. Due to their intermediating and facilitating function, ports thus may play a key role in fostering sustainability transitions in other sectors, including heavy transport (e.g. production and supply of new fuels for ships and trucks), enabling the transport of captured carbon (CCS) and facilitating circular economy and industrial symbiosis in nearby areas. Central to these possibilities is the challenge of creating new collaborations and connections between previously distinct industrial sectors. The master thesis could investigate the ways and processes of how ports may support sustainability transitions in different industries. The master thesis could thus conduct a case study of a Scandinavian port, and gather data through interviews and/or media analysis.

The challenge of accelerating the hydrogen innovation (in collaboration with INTRANSIT partner Sintef).

Hydrogen is expected to be a key enabler of energy transitions, and creates opportunities for radically reducing emissions in transport, energy and various industrial sectors, as well as market opportunities for Norwegian companies. However, due to e.g. technological immaturity, chicken and egg problems, uncertainty regarding technological choices, high prices and lacking infrastructure, the emergence of large-scale production and consumption patterns haven't yet emerged. To enable the potential of hydrogen to contribute to the urgent need of cutting emissions, these challenges for accelerating the hydrogen innovation need to be overcome. The master thesis could analyse such challenges in specific cases (e.g. hydrogen hubs) through an innovation system or actor-based analysis. For instance, bottlenecks and solutions for the emergence of hydrogen value chains could be analysed through the technological innovation system framework, or the actions of individual actors (private firms or public actors) could be analysed at an organizational level.

Policies fostering a sustainable industrial transformation in the oil and gas sector in Norway (in collaboration with INTRANSIT partner Sintef).

The Norwegian oil and gas sector is facing a transformation over the next decades as the energy transition reduces the demand for petroleum. Norwegian companies and workforce in the oil and gas industry thus need to reorient to new business models and markets. To ensure a just transition that creates new jobs to replace the disappearing ones, policy may need to support this transformation. The master thesis may explore the earlier or on-going policy processes and measures that may support a just transition in Norway, or analyse cases from abroad, e.g. Denmark and Germany regarding the decline of fossil fuel industries. Potential data sources are governmental white papers, regulations, reports and/or interviews.

Digitalisation, sustainability and industry transformation (in collaboration with DNV GL)

Intransit research partners (Tik and Sintef) and collaborator DNV GL welcome students who are interested in writing about the intersection between digitalisation and sustainability transitions (the “twin transition”). Some of the following topics are particularly interesting (but not limited to):

- The link between digitalisation and sustainability/decarbonisation (the ‘twin’ transformation/ transition)
- Studies at firm level that focus on the management and organizing aspect of engaging in the ‘twin’ transformation/transition
- Studies that focus on understanding of the role of ‘system builders’ in industries undergoing the ‘twin’ transformation/transition
- Understanding digital transformation in the mobility sector