

€15 million boost for European astronomy

Astronomers and astroparticle physicists today are celebrating a €15 million EU funding boost for European telescopes with the launch of the ASTERICS project (Astronomy ESFRI and Research Infrastructure Cluster), which will help solve the Big Data challenges of European astronomy and give members of the public direct interactive access to some of the best of Europe's astronomy images and data.

Astronomy is experiencing a surge of data from its current generation of observatories, with a size and complexity not seen before. The surge will become a deluge with the next generation of telescopes prioritised in the European Strategy Forum on Research Infrastructures (ESFRI), and with other world-class projects. This €15 million funding boost will help Europe's world-leading observatories work together to find common solutions to their Big Data challenges, their interoperability and scheduling, and their data access. ASTERICS will also open up these facilities to the full international community, from professionals to the public, through the International Virtual Observatory Alliance and by funding citizen science mass participation experiments for the current and next generation of world-leading European observatories.

The project is led by the Netherlands institute for radio astronomy ASTRON, with a consortium of 22 European partner institutions, including the parties in the KM3NeT Collaboration that will employ their collective expertise with techniques for collecting, processing, analysing and sharing data from neutrino telescopes in the abyss of deep seas to contribute to the challenge of multi-messenger cosmic research.

Explaining the ASTERICS acronym, Professor Mike Garrett, Principal Investigator of the ASTERICS project, said "ASTERICS stands for Astronomy ESFRI and Research Infrastructure Cluster. For the first time, it brings together the astronomy, astrophysics and particle astrophysics communities to find imaginative new solutions to our common data avalanche problems by working together and directly engaging with industry and specialised businesses."

Prof. Dr. Maarten de Jong, spokesperson and director of KM3NeT said "ASTERICS will provide for a common and sustainable platform for the interoperability of cosmic observatories. After the discovery of high-energy neutrinos from the cosmos in 2013 (awarded by the British magazine Physics World as Breakthrough of the year) the cooperative observation of the cosmos by multi-messengers is right and timely."

Dr. Stephen Serjeant, Head of Astronomy at the Open University and leading the ASTERICS citizen science work, said "ASTERICS will open up some of the very best of European astronomy to everybody. Crowdsourcing can solve major scientific problems, because the human eye is often much better than computers at recognising and classifying patterns."

The facilities supported by the ASTERICS programme include:

- The Square Kilometre Array (SKA), a radio telescope currently being built at two locations in Australia and South Africa, as well as precursor/pathfinder experiments;
- The Cherenkov Telescope Array (CTA), the first high-energy gamma-ray world-wide observatory, comprising two large arrays of Cherenkov telescopes in the two hemispheres;

- KM3NeT, a telescope at the bottom of the Mediterranean Sea aiming to detect ghostly neutrino particles from space;
- The European Extremely Large Telescope (E-ELT), an optical and infrared telescope currently being built in Chile, as well as precursor optical and infrared telescopes.

Other facilities benefitting from ASTERICS support include forthcoming experiments such as the Einstein gravitational-wave Telescope (ET, coordinated by the European Gravitational Observatory-EGO), the Euclid Space Telescope and the Large Synoptic Survey Telescope (LSST), and current facilities such as the Low Frequency Array (LOFAR), the High Energy Stereoscopic System (H.E.S.S.), Major Atmospheric Gamma Imaging Cherenkov (MAGIC), the gravitational-wave detector Advanced Virgo and the European Very Large Baseline Interferometry Network (EVN). The funding was made through the European Union's Horizon 2020 Framework Programme, which is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding over 7 years (2014 to 2020).

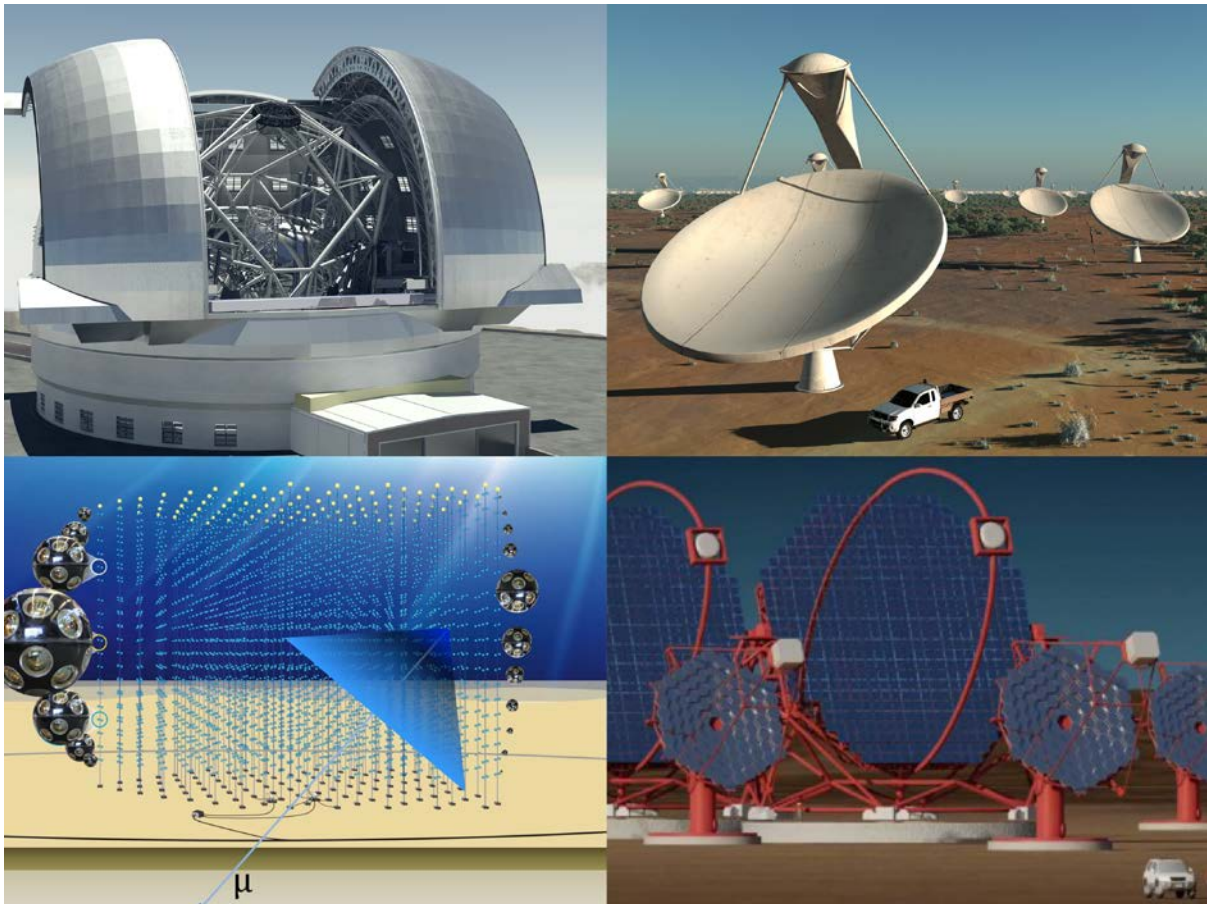


Image: The astronomy and astro-particle facilities that form the focus of the ASTERICS project are included in the ESFRI Roadmap: E-ELT (top left), SKA (top right), KM3NeT (bottom left) and CTA (bottom right).

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Notes to editors

The full list of ASTERICS partners are: the Netherlands Institute for Radio Astronomy (ASTRON, Netherlands), Le Centre national de la recherche scientifique (CNRS, France), Istituto Nazionale di Astrofisica (INAF, Italy), University of Cambridge (UK), the Joint Institute for VLBI ERIC (JIVE), Instituto Nacional de Técnica Aeroespacial (INTA, Spain), the University of Edinburgh (UK), Ruprecht-Karls-Universität Heidelberg (Germany), The Open University (UK), Friedrich-Alexander Universität Erlangen Nürnberg (Germany), the Free University of Amsterdam (Netherlands), Commissariat à l'Énergie Atomique et aux Énergies Alternatives (CEA, France), the University of Amsterdam (Netherlands), Universidad de Granada (Spain), Stichting Fundamenteel Onderzoek der Materie (Netherlands), Institute for Space Studies of Catalonia (Spain), Instituto De Física De Altas Energias (IFAE, Spain), Universidad Complutense de Madrid (UCM, Spain), Istituto Nazionale di Fisica Nucleare (INFN, Italy), The UK Astronomy Technology Centre (UKATC, UK), Deutsches Elektronen-Synchrotron (DESY, Germany), SURFnet (Netherlands). In addition, other institutes are involved as third parties.

More information on some of the major facilities supported by ASTERICS can be found at the following places:

CTA: <https://www.cta-observatory.org/>

E-ELT: <http://www.eso.org/public/unitedkingdom/teles-instr/e-elt/>

EGO: <http://www.ego-gw.it/>

Einstein Telescope ET: <http://www.et-gw.eu>

EUCLID: <http://sci.esa.int/euclid>

H.E.S.S.: <http://www.mpi-hd.mpg.de/hfm/HESS/>

KM3NeT: <http://www.km3net.org>

LOFAR: <http://www.lofar.org/>

LSST: <http://www.lsst.org/>

MAGIC: <https://magic.mpp.mpg.de/>

SKA: <https://www.skatelescope.org/>

Virgo: <http://www.virgo.infn.it>

VLBI: <http://www.evlbi.org/>