SPACIOUS

PARTNERS

Universitat de Barcelona

ICCUB — Institut de Ciències del Cosmos, Universitat de Barcelona

BSC — Barcelona Supercomputing Center, Centro Nacional de Supercomputación

FCiências.ID — Associação para a Investigação e Desenvolvimento de Ciências

Ciências ULisboa — Faculdade de Ciências da Universidade de Lisboa

Universidade da Coruña

The University of Edinburgh

Adam Mickiewicz University Poznań

SPACIOUS

Science PlAtform Cloud Infrastructure for Outsize Usage Scenarios

Cloud based **Data Mining** platform for advanced analysis

Simplified **Big Data** access

Boost **scientific exploitation** of ESA missions

Collaborative astrophysical research

Funded by the European Union

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https://spacious.ub.edu

SPACIOUS

Breaking barriers in Big Data analysis

SPACIOUS addresses the growing need for **handling** and **analysing** vast datasets from **ESA missions** such as Gaia and Euclid.

SPACIOUS provides a novel computational **platform** designed to boost the scientific **exploitation** of ESA mission data through advanced **Big Data** and **Data Mining** technologies.

By **integrating** existing **technologies** into a unified **cloud-based** environment, SPACIOUS lowers technical barriers, enabling the scientific community with streamlined access to state-of-the-art Big Data and Data Mining methodologies, and the capability of deeper large-scale analysis of ESA mission data beyond current limits.

State-of-the-art facilities

At the heart of SPACIOUS lies the Barcelona Supercomputing Center (BSC), one of the Europe's most advanced supercomputing facilities. BSC's capabilities in cloud computing, software development, and data management provide the technological backbone of the project.

SPACIOUS is built to be deployable on commercial cloud services as well.

Community

SPACIOUS will be made available to the community through several channels:

BSC: Through open calls for research proposals based on scientific and technical merit.

Commercial clouds: SPACIOUS can be deployed on cloud services hired by groups or organisations.

Your own facilities: SPACIOUS can be installed and deployed at your infrastructure for more control.

Legacy

High level data products generated from Gaia and Euclid data during the project will be made available to the community. These enhanced data products will be valuable for research, target definition of future missions and ground based follow-up.

Beyond academia

SPACIOUS values public engagement, actively sharing results with the educational sector, industry, and the public.

Educational activities introduce students to Big Data and cloud computing, making cutting-edge technology accessible to learners of all ages.

The SPACIOUS Citizen Science platform enables researchers to launch projects while citizens contribute compute time.

Contact us

- Visit our website: **https://spacious.ub.edu**
- Find us on

Stay connected and explore the future of astrophysical research.

Background images

Cover: Gaia DR3 flux map.
Credit : ESA/Gaia/DPAC, A. Moitinho

Inside: Perseus galaxy cluster.
Credit: ESA/Euclid/Euclid Consortium/ NASA, CEA Paris-Saclay