

# KvarkenSat Innovation Challenge 2022 on Sustainable Forestry

Space-based data helping to combat climate change



Kvarken Space Economy



EUROPEAN UNION

**Interreg**  
Botnia-Atlantica

European Regional Development Fund



Regional Council  
of Ostrobothnia



region  
västerbotten

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# Background

The “[Kvarken Space Economy](#)” is a project aiming to raise regional space technology awareness, help developing a long lasting ecosystem utilizing the new space economy and boosting space-related business, as well as demonstrating the use of space technology and satellite data.

The project is realized in the region of Botnia Atlantica in Sweden and Finland. It aims to support regional businesses to develop opportunities within the “new space economy” and commercialize existing space-based data, and is also designing a technology demonstration satellite mission “KvarkenSat” with imaging, positioning and radio communication capabilities.

- As a part of achieving these objectives, “Kvarken Space Economy” organized a hackathon in March 2022 called “KvarkenSat Innovation Challenge 2022 on Sustainable Forestry”.

# Challenge

Climate change brings about major changes affecting us all. Extreme weather events become more frequent and especially the amount of rainfall increases in Northern Europe, one contributor being the warmer winters. New species of both vegetation and animals enter new areas while the existing species might have even major changes in their habitats. These lead to new challenges in the forestry industry.

- In the KvarkenSat Innovation Challenge 2022 on Sustainable Forestry, we looked for ideas and solutions combining existing knowledge and datasets with space-based data and datasets based on satellite measurements, in four particular themes.



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# KvarkenSat Innovation Challenge 2022 on Sustainable Forestry

Hackathon dates:  
18–20 March  
2022

Hackathon on space-based data helping to combat climate change

A Finnish-Swedish cooperation on forest and forestry looking at possibilities and developments of space data

Hackathon partners:



Four themes:

1. The need for more timely estimations of soil moisture
2. Changes in species habitats: prevent damage caused by spruce bark beetles
3. How to reduce damage to forest ground caused by forest machines
4. New digital concepts for forestry value chain

# Forestry TEP in the KvarkenSat Innovation Challenge 2022



**forestry**  
tep

- With the support of ESA Network of Resources, Forestry TEP was made available to the innovation challenge participants as an optional tool, to support in developing their solutions particularly when involving satellite data.
- Introductory training was organized
- User support was made available to the participants
- To facilitate continuity, platform subscription rewards were offered to two winning teams that had demonstrated plans to use the platform in their solution:
  - Gaenseliesel: More timely estimations of soil moisture based on ERA5-Land data
  - OmaForest: Facilitating forest care through awareness and tools



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# **KVARKENSAT INNOVATION CHALLENGE 2022 ON SUSTAINABLE FORESTRY**

**5th place – Innovative use of data sets – 1000 € – Team 6 – Routify**

**4th place – The most mature – 1500 € – Team 9 – Katam**

**3rd place – Very good commercial potential – 2000 € – Team 12 – TreePlanterXY**

**2nd place – The best progress – 2500 € – Team 5 – OmaForest**

**1st place – The overall best – 3500 € – Team 8 – Gaenseliesel**