

What is the Swarm Virtual Workspace for Earth Scientists (VirES)?

What

Swarm VirES is a cloud-based tool that offers scientists easy and in-depth exploitation of Swarm data products through a virtual workspace

The Mission

Launched on

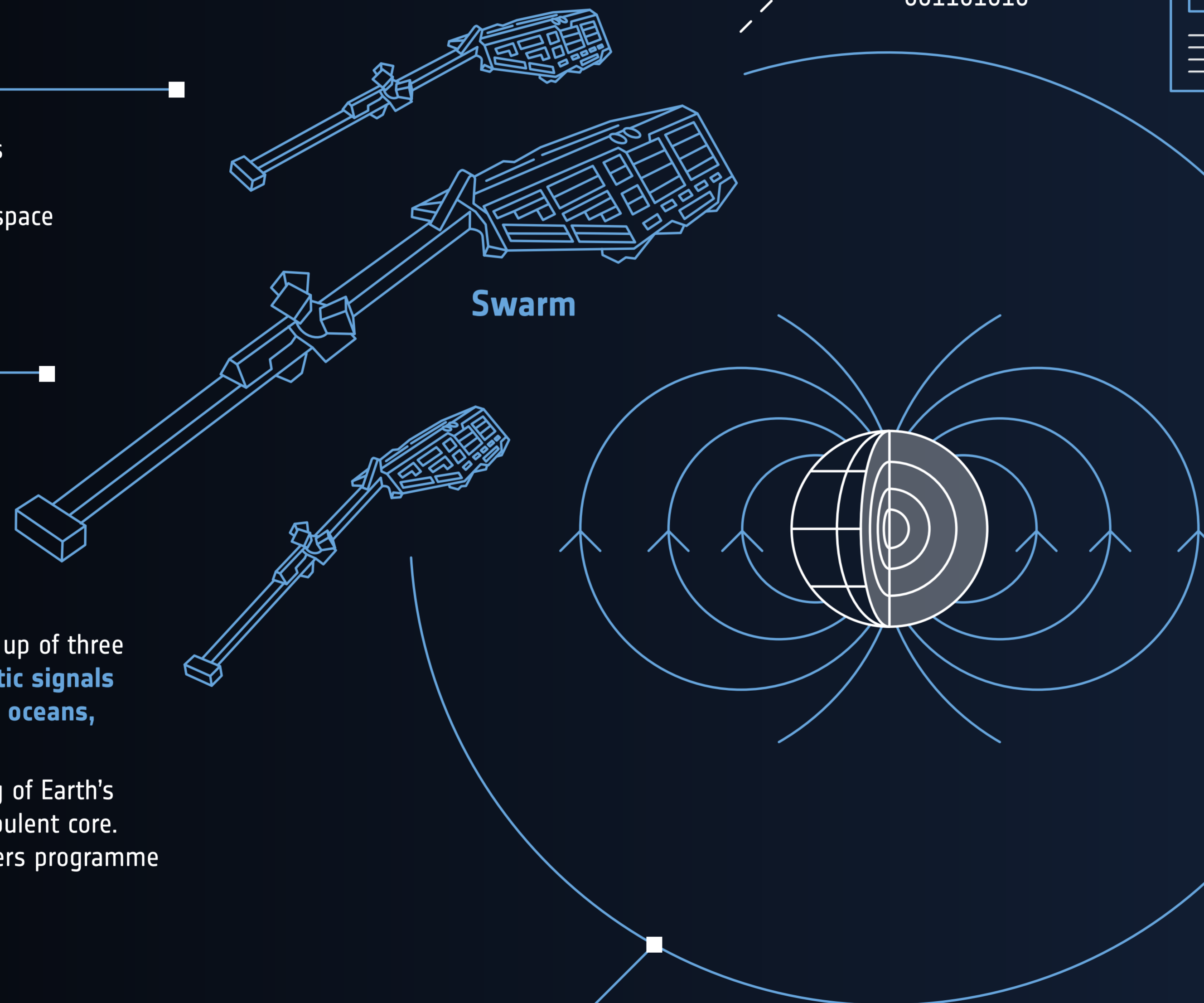


Swarm is ESA's magnetic field mission made up of three identical satellites that **measure the magnetic signals stemming from Earth's core, mantle, crust, oceans, ionosphere and magnetosphere.**

Swarm data are furthering our understanding of Earth's system, from its outer atmosphere to its turbulent core. The mission forms part of ESA's Earth Explorers programme

The Tool

Swarm VirES enables improved data exploitation by providing a combination of tools and services. Thanks to a graphical web interface, Application Programming Interfaces (APIs), Python-based tooling, and JupyterLab, VirES is a versatile toolset for users of Swarm data. The service is connected to a [catalogue of the Swarm products](#) and is augmented by a [guidebook](#) to help make use of these products and associated programming tools



Capabilities

- Web interface for data retrieval, interactive plotting, and multi-dimensional geographical visualisation
- On-demand processing
- APIs for machine-to-machine communication
- Multi-mission support
- Interactive programming through the web browser, powered by Jupyter
- Domain-specific Python tools developed by the community

Development

The web-based tool was developed by EOX IT Services GmbH, who have managed its operation since 2016. The service is supported by the Swarm Data, Innovation, and Science Cluster (DISC), a consortium of 35 partner institutions and companies from 19 countries in Europe and North America

Collaboration

VirES enables open collaboration in data manipulation, agile algorithm development, and high-level product generation. The shift to toolboxes and open-source software facilitates more connection with other datasets and data providers

Access to Swarm VirES:
Start using Swarm VirES today: vires.services/