

Pre-commercial development &
demonstration project sponsoring:
Copernicus supported Canopy Height
Service backend hosting

**Request ID:**

3c08S6

Project type:Pre-commercial development &
demonstration**Project Title:**

Copernicus supported Canopy Height Service backend hosting

Full Name of Project Coordinator:

Ioannis Manakos

Project Coordinator Work Category:

Academic Researcher

Project Coordinator Email Address:

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Project Organisation:Centre for Research and Technology
Hellas**Project Organisation Country:**

Greece

Project Organisation Web Page:<https://www.certh.gr/>**Requested Service:**

Terradue - ELLIP

Sponsored Resource List

Offering ID	Units	Duration	Cost
EO Data Hosting	5,120	7 month(s)	€4,480.00
Total Cost			€4,480.00

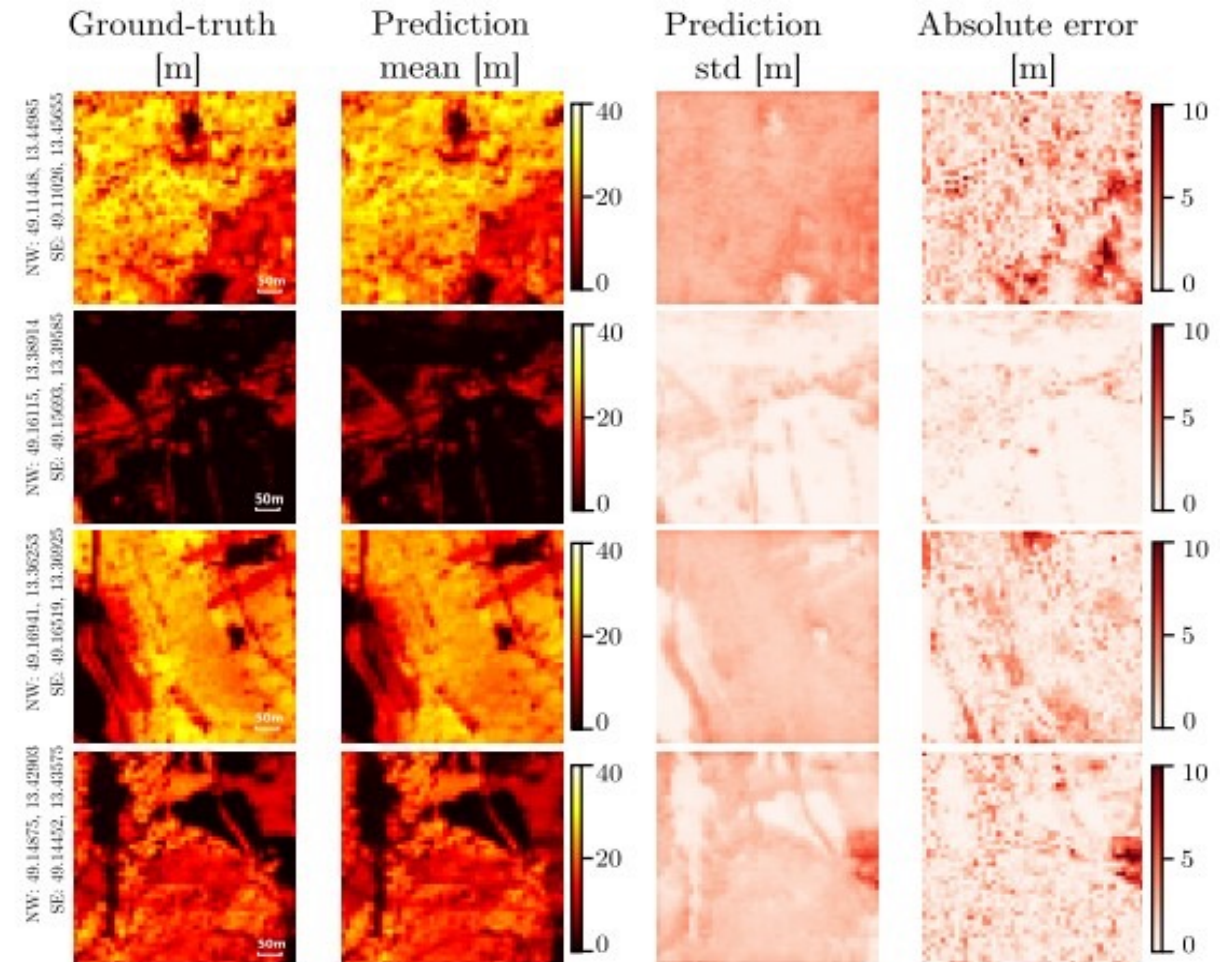
I will co-fund the cost:

No

Voucher Amount Requested:

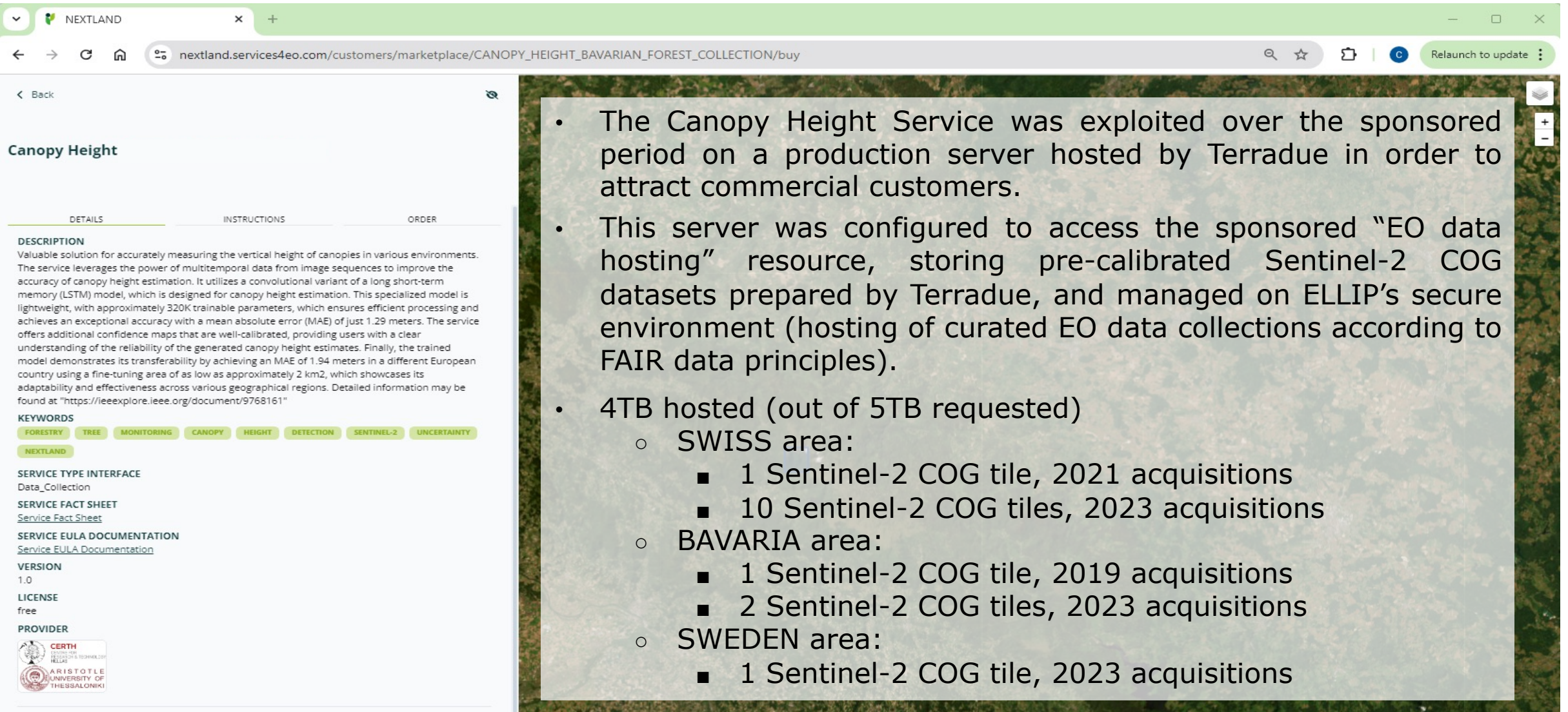
€4,480.00

- The Canopy Height service is a fully operational Algorithm* deployed as a Service.
- The initial business development effort was defined for two forested areas in Europe (Bavarian Forest and Switzerland), for which EO data hosting is key as a data source.
- This effort prepared the transition to making the service available to a larger community, with pricing determined by various factors, such as resource consumption, licensing costs, and the service provider's revenue expectations.



* <https://ieeexplore.ieee.org/document/9768161>

L. Alagialoglou, I. Manakos, M. Heurich, J. Cervenka, A. Delopoulos, A learnable model with calibrated uncertainty quantification for estimating canopy height from spaceborne sequential imagery, 2022, IEEE Transactions on Geoscience and Remote Sensing, DOI: 10.1109/TGRS.2022.3171407

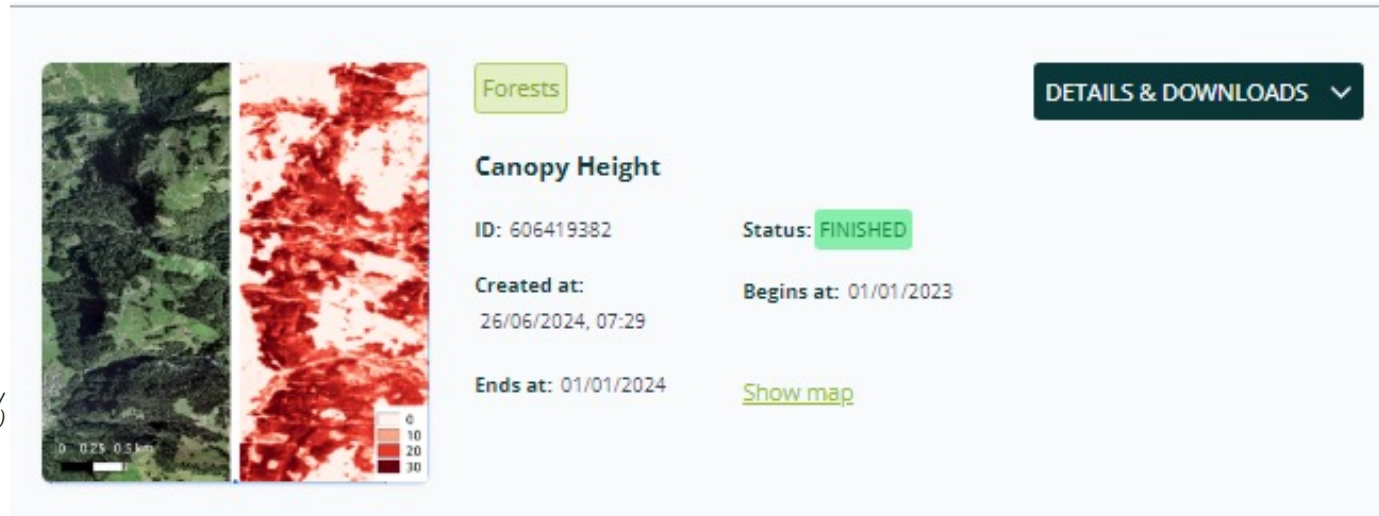


The screenshot shows a web browser window with the URL `nextland.services4eo.com/customers/marketplace/CANOPY_HEIGHT_BAVARIAN_FOREST_COLLECTION/buy`. The page title is "Canopy Height". It features a "DETAILS" tab, a "DESCRIPTION" section, "KEYWORDS" (FORESTRY, TREE, MONITORING, CANOPY, HEIGHT, DETECTION, SENTINEL-2, UNCERTAINTY, NEXTLAND), "SERVICE TYPE INTERFACE" (Data_Collection), "SERVICE FACT SHEET" (Service Fact Sheet), "SERVICE EULA DOCUMENTATION" (Service EULA Documentation), "VERSION" (1.0), "LICENSE" (free), and "PROVIDER" (CERTH and Aristotle University of Thessaloniki). The background of the page is a satellite image of a forest.

- The Canopy Height Service was exploited over the sponsored period on a production server hosted by Terradue in order to attract commercial customers.
- This server was configured to access the sponsored “EO data hosting” resource, storing pre-calibrated Sentinel-2 COG datasets prepared by Terradue, and managed on ELLIP’s secure environment (hosting of curated EO data collections according to FAIR data principles).
- 4TB hosted (out of 5TB requested)
 - SWISS area:
 - 1 Sentinel-2 COG tile, 2021 acquisitions
 - 10 Sentinel-2 COG tiles, 2023 acquisitions
 - BAVARIA area:
 - 1 Sentinel-2 COG tile, 2019 acquisitions
 - 2 Sentinel-2 COG tiles, 2023 acquisitions
 - SWEDEN area:
 - 1 Sentinel-2 COG tile, 2023 acquisitions

Process request example
for demo purposes:

*A high-resolution
RGB (left) and
estimated canopy
height map (right)
of a large area in
Switzerland.
Colorbar units
in meters.*



Based on an iterative learning process involving the NextLand Marketplace operator, the Canopy Height service provider and the Ellip service provider, the following actions were performed:

- A. Verification and validation of all the sales process steps to ensure a smooth customer experience with the service offer on the NextLand marketplace.
- B. Improvements to the Marketplace interface to present the Service offer according to the sales lead expectations.

Through this sponsorship, we learned (CERTH, AUTH, Terradue) much in terms of sales effort.

Sales efforts were undertaken and possible customers were sought (no commercial agreements signed yet):

- Provision of a demo product closest to newly identified customer needs: extension of service offering, adding a third forested area in Sweden.
- Progress was made to address the interest expressed by a sales lead, a company specialised in forest management.

