



Copernicus

Data Space Ecosystem

Platform for
Federated EO Services
and Applications

EODC Forum

10.06.2024, Vienna, Austria

dataspace.copernicus.eu



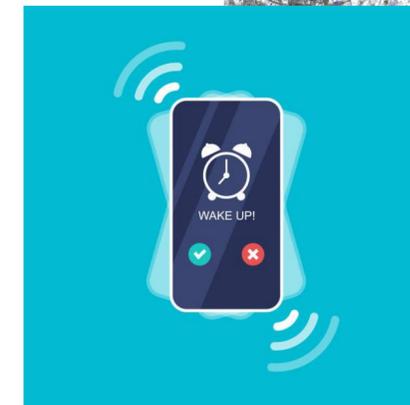
We have an unprecedented amount of high-quality EO data

- **The Copernicus Programme has exploded the amount of open EO data available**
 - Currently 80 PB of published Sentinel data products and more than 100 PB by 2028
- How can we make best use of this resource?
- We need it to be accessible in the true sense of the word
 - Openly, instantly available
 - Findable with common tools
 - Processing and analysis possible for anyone
 - Easy sharing of raw data and results - traceable



We need operational solutions to the global climate, biodiversity, resource and society crisis

- We have to start from satellite images and ground data and end with a product decisionmakers and regular people are familiar with
- We have to shorten the path from science to operational
 - This has happened in Earth Observation before!
 - Weather monitoring
 - Terrain models
 - Common Agricultural Policy monitoring
- We need the science and industry community to contribute datasets, tools, processing pipelines
- We need all this as fast as possible – we are pressed for time



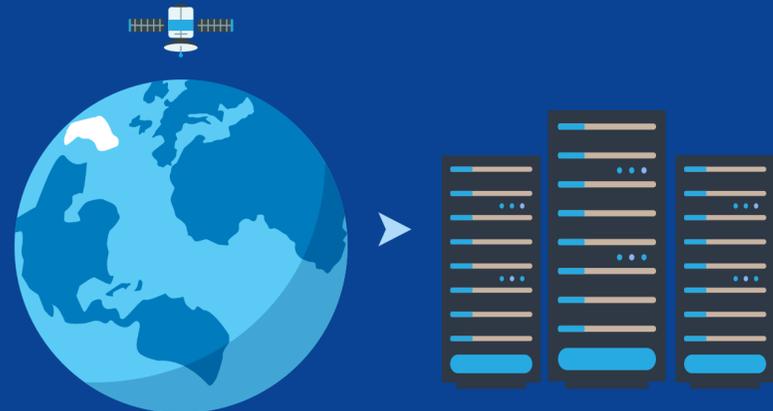
Data Access



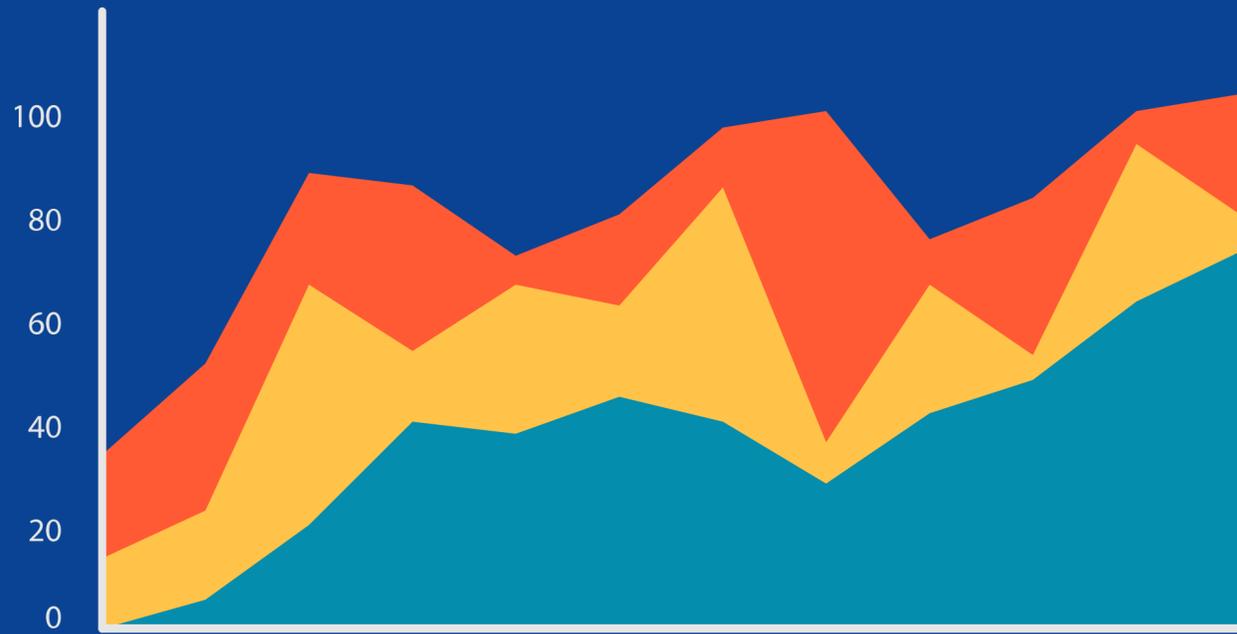
Data Processing



Data Access



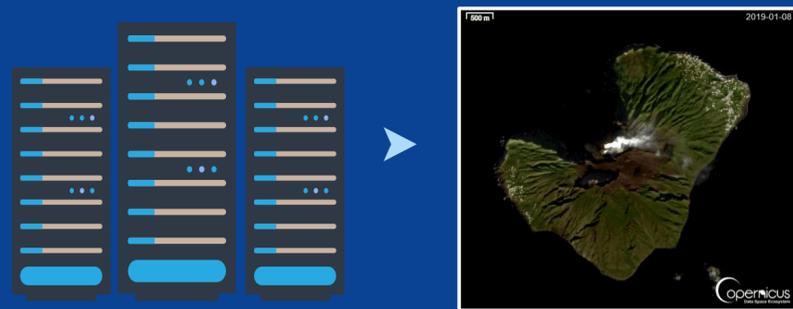
Data Visualization



Data Access

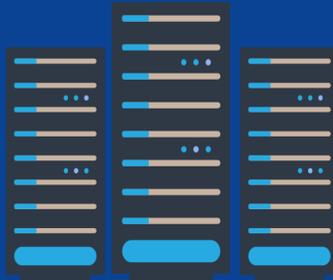


Data Processing

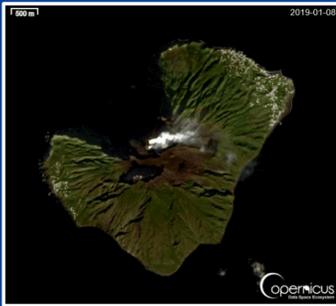


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Data Access



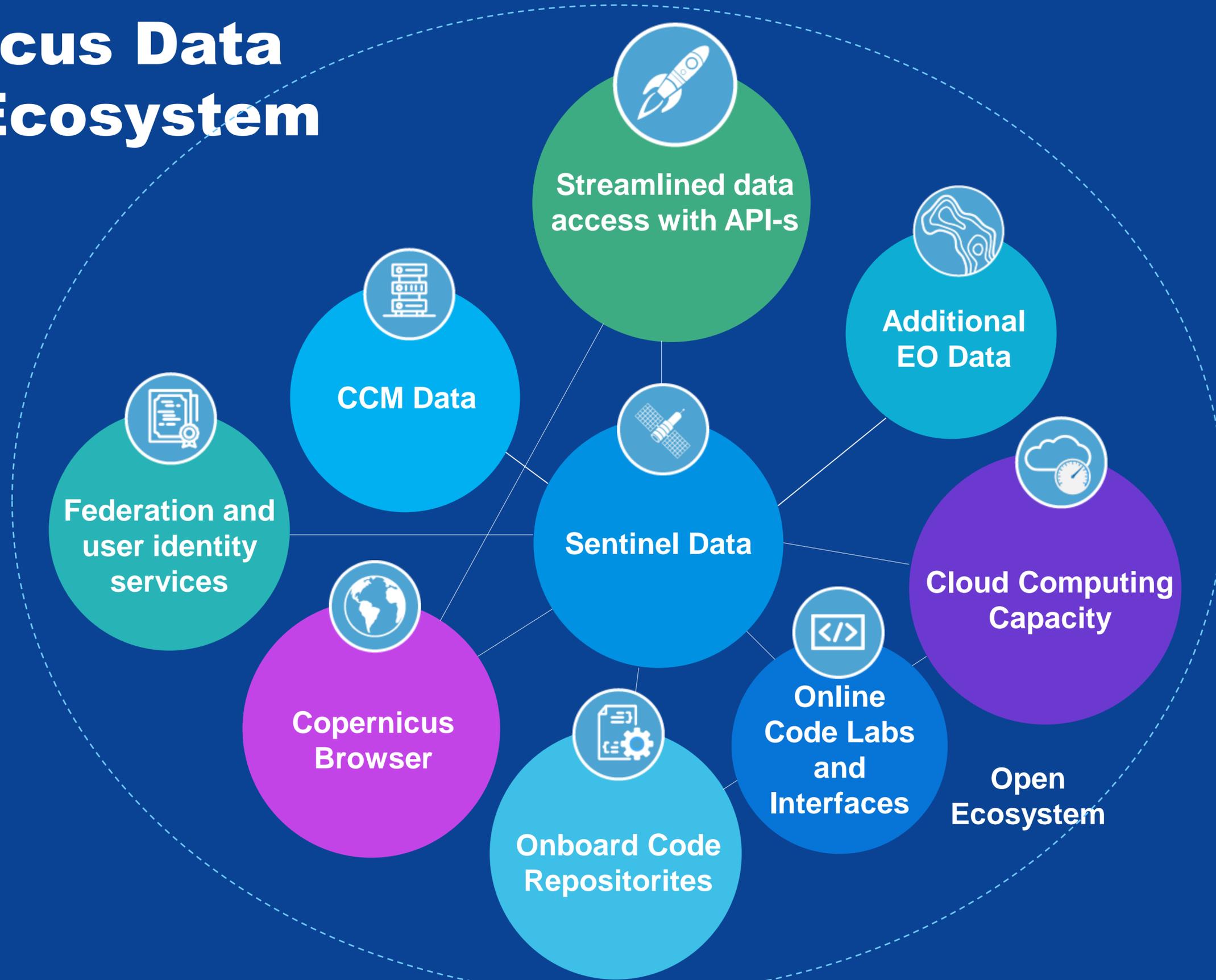
Data Processing



Data Visualization



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Challenges solved – Data access

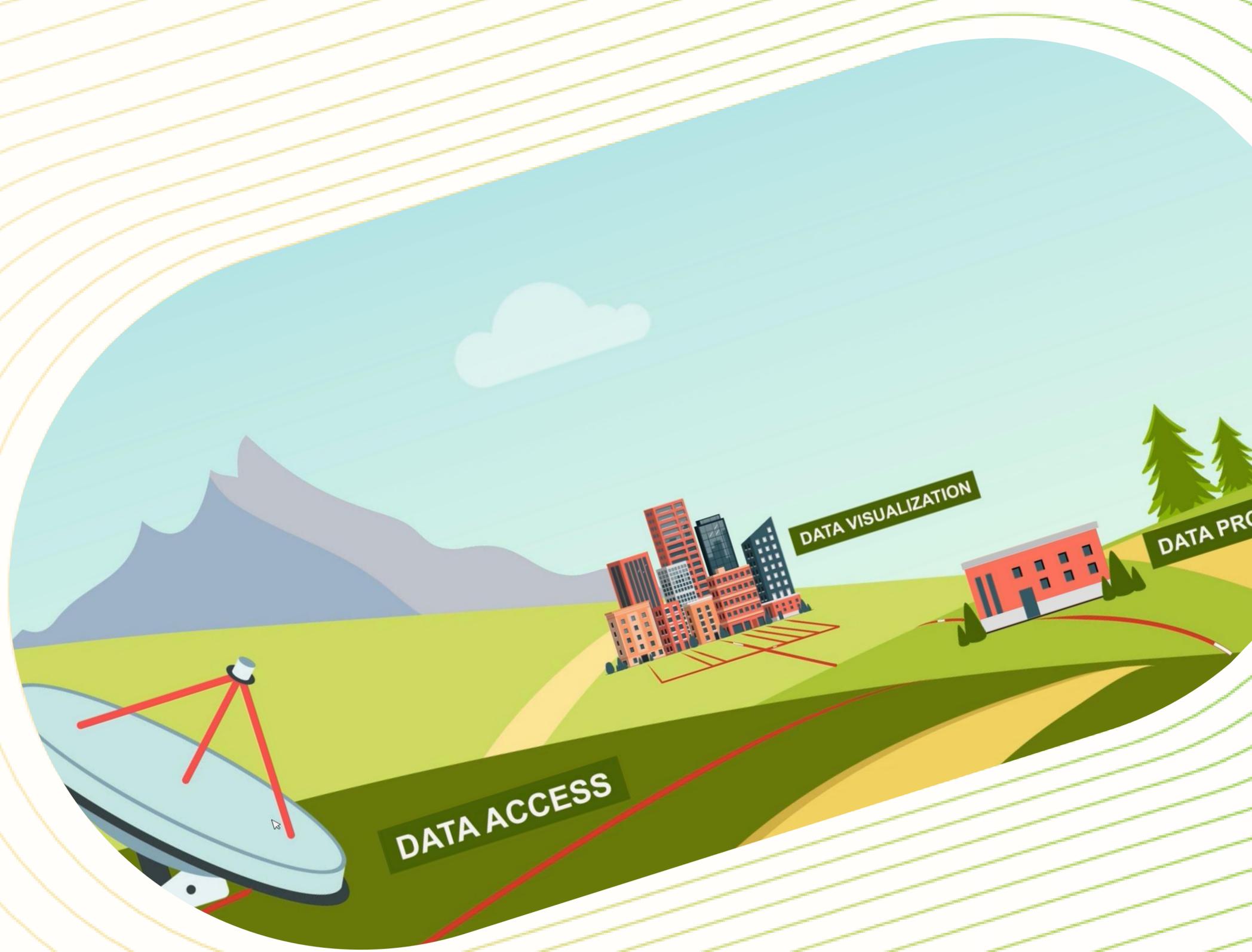
Instant access to all Sentinel Data ever produced

Cloud-based processing available to everyone –radically reducing the volume of data transferred

Data can be requested in „analysis ready” format – whatever that means to you

- images
- statistics
- web map services etc

Simple to use processing tools, open codebase – but advanced functionality



Challenges solved – data processing

Your computing resources are not a
limit any more

Petabyte-scale processing openly
available

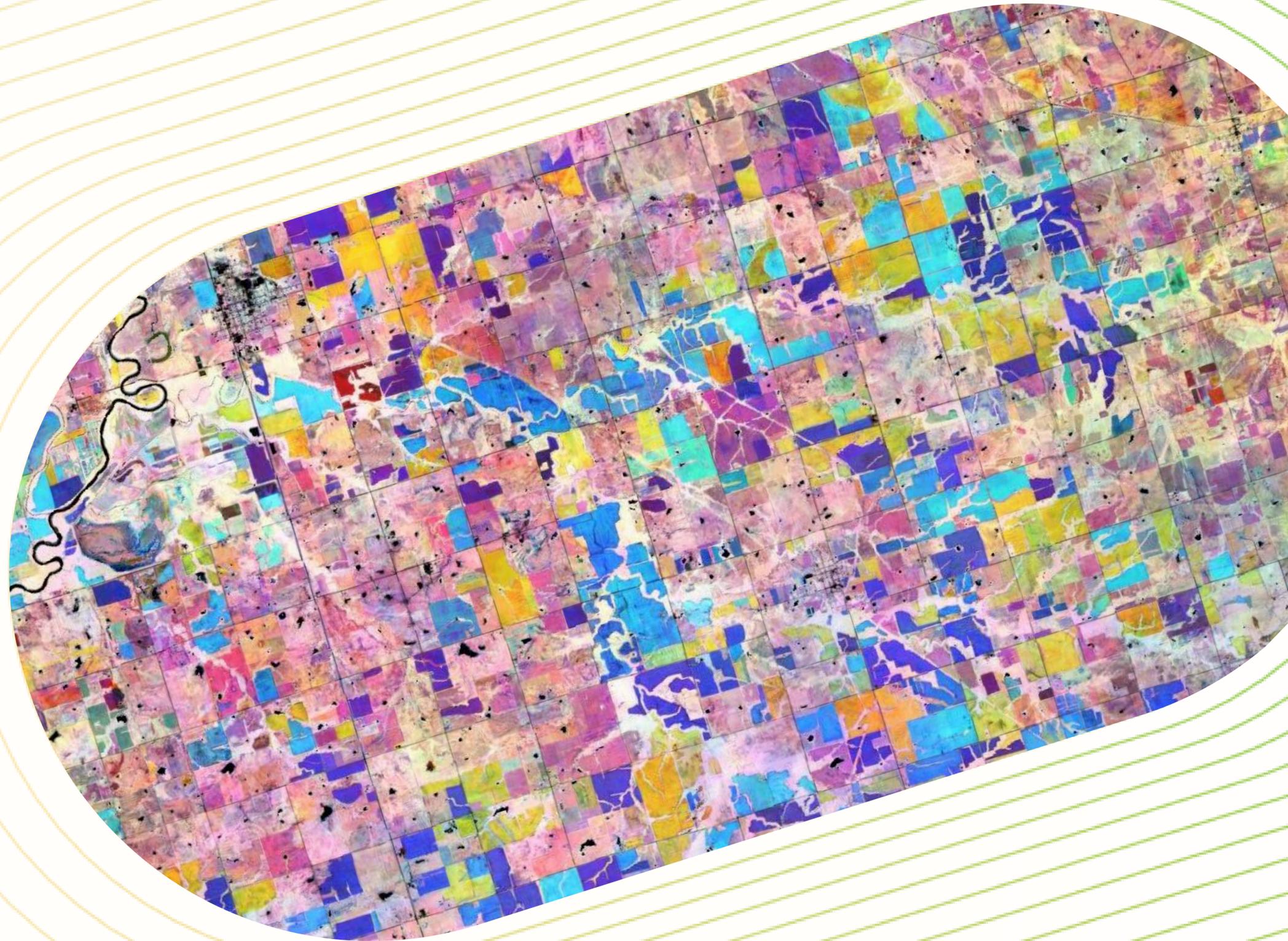
Upscaling-friendly solutions built in

Wide range of code development
options

Jupyter

openEO

Virtual machines



Challenges solved – data sharing

Open, intuitive, customizable frontend

Traceable datasets

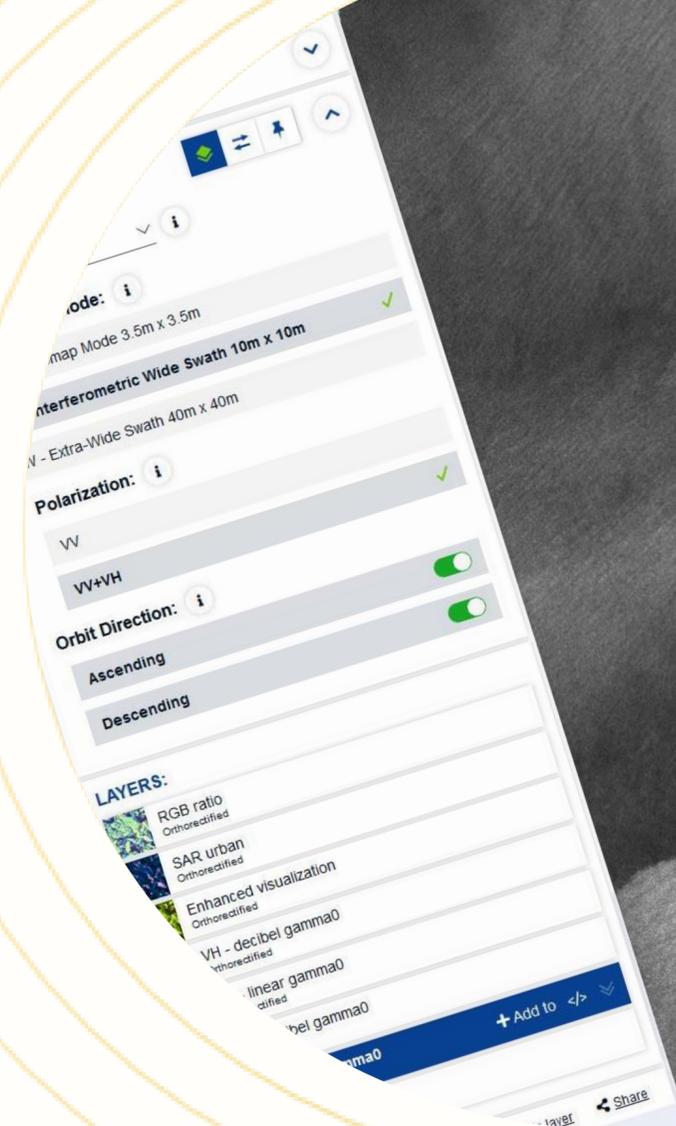
Platform for building end-user applications

Tools for sharing algorithms

Jupyter

OpenEO

Custom Scripts



What we need – community contributions

Building blocks, lego bricks

- Datasets generated by federated parties and individual users
- Codebase, free and commercial algorithms
- Use cases, network of processing pipelines
- **COLLABORATION**
 - In this public, independent, open platform



A free, public platform for EO-based solution development

- Share your datasets to reach a wide range of collaborators
- Share your analysis tools and products for operational use
- Use the official, authoritative IT component of the Copernicus Programme

Copernicus Data Space Ecosystem – never need to download satellite imagery again!

Copernicus Data Space Ecosystem provides

- Not just data but a **data infrastructure** hosting cloud processing – an **efficient** and **attractive** solution
- A long-term perspective that users can **trust** and **invest in** – governed by a long-term service level agreement
- A platform for developing high quality **operational services** – serving good governance

