

# **Designing Circular economy in the innovation system of the region of Päijät-Häme**

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Regions**





# Smart specialization RIS3 of Päijät-Häme

- **Circular Economy**
  - Industrial symbiosis, waste management, best practices of bio-based circular economy, new solutions and services for circular economy
- **Design**
  - The region has specialized in classical industrial design and immaterial design in its various forms, including information design and brand



## Focus areas at LAB University of Applied Sciences

- Circular Economy
  - Technical and biological material loops
  - Resource efficiency
  - Sustainable community
  - Circular economy regenerative systems
- Design
  - Designing Sustainable Products, Services and Environments
  - Smart Human Driven Design and Communication
  - Design for Behavior Change
  - Arts for Radical Renewal

# Strategic planning

- Päijät-Häme Circular Economy Road Map
- <https://www.kohtikiertotaloutta.fi/english/>
- Päijät-Häme Design Road Map is under construction

PÄIJÄT-HÄME ROAD MAP

# Towards Circular Economy in Finland

Päijät-Häme Circular Economy Road Map describes the regional goals and actions to achieve the vision:

Päijät-Häme – the successful resource efficient region.



# Education Circular Economy & Sustainable Design

## CIRCULAR ECONOMY

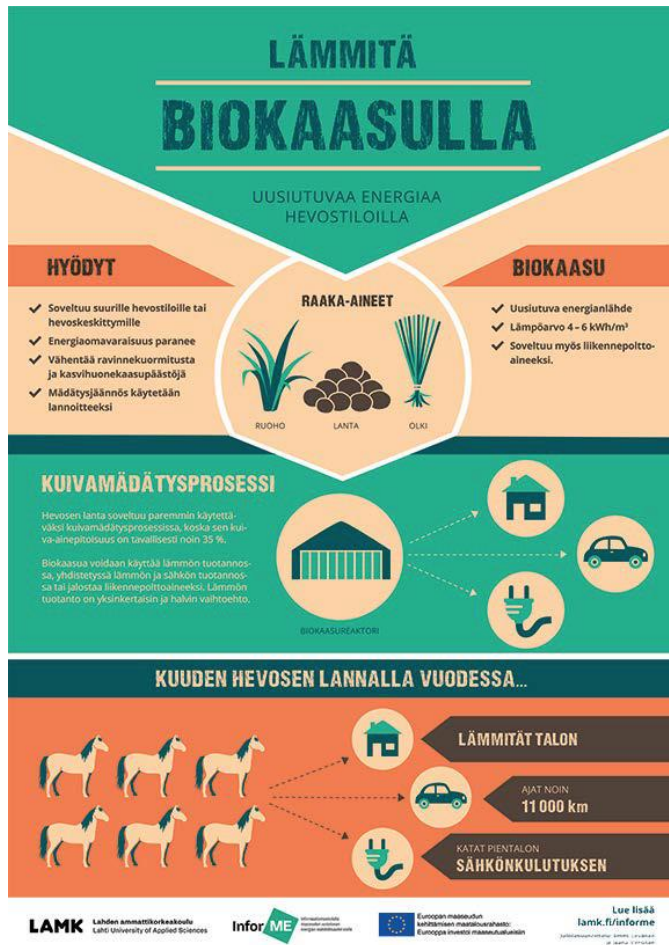
- Energy and environmental engineering
- Urban sustainability
- Test and demonstrate circular solutions
  - ✓ Accredited furniture lab in use
  - ✓ Textile fiber recognition using optical method
  - ✓ Pilot for recycled plastic washing and separation
  - ✓ Environmental impact tools e.g. LCA
  - ✓ Data management system

## SUSTAINABLE DESIGN

- Industrial Design
- Furniture Design
- Interior Architecture
- Packaging Design
- Information Design
- Graphic Design
- Experience and Service Design

# RDI in Practice

# Informe – promoting the potential of renewable energy through information design (CEDTE)



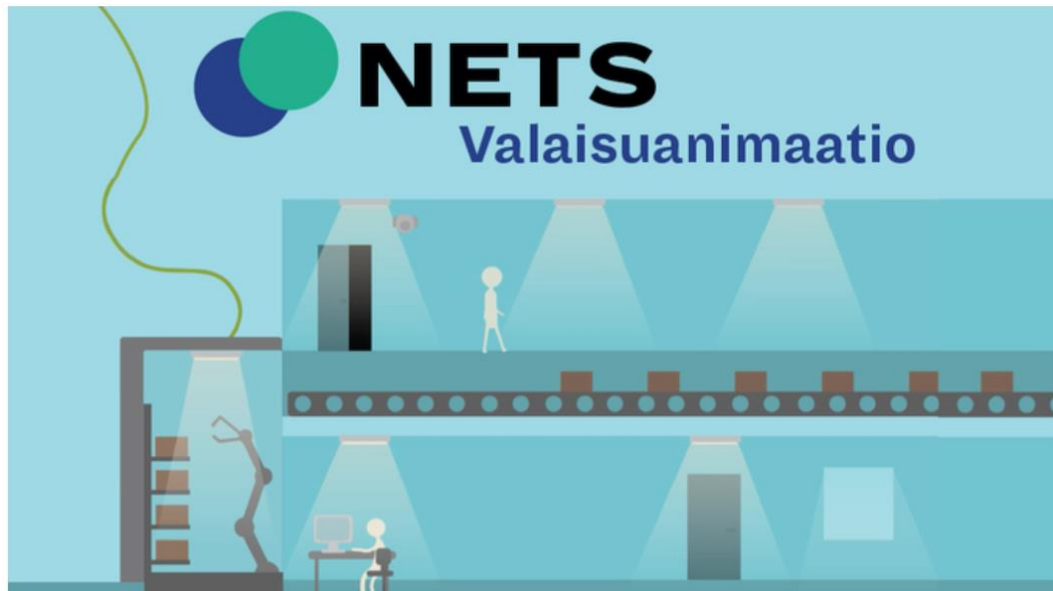
- Visualising complex energy and material flows and systems
- Supporting energy counselling by information design
- Infographics, posters, brochures, animations, videos
- Presented in Astana World Expo, Kazakhstan
- Consortium: LAB, LUT University, Häme University of Applied Sciences, Pro Agria
- Please find results here:  
<https://www.lamk.fi/en/project/promoting-potential-renewable-energy-through-information-design>

# The industrial symbiosis and energy ecosystem in Nastola, Päijät-Häme (ERDF)



Nastolan Energiasäätiö

Avaa animaatio klikkaamalla alla olevaa kuvaa.



- Promoting the use of renewable energy sources and methods that are both energy and material efficient
- Researching methods and solutions that help companies to achieve savings through energy and material efficient procedures
- Producing user-oriented and easily understandable information about low-carbon economy, industrial symbiosis and local energy ecosystem on both national and international levels
- System oriented design enables to form the network required amongst the companies
- Visualization enables complex data to be more understandable amongst a large variety of interested parties
- Consortium: LAB, Nastola Energy Foundation

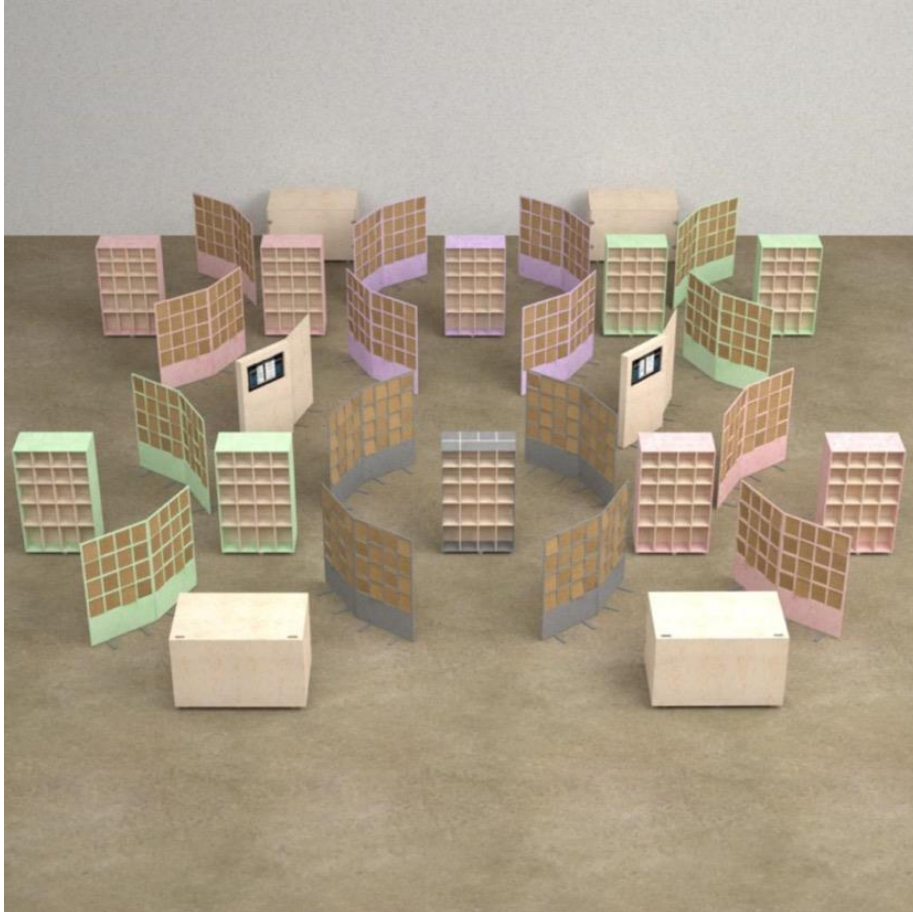


# CECI - Citizen involvement in circular economy implementation (Interreg Europe)



- Aims at improving and developing regional policies through promoting citizen involvement in circular economy
- Changes in consumption patterns
- Good Practices on citizen involvement are transferred related specially to sharing economy services e.g. tool/toy library, and repair services
- Consortium: LAB + seven partners from six countries (Belgium, Bulgaria, Czech, Finland, France, Spain)

# Circular Move (ERDF)



- Supporting the regional change and aim of sustainable economic growth by modelling the circular economy and supporting new business opportunities
  - Päijät-Häme Circular Economy Road Map
  - Circular Material Library
  - Service design for Kujala Waste Management Center
  - Design-based user research, consumer behaviour (purchasing decisions, recycling, sharing economy)
- Consortium: LAB, LUT University, Lahti Region Development, Muovipoli Ltd

# Integration of Fibre-based Packaging Solutions for the Needs of SMEs (ERDF)

- Developing and pilot low-carbon and fibre-bio-based packaging solutions in the South Karelia and Päijät-Häme regions
- Advancing the use of ecological packaging solutions and reduce food waste with new packaging innovations, which are being developed through material development, production engineering and packaging design
- Enabling the development and piloting of new types of fiber-based packaging solutions in companies
- Involved bakery, ready-to-eat and berry producers in Päijät-Häme and South Karelia
- Consortium: LAB, Lappeenranta university of technology, companies



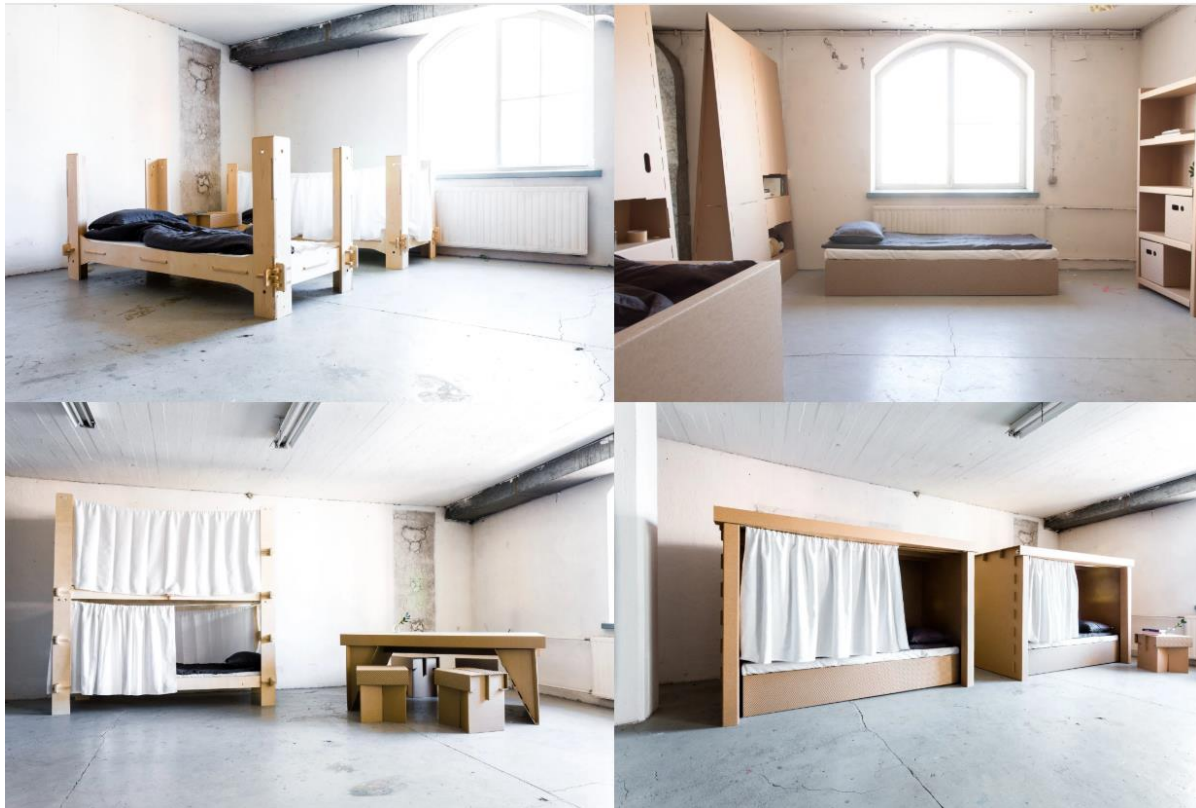
# ECOtronicS - Sustainable electronics and optics (BF)



- Boosting Finnish electronics and optics industry towards global business potential, and to support sustainability throughout electronics and optics lifecycle
- Sustainability is targeted in both manufacturing and disposal by moving towards recyclable and compostable materials and developing manufacturing flow towards more material efficient processes
- Product design will research and discover new possibilities to utilize new sustainable materials and production processes (new product concepts)
- Producing visual material for project communication purposes, information and communication design
- Consortium: VTT Technical Research Centre of Finland, Tampere and Lappeenranta Universities, 9 companies

rehome

# REHOME - novel furniture solutions for temporary housing and emergency accommodation (ERDF)



- Designing and manufacturing rapid furniture solutions (cardboard and plywood) for temporary housing and emergency accommodation
- Developing product and service concepts
- Developing business concepts, marketing and sale solutions
- Building a regional business network
- Piloting in the real emergency accommodation in crisis areas
- Launching concepts internationally
- Consortium: LUT university, Stora Enso, ISKU, ER-Pahvityö, Korvenranta Oy, Comprehend Oy, Int-Log Oy, Finnish Red Cross, Finn Church Aid, UNHCR.
- <http://www.rehomefurniture.com/>

# PUUJALOSTAMO - Päijät-Häme Wood Center of Excellence (ESF)

- Strengthening Päijät-Häme's wood ecosystem: Lahti is Finland's international expertise centre in woodworking
- Piloting multidisciplinary training in sustainable wood technology and design for the needs of working life
- Raising wood expertise to a new level by strengthening our expertise in sustainable design, product development and finishing
- Assembling a mentor network of wood industry to enable the transfer of know-how from masters to young people
- Building the Road Map of wood expertise to 2030





# Thank you

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