

Photonics Leadership Group Meeting Minutes

Thursday 9 March 2023, 2022, 14:00-16:30 Remotely via on Teams

Attendees:

Ian Alderton, Alrad; Ric Allott, STFC; Yann Amouroux, Optica OSA; Simon Andrews, Fraunhofer UK; Dom Brady, Fibercore; Karin Burger, SPIE Europe; Max Buttinger, Thales UK; Allan Colquhoun, Leonardo; Iwan Davies, IQE; Chris Dorman, Coherent Scotland; Sandra Dressler, Edmund Optics; Carole Eccles, OptiC, Glyndŵr University; Glenn George, Bay Photonics; David Gillett, Laser 2000; Mark Goossens, CS Applications Catapult; Caroline Gray, OptiC, Glyndŵr University; Duncan Hand, Heriot-Watt University; Tom Harvey, Nat Healthcare Photonics Ctr; Shahida Imani, Chromacity; Rand Ismaeel, University of Southampton; Louise Jones, Photonics Connected; Stratos Kehayas, GandH; Robert Lamb, Leonardo; John Lincoln, Harlin; Anke Lohmann, Anchored In ; David MacLellan, AILU; Una Marvet, Alter Technologies; Iain Mauchline, InnovateUK; Owen McGann, GTS; Alison McLeod, Technology Scotland; Cillian McPolin, Digital Catapult; John Parsons , Indigo Consulting; David Payne, University of Southampton; Graham Peters, Arqit; Lucy Preston, DIT; Graham Reed, University of Southampton; Rob Roach, Alter Technologies; Michael Robertson, independent; Kayleigh Thomson, GandH; Mike Wale, UCL; Matthew Wasley , KTN; Philip White, DIT; Aidong Xu, Cambridge Consultants.

Direct Apologies:

David Bolton, EW Simulation Technology; Paola de Bono, TWI; Joe Ganniciffe, CS Applications Catapult; Clive Grafton-Reed, Rolls-Royce; Antony Hurden, Grounded Innovation; Andrew Lord, BT; Mark Naples, Umicore Coating Services; Richard Pitwon, Resolute Photonics; Andy Sellars, CS Applications Catapult;

Plus all those at OFC this week- apologises for the meeting clash

**Post meeting and editorial input in italics*

1) Previous Minutes and welcomes

Those attending their first PLG meeting formally welcomed including Aidong Xu, Cambridge Consultants Sandra Dressler, Edmund Optics and Lucy Preston DIT/DBT, Kayleigh Thomson, GandH, Rand Ismaeel, University of Southampton. Apologises for not giving Sandra and Lucy time to introduce themselves.

Minutes from previous meeting on 6 December were accepted without revision.

Note previous meeting minutes are accessible at <https://photonicsuk.org/contributors/minutes/> You will need the code "PLGcontribute" to access (case sensitive).

2) External Impacts on Photonics - roundtable

a) Windsor Agreement – impact on HEU association

The Windsor agreement on the Northern Ireland protocol removes the biggest hurdle to the UK's association to Horizon Europe. The probability of association could be seen as shifting from <10% to >75%. This has been widely welcomed by Photonics21 and Photonics associations across Europe.

The details of association may still take time to resolve, but momentum is building – see <https://sciencebusiness.net/news/Horizon-Europe/european-research-community-calls-uks-swift-association-horizon-europe>.

Even in advance of formal association we are already seeing a notable and almost immediate shift in the approach to including UK organisations in European projects. A timely development considering a number of proposals are due by the end of March.

We encourage all to look again at the potential of participation in HEU projects and will be working with various networks to put together events to support and promote participation in advance of the anticipated association.

The PLG is currently working with consortia members to join the Phorwards21 proposal under the CSA that supports Photonics21 and photonics coordination activities across Europe. The KTN have previously been the UK partner and the PLG is grateful to the KTN for passing on this opportunity. Mat W noted that was considered a significant success from the KTN viewpoint that the PLG had developed to a point it was able to take on this role.

b) Spring Budget 15 March

The Spring budget is due on 15 March. The photonics community is encouraged to place close attention for possible announcements related to innovation support around R&D tax credits and semiconductors

c) Department Reorganisations

Hopefully all are aware of the recent government departmental organisations that sees merger of innovation support activities formerly in BEIS and DCMS into a new Gov Department for Science Innovation and Technology (DSIT), headed by Michelle Donelan, MP supported by George Freeman, MP and Paul Scully, MP. The continuity in the Ministers from DCMS and BEIS is very much welcomed as it means Ministers are already fully briefed on topical areas relevant to Photonics such as Semicon and Quantum. The reorganisation removes the confusions between semicon and comms support being in one gov department and quantum, emerging tech and rest of manufacturing being in another and is very much welcomed.

The rest of BEIS portfolio has been combined with international trade into the new Department for Business and Trade (DBT). This should support greater coordination in international trade support with wider business growth support.

From discussions with the new departments the reorganisations are progressing at pace, although will take time to fully settle and patience requested from community.

d) Semiconductor & Quantum strategies

The UK Semiconductor and quantum strategies remain imminent, the semicon strategy in particular and can probably be anticipated in days to a small number of weeks.

We are speculating (and is no more than speculation) that if semicon strategy was announced with significant funding any such announcement might need to be included in the Budget so we could hear more this week. Alternatively Budget week is not a good time to announce other major policy announcements, so the semicon strategy may have to wait until the week after or later. A space to watch.

e) Energy and supply chain challenges

Photonics West Executive forums indicated that supply chain issues have mostly been resolved and Energy costs are not having a major impact on the photonics industry.

3) Semiconductor Interventions

Whilst announcement of the UK semiconductor strategy remains pending we are seeing a combination of near, mid and longer term semicon interventions emerging all of which are relevant to photonics. In many cases it is the photonics applications e.g. through integrated photonics that are being highlighted as some of the highest value impacts of semicon interventions.

It is being stressed to that all of these interventions are part of a rapidly developing portfolio of semicon support. Any single intervention need not therefore be seen as an all or nothing one-off opportunity, and collaboration/ cooperation for the greater UK capability is very much encouraged.

a) Innovate UK Competitions

Innovate opened two semiconductor specific competitions on 28/2 with an additional one to follow in the Autumn with total £11.5m budget

i) Semiconductor industry skills and training

£5million to skills and training with project max of £0.5m. Unusually projects can be led by research organisations and not-for profits with them able to take 80% of funding so long as projects are clearly business aligned and involve at least one SME.

All those with past, present or training concepts related to e.g. integrated photonics would do well to look closely at this opportunity. Deadlines are tight 29 March

ii) Semiconductor manufacturing scale-up – feasibility

With an initial £1.5m for projects up to £150k and 4 months in duration this competition is designed to draw in new collaborators to look at the feasibility of potential innovations, in part due to the lack of support in this area in recent times. Again deadlines are tight 29 March

It will be followed with a more significant scale-up competition in the Autumn targeted at larger project . Clarified that applications to the Autumn full scale competition will not be dependent on participation in the feasibility call and will be open to all.

iii) Innovate UK Transformative Technologies

For those new to Innovate there are also specific Semicon, quantum and future telcoms threads in Innovate UK transformative technologies competition. This will provide up to 100% funding for projects of upto £50k of 3-6 months duration if you have not received Innovate UK funding previously. Deadline again 29 March.

b) **UKRI EPSRC**

EPSRC are also considering targeted intervention at scale in the semicon space. The Innovation Knowledge Centre (IKC) model appears to be favoured, notable because it provides support for higher TRL engineering as well as lower TRL first demonstration innovation. Announcements in the Autumn or before expected.

c) **UK Semiconductor Innovation infrastructure feasibility study**

In December DCMS put out a call for a UK semiconductor infrastructure feasibility study to develop the business case for significant investment in UK semiconductor infrastructure to support future scale-up and commercialisation in the semicon space. This identified 5 pillars where the project should developed costed business models to support substantial future government investment.

- Silicon prototype and pilot capability
- Advanced packaging
- Compound semiconductor open foundry
- Design and IP tools
- Strategic coordination capability (i.e. define the model under which interventions should vbe delivered)

The PLG supported a number of bids into this project in collaboration with others. Public announcement of the winning consortium is currently understood to be pending the semiconductor strategy announcement.

Given the content and timings in the tender call PLG members can be expected contacted for their specific inputs in the next 1-3 months

d) **Regulation impact on Emerging tech**

DSIT have a parallel project, contracted to Plexal, to look at the impact of regulation inc export controls on the priority emerging tech fields of quantum, semicon, Ai and telecoms. This includes understanding the UK innovation and commercial landscape in these areas and impact of regulation / controls. PLG members, especially from established industry, are encouraged to engage with the Tom, Hannah and Alex in the Plexel team as their apriori knowledge of photonics, semicon and quantum is not significant. This includes those providing products that support to semicon manufacturing.

Included with their permission, please reach out to

- Hannah Siporo (Quantum) hannah.spiro@plexal.com
- Alex Wakefield (Semicon) alex.wakefield@plexal.com
- Tim Gower (Comms) tim.gower@vivace.tech

4) **UK photonics industry landscape – 2023 update**

As previously noted 2023 see the biennial update to the size of the UK photonics industry. Normally undertaken in May, this has been brought forward and scaled-up following an urgent request from Innovate UK for an updated UK Photonics Landscape by the end of March 2023.

The landscape will include:

- Overview of Photonics role in key societal challenges (1 page each)
- UK industry landscape including stats on size, regions, exports investment etc
- UK photonics in the world
- Key technologies and sub-sectors
- Strengths weaknesses and capability gaps

To deliver this landscape we have prioritised 3 key activities in collaboration with Photonics Scotland and Photonics Connected

- Launch a new 2023 photonics survey. **Please complete the survey as soon as possible** at <https://forms.office.com/e/q0iehH3qZ0>, <http://bit.ly/UKPhSurvey23> Last inputs 23 March. **Action> All**
 - This covers the normal areas of exports, investment, barriers, challenges etc.
 - If you cannot complete online or wish to see all questions in advance it is available in [pdf form online](#)
 - Average time to complete so far has been 12 minutes.
- Updating industry size stats.
 - This is based on the list of companies engaged in photonics in the UK published online in the [photonics and quantum directory](#). This has been updated in the last few days. Whilst not all organisations in this are included in the analysis if an org is not in the directory it is certainly not included. Therefore please let me know of any additions asap and by 17 March latest **Action all> – check your directory entry**
 - The target markets and tiers of operation in the directory will be used to provide a flavour of the UK photonics industry structure – do make sure to update yours in the directory. The same question is asked in the survey
 - To accurately derive the size of the photonics industry we only take a fraction of business activity of the larger more diversified companies. Key to this is the apportionment of those larger companies to photonics. Given the accelerated timescales it is not possible to undertake our normal detailed review of apportionment. As an approximation the list of most significant organisations and their apportionment from previous analyses was opened for discussion.
 - No significant changes were suggested although noted that the dependency of the apportionment of Openreach network to photonics (this is the mostly optical network portion only of BT) has critical impact on the final numbers
 - No changes to apportionment will therefore be made for the March update for Innovate UK.
 - The figures will be revisited in May prior to publication of final figures including some sensitivity analysis
- Reporting. Will consist of following activities
 - Internal report for Innovate UK, by End March 2023
 - Headline publication new numbers at Laser Munich June 2023
 - Online full presentation July Archived to Youtube, cf <https://youtu.be/QoyMsRkB1tA>
 - Update to ‘UK Photonics Hidden Economy report’ Date TBC Pending affordability

Contribution to all sections of the Innovate report are welcome. We anticipate being able to rework all section of this into reports available for the community. Given the accelerated timescales it will not be possible to draft the report and then have it review prior to submission to innovate. Therefore we are happy to make the working draft available for all to review as it is written.

- <https://photonicsuk.org.sharepoint.com/:w:/s/PhotonicsLeadershipGroup/Ec-sdZc9YrIFg6qrkzEubocBIOfyuFSHcSloj9UC3TZDMw?e=64Som1>
- Please only update with track changes on, or send us copy for inclusion.
 - Please only add brief text in close to final form and be understanding that bandwidth to deliver this on time is extremely limited and editing time minimal

- If you are able to make substantial contributions let John Lincoln know as the PLG may be able to compensate you for your efforts.
- Note this is an active working document and will change daily. It should not be used for open or distribution and author comments treated in confidence.

A huge thankyou to Alison Mcleod and Anke Lohmann for their support and rapid response in relation to this already and to Innovate UK for finding a budget for the landscape.

This usefulness of this updated landscape was noted by many.

5) UKTIN

UKTIN – [UK Telecommunication information network](#) has been running since October and going through start-up phase prior to full launch in April. UKTIN has a budget of £10m to be spent by March 2025. As part of its operation UKTIN will be standing up a number of special interest groups including one in optical comms and photonics. The PLG had previously expressed an interested in running this SIG including in tis original letter of support for UKTIN consortia.

It has now emerged that UKTIN will not provide any sub-contract to the PLG for running the SIG which will be run by the University of Bristol. Instead we have been asked if the PLG (via JohnL) would be interested in chairing the SIG, without remuneration, but with considerable time input. It has also emerged that membership of the SIG will be limited to 12 people chosen by UKTIN.

JohnL requested support from PLG to decline the invitation to provide further support to UKTIN special interest group considering that the PLG does not have the budget to support the level of involvement requested and closed nature of the group appears to contradict the PLGs ethos of being open to inputs from all.

Discussion agreed, with recommendation that decline should leave open potential for future collaboration should UKTIN approach change with more open terms of reference and compensation for inputs. **ACTION JohnL**

Note that the Compound Semi Catapult was having similar challenges with request to run a UKTIN SIG on compound semi and/or related areas.

6) Future Photonics Leaders

The two future photonics leaders co-chairs Kayleigh Thomson, GandH, (industrial co-chair)and Rand Ismaeel, University of Southampton (Academic co-chair) provided an update on progress with sthe stnding-up of the new Future Photoncis Leaders group.

Elections to the committee have been completed with following elected

- Co-chair (Industry): Kayleigh Thomson, Gooch & Housego
- Co-chair (Academia): Rand Ismaeel, University of Southampton
- Secretariat (Communications): Callum Stirling, University of Southampton
- Secretariat (Events and Meetings): Jake Biele, Light Trace Photonics
- Funding Officers:
 - Cameron McEleney, University of Glasgow/Queen’s University Belfast
 - David Coathup, Wrexham Glyndwr University
 - Zeki Shaw, University of Glasgow/PIAS CDT

The group have chosen name **Future Photonics Leaders (FPL)** and have a logo pending finalisation.

Meeting monthly FPL are developing a mission statement and looking at future activities including access to photonics events nd survey on how people identify and access early photonics careers

Noted tht the creation of FPL has attracted significant international attention for other photonics cluters and groups.

7) PLG activity & contribution update inc APPG

a) Contributions

Contributions to the operation of the PLG are currently substantially below last years levels. Quotes have been issued to all. If you are able to make a contribution do let John or Karin know who are happy to provide full VAT invoices.

b) Case Studies

Over a dozen [career case studies](#) are now online. All are encourage to use and reference this resources. More case studies would be very welcome. The template is at https://photonicsuk.org/wp-content/uploads/2022/08/Photonics-Careers-Case-Study-Template_1.docx

c) *Laser World of Photonics*

The PLG will look to organise an informal dinner at Laser Munich in June in the same location as previously.

d) APPG

Discussion are on-going with the APPG on Activities for 2023 including the potential for a Westminster showcase in the summer.

Grateful thanks to Carol Monaghan, MP for making extraordinary efforts to join the panel discussion at the February TOPS meeting in London

8) Updates from communities and programs

a) Photonics Scotland (Alison M)

- Currently preparing a vision paper for Quantum Technology in Scotland
- Photonics skills training course due to be run again
- ECOC will come to Glasgow 1-5 October 2023. Input and ideas of how uK photonics innovation / capability can best represented at ECOC welcome.

b) Photonics Connected

- Photonics fully integrated into [Wales Tech week](#). Now rescheduled for 16-18 October 2023. Any companies with challenges they would be happy to put forward at Tech weeks workshops please contact Loiuise Jones. These can include none photonics challenges that photonics orgs would like input on – e.g. AI implementation..

c) AILU (Dave M)

- [ILAS will take place in Daventry 22-23 March](#). With over 84 presentations and >200 delegates great opportunity to network with the laser based materials processing community. Spaces still available.

d) UKIVA (Ian A)

- UK Machine Vision conference planned for 21-21 June 23 at the CBS arena Coventry and joined by new Automation exhibition. <https://www.machinevisionconference.co.uk/>

e) Photonics 21 and Horizon Europe

AGM will be 26-27 April in Brussels., at which the new Strategic research and Innovation agenda (SRIA) will be formally launched and presented to the commission following considerable input form the community.

Mike W has also been working with the key digital technologies platform to develop a white paper on integrated photonics and oppourtunies around the EU Chips Act. This wil also be presented at the P21 AGM.

f) PhotonHub (Tom H)

[Photonhub](#) has a wide range of online and in person photonics training available, including e.g. photonics packaging course at Tyndall.

The number of UK projects in PhotonHub is currently relatively low (6) . UK is encourage to apply. To help support Photonics Scotland and Photonics connected are looking to join Photonhub.

g) UK Quantum

UK Quantum now up and running with first AGM in next two weeks.

UK Quantum Showcase will return to the Design Centre in London, the week of 2 November immediately following Photonex

Four quantum funding calls are coming out imminently.

UK Quantum strategy is still due.

9) Next Meeting

Following inputs, the Next Full PLG meeting will be in Person on the Afternoon of June 6 2023 kindly hosted by STFC at Rutherford Appleton campus. More details to follow.

10)AOB

John L noted that due to an unforeseen change in personal circumstances his available bandwidth has been substantially reduced and apologises for any reduced support for the PLG in last and coming months.