

LiukasHackathon – Smart Logistics for Recycled Nutrients

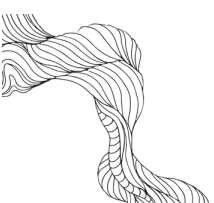
Do you have a solution to optimize both transport kilometers and delivered nutrients? Now is the time to solve the bottlenecks in logistics of recycled nutrients and to integrate data flows! Biogas Vision 2030 predicts that Finland will produce 4 terawatt-hours of biogas by 2030. This would mean quadrupling biogas production and significantly increasing the supply of recycled fertilizers and logistics between farms and biogas plants.

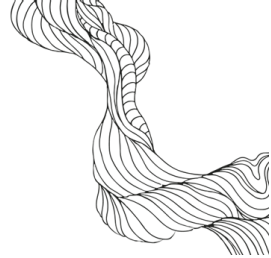
*Join us in developing a smart logistics management solution for the growing material flows of biogas and recycled fertilizer value chains. **Kuljetus Tero Liukas Oy** is looking for a skilled partner to develop a digital tool for managing, reporting, and invoicing transported slurry and digestates between the biogas plants and farms. The development project is scheduled to start in February 2025, and funding is sought from the Programme for Nutrient Recycling. Commercialization of the piloted solution is supported by the foreseen growing national and international demand.*

Join us to solve the challenge and develop new methods and solutions in co-operation with specialists! Send in your application by 27.10.2024 at:

<https://link.webpolsurveys.com/S/DB2FD99C20F37228>

#biogasvision2030 #recyclednutrients #logistics #agritech #precisionfarming #carbonneutral #regenerativefarming #nutrientcycle #digitalization #liukashackathon #BioBoosters #BalticSea





Welcome to solve the challenge!



**KULJETUS
TERO LIUKAS OY**



**SUOMEN
BIOKIERTO &
BIOKAASU RY**

**BioBoosters
by jamk**

What is it about?

Kuljetus Tero Liukas Ltd offers recycling nutrient logistics services to farms, industrial companies, and biogas plants. The company serves biogas plants by transporting slurry and digestates to farms or other remote slurry tanks for use by agriculture, industry, and other operators. They have over 400 customers, mainly in Southern Finland.

Kuljetus Tero Liukas Oy aims to digitize transport management with a smart integrated solution that addresses both today's data management bottlenecks and future customer needs. The company is seeking a smart logistics management solution to optimize both the kilometers traveled and the nutrients delivered. The solution should be an easy-to-use and cost-effective tool for planning, monitoring, reporting, and billing transported materials. A broader need for the developed solution is foreseen both domestically and internationally.

Efficiency through Digitization and Automation

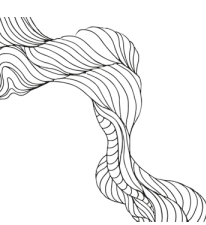
One key challenge in optimizing transport routes is the lack of real-time monitoring data on the volumes and fill levels of customers' slurry tanks. Finding slurry storage capacity in a given operating area is particularly challenging during the winter season. For example, rainfall in open tanks hampers the assessment of fill levels and data management. The production of slurry on livestock farms is also not consistent throughout the year.

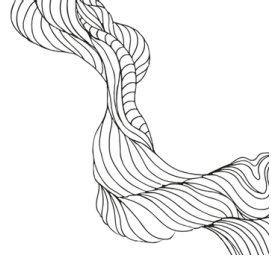
The company's operations would also benefit from the digitization of waybills and invoicing as part of the system solution. Automated data transfer, for example from the Mapon fleet management system used by the company, would reduce the manual steps involved in waybills and invoicing. The Mapon system provides location data of the fleet and route information of customer visits. An interface is available for this system, but replacing the system with a new overall solution is also possible depending on the results of the Hackathon.

Competitive Advantage through Leveraging the NIR-Measurement Data

Kuljetus Tero Liukas Oy is employing an integrated NIR (Near Infra-Red) measurement device in their equipment. NIR measurement provides information on the nutrient content (NPK) of the transported load. The integrated measurement device reduces the need for sampling, especially when there is a need to mix different types of recycled fertilizers.

Accurate nutrient information directly from the transport equipment adds value to biogas plants and farms – Kuljetus Tero Liukas Oy's customers. The data supports farms in





monitoring fertilization and soil health, as well as in the reporting tasks related to e.g. agricultural subsidy control. On a regional level, monitoring nutrient balances becomes more significant as biogas production increases. With the data, a biogas plant can verify the transfer of nutrients from nutrient surplus areas to deficit areas.

Finnish Biogas Vision 2030 Anticipates Growing Demand for Logistics Management

The Biogas Vision 2030 statement has been prepared by the Bioenergy Association of Finland, the Central Union of Agricultural Producers and Forest Owners (MTK), the Finnish Biocycle and Biogas Association, the Finnish Food and Drink Industries' Federation (ETL), the Finnish Gas Association, the Recycling Industries of Finland, Suomen Kiertovoima ry (association of Municipal waste management companies) and Finnish Clean Energy Association. Backed by this broad industry and interest group support, the vision sets a production target of 4 terawatt-hours (TWh) for biogas by 2030. Currently, approximately 1 TWh of biogas is produced annually. However, the technical-economic production potential is about 10 TWh per year, and dozens of project investments are currently underway across Finland.

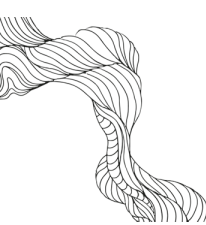
Growing biogas production strengthens energy and nutrient self-sufficiency, and even offers a carbon-negative solution to reducing climate emissions. In biogas production, organic waste and by-products can be recycled into renewable energy as well as recycled fertilizers and soil improvers. Precision fertilization with recycled nutrients promotes the improvement of soil fertility, the growth of biodiversity and soil carbon storage, as well as effective water protection.

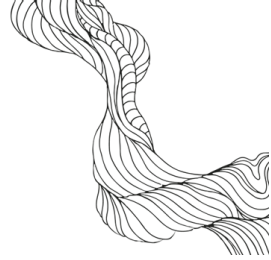
What is Kuljetus Tero Liukas Ltd Looking for?

Kuljetus Tero Liukas Oy is looking for a system developer for a joint research and development project aimed at developing a smart logistics management solution to meet the needs of the growing biogas and recycled fertilizer production value chains. The R&D project, supported by the Programme for Nutrient Recycling (Governmental Grant program), is planned to be implemented during 2025. Commercialization of the piloted solution is supported by the foreseen growing national and international demand.

As partners for the R&D project, Kuljetus Tero Liukas Ltd is particularly seeking startup and SME, but other actors are also welcome, considering the evaluation criteria.

- Usability
 - Ease of implementation
 - Simplicity of the user interface
 - Access to real-time data
 - Level of automation
- Cost implications
 - Expected savings
 - Expected service fees





- Functionalities and Integrability
 - Digitalization of waybills and invoicing
 - Real-time management of customers' storage capacity information
 - Fleet location and route information (currently from the Mapon system)
 - Nutrient measurement data for transports (equipment NIR measurement system)
 - Option: Regional or farm-based nutrient balance information
- Scalability and Revenue Models
 - Commercialization plans for the piloted solution
 - New services for the company's customers (biogas plants, farms)
- Feasibility of the R&D project supported by the Programme for Nutrient Recycling
 - Team expertise and resources
 - Cost estimate
 - Estimated timeline for implementation of the development project

The proposed solution does not need to cover every feature listed in the criteria; the presented idea can also focus on solving a specific logistics issue.

Participants

Hackathon is open for all interested teams: companies, research institutes, educational organizations, students, and other actors. Your team can also consist of collaboration between several organizations.

Hackathon is international and the main working language is English.

Hackathon participation is for free. We will also offer compensation for travel expenses to international teams from the Baltic Sea Region (Norway, Sweden, Denmark, Germany, Poland, Estonia, Latvia, and Lithuania).



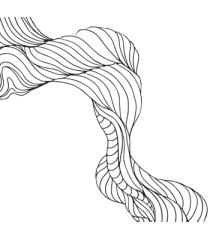
Read more from: [BioBoosters Hackathon Rules of Participation](#)

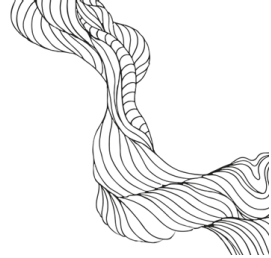
Jury

Jury consists of representatives of Kuljetus Tero Liukas Ltd and BioBoosters by Jamk.

Why should I participate?

As a finalist, you will have a chance to establish long-term business co-operation. Furthermore, you get to:



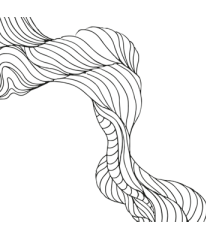


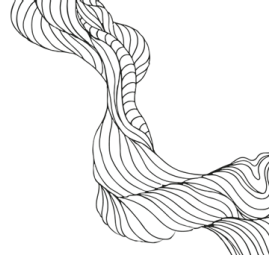
- Establish co-operation and network with other companies and specialists with interest to the same field;
- Establish international contacts and connections in the field of your interest;
- Acid test your idea with direct feedback from a potential client and discover how to fit your solution idea to the need of the end-users;
- Develop the commercialization potential of your idea and discover new business opportunities with expert mentors' support; and
- Get international recognition and visibility for your team's knowhow.

Timetable

- Publication of the Hackathon Call 25.9.2024 at 10.00–12.00 a.m. (EEST) on a webinar: [BioTalks: 'On the road towards Finland's Biogas Vision 2030'](#)
- Send in your application by 27.10.2024. The application includes your preliminary idea proposal and a short description of the expertise in your team.
- Selected teams will receive the announcement by 30.10.2024.
- Kick-off event is organized online on 7.11 at 13.00–15.00. In the Kick-off event, the participant teams will meet each other, the mentors and Kuljetus Tero Liukas Ltd representatives to hear more about the challenge and expectations of the Jury. Teams will present their preliminary ideas and get feedback for further development.
- Hackathon Days are organised on 25.-26.11.2024. The first day will take place at the bioeconomy Campus in Tarvaala, Saarijärvi, and the second day is organized in Jyväskylä at Lutakko Campus of Jamk University of Applied Sciences.
- The programme of Day 1 focuses on networking, mentoring, and finalization of the solution and co-operation proposals. On Day 2, the solution provider teams will pitch their ideas and the winner(s) is announced. Online participation is accepted; however, the organizers will offer partial support for travel and accommodation for onsite participants. The participants will receive detailed information on the travel and accommodation arrangement and cost compensation by the Kick-off event, the latest.

[APPLY HERE](#)





More information

Tero Liukas, CEO, Kuljetus Tero Liukas Ltd

+358 40 8354846 | info@lietteensiirto.fi

Anna Aalto, Project Manager, BioBoosters by Jamk, Jamk University of Applied Sciences

+358 40 640 2346 | anna.aalto@jamk.fi

Kuljetus Tero Liukas Ltd

Kuljetus Tero Liukas Oy offers recycled nutrient logistics services for farms, industrial companies, and biogas plants. The company has over 400 customers, mainly located in Southern Finland. The company has an efficient, modern fleet designed to meet the needs of agriculture and biogas plants. Strong industry knowledge with 17 years of experience supports detailed customization of service to the customer needs.

[Read more about Kuljetus Tero Liukas Ltd \[in Finnish\]](#)

Organizer

BioBoosters by Jamk is a business accelerator that inspires and supports companies to generate new business and develop globally significant solutions to battle the challenges of climate change. The core mission of BioBoosters is to promote business focused on bioeconomy and agritech, create sustainable innovations, utilise digitalisation, develop know-how, and strengthen business networks. Our services include accelerator programme for agritech startups and early-stage growth companies, as well as BioBoosters Hackathon and other open innovation services.

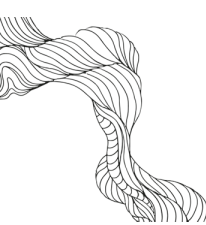
[Read more about BioBoosters by Jamk](#)

Co-organizers

Finnish Biocycle and Biogas Association promotes nutrient recycling and the use and development of biogas technology and its knowledge in the society. The Association's members account for 70 per cent of biogas production in Finland, 85 per cent of the traffic gas distribution centers, and over 50 per cent of the domestic recycled nutrient production.

[Read more about the Finnish Biocycle and Biogas Association](#)

BioBoosters project network supports LiukasHackathon via communication and marketing cooperation. Network features 9 prominent bioeconomy innovation hubs around the Baltic



Sea – from Finland, Sweden, Germany, Estonia, Latvia, Lithuania, and Poland. BioBoosters project will organize 18 Hackathons to support the sustainability mission of the bioeconomy companies. BioBoosters project is co-funded via the Interreg BSR programme and the European Regional Development Fund.

[Read more about the BioBoosters project](#)