

Topic LC-GD-3-2-2020: Demonstration of systemic solutions for territorial deployment of circular economy

Haaga-Helia University of Applied Sciences



Haaga-Helia (www.haaga-helia.fi/en) is the second biggest university of applied sciences in Finland. Through education, research and development, Haaga-Helia prepares professionals in business and services. The 10 000 students and 600 employees at Haaga-Helia base their activities on highly advanced national and international expertise

Haaga-Helia is part of the European Universities network Ulysseus. Ulysseus is an open to the world, persons-centred and entrepreneurial European University. Our aim for 2030 is to develop an excellency-recognized and internationally attractive ecosystem composed of some of the highest level European research and educational institutions.

Haaga-Helia has deep-set expertise in topics relevant to call topic LC-GD-3-2-2020: Demonstration of systemic solutions for territorial deployment of circular economy, which we will highlight here.

Artificial intelligence to enable and enhance circular economy implementation

AI can enhance and enable circular economy innovation across industries in three main ways:

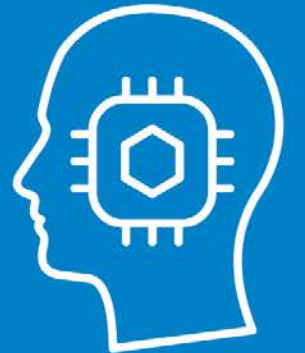
Design circular products, components, and materials. AI can enhance and accelerate the development of new products, components, and materials fit for a circular economy through iterative machine-learning-assisted design processes that allow for rapid prototyping and testing.

Operate circular business models. AI can magnify the competitive strength of circular economy business models, such as product-as-a-service and leasing. By combining real-time and historical data from products and users, AI can help increase product circulation and asset utilization through pricing and demand prediction, predictive maintenance, and smart inventory management.

Optimize circular infrastructure. AI can help build and improve the reverse logistics infrastructure required to “close the loop” on products and materials, by improving the processes to sort and disassemble products, remanufacture components, and recycle materials.

Haaga-Helia has a competence hub for AI and our specific strengths are in the following areas:

- Value creating mechanisms of AI for circular economy
- AI enhanced sustainable business models
- Role of AI in innovation management and opportunity recognition
- Value co-creation/service design in AI enhanced business processes
- Business roles in AI enhanced value chains, networks and ecosystems for the circular economy
- Adopting AI to business processes (circular economy solutions/ technology diffusion/ digital transformation models etc.)
- Application of AI enhance chatbots in dissemination and implementation of the circular economy
- Adopting and using machine learning & AI tools
- Ethics of AI, ethics of used data in AI
- Human-AI-interaction research
- Interactive machine learning
- Data analyses in cases (quality, privacy, integrity, availability, pricing, ownership, etc.)



Bio Ari Alamäki



Dr. Ari Alamäki works as principal lecturer at Haaga-Helia, and as adjunct professor at University of Turku. His current research focuses on AI in education, digital business and customer behavior in digital environments. He worked as COO and co-founder at Targetor Oy with 90 large or middle-size customers of its software products in 2004-2011. He has also worked as managing consultant in e-learning for Tieto Oyj in 2000-2003. In the 90s, he worked at University of Turku and as visiting scholar at Virginia Tech and Minnesota State University, USA. He received his PhD in 1999 from University of Turku. He has managed several RDI-projects. His publishing work consists of over 130 publications including one business book, 44 peer-reviewed articles and 86 other professional or scientific publications.

Circular economy business models

Companies often benefit from an external viewpoint to build their circular economy business models and value propositions as well as to connect to the wider circular economy ecosystem of down- and upstream actors.

Haaga-Helia has a competence hub for business model development with specific focus on sustainability, climate and circular business models.

Haaga-Helia's specific strengths:

Our specific strengths are in the following areas

- Business model innovation for circular economy
- Service design for circular economy and corporate responsibility; service design methods for business process modeling and (re)design
- Collaborative Business Modeling as a technique and as a platform for future foresight, and joint creation of economic and social value
- Harnessing hackathons and systemic coaching for identification of novel solutions to CE implementation problems and to engage / mobilize people at the grassroots level
- Baseline analysis as a starting point for circular business model innovation
- Circular business model suitability evaluation and model testing
- Support in change management for circular business model innovation
- Sharing economy business models and integration of sharing economy models to existing businesses
- Sharing economy in support of the circular economy
- IPR issues in the circular economy

In addition, we have a Climate and circular economy factory "VERSO" where we can test and pilot circular economy business models and combine them with university teaching activities



Bio Minna-Maari Harmaala



Dr. Sc. Minna-Maari Harmaala works as principal lecturer of Corporate Responsibility at Haaga-Helia University of Applied Sciences. She has over ten years of practical industry experience from consulting in sustainability management, especially in the electronics sector. She has worked with a number of multinational clients prior to joining Haaga-Helia and is currently active in public-private partnerships at the University. She holds a Dr. Sc. from the University of Jyväskylä. Her dissertation looked at the industry wide sustainability effects of technology investments and was approved in 2001. Dr. Harmaala is an author of a textbook in Finnish on corporate responsibility, the sharing economy and of various articles in scientific journals. She has robust international experience. Her areas of interest and expertise are business model innovation, corporate responsibility, sustainable business models, strategic CSR and the sharing economy.



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