

POLITIK | INNENPOLITIK

Österreich: Land der Supermärkte und der Bodenversiegelung

Von nachrichten.at/apa, 11. September 2023, 14:44 Uhr

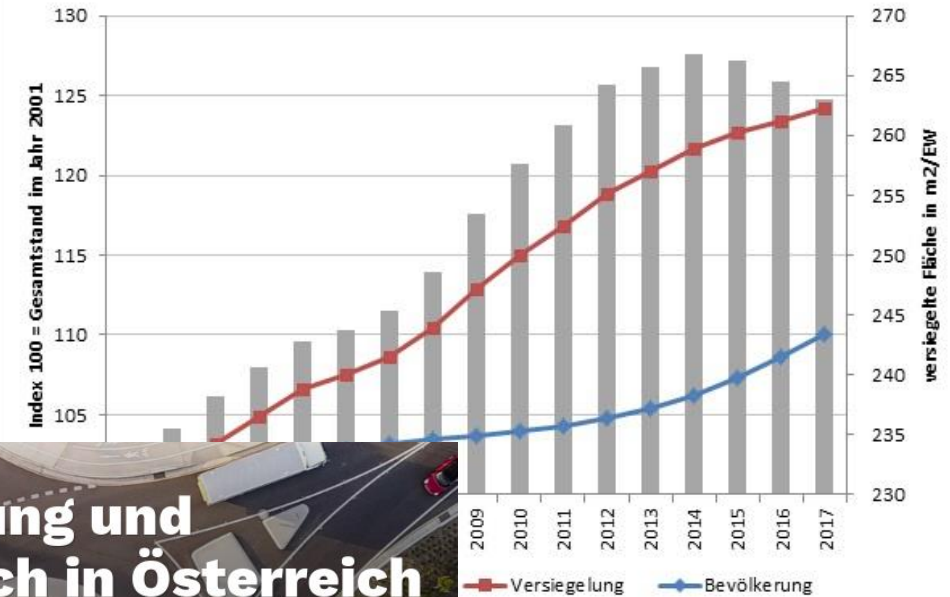
Natürlicher Boden

KLIMA, ERNÄHRUNG, SICHERHEIT

Bodenversiegelung als Abwärtsspirale



Entwicklung der Versiegelung in Österreich



SN.AT / PANORAMA / WISSEN

Bodenverbrauch in Europa - Österreich führt die Liste an!

von
HERWIG
STEINKELLNER

Dienstag
21. August 2018

In den letzten zwei Jahren wurden in Österreich täglich 12,9 Hektar Boden neu verbaut. Dieser Flächenverbrauch ist laut Expertenmeinung eindeutig zu hoch.

ng und
ch in Österreich
che Ausmaße an



Was ist das Problem?

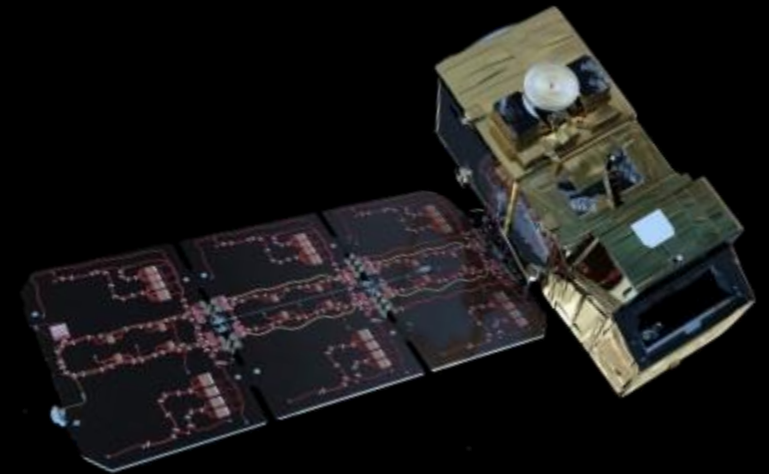
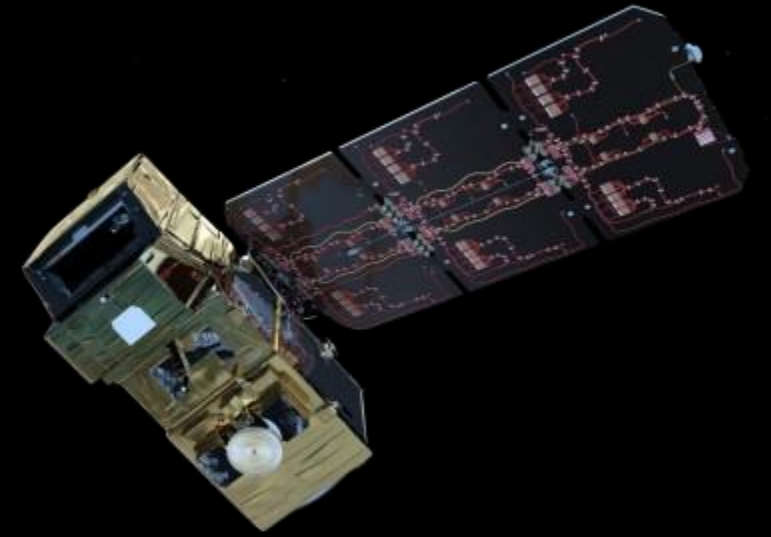
Keine automatisierte
Datenerhebung!



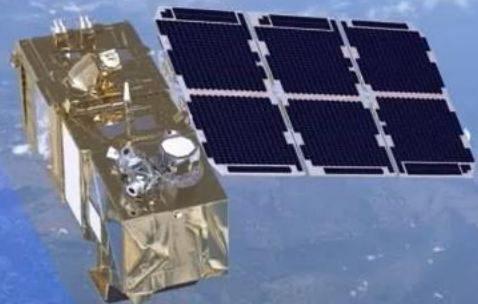


Sentinel II

- Open Source
- Häufige Neuaufnahmen
- Hohe Auflösung



esa



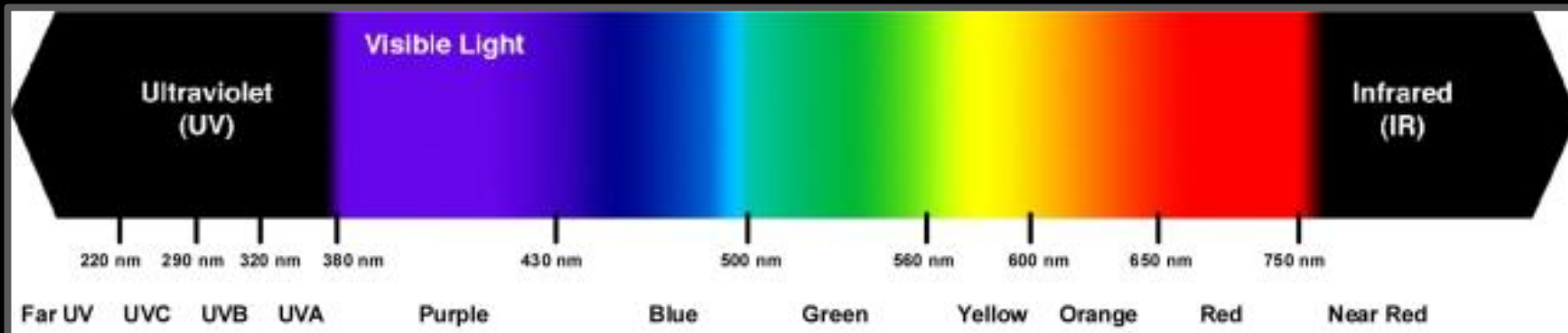


PARK HYATT VIENNA

IN DER NÄHE DER GARTEN
BRUNNEN UND BEWACHTET
DAS WICHTIGSTE ERBE
VON 1870
HENRI DUBANT
DES PRINZESSEN PALASTES
HIER IM STADT, BELGIEN
www.parkhyatt.com

1. Stock
New York

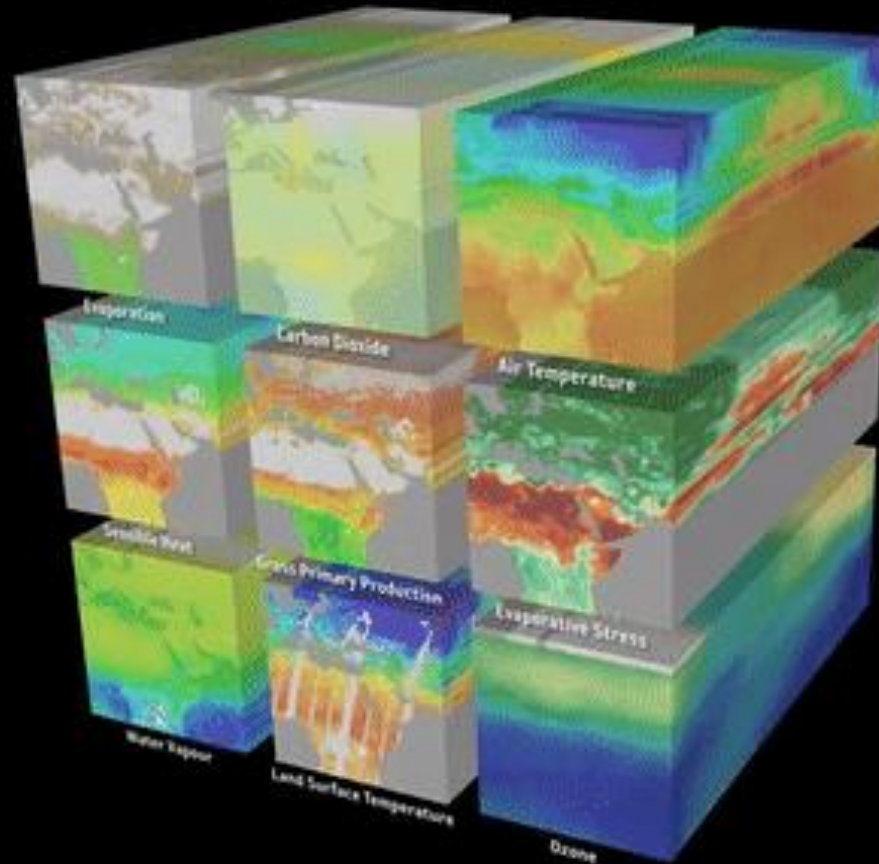
PHOTO
PORTRAITS



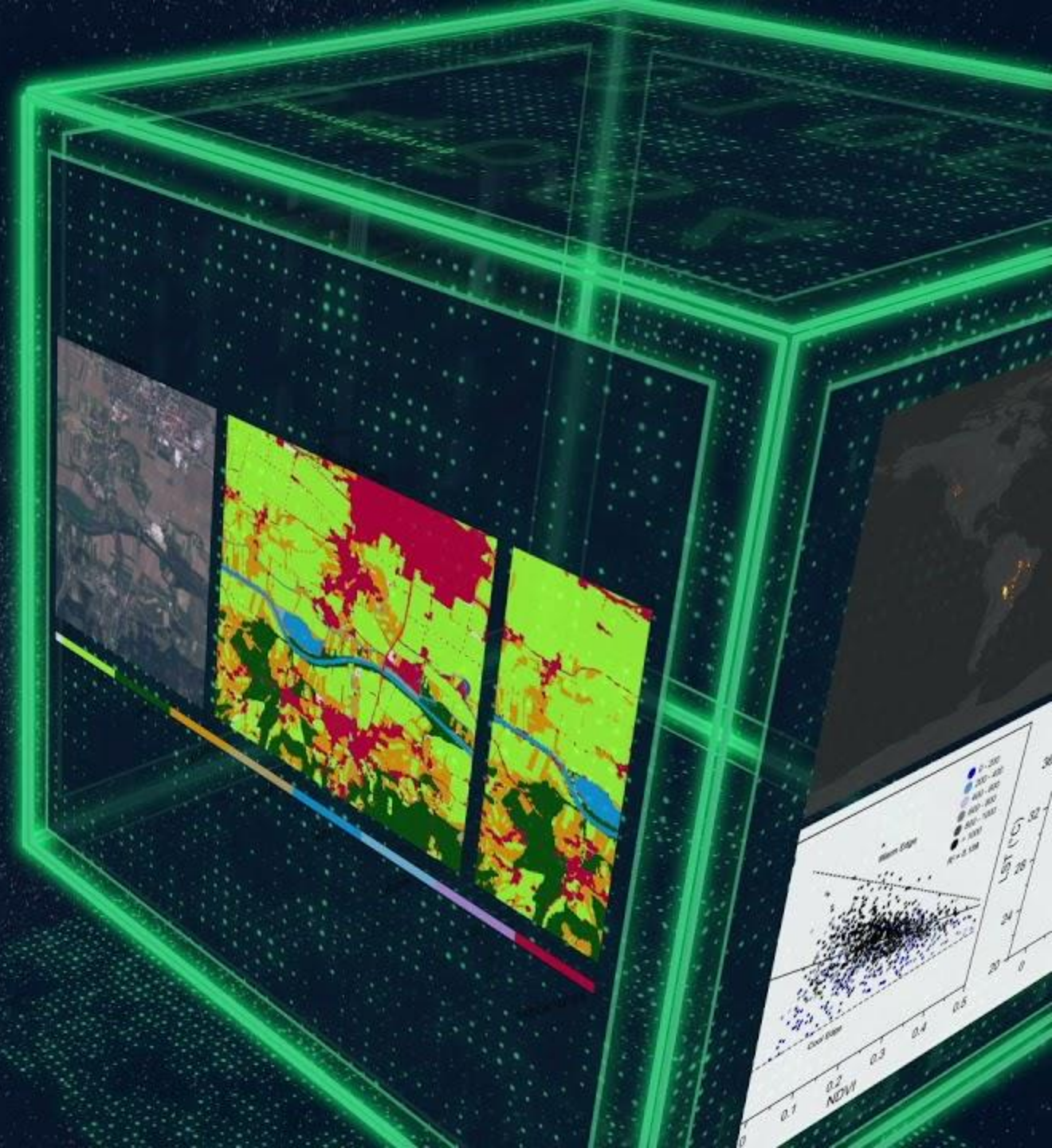
Band Name	Wavelength	Band Name	Wavelength
Vac UV	178 nm ~ 190 nm	Blue	430 nm ~ 500 nm
Far UV	190 nm ~ 220 nm	Green	500 nm ~ 560 nm
UVC	220 nm ~ 290 nm	Yellow	560 nm ~ 600 nm
UVB	290 nm ~ 320 nm	Orange	600 nm ~ 650 nm
UVA	320 nm ~ 380 nm	Red	650 nm ~ 750 nm
Purple	380 nm ~ 430 nm	Near IR	750 nm ~ 878 nm

Komplexität von Satellitendaten

- Viele Dimensionen
- Metadaten: Ort & Zeit
- Datacubes



EURO DATA CUBE





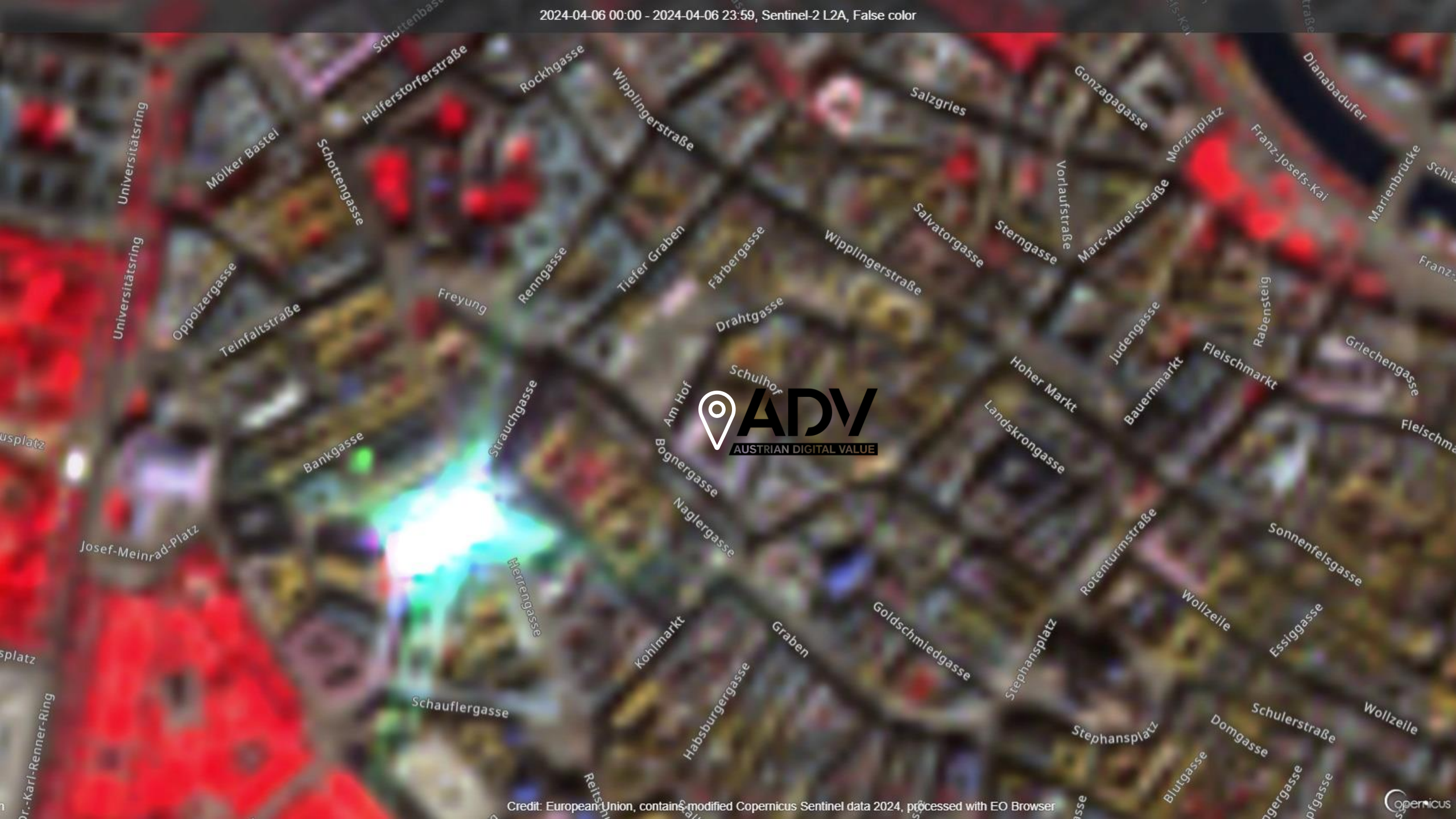
PARK HYATT VIENNA

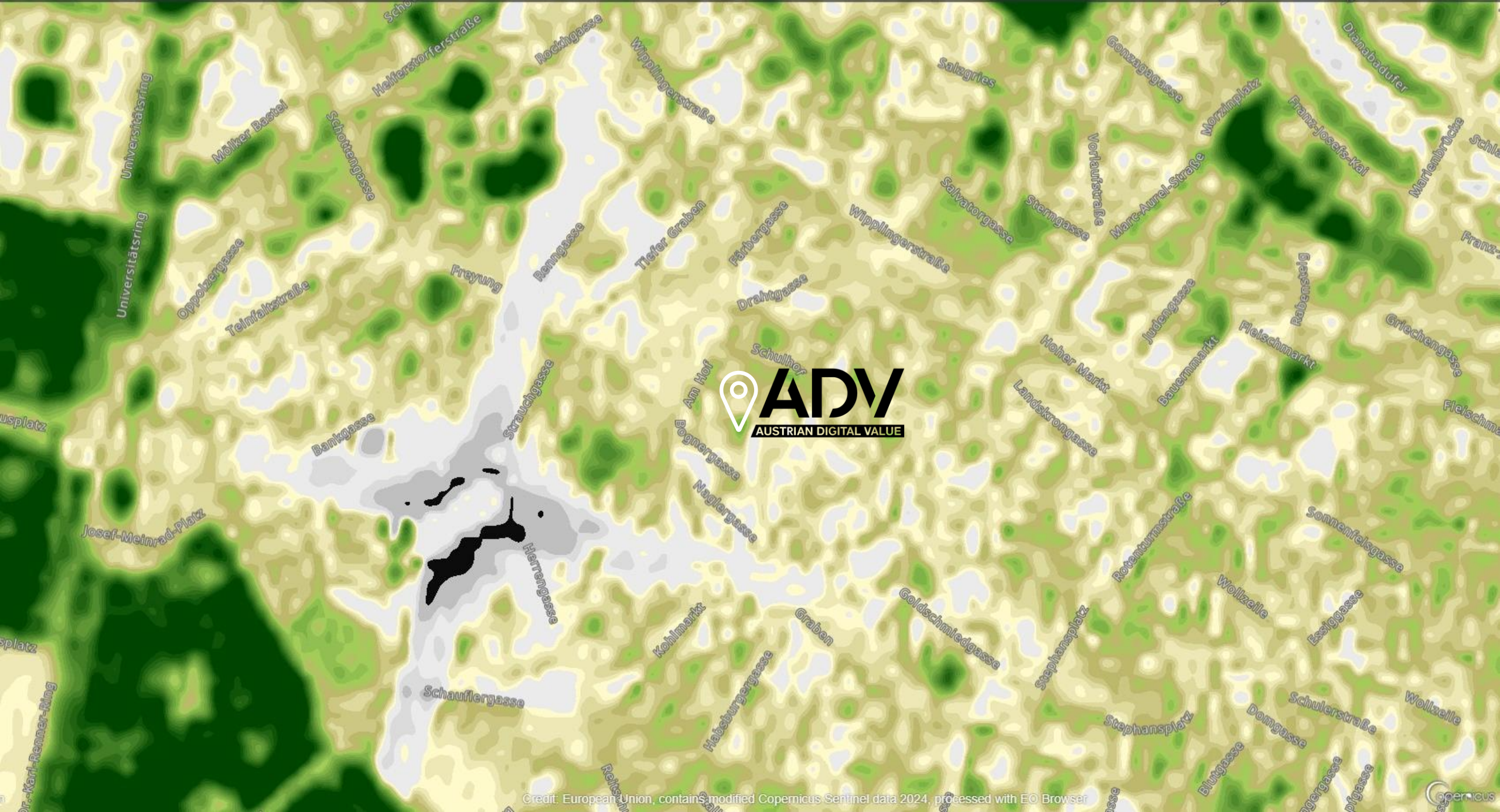
AL FINE SULL'ARTE DEL RESTAURARE
DALLA PROTEZIONE DEI MONUMENTI
DALLA PROTEZIONE DEL PATRIMONIO
CULTURALE
1971 - 1972
HENRI DUPONT
PER INFORMAZIONI
SCRIVERE ALLO STUDIO
HENRI DUPONT, 10000 PARIS 16E
FRANCE

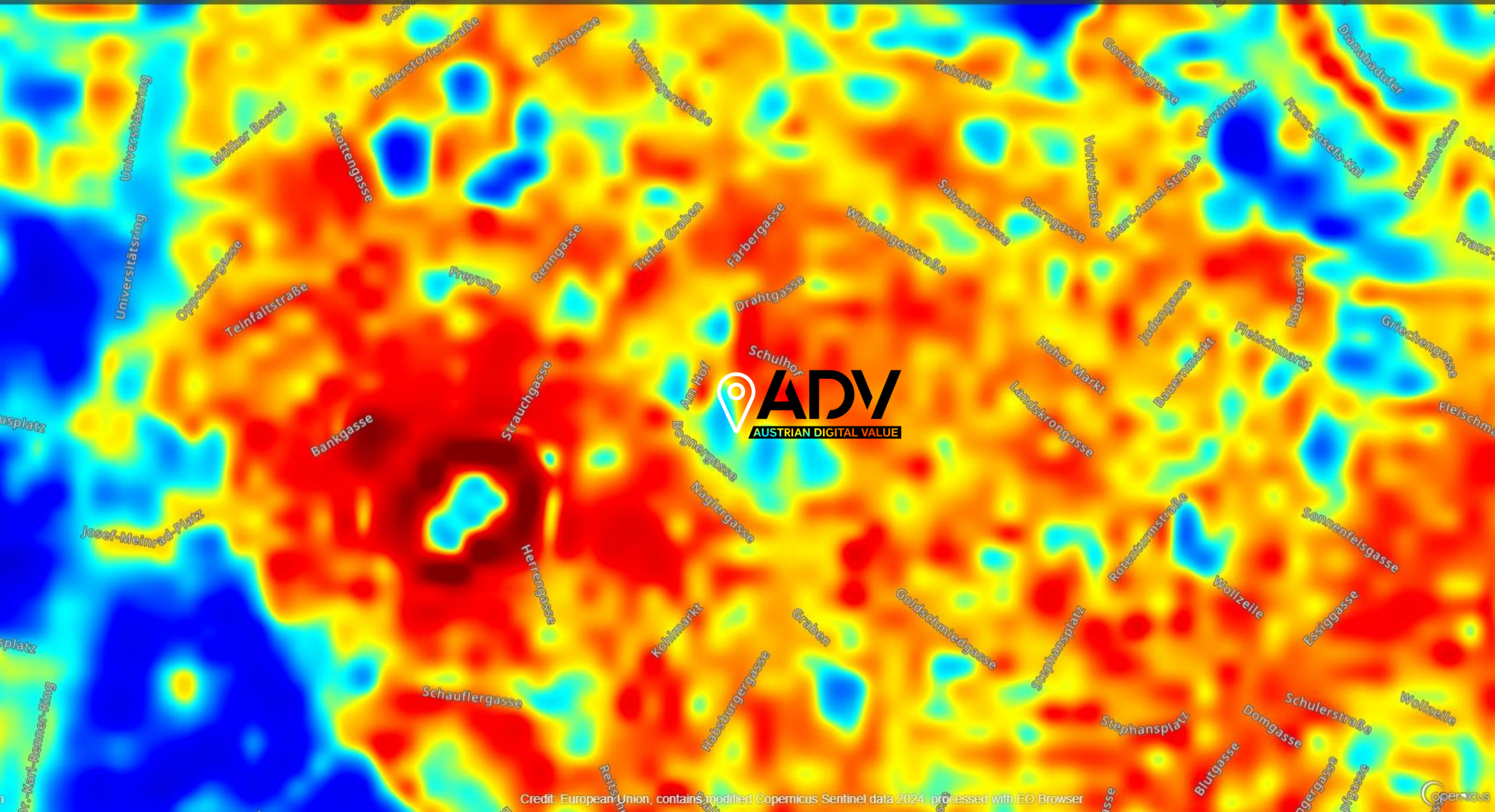
1000
New York

PHOTO
PORTRAITS





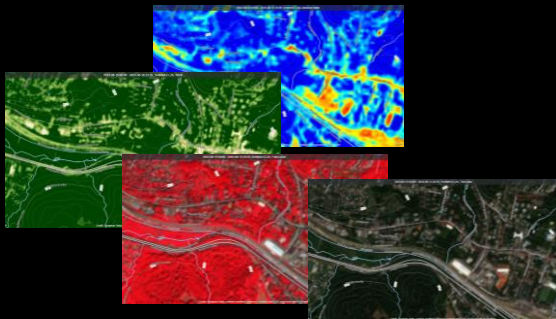




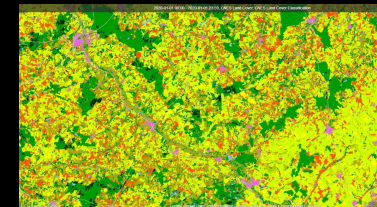
KI: Segmentation Algorithmen

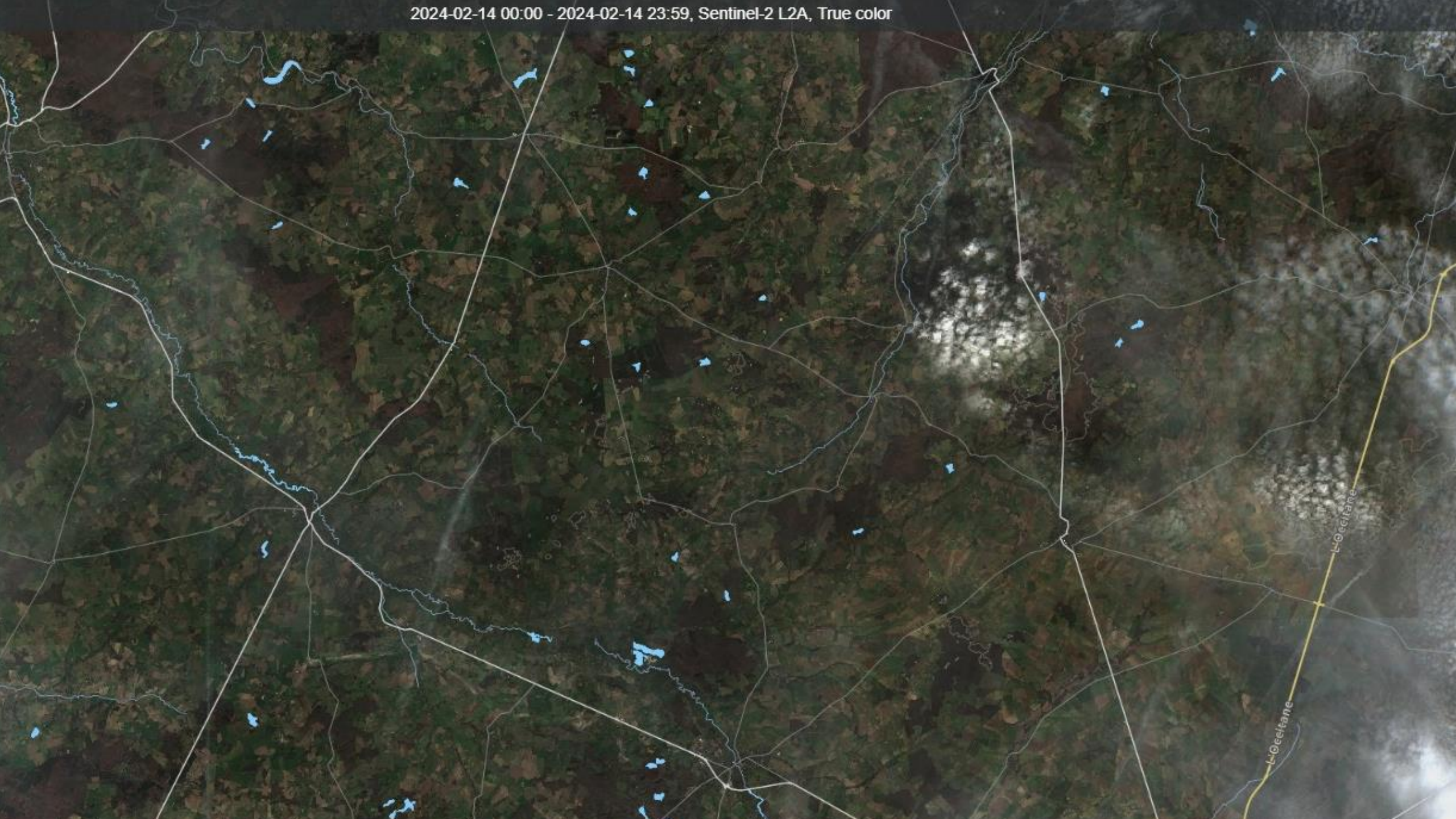


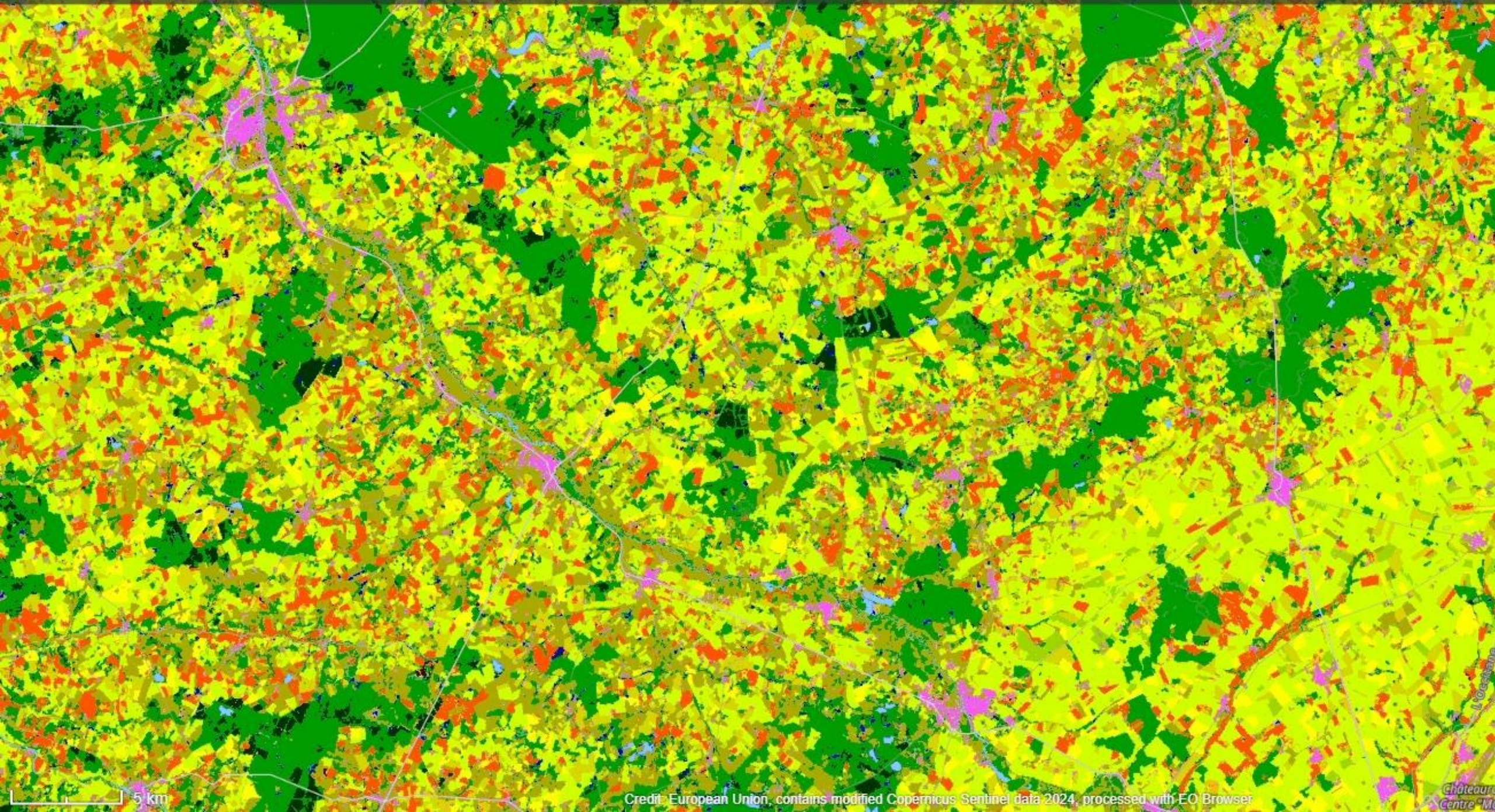
Sentinel II Data



Land Cover Map







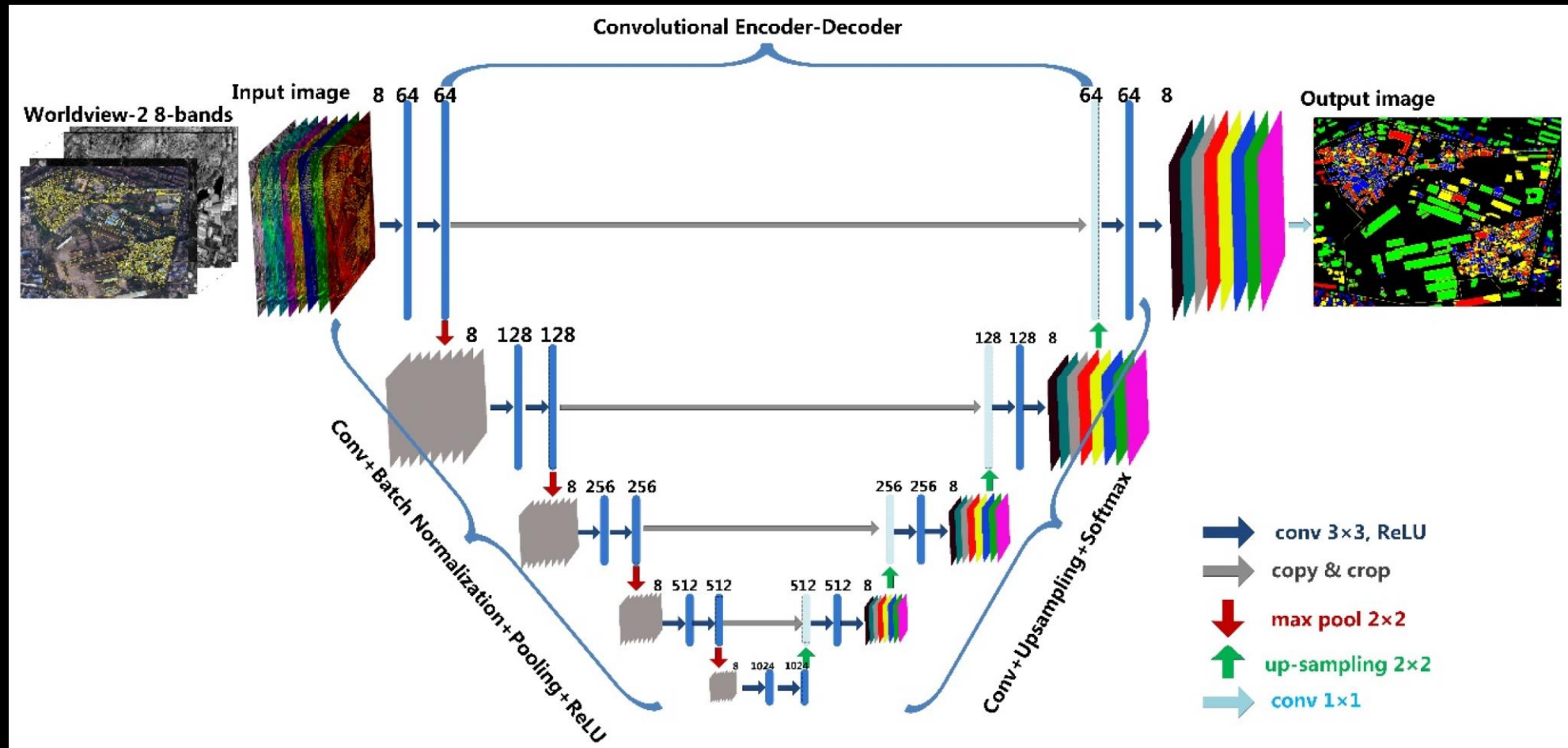
**Von welchen Beispiel-Daten
lernt unsere KI?**

Open Street Map (OSM)

- Globale Community
- Open-Source
- Viele Challenges



Soil Sealing Detection

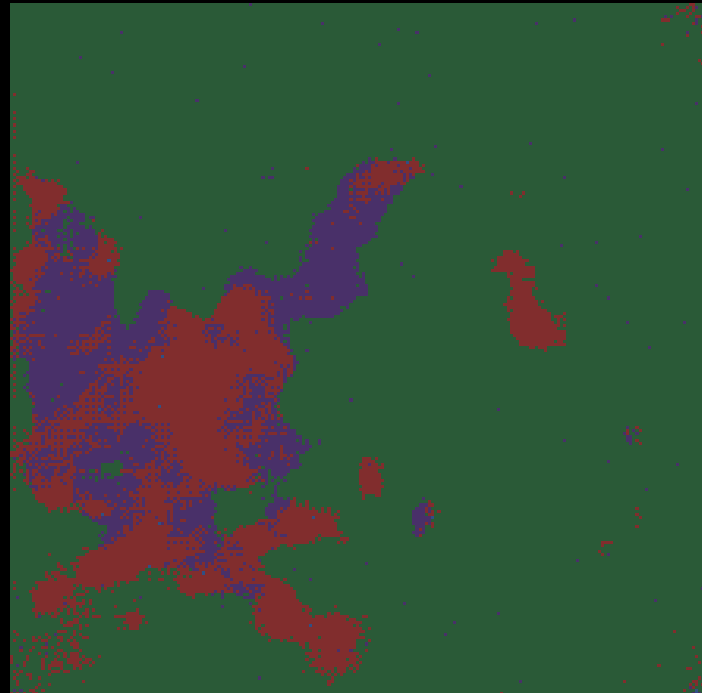


Our Results

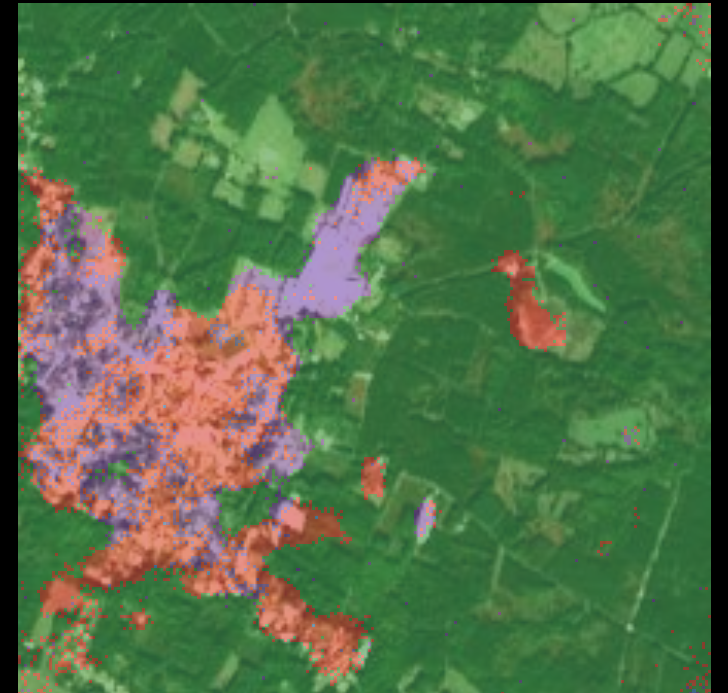
Sentinel-2



Predicted Map



Overlay



GREEN TRANSITION DOMAINS



ENERGY
TRANSITION



MOBILITY
TRANSITION



SUSTAINABLE
CITIES



CARBON
ACCOUNTING



EO ADAPTATION
SERVICES

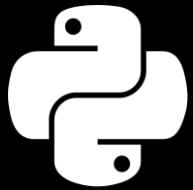
GTIF – Green Transition Information Factory

Expected Output

The screenshot displays the EODASH web application interface. At the top, it identifies the user as 'THE EUROPEAN SPACE AGENCY' and the current tool as 'GTIF | Green Transition Information Factory > Carbon Accounting'. The main map shows a satellite view of Vienna, Austria, with a green forest mask overlay. The mask covers most of the urban and surrounding areas, with some gaps. A sidebar on the left contains 'DOMAINS & TOOLS' (Carbon Accounting, Energy Transition, EO Adaptation Services, Mobility Transition, Sustainable Cities) and 'Tools' (Biomass Tools, Above Ground Biomass, Annual forest mask, Forest change detections, Forest disturbance type). The 'Annual forest mask' tool is selected. The 'LAYERS' section is also visible. On the right, an 'INFORMATION' panel provides a disclaimer: 'The forest mask classification output is based on a limited amount of training data, which is unlikely to represent all possible phenological conditions or forest structure types. This prototype is not validated and should therefore be considered as an example of the type of product which could be created based on the implemented methodology and training data available so far.' Below this is an 'ANALYSIS' section. At the bottom of the map, a data box shows the value '16,450, 48,036'. The footer includes 'EDC service for ESA | Legal | Privacy', 'eodash v4.0 by EOx', and a 'FEEDBACK' button.

Technologies

Development



Python



STAC

Environment

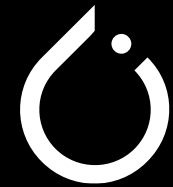


Weights & Biases



CUDA

Machine Learning



PyTorch



PyTorch Lightning

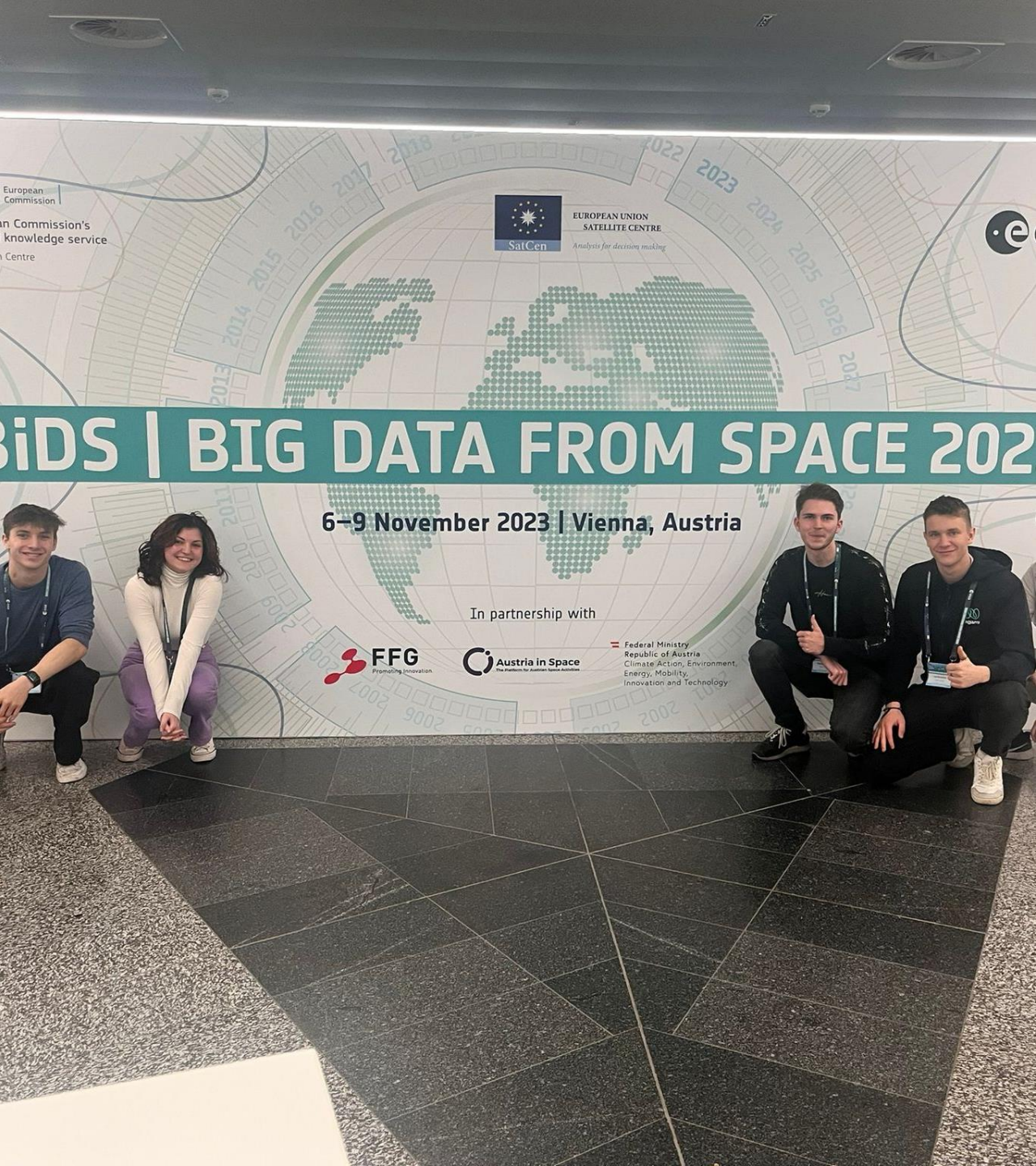
Unsere Vision

- Bodenversiegelung erkennen
- Entscheidungsträger informieren
- Unverantwortliches Versiegeln verhindern
- Open-Source

EOX IT Services GmbH

- Geospatial Engineering company
- ESA contractor
- Open-Source





The Crew



Lilia Gerber

Luis Kalckstein

Maximilian Wolf



Tobias Lendl

Dominik Fluch

Environment

Project Environment



Harald Zumpf
Supervisor



Stephan Meißl
Partner



Týna Doležalová
Partner



Oliver Sommer
Consultant

Team

