

Territorial approach to  
bio-based side stream  
utilization

Tampere Region and Horizon TREASoURcE

CITISYSTEM webinar 21.5.2024



## Take a leap with Business Tampere!

We at Business Tampere match your company with growth opportunities and partnerships in the Tampere Region, Finland and globally.

Our 45 advisors offer you expertise in:

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Business environment

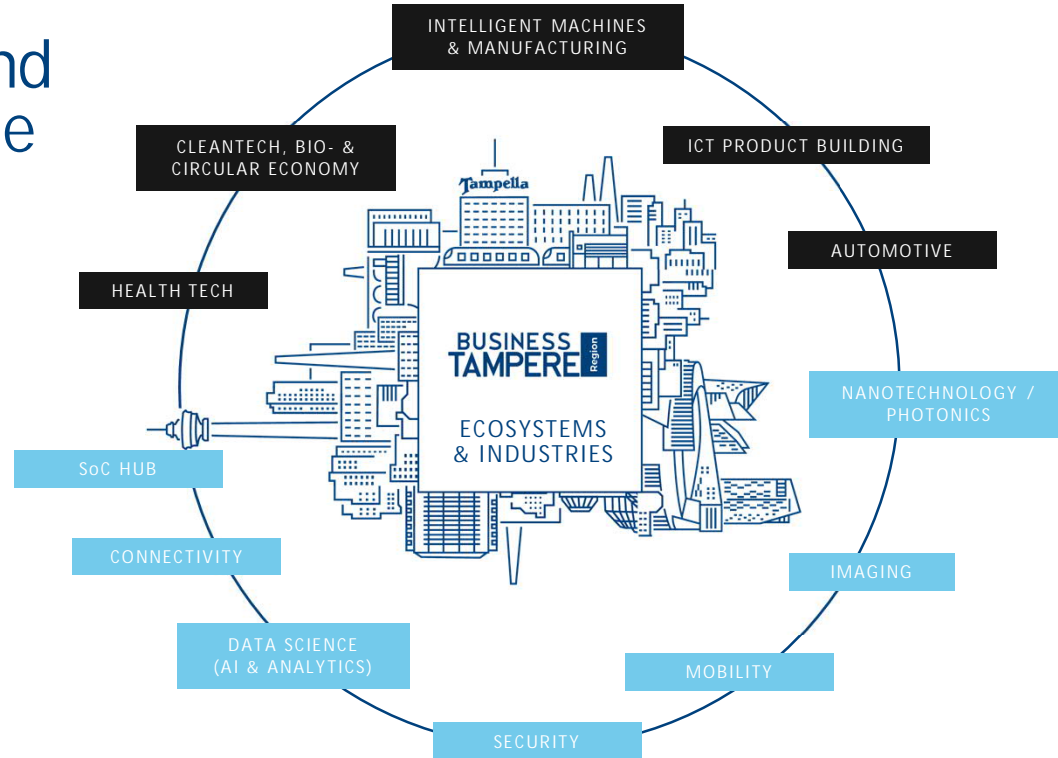
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# Top Industries and Ecosystems in the Tampere Region

To support the business growth and to boost innovations in the region and beyond.



# What do we offer?



Invest in, export and business development services



Funding advisory services and growth support



Strong public-private and R&D collaboration



Matchmaking and networking events



Visibility for climate actions, peer support from other ecosystem members



National and international co-operation networks



# Examples of key strategies

## EU level

- EU Mission - [The City of Tampere was chosen as one of the 100 EU Mission: Climate Neutral and Smart Cities by 2030](#)
- Circular Cities and Regions Initiative - [Tampere Region was chosen as one the pilot areas in Circular Cities and Regions Initiative](#)

## National

- [Carbon Neutral Municipalities network \(HINKU\)](#)
- Circular Economy Green Deal scenario work with regional stakeholders [Circular Economy Green Deal](#)

## Regional

- Tampere Region economic development strategy [“Superior capacity for renewal – sustainable growth”](#)
- [Sustainable and dynamic Tampere Region](#)

## Local

- [Carbon Neutral Tampere 2030 roadmap](#)
- [Circular Economy plan of the City of Tampere](#)

# EU networks

100 climate-neutral and smart cities by 2030

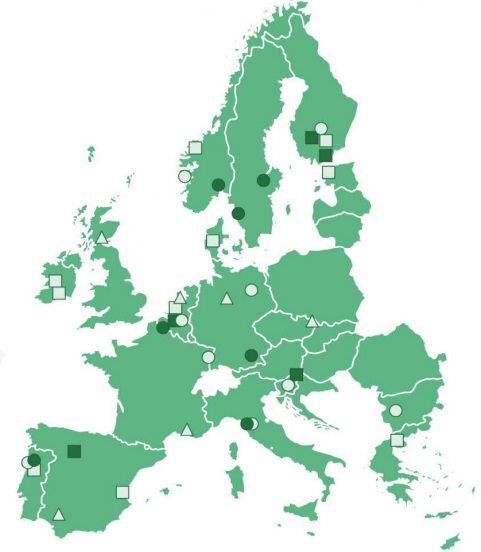
- These cities act as experimentation and innovation hubs
- Tampere + 5 other cities from Finland

## Circular Cities and Regions Initiative

- Supporting Europe's circular economy at local and regional level
- Greater collaboration opportunities with the CCRI community
- First-hand information on relevant knowledge, tools and events
- Increased visibility for commitments and actions through the CCRI channels
- Tampere Region is one of the pilot areas
- Ongoing CCRI project funded by Horizon Europe:
  - TREASoURcE [www.treasure.eu](http://www.treasure.eu)
  - Focus on developing, demonstrating and implementing systemic CE solutions for plastics, reuse of EV batteries and bio-based side streams



Circular Cities & Regions Initiative -  
Pilots and Fellows Map

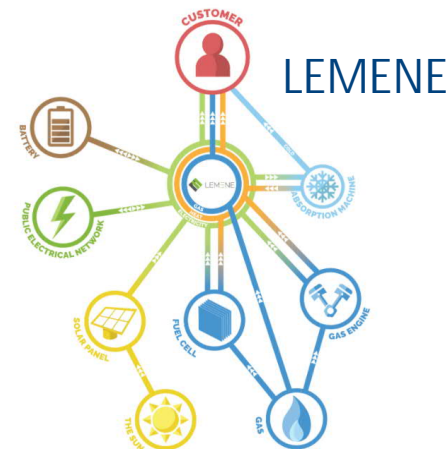
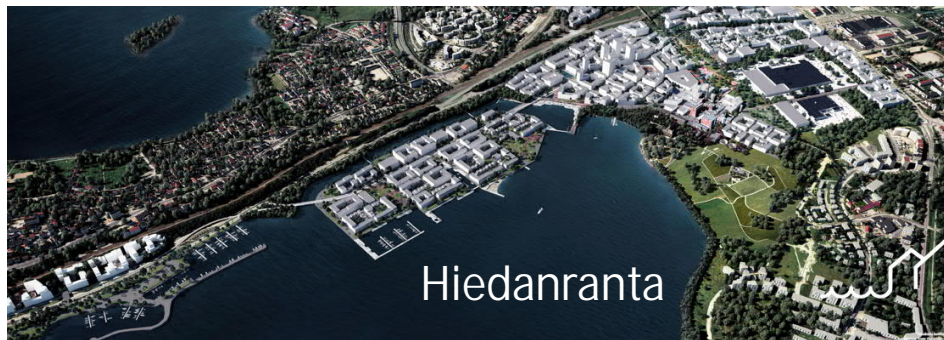


# Circular economy and cleantech in Tampere City Region

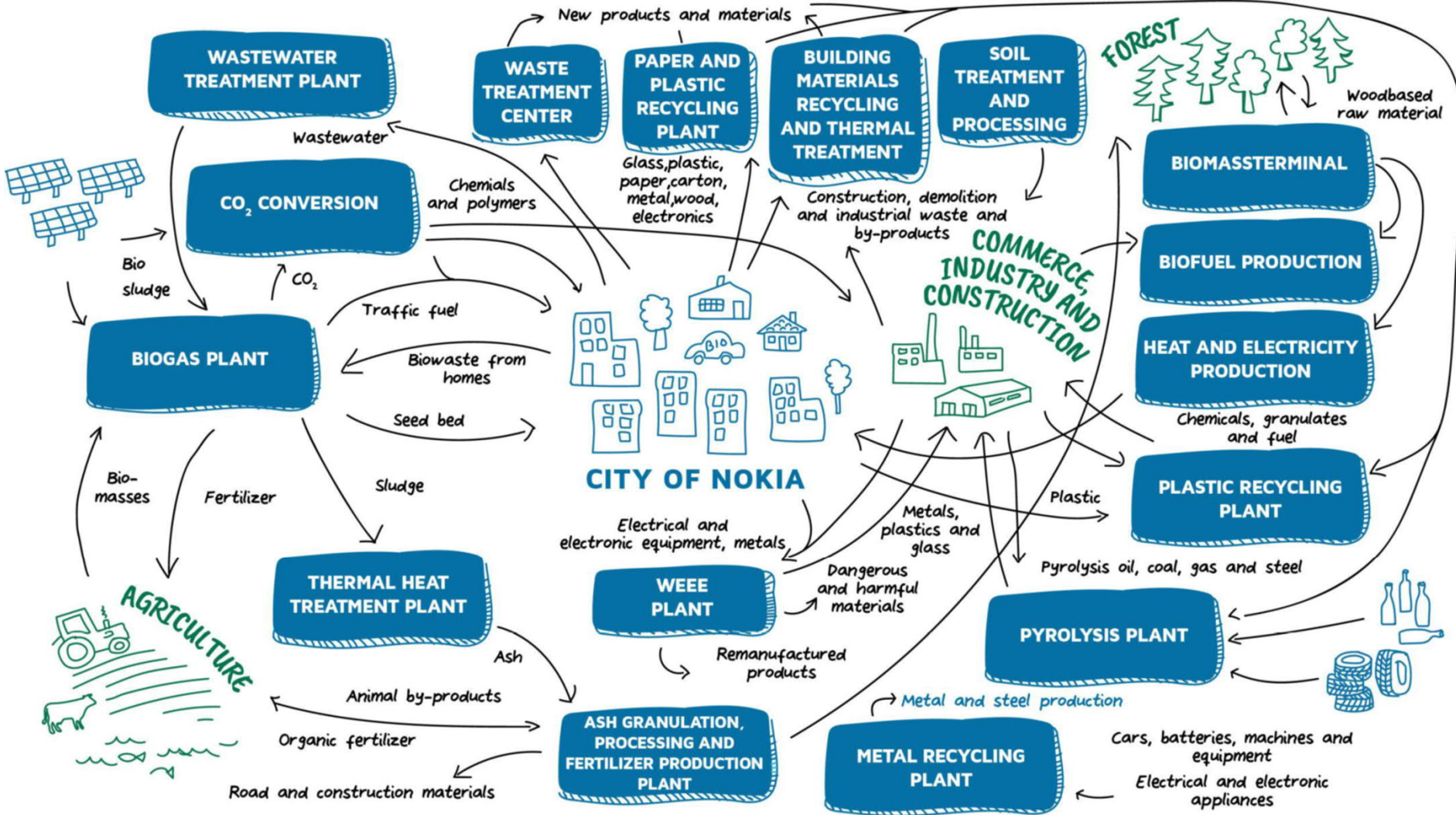


- We offer both domestic and international opportunities for business partnership, R&D collaboration and investments
- Regular ecosystem events and activities are organized for networking and matchmaking opportunities
- ECO3, Taraste, Hiedanranta and LEMENE - the major circular economy platforms connect companies, public sector and research institutions
- Tampere regional climate partnership engages companies and communities in pursuing a carbon-neutral city region in cooperation with the Sustainable Tampere 2030 program – over 130 partners already on board!

# Examples of key platforms connecting companies, R&D and public sector









In 2030, the share of renewable energy sources will be 90 per cent.



- ➔ Renewal of the hydropower plants
- ➔ Pellet-fired boiler in Sarankulma



- ➔ Tammervoima waste-to-energy plant
- ➔ Wood chip boiler in Hervanta
- ➔ Flue gas scrubbers



- ➔ District cooling plant in Kaupinoja
- ➔ Naistenlahti 3
- ➔ District heating accumulator



- ➔ **New technologies**  
New products and energy saving
- ➔ **New bio plant**
- ➔ **Virtual district heating accumulator**



- ➔ **Emission compensation**
- ➔ **Geothermal heating plant**
- ➔ Closure of the gas-fired power plant in Lielähti

ENERGY TURNAROUND

2010

2015

2020

2025

2030



# Tampere Region Central Wastewater Treatment Plant Ltd.



- 350 M€ investment
- Construction 2018-2025
- Underground facility for handling the waste waters of Tampere and surrounding municipalities
- Serves > 400,000 citizens by 2040
- Capacity 100 000 m<sup>3</sup>/d
- Self-sufficient in energy

# New biowaste treatment plant



- Situated in ECO3 area, 23 M€ investment
- Operation started in 2022
- Two lines: bio and sludge
- Capacity 34 000 t/y
  - Bio 24 000 t/y
  - Sludge 10 000 t/y
- End-products:  
Fertilizers, soil, biogas

# Power-to-Gas co-operation project



## Tampere's Power-to-Gas project progressing in a strong tailwind

Tampereen Sähkölaitos and Nordic Ren-Gas have signed a project development agreement for the Tampere Power-to-Gas. The plant will be producing renewable methane, green hydrogen and district heating. The Power-to-Gas plant to be built in Tampere at Tarastenjärvi received the biggest green energy transition investment grant in history from the Ministry of Economic Affairs and Employment.

[READ ARTICLE](#)



Total investment ~150 M€, 46 M€ investment support  
Timeline: Start of construction 2024, in operation 2026  
1st phase 20 MW, annual fuel production 12,000 tons  
Final phase 60 MW, annual fuel production 35,000 tons  
Up to 110, 000 tons of yearly CO2 capture from the WtE plant

# The treasure in resources



**TREASOURcE** aims to initiate systemic change by developing technologies and systemic circular economy (CE) solutions in cities and regions for currently underutilized or unused plastic waste, end-of-life electric vehicle batteries and bio-based side and waste streams.

Implementing these solutions together with companies, societies (including citizens, consumers, communities and regional actors) and experts in the field is expected to significantly increase product and material circulation in the Nordic and Baltic Sea Regions.

## Project objectives

Demonstrated environmental, social, economic and political impacts of the systemic CE solutions (Circular plastics, batteries, and biobased side and waste streams) in the Nordics

Replicated locally tailored systemic CE solutions in the Baltics and Poland and beyond

Inclusive and just transition to CE for all supported by high level cooperation with all relevant stakeholders

## Systemic Circular Economy Solutions

Key Value Chain Demonstrations



Circular plastics



Circular batteries



Circular biobased side and waste streams



Stakeholder Engagement Demonstrations

Local and regional economies and actors have a big role in **TREASOURcE**. The implemented demonstrations will formulate new value chains and business opportunities reaching through the urban-rural settings. The combination of the cities and regions will enable large reach and bigger impact and boost the replicability and scalability potential of the developed solutions.

**Demonstration areas**  
Finland, Norway, Sweden, Denmark

**Replication areas**  
Estonia, Latvia, Lithuania, Poland, Northern Germany



Funded by  
the European Union



# KVC-DEMOS: Circular biobased side and waste streams for biogas and fertilizers

## Objectives

- To find ways of use and business opportunities for currently unused biobased side and waste streams. In particular, we focus on side streams of agriculture and forestry
  - Focus on biogas production and nutrient recycling
- Powering local economies through circular bioeconomy

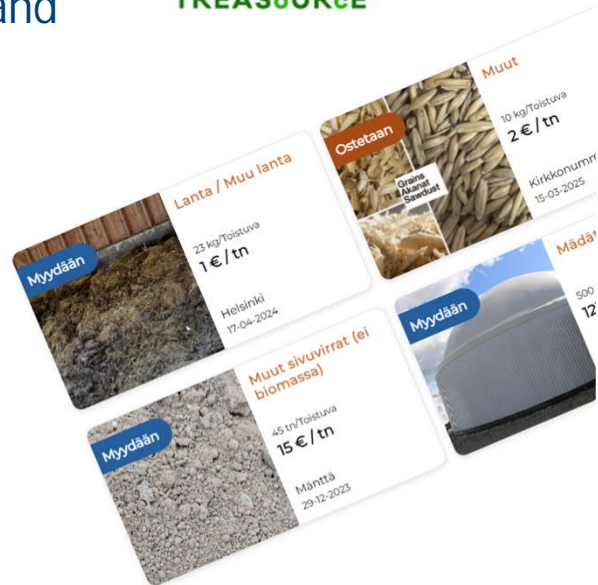
## Main activities

- The project develops a digital marketplace for biobased side and waste streams.
  - [KiertoaSuomesta.fi](https://KiertoaSuomesta.fi), [CircularFinland.fi](https://CircularFinland.fi)
  - Piloting will be done in Finland and the model will be replicated in other regions
- Rural-urban symbiosis model will be developed to strengthen local circularities



# E-market platform for bio-based side streams

- The platform serves as a marketplace for bio-based side streams, connecting sellers and buyers
- Examples of side streams
  - manure, sludge
  - contaminated feed
  - grass
  - straw
  - berry seeds and skins
  - logging residues
  - bark
  - wetland vegetation



KiertoaSuomesta.fi



Marketplace for  
biobased side streams



## Upcoming TREASoURcE event on 29.5.!

Local circular economy solutions to global challenges – Exclusive look at the first results from TREASoURcE demos – 29.05.2024 between 9.00-16.00 CEST

Join the thematic sessions:

- Circular Plastics 9.00-11.00
- Circular Batteries 12.00-13.45
- Bio-based Side Streams 14.00-16.00

[Read more and register through here!](#)



# THANK YOU



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