

Position Description

1. General Information

Name of the position	Cross-sectoral Twin Transition Capabilities
Foreseen enrolment date	September 2025
Position is funded by	<ul style="list-style-type: none"> • COFUND, Marie Skłodowska-Curie Actions (MSCA), Horizon Europe, European Union • TalTech • RMIT University
Research Host	TalTech
PhD awarding institutions	TalTech & RMIT University
Locations	Primary: Tallinn, Estonia Secondary: Melbourne, Australia
Salary	32,400 EUR annual gross salary (2,700 EUR monthly gross salary)
Supervisors	<ul style="list-style-type: none"> • Peeter Vihma, Postdoctoral Researcher, TalTech • Ralf-Martin Soe, Assistant Professor, TalTech • Cameron Duff, Professor, RMIT University • Melissa Wheeler, Senior Lecturer, RMIT University
Group of discipline	Green Transition, Twin Transition

2. Research topics (only one of these projects will be funded)

Project 1: *Organizational capabilities for the twin transition*

The PhD project would develop capabilities for private-public collaboration that aim to tackle sustainability challenges in the fields of transport, energy, circular economy, construction or property development through the application of digital technologies. Examples include promising innovations such as digital twins (VanDerHorn & Mahadevan, 2021), virtual energy communities (Plewnia & Guenther, 2021), blockchain-based supply chains (Schinckus, 2020), sharing economy models (Kolk & Ciulli, 2020) and cosmological production (Kostakis et al., 2023) that each promote technological, social and organizational changes to drive sustainability gains. Application of these digital tools rely on integration of data streams from registries and sensors, but also extensive collaboration between stakeholders (Soe et al., 2022). The sustainability gains of smart cities materialize only through new forms of organization, collaboration and inclusion (Andersen et al., 2021). Thus, although governments are expected to act as coordinators and change agents, advancing the twin transition requires cooperation between diverse public and private organizations (Bidmon et al., 2024). We need to understand better the combination of organizational, technological and social capabilities in both private and public sector settings that identify, foster and optimise sustainable value creation (Kattel et al., 2022; Kattel & Mazzucato, 2018; Teece, 2007). The PhD project would focus on new organizational forms, routines and resources that respond to and rely on state-of-the-art digital technologies. The project would map efforts and



initiatives globally from the lens of organizational capabilities from either public or private organisational settings depending on the candidate's background and interests, to answer questions like:

- What kind of strategic, tactical and operational routines within organizations are required for the twin transition?
- How can cultural changes be triggered in public and private organizations so that innovation mindsets can flourish?
- What are the skills gaps that affect the capability of public sector officials and business leaders to govern innovative initiatives?

Supervisors: Peeter Vihma (TalTech), Ralf-Martin Soe (TalTech), Cameron Duff (RMIT), Melissa Wheeler (RMIT)

Research Fields: Private-public collaboration, Sustainability, Twin Transition

Project 2: *Cross-organizational capabilities for the twin transition*

The PhD project would develop capabilities for private-public collaboration that aim to tackle sustainability challenges in the fields of transport, energy, circular economy, construction or property development through the application of digital technologies. Examples include promising innovations such as digital twins (VanDerHorn & Mahadevan, 2021), virtual energy communities (Plewnia & Guenther, 2021), blockchain-based supply chains (Schinckus, 2020), sharing economy models (Kolk & Ciulli, 2020) and cosmological production (Kostakis et al., 2023) that each promote technological, social and organizational changes to drive sustainability gains. Application of these digital tools rely on integration of data streams from registries and sensors, but also extensive collaboration between diverse stakeholders (Soe et al., 2022). The sustainability gains of smart cities materialize only through new forms of organization, collaboration and inclusion (Andersen et al., 2021). Thus, although governments are expected to act as coordinators and change agents, advancing the twin transition requires cooperation between diverse public and private organizations (Bidmon et al., 2024). We need to understand better the combination of organizational, technological and social capabilities in both private and public sector settings that would identify, foster and optimise new, sustainable value creation (Kattel et al., 2022; Kattel & Mazzucato, 2018; Teece, 2007). The doctoral project would take an explicitly cross-sectoral focus for studying the initiatives which rely on public-private collaboration. This includes the relationships, opportunities and constraints related to "Big Tech" that inevitably shape the outcome of the twin transition (Andersen et al., 2021). The project would map collaborative efforts depending on the candidate's background and interests from the lens of inter-organizational capabilities. Potential questions include:

- How can we overcome the administrative silos and fragmentation of powers and responsibilities within and between sectors?
- What kind of capacities, resources, knowledge domains do public organizations need to meaningfully engage with private organizations in developing new value propositions (and vice versa)?
- What are the structural reforms needed to enhance coordination within and across the public organizations involved in the twin transition?

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Research Fields: Private-public collaboration, Sustainability, Twin Transition

Project 3: *Innovation systems for the twin transition*



This project has received funding from the European Union's Horizon Europe research and innovation programme under the Marie Skłodowska-Curie grant agreement N° 101179842

The PhD project would develop capabilities for private-public collaboration that aim to tackle sustainability challenges in the fields of transport, energy, circular economy, construction or property development through the application of digital technologies. Examples include promising innovations such as digital twins (VanDerHorn & Mahadevan, 2021), virtual energy communities (Plewnia & Guenther, 2021), blockchain-based supply chains (Schinckus, 2020), sharing economy models (Kolk & Ciulli, 2020) and cosmological production (Kostakis et al., 2023) that each promote technological, social and organizational changes to drive sustainability gains. Application of these digital tools rely on integration of data streams from registries and sensors, but also extensive collaboration between diverse stakeholders (Soe et al., 2022). The sustainability gains of smart cities materialize only through new forms of organization, collaboration and inclusion (Andersen et al., 2021). Thus, although governments are expected to act as coordinators and change agents, advancing the twin transition requires cooperation between diverse public and private organizations (Bidmon et al., 2024). We need to understand better the combination of organizational, technological and social capabilities in both private and public sector settings that would identify, foster and optimise new, sustainable value creation (Kattel et al., 2022; Kattel & Mazzucato, 2018; Teece, 2007). The doctoral project would take an innovation systems perspective to investigate the capabilities for twin transition. The convergence of digital and sustainable innovations requires twin policies (Fazio et al., 2024) yet the policy field of twin transition is far from being mature (Andersen et al., 2021; Gao, 2024). The role of intermediaries – universities, think tanks, business accelerators etc – in linking parts of the system is especially relevant for policy development and implementation (Bäumle et al., 2023; Kanda et al., 2020). The doctoral project would focus on the capabilities for creation and functioning of twin innovation systems. Key research questions might include:

- What kind of capacities do public sector organizations require for creating and maintaining twin transition innovation systems (such as mission-based policies)?
- What kind of policies and governance arrangements promote and sustain the substitution effect of twin innovations?
- What kind of support (knowledge, technology, funding strategies) do companies require for the twin transition?
- What is the role of intermediaries in the twin transition?

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Research Fields: Private-public collaboration, Sustainability, Twin Transition

3. Employment Benefits and Conditions

TalTech offers a 48-months full-time work contract, and the total working hours per week are 40.

The remuneration, in line with the European Commission rules for Marie Skłodowska-Curie grant holders, will consist of a **gross annual salary** of yearly 32,400 EUR (which is of monthly 2,700 EUR). Of this amount, the estimated net salary to be perceived by the Researcher is 2,082 EUR per month. However, the definite amount to be received by the Researcher is subject to national tax legislation.

Benefits include:

- Becoming a Marie Skłodowska-Curie fellow and be invited to join the Marie Curie Alumni Association
- Access to all the necessary facilities at TalTech and RMIT University
- Tuition fees exemption at both PhD awarding institutions



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- Travel allowance to cover flights and accommodation for participating in DREAM+PLAN events
- Up to 12 months in Australia
- 42 calendar days paid holiday leave
- Social security coverage
- Sick leave
- Parental leave

4. PhD enrolment

Successful candidates for this position will be enrolled by the following institutions and must comply with their specific entry requirements, in addition to DREAM+PLAN's conditions.

TalTech

To enrol in a Doctorate program, you must meet the general conditions, namely:

- (1) Persons who hold a master's degree or an equal qualification have the right to apply for doctoral studies.
- (2) A candidate from a foreign country applying for a doctoral student position must have a valid Estonian residence permit or right of residence and a permanent legal income in accordance with the provisions of the Aliens Act, except in the case of a doctoral student studying under a joint supervision or any other cooperation agreement.
- (3) A public competition is announced based on doctoral thesis topics for early stage researcher and industrial Ph.D. positions where there is no definite candidate. An applicant can apply for one competition at a time.
- (4) Notices of the competitions by topics, including the names of the supervisors, shall be published on the websites of the Schools and doctoral studies websites, international websites and in the online environment for applying for doctoral studies.
- (5) The documents required for application are the following:
 - 1) an application;
 - 2) a curriculum vitae, incl. data on education and research and development activities;
 - 3) a copy of an education certificate and a diploma supplement;
 - 4) a copy of the passport, identity card or residence permit card;
 - 5) a motivation letter in English;
 - 6) other documents required by the supervisor to determine eligibility of the applicant. Additional documents may be requested during the competition period.
- (6) Applicants who do not have Estonian citizenship, a long-term resident's residence permit or permanent right of residence must prove their English language skills with at least a B2 level certificate.
- (7) If an education certificate acquired in a foreign country is submitted, the university has the right to request assessment of compliance of the qualification from the Estonian ENIC/NARIC Centre.



(8) If an applicant cannot submit an education certificate as proof of completing the previous academic cycle, the applicant must provide evidence of his/her academic results. An admission decision can be made once the education certificates have been duly submitted. [entry into force 23.01.2024]

(9) Application documents shall be submitted electronically via the online application environment. If necessary, the applicant who has received the admission decision, shall submit his/her education certificates on paper to the Research Administration Office in accordance with the instructions received from the Research Administration Office. The university reserves the right to revoke the admission decision if the applicant fails to submit paper documents meeting the specified requirements to the Research Administration Office. The university also reserves the right to revoke the admission decision if the applicant is an alien and after the decision has been made, the university becomes aware of facts that give rise to suspicion that the alien may pose a threat to public order, national security, international relations or public health.

More information: <https://taltech.ee/en/phd-admission>

RMIT University

Visit the website: <https://www.rmit.edu.au/research/research-degrees/how-to-apply>

