Postdoctoral position on measuring the long-term acceleration and crisis of industrial modernity

The European Research Council Consolidator project "Rise and Demise of Industrial Modernity" (RiDe) at the University of Tartu (Estonia) is looking to fill a fully funded postdoctoral position (3 years with a possibility of extension, see below). The project is led by Laur Kanger, Professor of Sustainability Transitions and co-author of the Deep Transitions framework (see here, here and here) underpinning the project. The expected starting date is as soon as possible and the position will remain open until filled

About the project

Contemporary societies are underpinned by industrial modernity: a set of commonly shared ideas, institutions and practices related to the natural environment and technoscience. Having historically unleashed massive leaps in productivity, economic growth and societal welfare, many traits of industrial modernity have now become maladapted to the current socio-ecological polycrisis. As a result, science and technology promise to solve the grand challenges of climate change, resource depletion and loss of biodiversity with one hand, only to keep intensifying them with another.

RiDe will use a new Deep Transitions framework from the sustainability transitions field to provide an overarching synthesis on the acceleration, crisis and transformative prospects of industrial societies from 1900 to the present. It focuses on 3 questions:

1. What are the major historical continuities and emerging ruptures in industrial modernity?
2. What are the mechanisms through which technoscience keeps blocking transformative environmental practices?
3. In which countries is major transformative change most likely to occur?

The results will be synthesized into the first macro-level middle-range process theory in transitions studies, offering a new comprehensive, historically-informed and empirically-backed interpretation of industrial modernization for sustainability science.

Topic description

The purpose of the postdoctoral research project is to map the long-term evolution of different institutions and practices related to the natural environment and technoscience (e.g. institutional tendency to react to the consequences of technological innovation, reliance on fossil fuels and minerals as key inputs) in G20 countries from 1900 to 2025 through the combination of different databases (e.g. party platforms, material use, scientific publications, patents). The results are expected to contribute to:

1. A typology of industrialization pathways developed by the research team;
2. An index comparing the historical legacy of industrial modernity in different countries.

The research builds on the team's prior work on measuring long-term continuities and ruptures in the foundational ideas, institutions and practices of industrial societies (see here and here).

What we expect

The project assumes being comfortable with quantitative time-series analysis involving gathering and combining data from a range of different existing databases. The candidate should have excellent written and spoken English proficiency. Furthermore, the ideal candidate will have solid background in **any two** of the following and willingness to expand the skill-set as required:

- Scanning existing literature for possibly relevant databases;
- Indicator development, bridging theoretical concepts with available data;
- Working with large databases (e.g. PATSTAT, ECOLEX, Web of Science);
- Quantitative time series analysis, including structural break detection and clustering techniques;
- Composite index development.

Command of additional skills and experience (e.g. text mining techniques, mixed methods approaches, work in interdisciplinary teams) is considered a bonus.

The applicant should have a PhD degree or be close to finishing the PhD studies. Preference is given to candidates with a background and prerequisite skills in one of the following fields: sustainability transitions studies, science and technology studies, innovation studies, sociology (e.g. economic, political, environmental, historical), political science, economics (e.g. economics of innovation, ecological economics), history (e.g. economic, environmental, science and technology), environmental studies, sustainability science (or a related field). Alternatively, a PhD degree in another field combined with a strong and proven interest in sustainability issues also constitutes a good fit.

What we offer

- Full-time employment (36 months) which can be extended up to the end of the project (30.04.2030) at the Institute of Social Studies, Faculty of Social Sciences, University of Tartu with a salary range of EUR 2,500-3,000 gross/month depending on skills and experience;
- Although the position is intended to be 100% research, the development of a teaching portfolio can be negotiated;
- 42 paid vacation days per year and generous annual travel support for conferences;
- A supportive and international research environment within a diverse interdisciplinary team working at the frontier of sustainability transitions studies;
- Located in Tartu (Estonia), a university town with excellent quality of life (see below).

Team and the PI

The project will consolidate interdisciplinary and multi-method expertise in Deep Transitions research, initially developed during a five-year research project that ended in 2023. The core team members have a highly diverse disciplinary background, combining deep domain expertise in sustainability transitions studies, computational social science, machine learning, digital humanities, history of science and technology, political economy, and innovation management.

Laur Kanger is a Professor of Sustainability Transitions in the Institute of Social Studies, University of Tartu, with research interests in transitions studies, history and theory of technology, and macro-historical sociology. He has contributed to the conceptualization of Deep Transitions, the Multi-level Perspective on socio-technical transitions, policy intervention points for facilitating transitions, societal embedding of radical innovations, the role of users in transitions, and energy justice. Thematically, Laur's research has covered energy and mobility transitions, mass production, digitalization, and industrial modernity.

Why do postdoctoral research in Estonia?

Estonia offers Nordic quality of life, a strong academic environment and convenient digitized services—all while maintaining a reasonable cost of living that supports a comfortable student life. The University of Tartu, founded in 1632, ranks among the top 1% of the world's most cited universities and actively fosters sustainability and intersectoral collaboration, having produced numerous successful startups. Estonia itself ranks #1 in startups per capita in Europe. As a member of the EU and NATO, Estonia is internationally minded, and English is widely spoken. Estonia's digital infrastructure streamlines official procedures, as everything from contracts to taxes can all be handled online in minutes by citizens and residents alike. Tartu is a lively university town known for its cozy atmosphere, vibrant student life, bike and walking friendly spaces, and scenic riverside. It has been named the UNESCO City of Literature, and the European Capital of Culture in 2024. The city is well connected to Europe and the world, but also offers easy access to nature, with nearby vast networks of forest hiking trails, excellent winter sports opportunities, and the charm of four distinct seasons.

About the Institute of Social Studies

The Institute of Social Studies is one of the largest social science institutes in Estonia. Its research focuses on three main subject clusters: Journalism and Communication; Sociology, Social Work and Social Policy; and Information Sciences. The institute has a total of ten curricula at all three levels of higher education. Its journalism and communication curriculum has been ranked among the best in the world in the prestigious QS World University Rankings by Subject.

How to apply

Please get in touch with the PI of RiDe, **Laur Kanger** (laur.kanger@ut.ee), with any further questions.