

jamk | bioeconomy

BioPaavo
by jamk

BioTalks!

Utilizing biogenic CO₂ from biogas plants
WELCOME TO THE WEBINAR!

Utilizing Biogenic CO₂ from Biogas Plants

- 13.00** Welcome to BioTalks – Dr. Annimari Lehtomäki, Chief Specialist, Jamk Bioeconomy Institute & BioEconomy Business Accelerator BioPaavo by Jamk
- 13.10** Emerging business opportunities in biogas and nutrient recycling – Anna Virolainen-Hynnä, Executive Director, Finnish Biocycle & Biogas Association
- 13.30** CO₂ capture and utilization in biogas plants – Research activities – Dr. Eemeli Tsupari, Principal Scientist, VTT Technical Research Centre of Finland
- 13.50** Practical examples of biomethanation applied research and piloting at Jamk BioEconomy Institute – Dr. Mauno Harju, Project Manager, Jamk BioEconomy Institute
- 14.10** GasumHackathon: Harnessing the biogenic CO₂ from biogas upgrading to value adding applications – Viljami Kinnunen, Senior Development Engineer, Gasum Ltd.
- 14.30** Instructions for participation in the GasumHackathon - Dr. Annimari Lehtomäki, Chief Specialist, Jamk BioEconomy Institute & BioEconomy Business Accelerator BioPaavo by Jamk
- 14.45** Discussion and questions
- 15.00** Thank you!

Gasum

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KASVU OPEN.

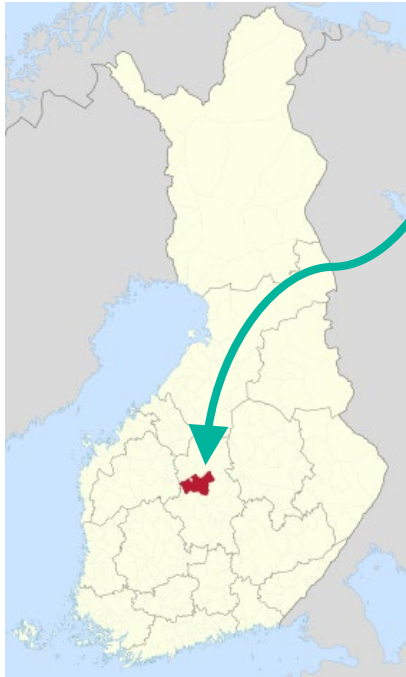


SUOMEN
BIOKIERTO &
BIOKAASU RY

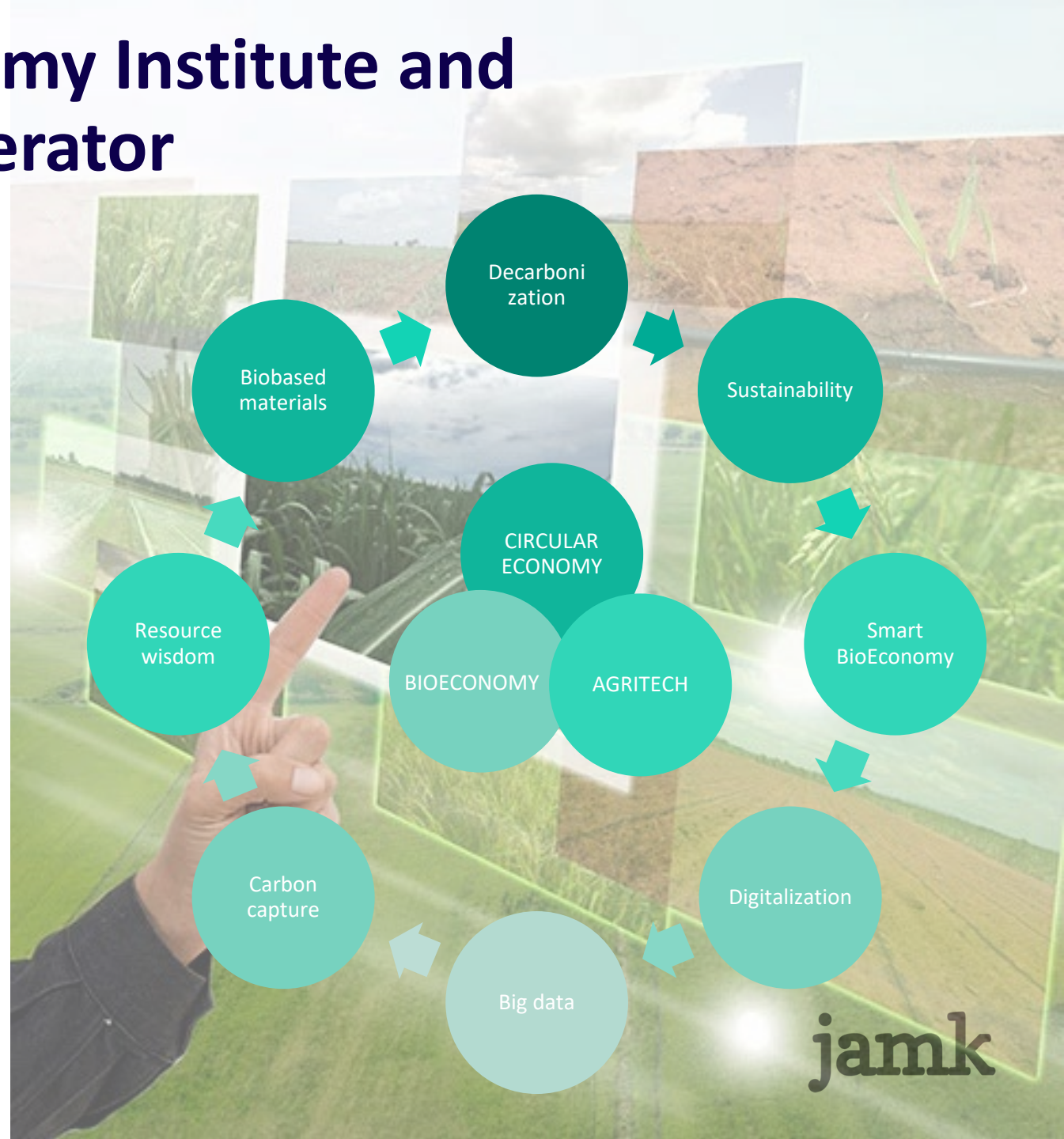
VTT

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Welcome to JAMK BioEconomy Institute and Bioeconomy Business Accelerator BioPaavo by JAMK!



- A meeting place for competence and business development in the bio and circular economy sector
- Our mission is to develop sustainable and profitable bio and circular economy business



JAMK Institute of Bioeconomy & Bioeconomy campus

jamk *poke*

Nordic Testbed Network
Supporting digital transformation in
the Nordic bioeconomy



A competence center and a real-life test bed combining the sustainable use of natural resources and digitalization

Tarvaala Smart Farm
Bioeconomy Campus
Saarijärvi, Central Finland:

- Fields 100 ha, Forests 700 ha, Natural waters
- Crop production, animal husbandry, forestry
- Data-based Smart BioEconomy
- Latest technologies
- Research & practice

Meeting point for:

- Companies, end-users, researchers, developers, students, educators

Competence centre:

- R&D&I, applied research
- Education
- Business creation and acceleration

Business services:

- Hackathons
- Startup/business creation
- Advisory/consultancy
- Competence building
- Innovation experiments

Living Lab / Testbed:

- User-Centered Design
- Multi-Actor Approach
- Real-life testing, piloting with end-users



BioEconomy Business Accelerator BioPaavo by JAMK - Bioeconomy radar, pollinator and networker

Green transition from fossil to bio-based raw materials

Digitalization

Efficient use of resources

Climate change

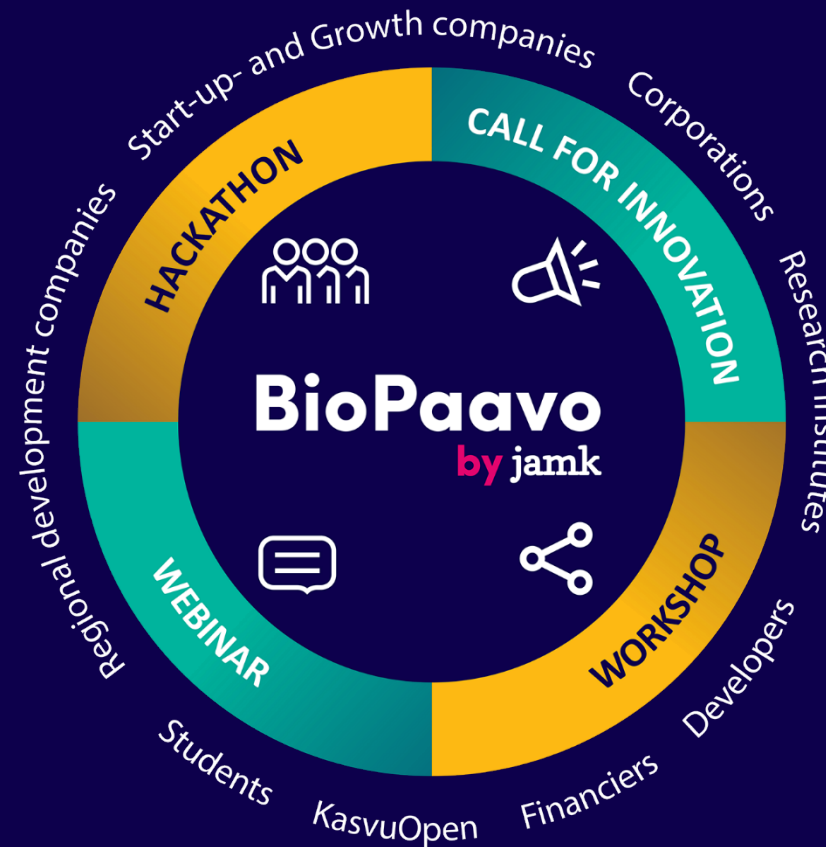
MEGATRENDS AND CHALLENGES

Loss of biodiversity

Population growth

Urbanization

Changes in consumption patterns



Smart bioeconomy

Data utilization

Circular economy

Resource efficiency

Bio-based materials

SUSTAINABLE AND PROFITABLE BIOECONOMIC BUSINESS

Sustainable food production

Low carbon

Carbon sequestration

Renewable energy sources

Innovations

New technologies

New procedures

New business models

For whom?

- Growth-oriented early-stage companies and SMEs developing their business based on and developing new solutions from bio- and circular economy
- Corporations seeking for innovative partners
- Researchers, developers
- Students

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Call for Innovation!

BioPaavo's innovation events: Tools for finding new innovations

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Hackathon

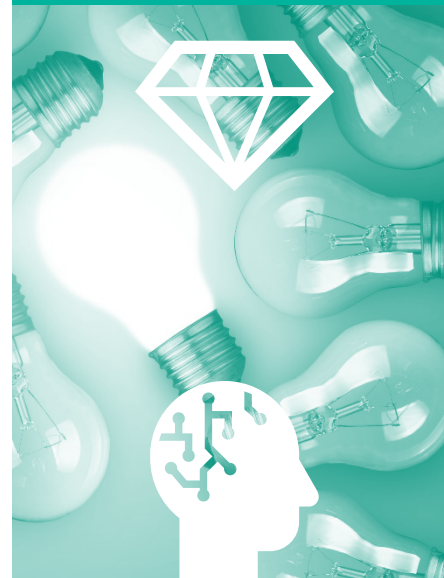
Innovation competition, where teams search for solutions within a short period of time to the innovation challenge provided by the client company



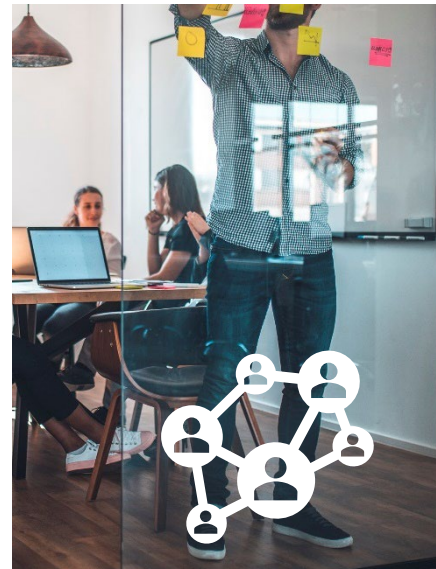
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Call for Innovation

Innovation search that provides a broad overview of the bioeconomy innovations that interest your company and brings key players to the same table



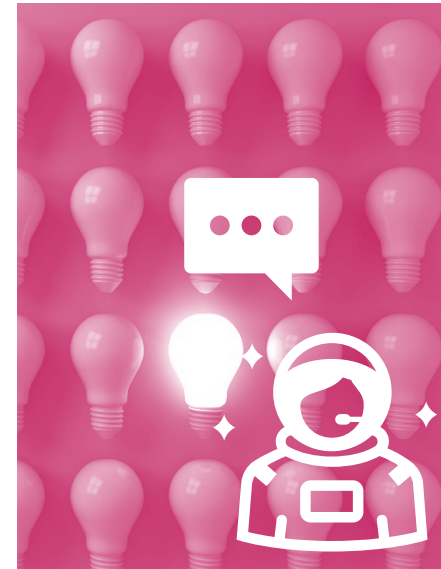
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Workshop

Workshops bring together experts to collide different views and know-how to solve business challenges, resulting in new ideas and input for project initiatives

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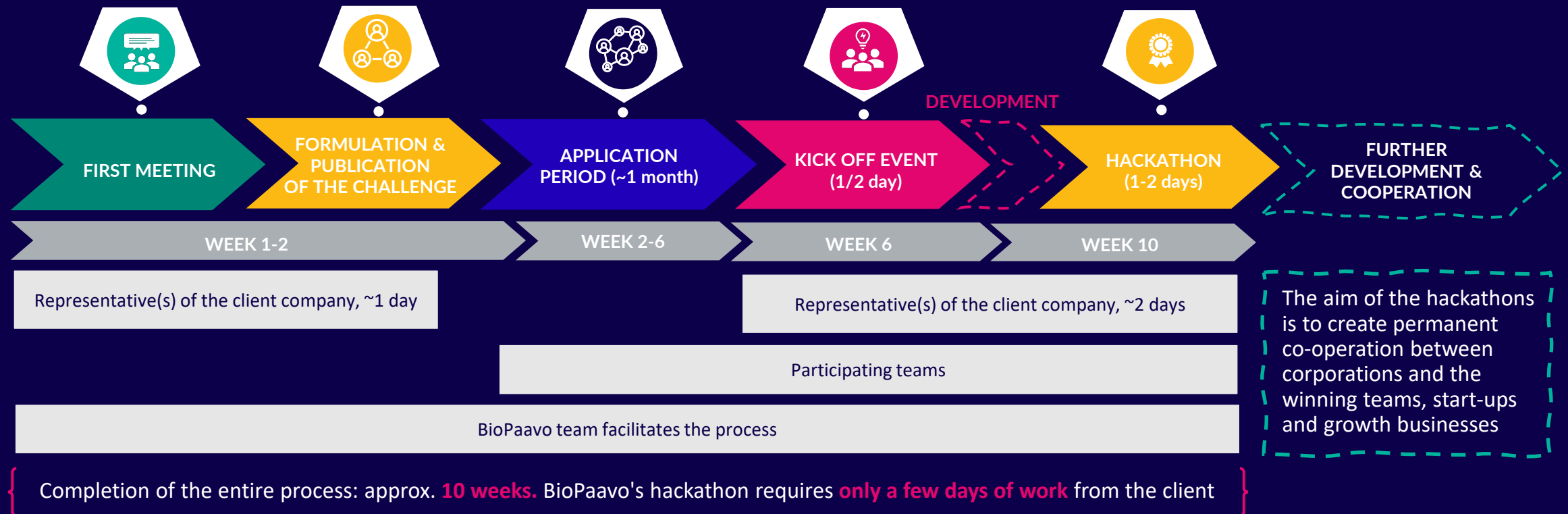
Webinar

Webinars and seminars distributing latest information in bioeconomy hot topics and sharing good practices and innovations

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Hackathon process

A turnkey service for companies to solve challenges related to the bioeconomy, circular economy and sustainability on an assignment basis



The aim of the hackathons is to create permanent co-operation between corporations and the winning teams, start-ups and growth businesses


Networking with other participants


New business opportunities


Experts' know-how and support


Business cooperation with the sponsoring company

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2022

~2 000

Participants in various
innovation events



55

Innovation events



11

Hackathons



Why participate?

For the sponsoring company:

A very effective and effortless way to quickly map potential solutions and partners domestically or internationally

For the participating teams:

Teams get to acid test and develop their idea together with a potential customer and receive immediate customer feedback

4.6/5

Customer satisfaction



Examples of our customers

Biobased Materials



BERNER
SIPARILA

TIKALAN
YIT

Circular Economy, Recycling of Nutrients



SAVOTTA
dINEX
MAASEUTUVERKOSTO

Betset

YARA
Humuspehtoori
maäsi parhaaksi

Digitalization, New Business Models



kemira **NEOVA**

VALTRA  **Data Space Europe**

Sustainable Solutions



ALVA

 **KESKIMAA**



Results:

Concrete cooperation between ~60 companies

14 joint co-creation projects between companies

4 new products or services have been introduced to the market

> 60 new domestic and international companies to our institute's cooperation network

~3.6 M€ new R&D&I funding generated



AgriVenture Finland 2023

Agritech & Sustainable Food Chain
VentureDays

7-8th of June 2023

Bioeconomy Campus, Saarijärvi, Central Finland

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poke
POHJOISEN KESKI-SUOMEN
AMMATTIOPISTO

KRINOVA
INCUBATOR & SCIENCE PARK

 **FINEST
FUTURE**


**Bioeconomy
Campus**

 Saarijärvi

KASVU OPEN®



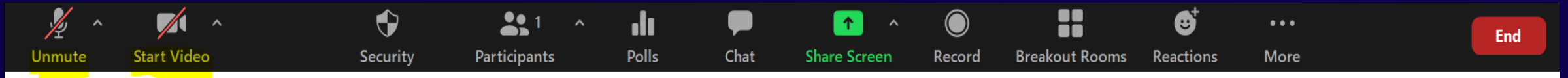
AgriVenture Finland 2023



Speeding the Uptake of Sustainable
Technologies in Agri-Food Systems

How to use Zoom (1/2)

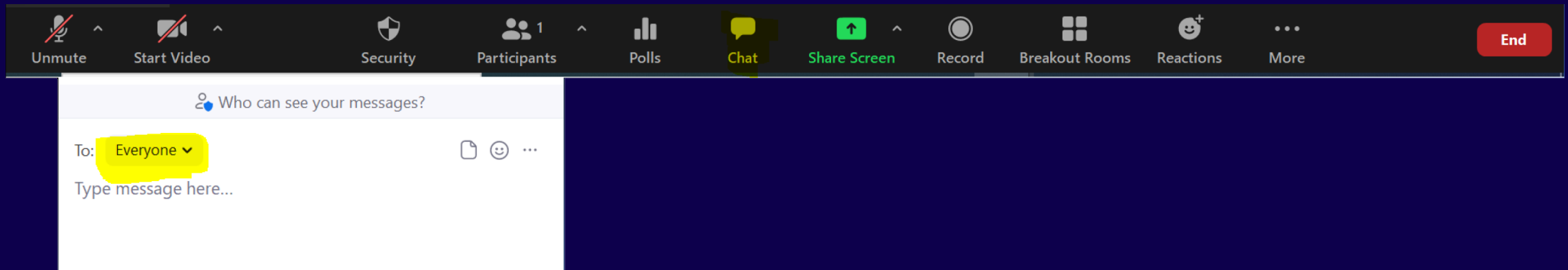
- The camera may be on, but remember to keep the microphone muted when you are not speaking
- You can change / test camera and microphone settings from the microphone / camera icons in the action bar (small arrow next to the icon)



- Also remember to rename yourself: first name + last name + organization you represent (or eg student title)
 - The “PARTICIPANTS” list opens on the right - hover your mouse over your name - the “MORE” menu will appear - press “RENAME”

How to use Zoom (2/2)

- You can ask questions by raising your hand or leaving a comment in the chat box
 - The hand raise function can be found in the action bar: “REACTIONS” and “Raise hand” (can be under the “More” menu / three points)
 - The chat box can be found in the action bar. Chat allows you to send messages to the whole group or privately. Sometimes the chat may be hidden under the “MORE” menu in the action bar.



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GasumHackathon

- Gasum Ltd. is looking for **solutions and partners to utilize the biogenic CO₂ generated as a side stream from biogas upgrading** in the Gasum biogas plants in Finland and in Sweden
- The aim of the GasumHackathon is to find partners with near commercial solutions and interest to take the lead to create **value from the biogenic CO₂ produced by the Gasum Group's biogas plants in the Nordics.**

Leverage from
the EU
2014–2020



Gasum

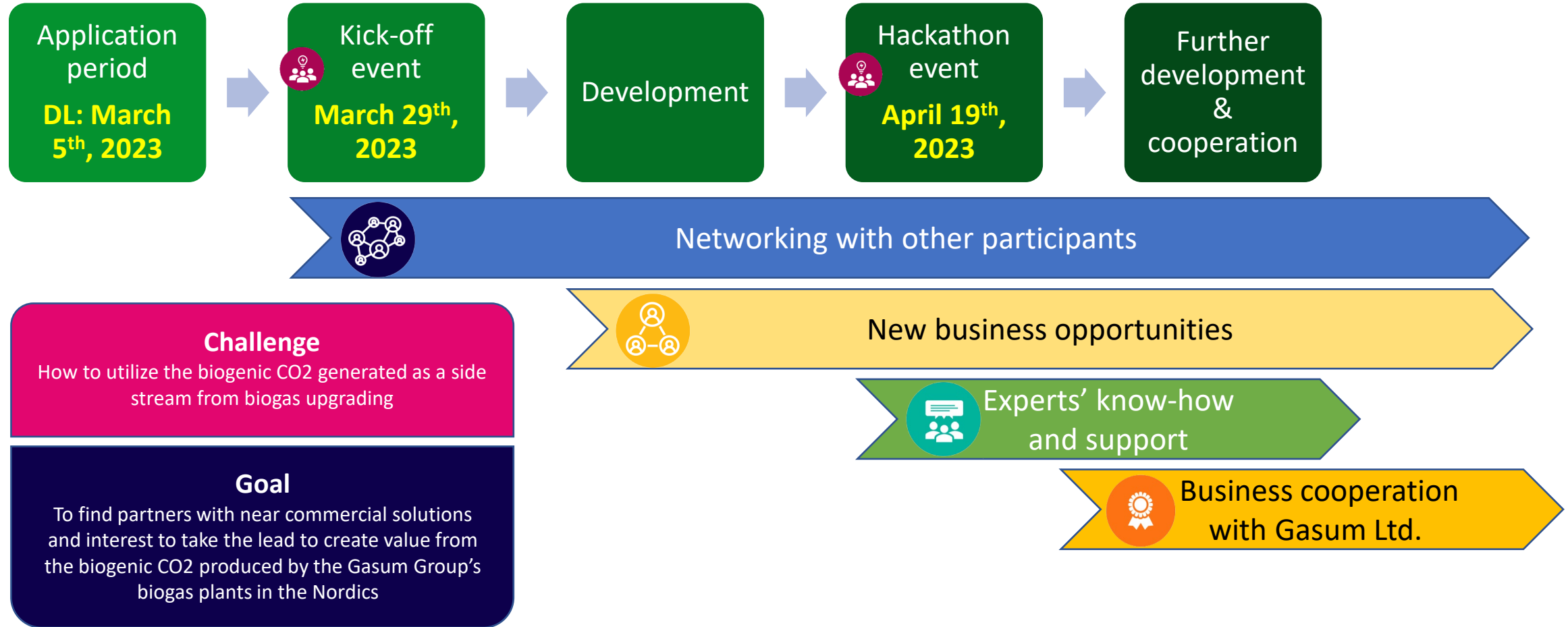
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GasumHackathon
- Harnessing biogenic CO₂ from
biogas upgrading to value adding
applications

Photo: Gasum

GasumHackathon - Process



What happens after Hackathon?

Co-operation launched with a workshop facilitated by BioPaavo

Outcome:

Co-operation plan for testing and developing the idea further

Plenty of services available for developing the idea further:

Expert services

Testing, piloting and demonstrating innovations and prototypes

R&D&I project design and funding

Student projects

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”Why should I participate in the Hackathon?”

- 💡 **Find new business opportunities:** You have the opportunity to build long-term business cooperation, get to pilot your solution and, if needed, to do product development cooperation with the sponsoring company.
- 💡 You get to **“acid test” your idea** and **receive instant feedback** from a potential customer
- 💡 You will have **access to the experts’ know-how** and **professional mentoring** free-of-charge
- 💡 **Network** with other participants and experts

Next steps

- Is your team capable and interested to innovate in the challenge Gasum Ltd. presented today?
- Webropol questionnaire:
 - Briefly describe your idea and competence of your team
 - Confirm the members of your team + contact information
- Those who enter the next stage:
 - Sign non-disclosure agreement
 - Are invited to join the Kick-off and the actual Hackathon day
 - Are invited to join the Howspace co-creation platform

**Looking forward to
see you in the
GasumHackathon!**

A hand holding a green globe with leaves and water droplets. The globe is the central focus, showing a green and white Earth. Several bright green leaves with water droplets are attached to the top of the globe. The hand is holding the globe from the bottom, with the fingers visible. The background is a soft, out-of-focus green, suggesting a natural setting.

Hackathon!

Call for Innovation!

Let's talk!

Tell us your challenge, and together we will plan an innovation event according to your needs. Together with BioPaavo's and Kasvu Open's extensive network of innovative growth companies and operators, we can find experts to solve the challenges. In addition, we are supported by several research and educational organizations.

Let's solve together challenges related to sustainable business!



More information:

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More info and order our newsletter at: www.biopaavo.fi/en