

OPTICON Board Meeting #4

Villa Vigoni, Lake Como, 15 - 16 October 2012

Minutes of Meeting

Attendees:			
Roland Gredel [Chair]	RG	Gerry Gilmore	GG
Johannes Andersen	JA	David Barrado	DB
Michel Dennefeld	MD	Philippe Feautrier	PF
Norbert Hubin	NH	Richard Myers	RM
Éric Thiébaud	ET	Robert Thomson	RT
John Davies	JD	Saskia Brierley [Mins]	SB
Jean-Luc Beuzit	JLB	Hugues Crutzen	HC
Martin Roth	MR	Isobel Hook	IH
Lars Venema	LV	Andy Shearer	AS
Filippo Zerbi	FZ	Colin Vincent	CV

Apologies:	
Jeremy Allington-Smith	Bernard Gelly
Tim Birks	Dan Kisman
Wilfried Boland	Neville Legg
Panayotis Boumis	Ramon Garcia Lopez
Colin Cunningham	Denis Mourard
Ioannis Daglis	Rafael Rebolo
Thierry Fusco	Goran Schwarmer
Paulo Garcia	Rowena Sirey
Mike Garrett	Peter Spanoudakis
Vincent Tempelaere	Iain Steele
Oskar von der Luhe	Chiara Bertarelli

Day One – 15th October 2012

Roland Gredel, Chair, welcomed the attendees to the fourth Board Meeting of the OPTICON FP7 Programme at Villa Vigoni, Lake Como.

1. Introduction by Coordinator – Gerry Gilmore

GG also welcomed the attendees to Villa Vigoni and commented that Hugues Crutzen, Martin Roth, David Barrado and Andy Shearer would arrive later on this morning.

GG outlined the format of today's meeting and commented the presentations by the WP leaders would inform us of the status of the present contract, what has been achieved and what deliverables we still have to manage. In the final Day One Agenda item to confirm budget allocations GG commented a small amount of extra funds are available and the meeting will need to agree on how to spend them as it will not be possible to carry through any funds as contingency for the subsequent Phase II.

GG apologised for the late circulation of the Results of the Mid-Term Review report, circulated to the meeting attendees late last week, as this had only recently been received from the EC.

2. WP1: AO Systems – Norbert Hubin

NH presented WP1 Adaptive Optics and commented the work is satisfactorily progressing against the list of deliverables.

3. WP2: Laser Guide Star Adaptive Optics detectors – Philippe Feautrier

PF presented WP2, updated the meeting on the commercialisation of the OCAM2 and also commented the final deliverable to the EU will be delivered on time. RG congratulated PF and the partners on the successful commercialisation of OCAM; the work has also demonstrated the benefit of the EU and OPTICON in providing the seed money to enable this successful technology.

4. WP5: Smart Instrument Technologies – Lars Venema

LV presented WP5 and commented manpower limitations and rigorous health and safety requirements have put internal milestones under huge pressure and, as such, some of the deliverables have had to be restructured. Resultant underspends in this WP and WP9.1 Key Technologies have allowed for an internal transfer to fund the WP3 Astrophotonics laser purchase and the PhD student to carry out some mirror mechanism work for the robots at CSEM.

Most of the work on this activity is now complete and a final meeting will be held at LAM, Marseille this month.

NH asked whether the testing of the wireless micro-robots at the UK ATC was carried out in a hostile electromagnetic environment to check for electromagnetic compatibility issues. JD agreed an action to double-check this with the relevant local expert, Hermine Schnetler.

Action - JD.

(HS reports that the test environment was 'as hostile as the environment in which KMOS was qualified')

LV confirmed the microrobots application was to replace pick-off mirrors in the focal plane as an option for EAGLE.

The attendees welcomed the arrival of HC, FZ and MR to the meeting after travel delays due to weather and traffic.

5. WP3: Astrophotonics – Martin Roth

MR presented WP3 Astrophotonics.

The meeting discussed the lengthy time-scales in realizing a product. MR commented that product development is a very lengthy process and investment is necessary to reach the point of manufacturing devices for Europe to stay ahead of the competition. Adaptive Optics was chosen in the past for EU investment and Europe is now leading development in this

area. RT commented that it was remarkable what had been achieved so far in the field of astrophotonics with so little funding.

NH commented that there were a number of different technologies and applications and it was not possible to fund everything in parallel. It may be beneficial therefore to select one or two promising areas and channel a larger amount of money into them to realise them as happened in the field of AO. MR commented that excluding areas of development was difficult as it was hard to predict the future, however the astrophotonics community could make a decision on a broader level. LV commented the number of components was very large in certain astrophotonic applications and investing a lot of money was very risky.

6. WP6: New Materials and Processes for Astronomical Instrumentation – Filippo Zerbi

HC commented that the work package was successful and achieved promising results, especially given the early set back with the bankruptcy of the European supplier.

RG questioned FZ about lines per mm on the gratings and how many it was possible to reach and FZ commented the problem was actually the reverse i.e. achieving low numbers. LV asked about the extension to longer wavelengths and FZ commented this depended on the polymers.

7. WP7: Transnational Access and TDF – Johannes Andersen

HC expressed appreciation for the way this Work Package is being managed and further commented the CTAC is bearing fruit and is a successful and interesting system. He remarked that it would be good if all I3's had such allocation systems to better achieve full integration.

GG commented that repeated requests for information and the completion of spreadsheets and other questionnaires were being received from EC funded networks whose roles were to advertise Trans-National Access. GG asked HC if there was an EC policy on EU funded programmes setting up databases as OPTICON has its own community and it is quite difficult complying with the format of their requests. HC asked GG to forward an example(s) of these requests and he will cross-check. **Action – GG.**

HC asked for a one-page summary of issues from this Work Package. HC is in the process of deciding how to implement a future Access programme and therefore information to include in a short note will be welcome as the EC would like to look at ways to fund users in the future. **Action – JA/JD.**

8. WP9: Key Technology Network (Chris Evans/Colin Cunningham) – John Davies

JD presented WP9.1 on behalf of Chris Evans and Colin Cunningham who were not in attendance. JD commented the WP was essentially a Roadmapping exercise to try and determine the new upcoming technologies; it has most recently focussed on what is disruptive technology in astronomy and how to map onto scientific challenges.

JD informed the meeting he could circulate the SPIE paper authored by Colin Cunningham regarding this disruptive technology on request.

HC commented that Photonics has been identified as a key new technology. Selecting and focusing on technology that will have big impact on the Photonics community is the foremost consideration but also that which is seen as useful in other communities.

On other networks, JD commented the TDF continues to meet annually and in parallel the Northstar Tool is used for the Common TAC which is now in its sixth semester. WP9.2 on Software Standards, led by Preben Grosbol, is now completed.

9. Research Infrastructure in Horizon 2020 – Hugues Crutzen

HC gave a presentation on Research Infrastructures for the future and clarified the Horizon 2020 programme and how the programme would progress from FP7 toward this.

Under 'Current Policy Context', HC commented that as regards the European Research Area that there was a section on Research Infrastructures in the European Commission communication of 17 July 2012 (COM(2012)392).

Moving from FP7 to Horizon 2020 included an increased budget and also advocated self-sustainability with member states continuing to fund their national infrastructures. This is dependant on the budget of 2020 and National Agencies will have to think about how to best target EU funding in order to maximise efficiencies.

Horizon 2020 will begin in January 2014 with the start of the first calls. Structural Funds will be available to develop cohesion between the RIs and Structural Funds and additionally there will be Participant Portal changes to better facilitate the input of information.

JA asked about for information on "Regional Partner Facilities" and how they might access Structural Funds. HC commented the starting point was to identify facilities existing in that country, networking connections and potential regional partners and subsequently how they may be eligible for Structural Funds or Research Infrastructure funding. JA requested guidelines on this process of accessing funds and HC agreed to send information. **Action - HC.**

10. WP10.2: HTRA Network – Andy Shearer

AS presented WP10.3 High Time Resolution Astrophysics. PF commented on the relationship with detectors and HTRA and AC should participate in a detector workshop as there were a lot of common interests. As PF mentioned briefly this morning APD developments were an excellent candidate for improving wavelength sensitivity.

NH asked whether a product of the network could be to publish a white paper towards an HTRA instrument of the future. AS agreed that what was needed ideally was small scale APD arrays. The detectors do not have to be very large in terms of numbers of pixels but the pixel sizes themselves should be quite big. The meeting discussed detectors and AS clarified that the requirement was for low or fixed noise detectors, which is why APD's have been looked at in the past. An ELT-Cam would be ideal.

11. WP10.1: Science Case for the European ELT – Isobel Hook

IH presented WP10.1. LV commented that smaller, (~1m) satellite telescopes could be used to help provide continuous calibration of the E-ELT PSF. IH commented she thought this a good idea, providing a combination of observation and modelling.

RG and IH discussed WP10.3 New Tools for users, AO photometry and the exploitation of data. IH stated a report on what is needed should come out of this work package and NH commented some work on AO PSF classification is being carried out.

MR commented that to stress the training activities was very important, as Europe is successfully leading the training on 3D spectroscopy.

12. WP11: Enhancing the Community – Strengthening Skills – Michel Dennefeld

MD presented WP11. JA commented that JENAM (more recently known as EWASS) meetings were held every year in the EU. MD commented this work package was specifically geared to younger people and to enhancing basic skills. MD and JA noted that the IAU is providing international training schools for young astronomers and regional astronomy meetings on all continents except in North America and Europe, where the Regional Meetings had been superseded by the annual EAS JENAM/EWASS meetings.

The meeting discussed this work package's role in the community. There is a different directorate in the EC which funds teaching, however this activity specifically funds university students and above. MR commented that OPTICON can fill a gap in the interests of the competitiveness of the astronomy community in Europe and benefit the community with schools on instrumentation. As it would not be possible to do this for every instrument, MR would like feedback from ESO on which instruments to focus on and see joint work between the Enhancement work package and the various networks.

13. WP4: High Angular Resolution by Interferometry – Éric Thiébaud (for Denis Mourard)

ET presented WP4.

14. WP11.2: European Interferometry Initiative – Éric Thiébaud (for Paolo Garcia)

ET presented WP11.2.

15. WP8: Management: Reporting, Lessons learned – Gerry Gilmore

GG presented the Management work package status. A replacement for Suzanne Holland will hopefully be in place at UCAM from December 2012 to assist with the Annual Reporting process. The proposed Budget changes are outlined in the information circulated to the meeting attendees. In summary, GG commented it had been decided to fund a replacement of the failed CANARY camera detector and slight changes inside WP5 were approved with work transferred to CSEM and funding being made available for a laser.

GG commented on any extra funds that may be available as a consequence of releasing projected underspends in some activities. These funds cannot be transferred forward into FP7-II. GG asked WP leaders and Telescope Operators whether they could spend these funds prior to December 31st 2012 and/or claim back for work already carried out, e.g. on Access, if allowed under the agency's internal rules. The funds cannot be used for work that will not be completed in this timescale. Ideas should be submitted to GG however there are

no guarantees on the availability or amount of funds. Action - ALL. The funds will not be available until the middle of next year at the earliest and an iteration of the funds available would have to be carried out once the Audits are complete, as the process of auditing can take some considerable time following the end of a programme. GG will send detailed instructions to the Telescope Agencies who reported awarded telescope time at a lower cost regards how extra funds may be claimed. Action – GG.

Actions Summary DAY ONE

- 1. JD – double-check the testing environment of the micro-robots at the UK ATC (specifically regards testing in hostile environments) [Completed; see note in text]**
- 2. GG – forward requests from EC networks re TNA reporting to HC to clarify EC policy on providing this information**
- 3. JA/JD – provide brief note on issues of Access programme to HC to inform future Access programme development [Completed at meeting.]**
- 4. HC – send JA information on accessing EC funding and setting up new networks**
- 5. All – submit requests/ideas for spending extra funds before end of 2012 to GG**
- 6. GG – send detailed instructions to Telescope owning Agencies in respect of claiming back funds for telescope time that was offered and awarded at a lower cost**

Day Two – 16th October 2012

1. Introduction and contract status – Gerry Gilmore

GG gave an overview of OPTICON from FP4 to FP7 and explained the history of setting up the first I3 programme and how the contract rules and budgets evolved. Under FP7 the rules for JRA financing changed and as a consequence the volume of work which could be supported was reduced. . The meeting yesterday covered the status of the contract under FP7-I and today would move forward to discuss FP7-II and beyond.

Under FP7-II the budget requested was cut by the EU from the proposed €10m to €8.5m and the revised post-cut budget agreed by the Executive Board has been advised. The status of the FP7-II contract is that the contract is in Brussels and GG has been advised of a delay till November for the EC to sign it following which a further round of signatures will be required from the partners. The EC has a rule that they will provide funds to start work within 45 days of receiving the signed contract and therefore the programme is unlikely to have monies in place before February 2013. The budget cuts have necessitated programme cuts; ref the revised agreed Table (see attached documentation).

The timetable of reports and reviews under FP7-II is the same as under FP7-I; Reports will be carried out at 1 yr – 18 mo – 18 mo (Final Report) intervals. GG requested this be altered to match cash flow but the EC explained internal EC rules have dictated this structure.

GG outlined the goals for today's meeting. These include discussing the OPTICON response to the EC Consultation on access to infrastructures; how to manage the restricted budget under FP7-II and to elect a new Chair of the Board. GG pointed out the EC 'Consultation on possible topics for future activities' a repeat exercise as the EC also asked for RI input for FP7.

IH commented that the delays to the cash flow will impose a problem in Rome. GG has explained this to the EC and Cambridge has been persuaded to loan money temporarily to INAF in the past and such a provision may need to be looked into again if required. FZ and IH agreed to discuss this issue further out with this forum. FZ clarified if the work packages can start spending and charging money from January 2013 and GG agreed that as soon as the EC sign contract then officially organisations can start committing that money, although in practice some require cash in the bank as some partners' internal rules may be different.

2. WP1: AO for the E-ELT - Jean-Luc Beuzit

JLB presented the new FP7-II WP1.

3. WP2: Fast detectors and Cameras - Philippe Feautrier

PF presented the new FP7-II WP2.

RG asked whether, now the OCAM instrument, which was part-funded by OPTICON is being commercialised by an independent spin out company, there was a concern with de-motivation as e2v is no longer a partner. Furthermore are there any identifiable shortcomings from this change. PF commented that including e2v was part of the work package's strategy, it was a pity not to have them on board as a partner as they would have been more

motivated to contribute in terms of the design than a subcontractor, this was not a catastrophe. Note that e2v are not shareholders in First Light Instruments, the spinoff OCAM company.

CV asked how PF sees the balance of work between First Light Instruments producing OCAM and OPTICON support and how they each benefit from the relationship. PF commented that the productionisation of the design is more a spinoff than OPTICON work but the work package will carry on. PF does not believe that cutting the work package budget is beneficial for the future of OPTICON.

NH asked about procuring additional science grade devices. PF reported that the work package is taking a risk not having enough devices if anything goes wrong. GG clarified that in the interests of preserving the funds across the programme, such cuts to the WP2 budget were regrettable but necessary. NH agreed there was little choice but feedback to the EC should be made regards the impact on this WP. **Action - GG.**

RG reiterated congratulations on behalf of the programme partners to WP2 regard their extremely successful FP7 Part I.

4. WP3: Astrophotonics – Martin Roth

MR presented WP3. Major industrial success stories have arisen from designs by astronomers including back-illuminated thin devices and integral field spectroscopy and other applications in the life sciences. In terms of Technology Readiness for Photonic technologies they are still fairly low down the scale (TRL3-4) and OPTICON funds will be useful to attract other funds within the EU. The Summer School held in September indicated great interest in the community.

NH asked MR regards WP3 links with astronomers and with instrumentation in the Networking Activities. WP3 does not have an astronomy advisory board, but its work is closely integrated with the astronomical instrumentation community, and NH commented that the impact of having better connections could be useful as it would help WP3 decide on what technologies they want to push. The discussion used the example of CCD development and OH suppression where it is useful to have a specialist who can visualise the impact that may otherwise be hard to see. LV pointed out OH suppression has a long track record of development.

GG commented that he took on board MR's comment regards the length of time taken to develop technologies; it takes a long time even if the technology is identified as obviously disruptive, e.g. AO is in ongoing development.

RT commented that the development of photonic lanterns has been very quick; Astrophotonics can have a big impact on non-astronomy applications.

5. WP4: Interferometric Image Reconstructions – Éric Thiébaud

ET presented WP4. ET commented that Slide 9 'Tasks and Deliverables' included the minimum number of formal contract deliverables but others would be used internally to monitor progress.

6. WP5: Active Freeform Mirror development – Lars Venema

LV presented WP5. The biggest contribution from OPTICON has been bringing the partners into collaboration. In terms of the impact of the loss of CSEM as a partner LV commented that a group with lots of experience has been lost, but there is competence within the other partners that helps compensate for this. Technology transfer is an area to be considered; the team in the Netherlands are working closely with other national collaborators to try to engender industrial involvement.

7. WP6: Novel Dispersive and Holographic Optical Elements – Filippo Zerbi

FZ presented WP6. RT and FZ discussed polymer fibres.

8. New Networks – John Davies

JD presented the new Network WP11 Time Domain Astronomy.

MD discussed keeping in close contact with his Work Package to avoid overlap in training. The meeting also discussed the telescope hardware, how it is graded and the telescopes' reaction time. Fast responses are required for this type of astronomy but the WP is not intending to buy hardware; if the facility is good enough to contribute scientifically and additional hardware is needed then there are potentially other sources e.g. ESO GAIA money could perhaps be used. Most of the science will come out of professional robotic facilities. GG commented that what data will be received from GAIA will need to be clarified with the science team. MD commented that one for a science programme such as GAIA it was an important opportunity to train students and still contribute to science - GG commented that even links to Primary Schools would be set up for the children to have involvement.

9. New Chair – Gerry Gilmore

The meeting discussed the appointment of a Chair for FP7 Part II. RG left the room for the duration of the discussion. The duration of the Chair's position will be 2 years of the new contract. RG has confirmed he is happy to continue in the role and the meeting gave its unanimous endorsement of RG's continuation as Chair of FP7-II.

10. Recommendations – Roland Gredel

RG commented that a new Coordinator would be required for the FP8 proposal and asked whether any of the funding agencies want to take this on. The purpose of this agenda item is to introduce this question but it will not be decided at this meeting; the attendees should feedback this request to their Agencies for future discussion. **Action - ALL.**

11. TNA Programme in FP7 – Johannes Andersen

JA presented the proposed Transnational Access Programme. The Telescope Directors Forum meeting was held two weeks ago and a number of recommendations arose from that meeting, as detailed in the slides presented to the meeting.

The main proposal from the TDF, which requires Board ratification, is whether the Access Programme can run an accelerated rate of funding access nights in the interests of funding more high ranking proposals per semester. The TDF suggested that the telescope operators increase the number of nights to facilitate this and to motivate observers to apply for time.

RG commented that it was up to the Board whether they wanted to ratify what the TDF had recommended although it was not known if the EU would accept the recommendation. Implementing an observing/time exchange between infrastructures is a long-term goal of the Programme which may be concluded at the end of this contract, not before. JA pointed out that the Referees advised focussing the Access programme on the most forward-looking facilities and the TDF concluded it was not possible to do this if too few nights were offered per period/semester and therefore recommended an increase to a minimum of five nights per telescope. It was reported the Common TAC is working well and providing the best science for the amount of access we have.

MD commented the eastern European PI's have had little success in achieving telescope Access; one issue may be they are discouraged with the results so far and also they may need to get better at proposal writing.

The meeting discussed the future integration of telescopes and JA/GG commented the current status of Astronet's plan for Medium Sized Telescopes to reduce duplication. JA pointed out it is hard to see how to incentivise this approach when the EC future plan is not to pay for access. However, GG commented this is the approach the EC feels is right and has to be put in motion. There is concern that, if the system is open to everyone across Europe, the telescope owners will pay for their telescopes' operations and not get anything in return for their community. MD commented a coherent plan for instrumentation is not happening yet, although JA pointed out the ETSRC Report is in place.

RG commented that some thought should be put into why these ideas for time exchange have not yet been accepted by the telescope-owning agencies.

Denis Mourard, represented at the meeting by Jean-Luc Beuzit, declined to accept the TDF recommendation on the basis that finances of the Agencies are constrained and therefore he wishes to proceed on a continuous funding basis with the possibility of reviewing the Agencies' position after a few semesters if the Agencies can see a way to maintain the funding. This approach was endorsed by the representatives of all the telescope-owning agencies, and becomes a **Decision**. Additionally, the meeting members agreed they would ask Astronet to consider establishing with OPTICON a Working Group to consider the future of collaboration/time swaps between facilities in the very near future. RG will contact the Chair of Astronet to communicate this proposal. **Action - RG.**

JD commented that on the basis of this discussion, the next CTAC meeting will be run under the current implementation, to which the Board agreed.

12. EC Consultation on access to Infrastructures

The response to the EC Questionnaire is required by Monday 22nd October 2012.

FZ commented that the questionnaire appears to be less relevant for those who do not own facilities. GG pointed out the definition of infrastructure is not just facilities but knowledge-containing resources and so-called virtual or 'e-infrastructures' and integration would therefore include different ways of organising these services. FZ asked whether the community in general should think about telescopes and secondly, how to cross-correlate this questionnaire with Horizon 2020.

RG commented that there was no doubt the instrumentation proposal should be part of this. GG commented the EC want a vision for interesting ideas. JD commented that input from all JRA and Networking activities was requested. This questionnaire has only recently been discussed by the TDF and a draft response prepared by JA on their behalf, but it affects all types of activities.

JA commented that a final version of the TDF summary of the plans and descriptions of Europe's medium-size telescopes for the next 5 years is now available and will be distributed after the meeting. **Action – JA [completed]**.

RG asked that everyone consider input to the Questionnaire as soon as possible and send suggestions for contribution to the consultation. **Action - ALL.**

AOB

GG informed the meeting of Suzanne Holland's new role and on behalf of the Board thanked her, in her absence, for all the hard work on the OPTICON programme over the past eight years and wished her good luck in her new job.

As mentioned earlier in the meeting, a new Coordinator for FP8 will be required and therefore the legal partners should start thinking about this topic.

LV commented that Work Package group meetings should be held to enhance cross-Activity communication. RG agreed that such meetings should be held and an action would be taken to set this in motion. **Action - GG.**

The next Board Meeting, for FP7-II, will be held, possibly in Cyprus or Lapland, at a date TBA.

Actions Summary DAY TWO

- 1. GG - Circulate up-to-date Description of Work**
- 2. GG - Feedback to the EC on cuts to the WP2 (ref NH comment)**
- 3. All - Feedback to funding agencies (or partners?) regards taking on the role of FP8 Coordinator – for future discussion during FP7-II**
- 4. RG - The TDF will run the first year on a continuous funding basis; AstroNet will be requested to set up a WG with OPTICON to consider longer-term facility time-swaps. RG will contact the Chair of Astronet.**
- 5. JD/JA - Circulated updated Telescope Strategy document.[completed]**
- 6. All - Provide feedback to EC Consultation on possible topics for future activities ASAP. [completed]**
- 7. GG/UCAM – organise a cross-WP meeting for all members to attend**