

Astrophysics Centre for Multimessenger studies in Europe - ACME

HORIZON-INFRA-2023-SERV-01-02 call

Coordinator: **Antoine KOUCHNER / CNRS**

Proposal summary

- Scientific domain: Astronomy and Astroparticle physics
- Provide Transnational access (TA) and Virtual Access (VA) to Research Infrastructures and harmonize data formats and data analysis tools
- Supported by APPEC and ASTRONET
- Selected for funding by the European Commission: 14.5 M€
- Grant Agreement Preparation phase

Proposal details

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- Topic: better **access of users to RI services to advance frontier knowledge**, activities to improve and harmonize the access, and training for scientists.
- Maximum EU contribution per project: **14.5 million euros**.
- Scientific domain of interest: Astronomy & Astroparticle physics.
- Submission on March 9th, feedback expected in September

ACME Objectives: The Astronomy and Astroparticle physics research infrastructures involved in this proposal will lay the foundations for building a new ecosystem for a deepened, stronger and long-term vision collaboration with the aim to:

1. implement the **European roadmaps'** recommendations and act as a pathfinder to broaden, improve and align the accesses to the respective RI services and data
2. provide a harmonized **transnational and virtual access** to world-class RIs
3. develop **centers of expertise**
4. improve the **science data products** management
5. develop and improve interoperable **cyberinfrastructures** for alert sending and better manage **coordinated observations**
6. provide **training** for a new generation of scientists and engineers
7. open the astrophysics data sets to other disciplines and increase **citizen engagement** in scientific research

7 Work Packages (WP) corresponding to the objectives above

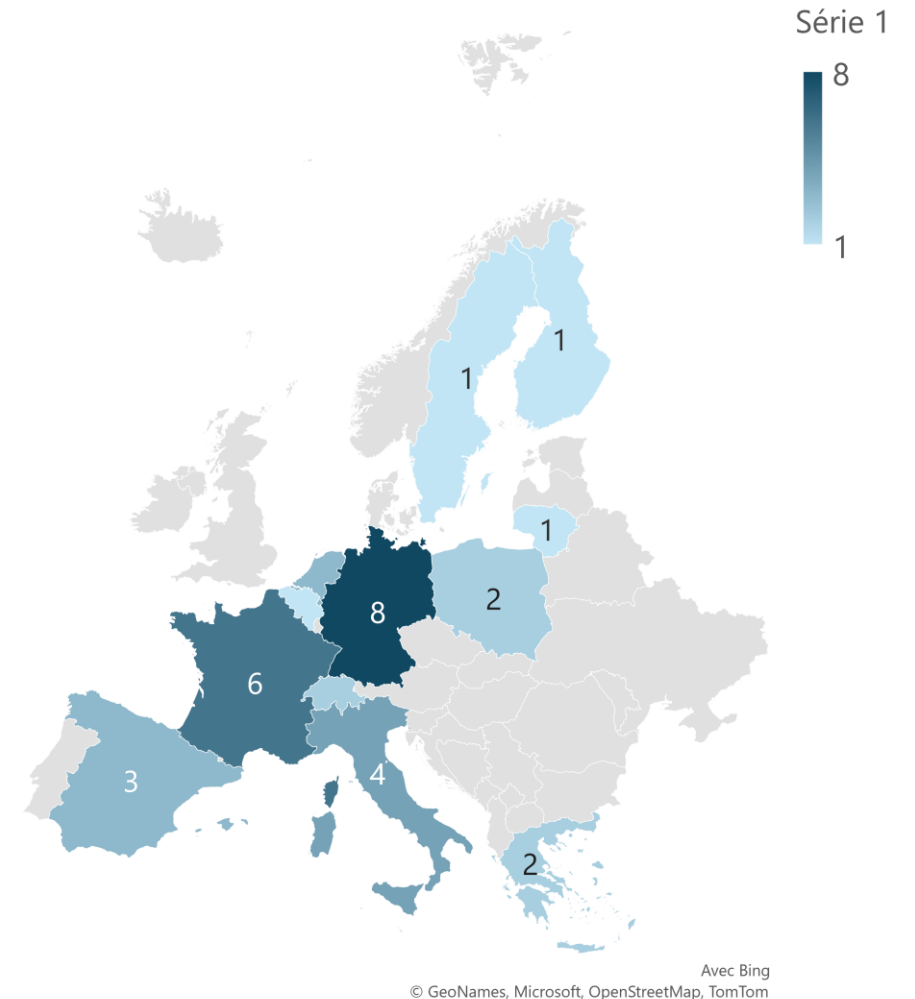
Consortium: 41 partners, 15 countries, over 30 research infrastructures (observatories and detectors, cyberinfrastructures and expertise centers) from Astronomy and Astroparticle domains, covering GW, Gamma & X-rays, neutrinos, CR, radio, optical.

Proposal partners

Astroparticle & Astronomy institutions

Centre National de la Recherche Scientifique
Université Paris Cité
Canada France-Hawaii Telescope
Université Paul Sabatier Toulouse III
Observatoire de Paris
Université Catholique de Louvain
Max-Planck Gesellschaft zur Förderung
Deutsches Elektronen Synchrotron
Commissariat à l'Energie Atomique et aux
Energies Alternatives
Narodowe Centrum Badan
The University of Manchester
Gran Sasso Science Institute
Université de Genève
Joint Institute for Very Long Baseline
Friedrich Alexander Universität
Instituto de Fisica de Altas Energias
The Open University
Bergische Universität Wuppertal
Istituto Nazionale Di Astrofisica
Ethniko Asteroskopeio Athinon

European Gravitational Observatory
Karlsruher Institut für Technologie
Ludwig Maximilians Universität
Stichting Nederlandse Wetenschapp
University of Cambridge
Uppsala Universitet
Stichting International Lofar
Institut de Radio Astronomie
Istituto Nazionale di Fisica Nucleare
Universidad de Santiago de Compostella
Humboldt Universität Zu Berlin
Ventspils Augstskola
Centro Nacional de Informacion
Cherenkov Telescope Array
The Queen's University Of Belfast
Uniwersytet Mikolaja Kopernika
Aalto University
Ecole Polytechnique Fédérale de Lausanne
Aristotelio Panepistimio Thessalonikis
Taras Shevchenko National
Institute of Radio Astronomy of Kharkiv



Proposal expected results

SPECIFIC NEEDS	EXPECTED RESULTS	D & E & C MEASURES
<p>i-Build a partnership between astroparticle and astrophysics infrastructures and user communities. Achievement of the project goals requires a range and scale of effort that would be unfeasible in a national or local context.</p> <p>ii-improve systems, reduce limits to data access, improve planning, implement FAIR data</p> <p>iii-new generation trained and integrated into a stronger multi-messenger Europe</p> <p>iv-fully-informed policy for future technical and access-funding developments</p>	<p>i-data access will be improved by proportionate efforts to provide user-friendly tools to exploit multi-messenger and multi-wavelength data and to enhance better use of compatible data formats.</p> <p>ii-create ACME, improved synergy between communities, improved efficiency and effectiveness, new opportunities, by making the available data sources and tools to access them fully exploitable for a broad community.</p> <p>iii-more efficient and more effective integration of a larger multi-messenger science community in Europe</p> <p>iv-stronger larger community with new ideas, skills and ambitions</p> <p>v-robust plans and ambitions to underpin sustainable subject growth</p>	<p>i- WP3 establishes centres of excellence covering all multi-messenger fields; WP6 delivers training; WP1 establishes community-wide activity, using web, social media and newsletters; WP7 interacts through citizen science widely.</p> <p>ii-meetings, schools, newsletter, workshops, virtual training centres, documented toolkits</p> <p>iii-schools, workshops, online and virtual training, visits to excellence centres</p> <p>iv-forum of project, agency, EC, ESFRI, and other related participants</p>

ACME – next steps

- Proceed with the administrative work to prepare the grant agreement
- Deadline for GA signature: 05 May 2024
- Start day of the project: 01 September 2024