

Shaping the sustainable value chain through science-based policy development

Summary

The project explores the role and possibilities of sustainable innovation in material value chains across different key industries in Estonia. It analyses how entrepreneurial ecosystems —networks of researchers, policymakers, and industry actors including startups — can drive circular practices, resource efficiency and support the sustainable transitions with the focus on shaping policy development based on scientific research. The research would be based on case studies, mainly qualitative data analysis and international comparative analysis, aiming to bridge research, practise and policy development to strengthen ecosystem dynamics that foster innovation and promote circular economy principles in key industrial sectors.

Research field:	Business
Supervisor:	Prof. Dr. Wolfgang Dieter Gerstlberger
Availability:	This position is available.
Offered by:	School of Business and Governance Department of Business Administration
Application deadline:	Applications are accepted between June 01, 2025 00:00 and June 30, 2025 23:59 (Europe/Zurich)

Description

Preliminary research questions are:

- What are key industries, specific regional ecosystems and certain types of companies (e.g., SMEs, startups) currently in Estonia, which could drive sustainable innovation in material value chains in the future?
- Are there certain national and/or regional/local policy instruments which could support the transition of specific ecosystems and material value chains towards more sustainability?
- From a comparative point of view, are there relevant good practice examples outside Estonia, e.g. in Europe or also the OECD countries which could inspire Estonian companies and policy makers in reaching this transition goal?

List of crucial references

A list of potentially relevant authors and theoretical approaches to be considered for the specified PhD research plan:

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- Acerbi, F., Taisch, M. (2020). A literature review on circular economy adoption in the manufacturing sector. *Journal of Cleaner Production*, Volume 273, p 123086.
- Adams, R., Jeanrenaud, S., Bessant, J., Denyer, D., & Overy, P. (2016). Sustainability-oriented innovation: A systematic review. *International Journal of Management Reviews*, 18(2), 180–205.
- Ahmadov, T., Durst, S. & Gerstlberger W.(2025). Unveiling success factors for implementing and sustaining circular economy practices in small and medium-sized firms: multi-level perspective. *The Bottom Line*, 38(1) 71–98.
- Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: State-of-the-art and steps towards a research agenda. *Journal of Cleaner Production*, 45, 9–19.
- Hall, J., & Vredenburg, H. (2003). The challenges of innovating for sustainable development. *MIT Sloan Management Review*, 45(1), 61–68.
- Harima, A., Harima, J., & Freiling, J. (2024). Ecosystem Orchestration: Unpacking the Leadership Capabilities of Anchor Organizations in Nascent Entrepreneurial Ecosystems. *Entrepreneurship Theory and Practice*, 48(6), 1404- 1450. <https://doi.org/10.1177/10422587241241824> (Original work published 2024)
- Camilleri, M. A. (2020). European environment policy for the circular economy: Implications for business and industry stakeholders. *Sustainable Development*. 28. 1804-1812. 10.1002/SD.2113.
- Fischer, B., Meissner, D., Vonortas, N., & Guerrero, M. (2022). Spatial features of entrepreneurial ecosystems. *Journal of Business Research*, 147, 27-36.

- Marino, A. & Pariso, P. (2020). Comparing European countries' performances in the transition towards the Circular Economy. Science of The Total Environment. 729. 138142. 10.1016/j.scitotenv.2020.138142.

Responsibilities and (foreseen) tasks

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- Conduct independent, collaborative and internationally comparative research on sustainable value chain management and innovation across key industrial sectors in Estonia, analysing the entrepreneurial ecosystems and developing science-based policies
- Perform literature reviews, develop conceptual frameworks and develop relevant research questions as well as as hypotheses/propositions
- Collect and analyse mainly qualitative, but if needed also quantitative (including secondary) data from companies, regulators, and other stakeholders across multiple countries, but focusing on Estonia
- Write academic publications for international peer-reviewed journals and conferences
- Actively participate in the department's research group on sustainable value chain management, fostering circular economy practices, policy recommendations development based on field analysis
- Support teaching activities (e.g., seminars, supervision) related to sustainability, circular economy, resource efficiency, value chain management
- Engage in research communication, stakeholder engagement, and knowledge transfer activities with industry and policy partners
- Contribute to internal funding applications and national/international grant proposals
- Participate in the research and practitioner workshops where project findings are presented and discussed.
- The candidate is also expected to engage in small-scale teaching and supervision related to a PhD candidate's field of expertise and active participation in the department's activities.

The candidate is expected to have

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- A Master's degree (or equivalent) in business, innovation management, (engineering) environmental management, or a related field
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- Demonstrated interest in at least one of the following areas: sustainable value chain management, fostering circular economy practises, sustainability related policy development
- Good analytical and writing skills, with the motivation to produce high-quality academic publications
- Strong communication and collaboration skills
- Very good command of English (both spoken and written)
- Capacity to work independently and collaboratively in an interdisciplinary and international environment.

The following experience is beneficial

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- Prior experience in applied research or industry projects related to circular economy, value chain management, policy development
- Familiarity with qualitative and/or quantitative research methods
- Experience in stakeholder engagement or policy-relevant research
- Previous participation in international academic networks, research conferences, or student exchange programs
- Professional Estonian language skills
- Experience in project management, ideally both on EU and national level
- Experience with different national and/or EU funding schemes like e.g. INTERREG, ERASMUS+, national Estonian tender schemes (e.g. of Ministry of Climate or Ministry of Economic Affairs and Communication)

The initial research plan

The candidate should submit an initial research plan for the topic, including the overall research and data collection strategy. The candidate can expand on the listed research questions and tasks and propose theoretical lenses to be used. The research plan will be developed further considering project aim and research questions as well as on-going project activities once the candidate is admitted.

We offer



- 4-year PhD position (employed as an Early-Stage Researcher at the Department of Business Administration) in a strong team of researchers.
- The chance to do high-level research in one of the most dynamic sustainability contexts globally.
- Opportunities for conference visits, research stays and networking with leading universities and research centres in the fields of energy, environmental and innovation studies
- All PhD positions are guaranteed a gross income of at least 2300 EUR and Estonian national health insurance.

About the department

Tallinn University of Technology (TalTech) is an international scientific community with approximately 9,000 students and 2,000 employees; it is one of the largest universities in Estonia, the leading EU country in digitalisation. The university's strengths are broad multidisciplinary study/research interests, a modern research environment, and strong collaboration with international educational and research institutions. TalTech is aiming to be an organisation leading the way to a sustainable digital future.

The research carried out at the **Department of Business Administration** in the School of Business and Governance in TalTech deals with various aspects of business – entrepreneurship, sustainability, knowledge and technology transfer, operations and strategic management, digitalisation, marketing, supply chain management, accounting and performance management. The School has over 200 employees.

Additional information

For further information, please contact Wolfgang.Gerstlberger@taltech.ee and visit <https://taltech.ee/en/department-business-administration> and <https://taltech.ee/en/phd-admission>

TalTech has a green and one of Europe's most compact university campuses, including the Tehnopol Tallinn Science Park. Low hierarchy, academic freedom and a balanced work and family life are valued at TalTech. The university provides individual development and training opportunities, material and non-material tokens of acknowledgement, sporting opportunities at TalTech Sports Club and all-staff activities.

TalTech, as an employer, brings together representatives from a wide range of disciplines - engineers and economists, business and biotechnology, and data scientists - with a shared mission to develop Estonian higher education and research. Keywords that characterise TalTech today are rapid development, interdisciplinarity, and internationalisation. The university has an international working environment; the functional languages are English and Estonian.



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