

## Photonics Leadership Group Meeting Minutes

Friday 14 January 2022, 11:45-16:00 Virtual by Teams

### Attendees (All or in part):

Ian Alderton, Alrad; Stuart Allan, Artemis Optical; Ric Allott, STFC; Yann Amouroux, OSA; Simon Andrews, Fraunhofer UK; Ali Anjomshoaa, Compound Semiconductor Centre; David Armstrong, Fraunhofer UK; Terry Boniface, BEIS; Dom Brady, Fibercore; Karin Burger, SPIE Europe; Allan Colquhoun, Leonardo; Phil Cornish, CS Connected; Maryam Crabbe-Mann, EPSRC; Buki Dada, Thorlabs; Iwan Davies, IQE; Paola de Bono, TWI; Chris Dorman, Coherent Scotland; Carole Eccles, OptiC Technology Centre; Andrew Ellis, University of Aston; Glenn George, Bay Photonics; David Gillett, Laser 2000; Mark Goossens, CS Applications Catapult; Clive Grafton-Reed, Rolls-Royce; Duncan Hand, Heriot-Watt University; Tom Harvey, Nat Healthcare Photonics Ctr; Jon Heffernan, University of Sheffield; Alan Hughes, Laser 2000; Shahida Imani, Chromacity; Louise Jones, Photonics Connected; John Lincoln, Harlin; Anke Lohmann, Anchored In ; David MacLellan, ALLU; Sergio Mantecon, Edmund Optics; Iain Mauchline, InnovateUK; Alison McLeod, Technology Scotland; Wyn Meredith, Compound Semiconductor Centre; Mark Naples, Umicore Coating Services; John Parsons , Indigo Consulting; David Payne, University of Southampton; Graham Peters, Arqit; Richard Pitwon, Resolute Photonics; Michael Robertson, CIP Huawei; Andy Sellars, CS Applications Catapult; Jianming Tang, University of Bangor; Sergei Turitsyn, University of Aston; Elena Turitsyna, University of Aston; Malcolm Varnham, Trumpf UK; Mike Wale, UCL; Matthew Wasley , KTN; Philip White, DIT

### Direct Apologies:

Jason Buck, TDA; Wayne Loschi, EPIC (Apologies to anyone missing from apologies)

*\*Post meeting and editorial input in italics*

#### 1) Previous Minutes and welcomes

Those attending their first PLG meeting formally welcomed including Phil Cornish, Mark Naples, Carole Eccles (stepping in for Caroline Gray) and Clive Grafton-Reed.

Previous minutes from meeting 28 September were accepted.

#### 2) On-going impact of Covid-19

##### a) Operational impact – industry

Round table from industry representatives indicated latest Covid-19 surge is having little to no impact on business operations. Even larger photonics organisations reporting only a small number of cases. Factories continuing to operate, with those able to work from home continuing to do so. Some reported plans to return to on-site working for more staff paused – others (mostly SMEs) reported full return to office. Some noted a small slow down in R&D activities.

##### b) Operational impact - academia

Those at universities report research labs across country continue to be open. Undergraduates are on campus with managed in-person teaching. Shutting of facilities seen last year has not been repeated.

##### c) Exhibition Impact (esp Photonics West)

Round table of impact on exhibitions especially Photonics West showed a wide range of impacts. Some have pulled out of attending altogether over concerns about getting stuck in San Francisco. Many others planning attendance (although in lower numbers). However, some noted that the number of key contacts reporting they would not be attending including from the USA is increasing. Most academic groups still planning to attend although with reduced numbers.

Question was raised on why virtual / remote participation at PWest was not available whereas will be possible at OFC. Karin B noted that in person participating considered critical with digital engagement being facilitated through the SPIE digital library where all presentations from technical conference will be posted. Noted 1000 exhibitors and 10,000+ registration still expected.

Noted participation in the UK pavilion at Pwest is down by ~50% from original plans. The traditional Wed pavilion reception support by the UK Consulate has been cancelled, but the Consulate are continuing to support a number of networking dinners. PLG participants interested in joining SPIE VIP reception at 5pm following the Laser Market place Seminar on Monday 24, request to alert John L.

### 3) Hiring the inexperienced – round table discussion

Roundtable discussion of experiences of on-boarding staff without prior industrial experience at any level. The UK Photonics vision indicates a need for an additional 100,000 personnel in photonics by 2035, more than doubling current photonics workforce and necessitating efficiency at bringing in inexperienced staff. Many noted active programs to bring in-experienced staff. The most common model (certainly at Physics graduate + level) in both larger and small organisations summarised as:

- Match individual with more experienced mentor
- Give them time, commonly 9-12 months on the production line to get experience and understanding of current processes (or similar customer facing role for service orgs)
- Once embedded understanding of current process, move individual on to engineering or more advanced positions that make increasing use of their academic training.

Most organisations indicate very willing to take on graduates without experience, although some noted their requirements were more focused at assembly technician levels and need to provide vocational training to advance careers of those coming off the production line. Some also noted using internships as effective mechanism of hiring.

Those coming in at postdoctoral level can expect to go more directly into jnr engineering roles, but the importance of experience with current products and process was common.

Illustrating demand South Wales CS cluster's latest skills survey shows employment in the cluster up by 14% in last(?) year

S. Wales, Scotland taking action to develop additional CPD training courses often for conversion to photonics from other industries. Number noted training development needs to be collaborative, with multiple companies contributing to the requirements definition. E.g. Andrew E requested input on their Affiliate Engineer academy course. On-line training courses also available via [PhotonHub](#) (below)

Andrew E, Duncan H, Carole E & Clive G highlighted opportunities around apprenticeships particularly degree apprenticeships. However community noted that organisation of apprenticeships and how the apprenticeship levy was managed are devolved activities with big difference between e.g. Scotland and England (in Scotland levy is managed by the Scottish Executive, in England up to companies to define requirements and use directly).

Academics noted that there has been a reduction in specialist degree courses with a return to pure science topics e.g. Physics with photonics content embedded in general physics degree. Some have run MSc courses in photonics with mixed success with a notable shortage of UK applicants. Discussion attributed this to both direct job opportunities and the rise of direct to masters degrees reducing the appeal for more specialist MSc programs. Noted that sponsorship for masters programs was widely available so costs should not be issue, but are often cited.

Noted that messaging on careers opportunities and skills development need to be carefully communicated and linked to the need to keep and grow the pipeline for future talent (focusing on shortages can be off putting to candidates and investors) Parents noted as a key audience group. For example, need to emphasise that not all Hitech jobs involved app development, the impact of working in physical sciences is >> than supermarket management and the long term salary prospects are strong (cf IOP campaign).

Noted after much work power electronics community has secured £4.5million for building talent focusing on course and content development see [Driving the Electric Revolution – Building Talent for the Future](#) Something similar may be possible in photonics but took 2 years of hard effort.

**ACTION all** >PLG members requested to review above power electronics skills drive for future feedback on how useful initiative in this area for photonics would be.

### 4) UKCA marking

Roundtable discussion of how companies are approach UKCA marking. Number noted they have successfully applied and got UKCA certification based on previous CE marking. Currently a relatively streamline process as testing requirements are fully aligned.

Generally noted that UKCA will only become an issue if the testing requirements diverge from CE. Given divergence could cause major issues due to lack of capacity and low commercial returns due to heavily

export focus of the UK photonics industry. Whilst no motivation for divergence was noted, recommend PLG submit a letter to BEIS, highlighting need to remain aligned to CE.

Support for SME noted as lacking. *A number of webinars are now available including dedicated Q&A session.* <https://www.gov.uk/guidance/webinars-for-using-the-ukca-marking-and-placing-goods-on-the-market-in-great-britain-and-northern-ireland#full-publication-update-history>

**ACTION John L> Draft letter to gov on importance of maintaining CE UKCA alignment**

## **5) DCMS, BEIS, Innovate and APPG engagement update**

### **a) Introduction to Iain Mauchline new Photonics lead at Innovate UK & Innovate update**

Iain M kindly introduced himself to PLG. Impact of the Autumn spending review has yet to fully filter down, thus no major funding news. However there is a refocussing within IUK to recognise and support enabling technologies – hence Photonics should receive greater prominence.

Iain is also the UK contact for the Photonics21 mirror group (now the National and Regional Advisory Board). Currently / upcoming funding:

- [Commercialising Quantum tech: feasibility round 3](#)
- [UK Smart Grants](#) – open any field, closed 13 Jan, next round has now opened

### **b) UK Photonics 2035 Vision launch**

Launched in October and distributed in print version to number key gov contacts at the Quantum Showcase in early November. Response has been very positive. Internationally number have noted importance of such longer term visions at meeting of EU clusters in Paris. Print copies available to anyone who needs (contact John L).

### **c) APPG**

Last APPG meeting in December was postponed due to parliamentary focus being on Omicron. Looking to reschedule.

### **d) BEIS / DCMS**

Contact with BEIS has tailed off in the last few months, effort continue to engage.

Contact with DCMS focus on the follow-on to the 5G infrastructure call with more funding for longer term UK comms innovation forecast for later in the year following the spending review.

Following presentations at Photonex John L has been in direct discussion with the Innovate Horizon scanning group who led on the Innovation Strategy. Further initiative on how to integrate enabling tech roadmap and horizon scanning activity (such as that done by PLG) with vertical challenges anticipated after April.

## **6) European update**

First Photonics21 Board of Stakeholder meeting since Autumn election took place 13 Jan. UK membership now up to 6 % with newly elected member John L, Alison M & Richard P joining Iwan D from PLG on the BoS. BoS make up now 24% Germany, 21% France, 7% Netherlands & Spain, 6% UK & Italy...

BoS voted to pass 10 recommended focus areas for the 2023/2024 work programme. Noted these were voted on as a package prepared by a new subcommittee of P21 working group chairs and co-chairs to foster the generation of more calls that cover multiple working group areas. Recommendations will now go to Brussels and undergo a number of iterations before publication in the Autumn. Revisions to draft are normally welcomed and a key point of input especially for those with English as first language (ie UK).

Final ratification of UK associated membership of Horizon Europe is still outstanding and subject to high level political brinksmanship. In the interim UK Govt have introduced a renewed [guarantee for successful Horizon Europe applicants](#). On UK participation in space and quantum projects optimism that UK will be able to join EU Quantum projects, Space still under discussion.

Under Eureka there are currently plans for a multinational call on Next Generation integrated Photonics Sensing, with sign-up of nations taking place now. IUK maintain an interest Eureka/ Penta/Euripides/Xecs. but as there is no current budget to fund participation so unable to go further than expressing an interest

(which Ian M has done). Ian M currently canvassing for budget with the hope that CSR offers something to the area.

All reminded there is one outstanding 2021/22 EU photonics call on [Advanced Multi Sensing Systems](#). This has a significant €48million budget- closing date 5 April 2022.

## 7) Updates from communities and programs

### a) AILU (David M)

Alongside a new website, AILU have been increasing global links with other material processing networks resulting in number new meetings should foster collaboration in run up to Laser Munich World of Photonics in April.

- [Low-Carbon Laser Manufacturing](#) 2 Feb
- Joint meeting with Bavarian Laser Centre April
- Surface texturing – May

### b) Photonics Scotland (Alison M)

- Opening-Up photonics initiative up and running aiming to improve diversity in photonics workforce
- Meeting of the Global Photonics Alliance planned at Photonics West

### c) Photonics Connected (Louise J)

- Activities accelerating now new marketing and event person in team
- Member event planned for Feb

### d) UK Quantum (Mark G)

- Informal launch meeting has taken place
- New Innovate competition launched (above)

### e) UKIVA

- In Person UK Machine Vision meeting planned for 28 April Marshall Arena Milton Keynes  
<https://www.machinevisionconference.co.uk/>

## 8) Contributions to running of PLG and photonics directory

Received contributions are up from 2020/21 supported by the Photonics Directory. Those who have not yet made a contribution are encouraged to do so. Illustrative slides recognising sponsors to be used in PLG presentations shown.

Those who have not claimed their direct entry are encouraged to do so. There are now over 1200 organisations listed with upload complete.

## 9) AOB

### a) PhotonHub Europe (Tom H)- <https://www.photonhub.eu/>

- Number of training opportunities available plus courses on silicon photonics at Southampton ORC.
- Funding raising / business support also available through Funding Box.

### b) National Epitaxy Facility (Jon H)

- **Creating an innovation pipeline for Compound Semiconductor Technologies in the UK** - one-day online community meeting 9 Feb, building on extensive discussion with UK Gov on national semiconductor strategy. Contact Jon H if you have not already had details.

### c) Photonics Europe (Karin B)

- Will be on 3-7 April in Strasbourg- <https://spie.org/conferences-and-exhibitions/photonics-europe>. Exhibition opportunities available.

### d) Fraunhofer Centre for Applied Photonics (Simon A)

- Tenth anniversary approaches in December. Next 5 years funding has been secured
- Simon will be one of the Industrial chairs for Photonex at NEC 6-8 Dec 2022 – suggestions for content welcome.

#### e) Request for company advocacy from the PLG

At least one request has been received to advocate for a particular company in return for financial contribution to the PLG. For avoidance of doubt it is the PLG position to remain neutral to any individual organisation other than recognising sponsors.

#### 10) Next meeting

Scheduled for April 2022. Suggestion to look at holding alongside Laser Munich as there is no conference program this year. Noted only viable if dial in remote joining also possible. Alternative volunteer to host welcome.

**Action John L** > check viability of PLG meeting at Laser Munich or alternative in person location.