What is OPTICON?

How do we approach the future?

http://www.astro-opticon.org

Why are we here?
Why are we interested in the PILOT?

The OPTICON participants have worked over 20 years to leave a positive legacy for the community.
We can do more!

- **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

Opticon- early ambitions

- Strengthen European astronomical community
- Access developing EC science resources

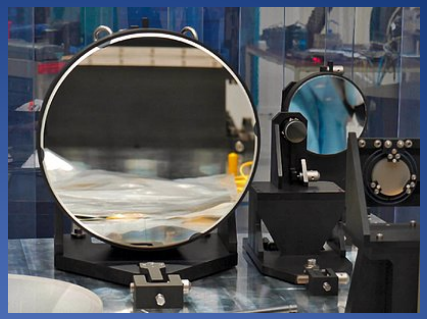
- Day-one Projects:
- Future strategy for medium-sized European telescopes
- Develop proposal for Hubble-like EC Fellowships (Benvenuti)
- Expand astronomy archiving with ESA-ESO-EC-STScI -CDS Genova/Benvenuti
- Develop new high-tech capabilities with multi-national teams (software- Peter Quinn & RTD/adaptive optics – Guy Monnet)
- Build community support/develop the science case for future ELT project (Gilmozzi+Gilmore)

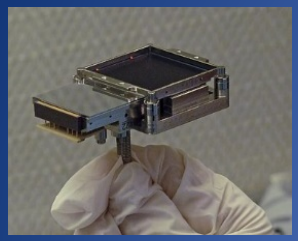
Some other completed projects

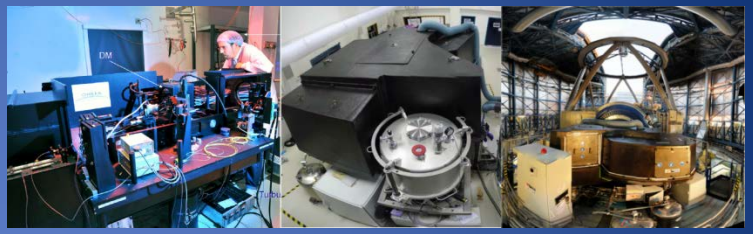
- Developments in Adaptive Optics technology
- Developed OCAM, fast wavefront sensing cameras
- European supplier of VPH gratings
- AVO standards, support to CDS expanded role
- UV-community White Paper
- High Time Resolution White Paper
- Medium Telescopes Future Strategy White Paper
- IFU-3D data reduction initiative
- European Solar Telescope technology support
- The ELT is an OPTICON-sponsored ESFRI project

- at this time of UK insanity, we are good Europeans

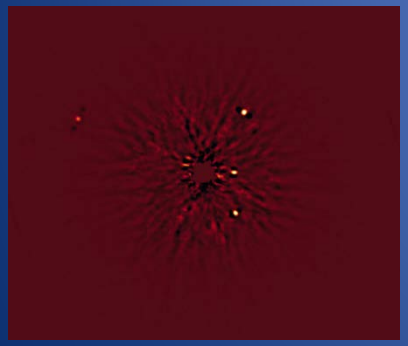
Sphere

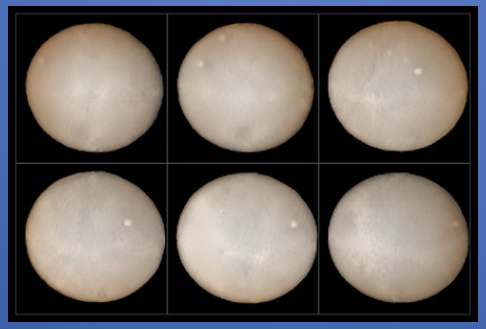


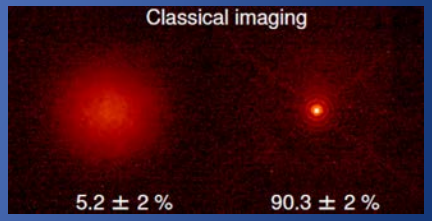


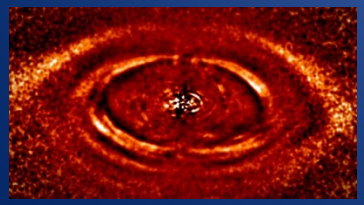


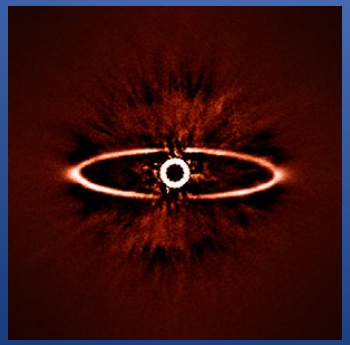
SPHERE @ VLT: OPTICON RTD provided ~30% of the AO technology

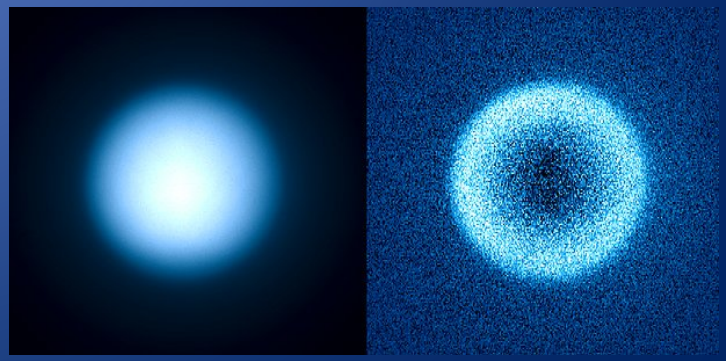






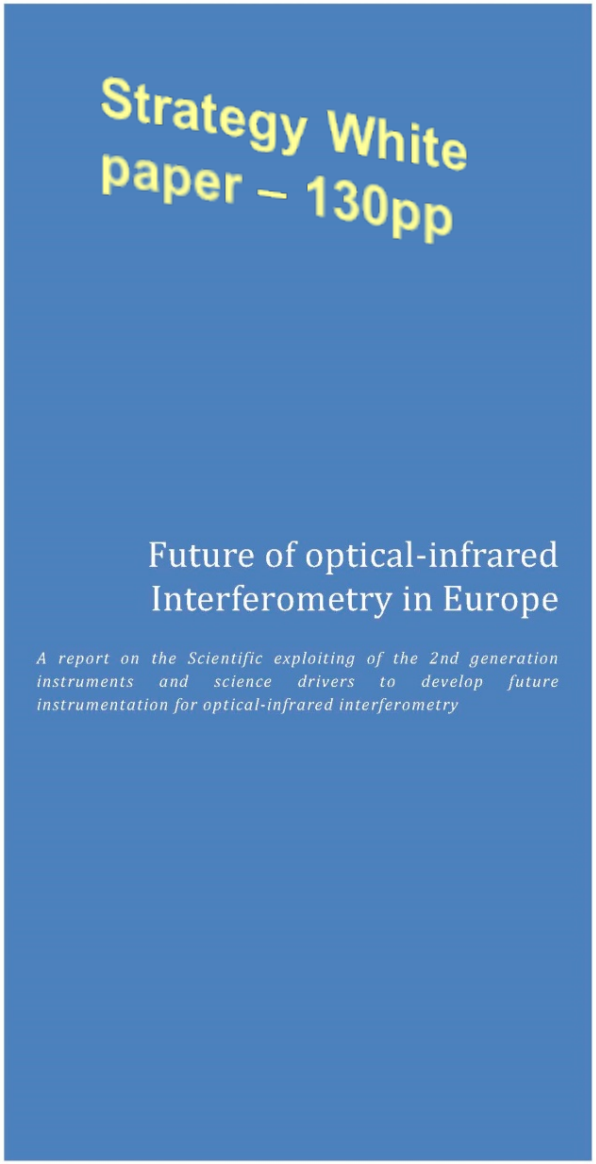






Networks FP7 deliverables

Strategy White paper – 130pp



Interferometry data processing cookbook – 80pp

RECONSTRUCTION TEST REPORT AND DATA PROCESSING COOKBOOKS

OPTICON FP7-2 Report (JRA.4 DELIVERABLE)

OPTICON

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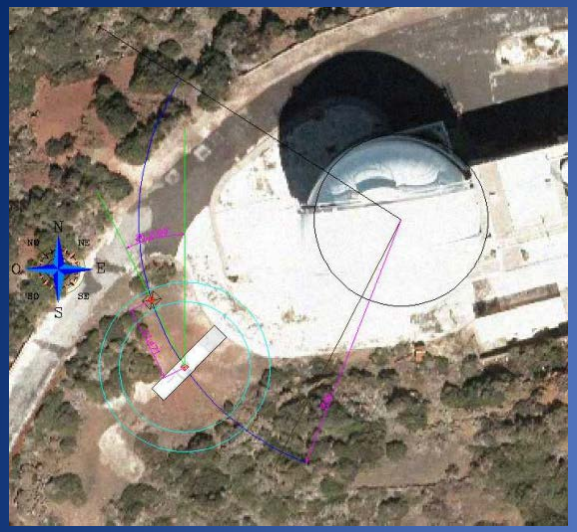
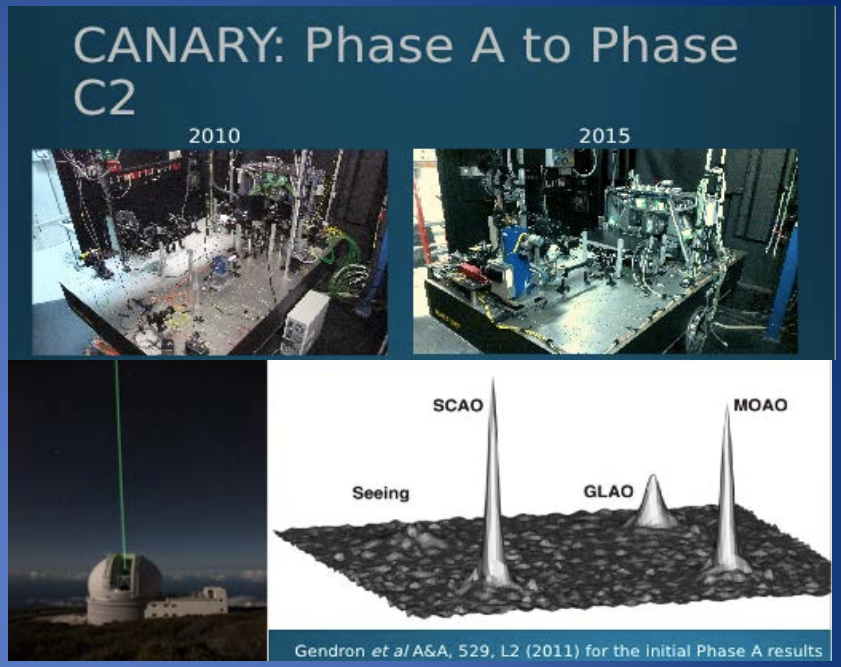
December, 2016
Heidelberg, Germany

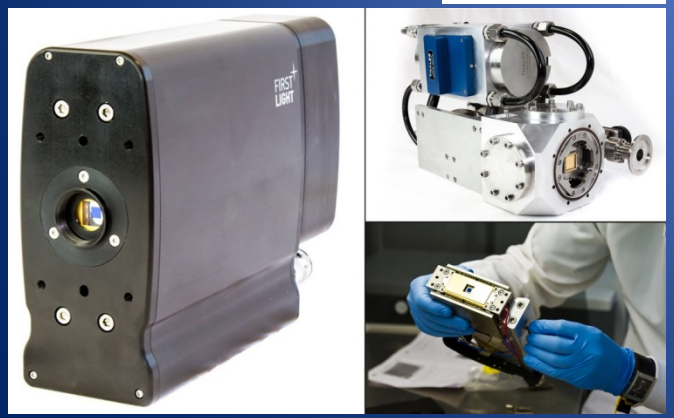
Canary adaptive optics testbed





Ocam

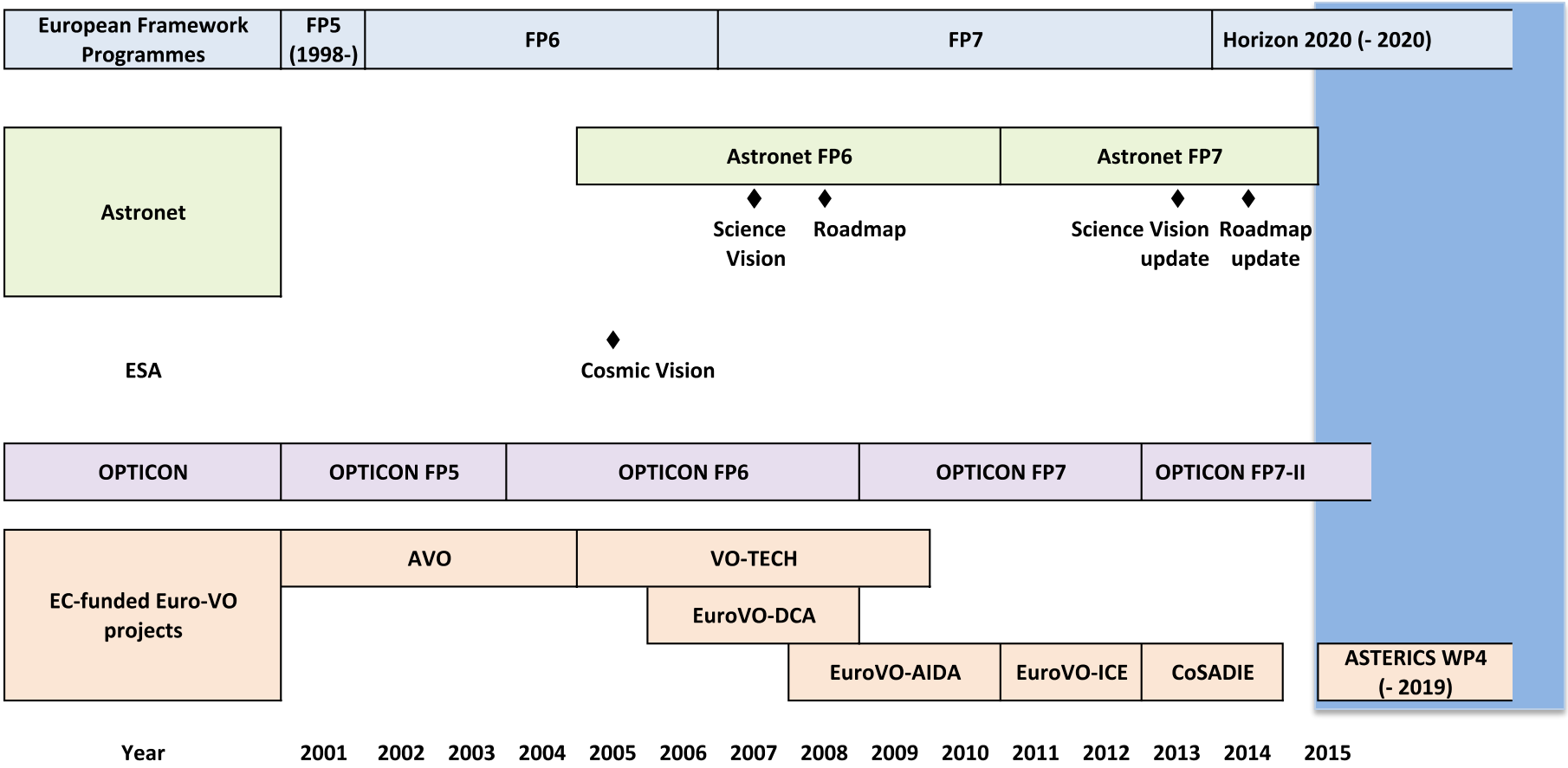
FIRST LIGHT ADVANCED IMAGERY



optoscribe

Novel optical manufacturing processes using an ultrafast laser inscription process developed for OPTICON Astrophotonics

DADI: Building on Euro-VO, Astronet, +



OPTICON-RadioNet PILOT: 2021-2024

OPTICON is the EC-funded Coordination Network in Optical/IR astronomy

It funds and coordinates R&D, Community networking and facility access.

Currently most funds support development of new instruments, software, and systems. Total relevant budget about €7.5M

The new PILOT has different requirements. The development budget is focussed on the short term, and has a budget of €2M

60% of funds (€4.5M) must be spent on facility access: physical and/or virtual.

Our priority here is to support and expand exciting time-domain astronomy!

Conclusion:

we will concentrate this year on providing operational systems, which can be funded for later operation by the PILOT

OPTICON-RadioNet PILOT: 2021-2024
Submission deadline: March 17 2000

Budget Restriction: 60% (4500K) to be allocated to “access”

HOW DOES THIS AFFECT YOUR/OUR AMBITIONS IN TIME-DOMAIN AND MULTI-WAVELENGTH ASTRONOMY?

We must minimise the need for new developments, maximise operations

The next two talks explain OPTICON now, the PILOT, and current OPTICON support for time-domain astronomy through peer-reviewed access

New labels: Access TA/VA; training = schools; Joint Actions = everything else

Longer-term technical R&D activity is not eligible for support in this Call – there will be another in 2021.

OPTICON-RadioNet PILOT: 2021-2024

OPTICON is the EC-funded Coordination Network in Optical/IR astronomy

Ambition for Time-Domain multi-wavelength astronomy

To help develop a broadly distributed European-based community ready to deliver excellent science from the new facilities and opportunities

As part of this, to provide the coordination and support needed to deliver science access to the broadest possible community through both peer-review and virtual access

Specifically this means support for a global network of small facilities, complementing peer-reviewed access to larger facilities, with provision and operation of a central facility which provides broker/marshall/data processing and open virtual archive access.

This includes prioritised target lists in whichever set of science cases are of local interest, automated communication with robotic facilities in the network, automated photometric data processing, calibration and archiving, and open virtual data access.

Annual meetings like this are essential.

Additional facilities will be helped to join the network.

Trans-National Access. TA/VA

TA1: Primary transnational/virtual access to Europe's leading optical and radio facilities

[This includes TDA and multi-λ of course!]

TA2: Expanded user support to the complex observing facilities and systems ALMA and VLTI

TA3: Time-Domain-Multi-wavelength astronomy

TA4: Instrument and Adaptive Optics test facility access.

Trans-National Access. TA/VA

TA3: Time-Domain-Multi-wavelength astronomy

There are two cases:

1) peer-reviewed allocated time on funded facilities
2) Data provision by/access to facilities voluntarily joining the network.

For 1) we will coordinate with RadioNet, and build new easier multi-facility single-proposal peer-review access

2) Needs a central support facility, and you.

Do we have the right way to acknowledge those who provide data accessed and published openly?

Acknowledgement, co-author options, co-author a system "data-release" paper…?

Training Schools

Schools must be related to access training, not generic.

Topics include **proposal preparation**, hands-on infrastructure operation, data processing and analysis, new facility opportunities, including VLTI and adaptive optics, understanding how instrumentation works, how to use VA archive access, and ***new opportunities in multi-wavelength multi-messenger and time-domain science***.

summary request

We have some progress supporting time-domain multi-wavelength astronomy, going beyond the usual big rich partners.

With your support and involvement we can continue to develop and enable excellent science

Tell us what we can do better and what you need from the OPTICON-RadioNet PILOT

We have resources now to automate Gaia Alerts and Time Domain support generally further and to exclude the eye-ball step.

We will invest these to minimise the need for future developments, and maximise real science access which we can continue to support