

Overview of EISCAT Projects

Status of externally funded projects: recent, current and future

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EISCAT Headquarters

Annual review meeting 2014-10-02

- 1 Recently finished projects
- 2 Current projects
- 3 Pending applications
- 4 Planned upcoming applications

Outline

- 1 Recently finished projects
- 2 Current projects
- 3 Pending applications
- 4 Planned upcoming applications

List of recently finished or finishing projects

E3D Preparatory phase FP7 project, Next generation EISCAT ISR
ENVRI FP7 e-infrastructure project for environmental data

Project overview

- Call FP7-INFRASTRUCTURES-2010-1
- 2010–2014
- Coordination EISCAT HQ (Ingrid Mann, Anders Tjulin)
- Total budget 5.9 MEUR

Partners

- EISCAT, SE
- U Tromsø, NO
- LTU, SE
- IRF, SE
- STFC, UK
- VR, SE
- SNIC, SE
- U Oulu, FI
- National Instruments

EISCAT involvement

- Project Management and Reporting
- Legal and Logistical Issues
- Science Planning and User Engagement
- Outreach Activities
- Consortium Building
- Performance Specification
- Transmitter Development
- System Control
- Technical Integration and Production Issues

Total 114.4 work months for EISCAT

Status

- National applications, NO, SE
- National roadmap, FI
- National polar research plan, JP

Common Operations of Environmental Research Infrastructures (ENVRI)

<http://www.envri.eu>

Project overview

- FP7 project 283465
- Final meeting Helsinki next week, Ingemar
- Earth environment from tectonics to atmosphere

Common Operations of Environmental Research Infrastructures (ENVRI)

<http://www.envri.eu>

Partners

- U Amsterdam, NL
- CSC, FI
- U Helsinki, FI
- KNMI, NL
- EAA, Austria
- U Cardiff, UK
- CNR, IT
- INGV, IT
- U Edinburgh, UK
- EISCAT
- U Bremen, DE
- CNRS, FR
- ESA, FR
- CEA, FR
- IFREMER, FR
- EGI, NL

Common Operations of Environmental Research Infrastructures (ENVRI)

<http://www.envri.eu>

EISCAT involvement

- Science Advisory Board
- Data access

Total 9 work months for EISCAT

Common Operations of Environmental Research Infrastructures (ENVRI)

<http://www.envri.eu>

Status

- EISCAT ISR data searchable in portal
<http://www.genesi-dec.eu/envri/>

Outline

- 1 Recently finished projects
- 2 **Current projects**
- 3 Pending applications
- 4 Planned upcoming applications

List of current projects

FP7 funded

CoopEUS FP7 funding for EU-US collaboration on geophysical data

ESPAS FP7 e-infrastructure project for near-Earth space data

MISW FP7 Mitigation of space weather effects on satellite navigation

Other

TRANSMIT Associated partner, FP7 Marie Curie ITN on space weather effects on satellite navigation

VR-OG EISCAT 3D planning grant from Vetenskapsrådet

Project overview

- FP7 + NSF programme to strengthen the cooperation between the US and the EU in the field of environmental research infrastructures
- September 2012–2015
- Coordination Uni Bremen, DE
- Ingemar at CoopEUS meeting this week, FMI, Helsinki

Involved infrastructures

- EISCAT
- EPOS
- LifeWATCH
- EMSO
- ICOS
- AMISR
- EARTHSCOPE
- DataONE
- OOI
- NEON

EISCAT involvement

WP2: **WP leader:** Atmospheric incoherent scatter radar observations

WP7: Common data policies and standards

WP8: Common research infrastructure framework

Total 16 work months for EISCAT

Current actions at EISCAT

- Develop HDF5-based standard format for raw and analysed ISR data
- Convert Matlab v4 data archive to HDF5

Near-Earth Space Data Infrastructure for e-Science (ESPAS)

<http://www.espas-fp7.eu>

Project overview

- FP7 project 2011- April 2015 (continuation?)
- Coordination Mike Hapgood, STFC

Near-Earth Space Data Infrastructure for e-Science (ESPAS)

<http://www.espas-fp7.eu>

Partners

- STFC, UK
- Univ Athens, GR
- EISCAT
- DLR, DE
- INGV, IT
- JFW Consultant, FR
- CNRS, FR
- Athena RC, GR
- U Oulu, FI
- UCL, UK
- Met Office, UK
- U Birmingham, UK
- BISA, BE
- SRC, PL
- DTU, DK
- U Tromsø, NO
- FMI, FI
- U Leicester, UK
- GFZ, DE
- ROB, BE
- DH Consultancy, BE
- Lowell Digisonde Intl. LLC, US

Near-Earth Space Data Infrastructure for e-Science (ESPAS)

<http://www.espas-fp7.eu>

EISCAT involvement

WP1: Project management	2 work months
WP2: Strategy, policies and capabilities	3 work months
WP3: Community interaction (2nd annual meeting)	4 work months
WP4: (WP leader) ESPAS and data providers service deployment	33 work months
WP5: ESPAS operation and maintenance	3 work months
WP6: Interoperability definition	3 work months
WP7: Core service development	3 work months
WP8: System evaluation, value-added services	2 work months

Total 53 work months for EISCAT

Near-Earth Space Data Infrastructure for e-Science (ESPAS)

<http://www.espas-fp7.eu>

Status

- EISCAT ISR data searchable through ESPAS portal
- EISCAT Dynasonde data to be included
- MADRIGAL for ionosondes at SGO

Mitigation of space weather threats to GNSS services (MISW)

Project overview

- Continuation of TRANSMIT
- FP7 project 2014–2016
- Coordinator B. Forte, U Bath, UK

Mitigation of space weather threats to GNSS services (MISW)

Partners

- U Bath, UK
- Thales Alenia Space, IT
- Thales Alenia Space, FR
- U Nottingham, UK
- Politecnico di Torino, IT
- INGV, IT
- EISCAT
- JRC, European Commission
- DMI, DK
- SRC. PL
- U Zagreb, HR
- Met Office, UK

Mitigation of space weather threats to GNSS services (MISW)

EISCAT involvement

- WP1 Monitoring and modelling ionisation gradients 9.75 months
 - ▶ Reanalysis of data for selected space weather events
 - ▶ Dedicated observation campaign
- WP4 Dissemination 0.25 months

Total 10 work months for EISCAT

Mitigation of space weather threats to GNSS services (MISW)

Status

- Dedicated analysis computer installed (now also used for web analysis)
- ESR IPY 2007 run being reanalysed
- Observation campaign planning

Training Research and Applications Network to Support the Mitigation of Ionospheric Threats (TRANSMIT)

<http://www.transmit-ionosphere.net>

Project overview

- FP7 Marie Curie ITN
- Ending Feb 2015
- Meeting at ESWW11, Liège

Training Research and Applications Network to Support the Mitigation of Ionospheric Threats (TRANSMIT)

<http://www.transmit-ionosphere.net>

Partners

Level 1 (Hosting research fellows)

- U Nottingham, UK
- Politecnico Torino, IT
- SRC, PL
- TU Berlin, DE
- U Bath, UK
- U Nova Gorica, SL
- U Zagreb, HR
- DLR, DE
- IEEA, FR
- INGV, IT

Level 2 (Associated industrial partners and data providers, no EC funding)

- EISCAT
- 15 others from Belgium, Brazil, Canada, Germany, Italy, NL, Spain, UK

Training Research and Applications Network to Support the Mitigation of Ionospheric Threats (TRANSMIT)

<http://www.transmit-ionosphere.net>

EISCAT involvement

WP2: Ionospheric experimental observations

- EISCAT 3D project coordination (Ingrid Mann, Magnus Friberg)
- EISCAT 3D project engineer (Vacant)

36 work months

Outline

- 1 Recently finished projects
- 2 Current projects
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Submitted proposals with EISCAT participation

H2020

COOP+ Continuation of COOPEUS, extension to Canada, Australia and Brazil

DPINFRA Data preservation infrastructure,

EGI-Engage Data storage in federated cloud

ENVRIplus Continuation of ENVRI: common solutions to shared challenges for ESFRI infrastructures

VLDATA Handle and distribute very large datasets

NordForsk

NelC Nordic E-Infrastructure Collaboration: EISCAT 3D computing, storage and archive

EISCAT involvement in pending proposals

(except national EISCAT 3D proposals)

COOP+ H2020

- Coordinator U Granada, ES
- Contact: Anders
- Addressing cross-disciplinary global challenges
- Global coordination and cooperation
- Promotion of best practices and efficient knowledge transfer
- Global integrated platforms

Applied: 24 work months for EISCAT

EISCAT involvement in pending proposals

(except national EISCAT 3D proposals)

DPINFRA H2020

- PI Sabina Guaylupo, Madrid
- Contact: Ingemar
- Sustain the data to eternity
- Expand the current data with enough metadata. Expandable to 3D.

Applied: 16 work months for EISCAT

EISCAT involvement in pending proposals

(except national EISCAT 3D proposals)

EGI-Engage H2020

- PI Titiana Ferrari, Amsterdam
- Contact: Ingemar
- Support for competence centres including but not limited to ESFRI infrastructures
- EISCAT data into federated cloud
- Safer storage with full access control

Applied: 14 work months for EISCAT

EISCAT involvement in pending proposals

(except national EISCAT 3D proposals)

ENVRIplus H2020

- Contact: Ingrid
- Theme 2: Data for Science
- Theme 3: Access to RIs (Ingrid coordinator)

Applied: 45 FTE for EISCAT

EISCAT involvement in pending proposals

(except national EISCAT 3D proposals)

VLDATA H2020

- PI Ricardo Graciani, Barcelona
- Contact: Ingemar
- Handle/distribute the very large data sizes from EISCAT 3D
- Reduction engines

Applied: 40 work months for EISCAT

EISCAT involvement in pending proposals

(except national EISCAT 3D proposals)

NelC NordForsk

- Contact: Ingrid
- 3 years from end of 2014
- Find workable and cost-efficient solutions for EISCAT 3D computing, storage and archive
- Facilitate dialogue on implementation of EISCAT 3D with stakeholders
- Make best use of existing expertise in the Nordic countries for implementing EISCAT 3D

Applied: 50% position at EISCAT

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Call H2020 INFRADEV-1-2015-1

Developing new world-class research infrastructures

- One topic, INFRADEV-3-2015: Individual implementation and operation of ESFRI projects, call opened 25 September
- Targeted at implementation and operation of ESFRI research infrastructures
—”to complete or launch the construction of 60% of the ESFRI projects by 2015”
- Implementation should start 2015–2016

Call H2020 INFRADEV-1-2015-1

Developing new world-class research infrastructures

- Highest priority: ELIXIR, EPOS, ESS
- Other eligible projects: BBMRI, CESSDA, CLARIN, CTA, DARIAH, ECCSEL, **EISCAT-3D**, ELI, EMSO, the European Social Survey, SHARE and SKA

Call H2020 INFRADEV-1-2015-1

Developing new world-class research infrastructures

- Total budget of INFRADEV-1-2015-1: 97 MEUR
- Expected contribution 15–20 MEUR per project
- **Deadline 14 Jan 2015**

- H2020 Marie Curie ITN — recruiting new young scientists to space weather research and related ground-based observations
- How secure funding for new complementary instruments, and operation of existing systems?

Summary

- EISCAT 3D Preparatory phase finished

Current projects

- FP7: 3 projects (ending 2015 and 2016), 1 project ending 2014, Associate partner in 1 project
- VR grant

Submitted applications

- 5 pending H2020 applications
- One NeIC (Nordforsk) proposal

Deadlines soon

- Upcoming H2020 INFRADEV call targeted at ESFRI infrastructures
- Any other possibilities? E.g. Marie Curie ITN on ground-based space weather measurements?