Proposal for a Horizon 2020 Design Study on the “European Plasma Research Accelerator with eXcellence In Applications“ (EuPRAXIA)

Fact Sheet

Project Information

EuPRAXIA

Grant agreement ID: 653782

Project website

Funded under H2020-EU.1.4.1.1.

Start date 1 November 2015

End date 31 October 2019

Overall budget € 2 999 900

EU contribution € 2 999 900

Coordinated by

STIFTUNG DEUTSCHES ELEKTRONEN-SYNCHROTRON DESY

Germany

Objective

EuPRAXIA will produce a conceptual design report for the worldwide first 5 GeV plasma-based accelerator with industrial beam quality and user areas. EuPRAXIA is the required intermediate step between proof-of-principle experiments and ground-breaking, ultra-compact accelerators for science, industry, medicine or the energy frontier (“plasma linear collider”). The study will design accelerator technology, laser systems and feedbacks for improving the quality of plasma-accelerated beams. Two user areas will be developed for a novel Free Electron Laser and High Energy Physics detector science. An implementation model will be proposed, including a comparative study of possible sites in Europe, a cost estimate and a model for distributed construction and installation at one central site. EuPRAXIA will be a new
large research infrastructure with an estimated footprint of about 250 m. If the design study is approved, then it will lay the foundation for a possible decision on construction in 2020.

A consortium of 16 laboratories and universities from 5 EU member states has formed for preparing this proposal. 18 associated partners from 8 countries have joined with in-kind commitments (linking 3 additional EU member states). The scientists represent expertise from accelerator operation for photon science and HEP, design and construction of leading accelerators like LHC and Soleil, advanced acceleration test facilities like SPARC and frontier laser projects like CLF, CILEX-APOLLON and ELI. A project with 14 work packages has been defined, 8 of them with funding requested from EU. The proposal has been discussed in the European Steering Group for Accelerator R&D (ESGARD). A statement of strong support has been received. The EuPRAXIA technology is closely linked to EU industry. The director of the THALES Laser Business Unit and the CEO of Amplitude Technologies have sent letters of strong support for the EuPRAXIA proposal.

Field of science
/natural sciences/physical sciences/theoretical physics/particles/particle accelerator
/natural sciences/physical sciences/theoretical physics
/social sciences/economics and business
/natural sciences/physical sciences/optics/laser physics

Programme(s)

Topic(s)

Call for proposal
H2020-INFRADEV-1-2014-1

Funding Scheme
RIA - Research and Innovation action

Coordinator
STIFTUNG DEUTSCHES ELEKTRONEN-SYNCHROTRON DESY

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<th>Activity type</th>
<th>EU contribution</th>
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<td>Notkestrasse 85</td>
<td>Research Organisations</td>
<td>€ 454 000</td>
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Participants (15)

ISTITUTO NAZIONALE DI FISICA NUCLEARE
- Italy
- EU contribution: € 197 000
- Address: Via Enrico Fermi 54, 00044 Frascati
- Activity type: Research Organisations

CONSIGLIO NAZIONALE DELLE RICERCHE
- Italy
- EU contribution: € 197 000
- Address: Piazzale Aldo Moro 7, 00185 Roma
- Activity type: Research Organisations

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS
- France
- EU contribution: € 526 800
- Address: Rue Michel Ange 3, 75794 Paris
- Activity type: Research Organisations

UNIVERSITY OF STRATHCLYDE
- United Kingdom
- EU contribution: € 221 000
- Address

Contact the organisation
ASSOCIACAO DO INSTITUTO SUPERIOR TECNICO PARA A INVESTIGACAO E DESENVOLVIMENTO

**Portugal**

EU contribution

€ 197 000

Address: Avenida Rovisco Pais 1, 1049 001 Lisboa

Activity type: Research Organisations

Website [Contact the organisation](#)

UNITED KINGDOM RESEARCH AND INNOVATION

**United Kingdom**

EU contribution

€ 24 000

Address: Polaris House North Star Avenue, SN2 1FL Swindon

Activity type: Research Organisations

Website [Contact the organisation](#)

SYNCHROTRON SOLEIL SOCIETE CIVILE

**France**

EU contribution

€ 131 700

Address: L Orme Des Merisiers, 91190 Saint Aubin

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website [Contact the organisation](#)

THE UNIVERSITY OF MANCHESTER

**United Kingdom**

EU contribution

€ 12 000
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<td>€ 185 000</td>
<td>Brownlow Hill 765 Foundation Building L69 7ZX Liverpool</td>
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<td>COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES</td>
<td>France</td>
<td>€ 263 400</td>
<td>Rue Leblanc 25 75015 Paris 15</td>
<td>Research Organisations</td>
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<td>UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA</td>
<td>Italy</td>
<td>€12000</td>
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### UNIVERSITAET HAMBURG
- **Country**: Germany
- **EU contribution**: €197,000
- **Address**: Mittelweg 177, 20148 Hamburg
- **Activity type**: Higher or Secondary Education Establishments
- **Website**: [Contact the organisation](#)

### IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE
- **Country**: United Kingdom
- **EU contribution**: €185,000
- **Address**: South Kensington Campus, Exhibition Road, SW7 2AZ London
- **Activity type**: Higher or Secondary Education Establishments
- **Website**: [Contact the organisation](#)

### THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD
- **Country**: United Kingdom
- **EU contribution**: €12,000
- **Address**: Wellington Square University Offices, OX1 2JD Oxford
- **Activity type**: Higher or Secondary Education Establishments
- **Website**: [Contact the organisation](#)

**Last update**: 16 July 2020