

H2020 OPTICON (730890)

Project Overview

Gerry Gilmore
OPTICON Coordinator



Business – Board members to vote

- Change of lead for WP6 – photonics
 - Change Roger Haynes (AIP) to Roger Harris (LSW)
 - *Case made and supported by WP6 and all institutes*
 - *Confirmation needed here....*
 - complexity – LSW not a partner – GP can manage
 - ***[we will vote on this after the WP9 presentation]***
- Board Chair – 2year term. Selected from Exec members (see attendees list).
 - Nominated: Wilfried Boland.
- Pilot structure proposal – see below



Why have a board meeting?

- Legal business – a little
- EC contract requirement – a little
- Primary reason: information flow, dissemination, looking for cross-connections
- These form the basis of new and future activities
 - Applications of VPH gratings
 - Possible interferometry-photonics joint work
 - Connection to national/European strategies
 - Ideas we can take to the EC for new initiatives



OPTICON

EC Optical InfraRed Coordination Network for Astronomy

- **FP5 (2000-2004) Start-up networking**
- **FP6 (2004-2008) 47 partners €19M (5 years)**
- **FP7-1 (2009-2012) 30 partners €10M (4 years)**
- **FP7-2 (2013-2016) 26 partners €8.5M (4 years)**
- **H2020 (2017-2020) 32 partners €10M (4 years)**
- Partners: funding agencies, hardware R&D groups, observatories, industrial partners
- Activities: observing access, technology R&D, networking / community development

Coordinator: Prof Gerry Gilmore

Project Manager: Dr Gudrun Pebody

Project Scientist: Dr John Davies (ATC Edinburgh)

Stable experienced management team – structure/partnership will evolve for FP9



The international view: our context

- The European OIR Community strength

2015 US National Academy of Sciences Review “Optimizing the U.S. Ground-Based Optical and Infrared Astronomy System”: *Its relatively stable funding line over several years enables ESO to plan efficiently for future instruments, such as the SPHERE spectropolarimeter with high contrast Adaptive Optics [...] its instruments are developed in a coordinated way, with most built by consortia of institutes. The ESO community has thus maximized its combined resources by having a strong support network of partnerships for instrument development and small and medium telescope operations, with ESO concentrating on operating and upgrading the largest facilities. The E-ELT, a planned 39-meter telescope, is expected to have first light in the early 2020s.*

- OPTICON’s contribution: develop critical subsystems

OPTICON is the EC-funded coordination network which supports the multi-national partnerships on which the success of this model rests. OPTICON support in previous FP programmes prototyped and raised to operational level the critical Adaptive Optics (AO) systems in the SPHERE instrument mentioned above. OPTICON’s Trans National Access (TNA) system underlies the “support network for small and medium telescope operations” noted. OPTICON’s networking provides the community coherence which leads to coordinated instrument development, future planning, and builds the key consortia of institutes. ESO, nationally funded, complemented by the international technology development, community building and trans-national access enabled by EC funding has created this balanced excellent system. In H2020 OPTICON will both complete and innovate activities in all three critical areas, extend its proven success in innovation implementation and continue longer-term strategic planning. Without H2020 EC support all this excellence would withdraw inside national funding silos and Europe’s success would be at great risk.

OPTICON has many activities, but all are focussed on a small number of themes

Early support for next generation astronomical instruments

Community development and sustainability

Trans National Access – both classical and distributed

JRA activities - four themes

Theme one:

adaptive optics and fast low-noise detector and camera systems for AO sensing and science. Builds and retains a diverse community

Theme two:

innovative manufacturing capabilities for astronomical instruments

Theme three:

novel materials: photo-sensitive materials and photonics.

Theme four:

optical/IR interferometry community: technology, planning, user support

Community development and sustainability

Active networks in adaptive optics, interferometry, time-domain astronomy. Delivery of training schools. Technology foresight

ambition

Primary goal is to help ensure the next US Decadal review still looks across to Europe as the most successful model supporting world-leading astronomy

What does that mean in practice?

Current contract: £10M 01/2017 to 12/2020.

All continues smoothly.

WHAT NEXT?

Future OPTICON proposals are informed by
our technology foresight (WP14),
our close partnership with national agencies and ESO,
AstroNet Science Vision and Roadmap (which we support)
community long-term ambitions (which we cohere through networks)
the EC Call and its requirements (which we help define)





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We are an I3

an Integrating Activity shall combine, in a closely co-ordinated manner:

(i) Networking activities, to foster a culture of co-operation between research infrastructures, scientific communities, industries and other stakeholders as appropriate, and to help develop a more efficient and attractive European Research Area;

(ii) Trans-national access or virtual access activities, to support scientific communities in their access to the identified key research infrastructures;

(iii) Joint research activities, to improve, in quality and/or quantity, the integrated services provided at European level by the infrastructures.

All three categories of activities are mandatory as synergistic effects are expected from these different components.

But the model is changing



Key recommendations for an action plan

Configuring European RI as skills development and mobility actors



- *Encourage national and regional funding programmes to support cross border access to RI;*
- *Increase the visibility of RI services and broaden user communities by developing a European catalogue of RI services.*

"someone else can pay"

Horizon 2020 Advisory Group on European Research Infrastructures

Key messages: **Not only no money, but narrower focus**

- "...establish the optimal conditions for the long-term engagement of partners...for making **transnational access sustainable** beyond the EC funding",
- "contribute to (and frame) the evolution of their own facilities in the direction of an **enhanced offering**.",
- research activities only if **functional to the open access** of the facilities ... for example, including FAIR data interoperability, user friendly access to physical facilities, user friendly, user safe access to data analytics including HPC when needed, EOSC readiness, etc.
- "The combined actions of the Partners, the National Funders (co-funders) and the EC ... should demonstrate that a structured network can be stabilised under the objective of providing long term research services for access to experimental facilities, computing and data, and long term curation of data offered through EOSC"





INFRAIA-03-2020

Pilot for a new model of Integrating Activities

Objective

- Develop new ways for opening RI of European interest and support the integrating provision at EU level of their services
- Prepare the ground for supporting networks that bring together national, regional and European funders of research infrastructures for the co-funding of trans-national access of researchers.



INFRAIA-03-2020

Pilot for a new model of Integrating Activities

Scope

- Virtual and Trans-national **access provision** to RIs internal and external to the consortium, the latter supported through **cascade granting**
- Joint activities to facilitate and **integrate** the access procedures, **improve** the services the infrastructures provide and further **develop on-line services**, ensuring their connection to the European Open Science Cloud
- Develop and trial models, mechanisms and practices for the long-term **engagement of funders** in supporting and making **trans-national access sustainable** beyond the EU funding



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Call 3 – Integrating and opening RIs of European interest (continued in 2020)

INFRAIA-03-2020: *Pilot for a new model of Integr. Activities*

- To explore new ways to support the opening of national/regional/ European RIs and the provision of integrated RI services at EU level
- **One stage call.** Targeted approach – 2020
- Targeting larger sets of RIs, gathering close communities, even with different degree of coordination, to develop and implement a programme focussing on **access** provision and **integration**

Quid pro quo – maintains continuity of funding after our current contract



INFRAIA-03-2020

Pilot for a new model of Integrating Activities

Thematic coverage:

- **Access to RI for research on Atmosphere:** ACTRIS-2 (aerosols, clouds and trace gases), InGOS (non CO2 greenhouses gas observation system), EUROCHAMP-2020 (simulation chambers for investigating atmospheric processes)
- **Access to RI for advanced research in micro-nano technologies for materials:** NFFA-Europe (nano foundries), Qnano (quality in nanomaterials safety testing), EUMINAFab (micro-nano fabrication of functional structures),
- **RI for advanced optical/IR and radio astronomy:** OPTICON (optical infrared network for astronomy), RadioNet (advanced radio astronomy)



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INFRAIA-01-2018-2019

Integrating Activities for Advanced communities

Change of emphasis: “sustainable” = “no EC funding”

- **Do not want a forced take-over of one by the other**
- **Develop partnership under a common umbrella**
- **we have to work out an implementation plan**

- Significant reduction of funds – loss of many activities
- Details of Call under discussion and development
- First draft to Programme Committee end 2018
- This timetable ensures contract continuity until 12/2024

A small uncertainty...

The background of the slide is a blue wall with several yellow stars, resembling the European Union flag. A worker wearing a grey hard hat and a safety vest is on the right side, using a hammer to break through the wall. The wall is cracked and crumbling, with some yellow paint chipped away. The overall scene suggests a barrier being broken down or a path being cleared.

Full UK participation in the EC Framework programmes is agreed
- subject to agreement on Brexit

Pilot Call development status

- We and RadioNet had a quite promising meeting with the EC senior people recently. This was to follow up their previous information that a PILOT would be the only future funding option, and that it would be focussed mostly on TNA.
- The discussion was less rigid than feared.
- All agreed that the RadioNet name and telescope directors board is a strength for European astronomy
- The EC did seem to understand that JRA work was very important for the OPTICON community, and needs to continue, albeit within a very reduced budget. We will see what comes from that. New funding options are possible.
- They have agreed to another meeting with us in December, when their legal people will have been through the options. The first draft detailed text - ie outlining what we can really do - will be being written ready for the Programme Committees.
- We agreed to set up a small group representing our major interests, and that group meet with the EC in mid-late December.

What next?

- set up a small group, jointly with RadioNet, with remit:
 - talk to the EC, to maximise our return from the Pilot
- That same, or another, group also needs to:
 - define how we will implement the new joint structure - lead organisation, division of responsibilities.
 - agree on an organisational and management structure.
 - draft for approval the details of the next proposal and workplan distribution
- We will have to have all that resolved in 2019.
 - Expected new Call – end 2019

Pilot structure?

- Minimum: two quasi-self-managed groups under a common umbrella
 - Strengths: retains current brands, management experience; allows time to develop long-term plan.
 - Weakness: interim only; fails to lock in synergies
- Budget split – ratio of current funds?
- Independent external review of both current projects? Structure and activities?





OPTICON Board Heraklion 5-6 November 2018





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