

Deploying cloud based services that meet the demands of large-scale scientific projects

In 2019, 10 public research organisations from 7 EU countries completed the EU funded Helix Nebula Science Cloud pre-commercial procurement (HNSciCloud) and kick-started the uptake of new cloud-based systems with big data storage and analysis tools needed by large scientific projects. The HNSciCloud consortium won the 2019 Procura+ Award 'outstanding innovation procurement in ICT'. May 2020, an extended buyers group of 40 countries started buying the larger rollout across Europe of cloud research services based on the HNSciCloud results.



Source: CERN - The logo shows the letters Helix Nebula Science Cloud with the picture of a cloud through it

The buyers group of the HNSciCloud pre-commercial procurement consisted of the following organisations: CERN (CH, lead procurer), National Institute for Nuclear Physics INFN (IT), German Electron-Synchrotron DESY (DE), National Center for Scientific Research CNRS (FR), Karlsruhe Institute for Technology KIT (DE), SURFsara (NL), Science and Technology Facilities Council STFC (UK), European Molecular Biology Laboratory EMBL-EBI (DE), Institute for High Energy Physics IFAE (ES), European Synchrotron Radiation Facility (ESRF).

They joined forces in the PCP to get new solutions developed that meet the demands of large-scale scientific projects for big data storage and analysis tools. Upcoming projects like the High Luminosity LHC and in the domains of Genome Analysis, Astrophysics, Life Science and Photon Science have requirements for their resources to scale massively, being able to share the data and to some extent being available on demand. All of this being deployable in potential world-wide scientific collaborations including the 'long tail of science'.

The PCP procurement process has led to the introduction of commercial cloud services to support the IT strategy of European research organisations. The PCP triggered the development of digital cloud services that are more adaptable to changing needs, provide a cloud-based system designed specifically for science and research, increase standardisation, benefit from economies of scale, and offer appropriate service payment models for research bodies using it.

The innovative cloud services support the connection of the research infrastructures identified in the ESFRI Roadmap to the nascent European Open Science Cloud intended to create a single digital research space for Europe's 1.8 million researchers. In this context, the follow-up EU funded OCRE (Open Clouds for Research Environments) project has already launched a procurement to make the new innovative cloud services accessible to a broader set of public research and higher education

bodies, supporting future cutting edge research. In the meantime. The buyers group was extended to research and education organisations from 40 countries around Europe: NL, BE, AT, BG, HR, CY, CZ, DK, EE, FI, FR, DE, EL, HU, IE, IT, LT, LU, MT, PL, PT, RO, SI, ES, SE, SK, CH, UK, NO, Albania, Armenia, Georgia, Iceland, Israel, North Macedonia, Serbia, Turkey, Ukraine. May 2020, the OCRE consortium launched together their procurement to deploy commercial cloud services based on the HNSciCloud results as an integral part of the European Open Science Cloud.

Read the full case description here.

<http://www.procuraplus.org/awards>

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