

## Photonics Leadership Group Meeting Minutes

Thur 10 October 2019 10:00-13:00,  
Ricoh Arena Coventry, Boardroom

**PHOTONICS**  
LEADERSHIP GROUP

[www.photonicsuk.org](http://www.photonicsuk.org)

### Attendees:

Ian Alderton, Alrad, Ric Allott, STFC, Simon Andrews, Fraunhofer UK, Nick Bowden, CST Global, Scott Bradley, BAE systems, Andy Brown, SPIE, Karin Burger, SPIE, Thomas Butcher, STFC, Max Buttinger, Thales UK, Maryam Crabbe-Mann, EPSRC, Iwan Davies, IQE, Paola de Bono, TWI, Chris Dorman, Coherent Scotland, Andrew Ellis, University of Aston, Caroline Gray, OptiC Technology Centre, Tom Harvey, Nat Healthcare Photonics Ctr, Jonathan Jessop, Thorlabs, Andrew Kearsley, Oxford lasers, John Lincoln, Harlin, Kevin Mackrodt, Artemis Optical, Sergio Mantecon, Edmund Optics, Owen McGann, GTS, Georgios Papadakis, InnovateUK, John Parsons, Thales UK, David Payne, University of Southampton, Bonnie Peterson, SPIE, Richard Pitwon, Resolute Photonics, Michael Robertson, CIP Huawei, Andrew Scott, QinetiQ, Chris Sorsby, Vitritech, Matthew Wasley, KTN.

### Apologies:

Jon Blackburn, TWI, John Blomfield, Qioptiq, David Bolton, EW Simulation Technology, Jess Bonham, EPSRC, Terry Boniface, BEIS, Dom Brady, CS Applications Catapult, Russell Childs, II-VI, Trevor Cross, Teledyne e2V, Geoff Duggan, lumerical, Glenn George, Bay Photonics, Mark Greenwood, SPI Lasers, Mark Gubbins, Seagate, Jon Heffernan, University of Sheffield, Antony Hurden, Grounded Innovation, Anke Lohmann, Anchored In, Graeme Malcom, M Squared Laser, Nick Martin, BAE systems, Rachel Maze, BEIS, Wyn Meredith, CSC, Nigel Rix, KTN, Roy Sambles, University of Exeter, Rob Scudamore, TWI, Jason Smith, University of Oxford/ Oxford High Q, Andy Strong, ID quantique, Chris Tate, Pure LiFi, Stephen Taylor, Technology Scotland, Mark Thompson, IPG Photonics, Sergei Turitsyn, University of Aston, Alastair Wilson, CST Global,

*\*Post meeting and editorial input in italics*

## 1) Previous Minutes and welcomes

Paola de Bono, Nick Bowden, Scott Bradley, Bonnie Patterson, Andrew Brown, Owen McGann, Max Buttinger and Caroline Gray were welcomed to their first PLG meeting

Previous minutes from meeting 4 June 2019 were accepted

## 2) UK Photonics Industry Size

JohnL presented latest UK photonics industry figures and analysis. Presentations at <https://photonicsuk.org/wp-content/uploads/2019/10/UK-Photonics-Overview-Oct-2019.pdf>

- Input of PLG participants in the key apportionment process at the last PLG meeting acknowledged. Inputs and suggestions for additional companies to include were incorporated in final analysis.
- Growth shows steady 4.3% per years since 2013 4X average UK manufacturing growth.
- New data on regional GVA distribution shows regional productivity ranges from £89,500/employee to £66,800/employee
  - Analysis shows that a small number of photonics companies are achieving GVA/employee >£100k GVA/employee, including hardware manufacturing organisations.
- New data on Photonics company age. Showing median 20 year age, majority of revenue and employment comes from snr companies (>60years old) and it takes ~15 years for a company to reach standard photonics industry productivity.
- Figures were released at Laser Munich and ~monthly additions with further analysis continue to published on PLG blog @ [www.photonicuk.org](http://www.photonicuk.org)
- Suggestions for further analysis welcome with message/question analysis might address
  - Noted data on breakdown by photonics sub-sector (market or technology) not available as companies not fully classified as to which sector they operate in, a classification made difficult by many organisations operating in multiple markets/technologies
  - Further regional breakdown e.g. by age by region possible

### 3) Electech Roadmap

GeorgiosP presented highlights from the recently published Electech roadmap.

- Full report available at <https://www.gov.uk/government/publications/electech-sector-a-roadmap-for-the-uk>
- Overview slides available at [https://photonicsuk.org/wp-content/uploads/2019/10/Electech-Sector-Roadmap\\_PLG@COV\\_GP\\_09102019.pdf](https://photonicsuk.org/wp-content/uploads/2019/10/Electech-Sector-Roadmap_PLG@COV_GP_09102019.pdf)
- Electech Roadmap launched at AESIN and BSI meetings at start of October
- Intention is to bring together enabling technologies into greater critical mass identification of common challenges. Focus on challenge and impact not technical roadmap. Supporting gov, agency and industry strategy challenge fund theme engagement and via the latter potential impact direction future funding.
- Some discussion of the Electech term and difference between the roadmaps inclusion of all enabling techs and potential confusion with Electech council which has apparently narrower focus.
- Noted important to explain how Electech fits into key sectors e.g. manufacturing. Such thinking was behind the inclusion of the Aerospace, automotive, Healthcare, Manufacturing and consumer sector views in the roadmap.
- Note that explaining the clear value of Elec tech in these sectors and the associate UK industry value would help quantify impact. Noted difficult to fully quantify outside more defined sectors e.g. photonics.
- On terminology DavidP noted that Photonics still suffers from lack of public understanding of the term outside community. Potential lessons to be learnt from Microsoft use of 'Optics for the Cloud' and greater potential reach from presenting photonics as Optics for the ....

### 4) PLG activities for last 12 months and focus for the next year

John L presented summary of PLG activities for last 12 months based on live list now regularly updated at <https://photonicsuk.org/contributors/plg-achievements>.

Estimation of the total direct and in-kind support to PLG over last 6 years shows over 500 people have attended 22 PLG meetings at estimated combined value of £325,00 over 6 years and £75,000 in the last year.

Suggestions of PLG focus for upcoming in year.

- Maintaining the focus on profile raising and importance of supporting funding for physics and science to deliver next generation of potential employees. i.e. continue with Westminster Photonics Showcase and development of impact examples.
- Further quantification and detail on where additional skills are needed welcome, but noted careful presentation is needed to avoid negative headlines about skills shortages as these can complicate support for company expansion in the UK. Focus is on maintaining and growing supply to support continued future growth and investment not implying any immediate emergency.
- Suggestion welcomed to compliment statistical analysis of the industry with targeted survey on questions covering areas such as:-
  - Export % and locations
  - Capex spend (past/future)
  - Barriers to growth with detail areas of in staffing need, funding prod development
  - Ultimate Ownership (UK/ other)

### 5) Photonics Leadership Ltd AGM

**AGM of Photonics Leadership Ltd called to order at 11:45**, John Lincoln Chairing. No proxies appointed. Attendees as noted in full meeting. Quorum of 21 voting members present noted.

#### 1. Financial summary

Based on management year October 2018 to October 2019

##### Income

- In Oct 2018 it was agreed to request volunteer contributions from PLG participants dependent on organisation size. A total of 13,850 has been received from 5 micro organisation at £250 each, 16 small, medium RTO's and Uni contributing £500 each 5 large companies contributing £900 each. Of total amount requested 53% was paid.

### Outgoings

- Outgoings totalled £17745
  - £13484 subcontracted work (Harlin (John Lincoln for secretariat) Dun and Bradstreet (company data)
  - £3436 event costs for House of Common Westminster Photonics Showcase
  - £825 Company expenses (accountancy fees, webhosting etc)
- The PLG have also benefited from In-kind contributions of 3 days from SPIE (Karin Burger for APPG secretariat) and 12 days (Harlin for industry sizing)

Conclusion is volunteer payments have been successful almost covering operational expenses, excluding additional activities such as updating figures on the size of the industry

Annual accounts submitted to companies house for PL Ltd are available at <https://photonicsuk.org/wp-content/uploads/2019/10/PLG-account-to-31-May-2018-as-filed.pdf>

**Motion to pass accounts for year.** Proposed Simon Andrews, Seconded Andrew Ellis. Passed by vote of members present

Additional discussion on finances

- Agreed contribution levels should remain unchanged for 2019-2020 at £250, £500 and £900
- Agreed request for contributions should be sent out in form of a quotation annually in October, with reminders sent thereafter rather than the unsolicited invoices sent in 2018. Thereby avoid issues with credit notes etc.
- Recommended that Harlin/Lincoln invoice full time incurred rather than adjust invoice to fit funds. Recommended to liaise with ALLU on how to facilitate this.

**Action JL> liaise with David MacLellan on invoicing options.**

## 2. Reappointment of officers of Chair, Vice Chair, Treasurer and Chief Exec

**Motion to reappoint Chris Dorman and PLG Chair for 2019/2020.** Proposed John Lincoln, seconded Andrew Ellis. Passed by vote of members present

**Motion to reappoint Anke Lohman as PLG Treasurer for 2019/2020.** Proposed Andrew Ellis, seconded Sergio Mantecon. Passed by vote of members present

**Motion to reappoint John Lincoln as PLG Chief Executive for 2019/2020.** Proposed Chris Dorman, seconded Simon Andrews. Passed by vote of members present

Noted that John Parsons will be retiring from Thales UK in November and will continue to participate and stand at Vice chair without a large company affiliation

**Motion to reappoint John Parsons as PLG Vice Chair for 2019/2020.** Proposed John Lincoln seconded Andrew Ellis. Passed by vote of members present

**AGM Closed at 12:05**

## 6) Group Inputs

Group responses to inputs requested from the PLG

- Which countries the UK should be seeking national level collaborations with on photonics?
  - USA-major Business partner
  - Japan- keen interest from Japan in alternative supplier to China and S. Korea
  - Australia- strength of research community and defence collaboration
  - Canada- building on collaboration around quantum tech
  - Europe particularly German, France, Netherlands, Belgium, Poland and Switzerland building on highly successful partnership in Horizon 2020 and EU market foci
  - Israeli- as proven valuable partner as affiliate to EU H2020 programs

AndrewB also noted that SPIE is interested in supporting trade delegation / mission to any of above countries and welcome interaction with Jenifer O'Brian the SPIE lobbyist in Washington DC

- Brexit impact feedback on impact current 'challenges' are having on the industry? (specific to photonics)
  - A significant change in the nationality mix of employees has already occurred with reductions in the numbers of EU nationals as a fraction of the workforce in many organisations- (the only exception being defence companies, who already have high UK national employee base)
  - Organisations are finding it harder to get firm quotations for equipment from EU companies in GBP. Foreign companies increasingly unwilling to absorb exchange rate uncertainty. Major problem for organisations e.g. Universities that require quotes in GBP.
  - Uncertainty and additional preparation required for export licences.
- Barriers to growth and what would accelerate growth? (putting Brexit aside)

Will be further explored in survey to industry. Immediate responses:

- Further targeted skills development
  - Further and enhanced Tax credits and investment incentive e.g. patent box
  - Clearer guidance on export control especially related to R&D
  - Understanding of what relaxation to state aid rules may be possible outside the EU and what these would enable that can't be done otherwise possible
- Interest in national photonics manufacturing meeting?
    - Agreed there would be interest in technical discussion capturing current knowledge, particularly in 4 areas
      - Manufacture of lasers, particularly short pulse
      - Compound semiconductor materials processing
      - Integrated photonics packaging
      - Free form and bulk optics
    - DavidP noted potential support from the Future Photonics Hub, with additional recommendations for collaboration with CSA Catapult, Compound Semiconductor hub and the Wales Centre for Photonics Enterprise.
    - Although notes above are diverse topics the agreement there was interest in a central meeting bringing topic together for discussion and to showcase to industry (especially larger users / integrators) what solutions are available and being developed in the UK.

## 7) Updates from other groups

### 1. Photonics21 and Horizon Europe

- Two significant upcoming photonics call from H2020. KTN has number of briefing events – see <https://photonicsuk.org/events>
- Looking more likely Photonics will go through as Public Private Partnership in Horizon Europe after strong support from France German and the UK
- *Proposed new commissioner with responsibility for DG connect and thus photonics Sylvie Goulard has been rejected by Eu parliament.*

### 2. AILU – no updates

### 3. UKIVA

Annual Machine Vision conference scheduled from 14 May 2020 in Milton Keynes

### 4. Photonics Scotland

- Photonics Scotland Vision paper available for all
- Diversity event is scheduled looking at improving diversity in photonics recruitment and hiring

## 5. WOF

Centre for Photonics Expertise (CPE) ongoing program aiming to ensure Welsh business can benefit from photonics expertise

## 6. South Wales CS Cluster

- Feb 19: Award of a CDT in Compound Semiconductor Technologies; 65 student cohort at Cardiff, Manchester, Sheffield and UCL from Oct 2029 : <https://www.cardiff.ac.uk/news/view/1430396-epsrc-funds-cs-centre-for-doctoral-training>
- Mar 19: Strength in Places (SIP) bid down selected for full submission which went in on 18<sup>th</sup> September @ £43M to expand cluster : <http://www.compoundsemiconductorcentre.com/ambitious-plans-for-the-worlds-first-compound-semiconductor-cluster-awarded-seed-funding>
- Jul 19: Award of Centre for Integrative Semiconductor Materials at Swansea University £30M+ £60M support from the Cluster over 10 years: <https://www.swansea.ac.uk/campus-development/developing-bay/key-projects-bay/cism/>
- Sept 19: Good coverage of the Cluster in the FT in early September: <https://www.ft.com/content/328f6170-c5bb-11e9-a8e9-296ca66511c9>

## 7. APPG

- AGM due to maintain as a registered group. Pending current proroguing and stability re-election as will also need reconstituted after an election.
- *July Showcase very well received.*

## 8) **AOB (roundtable), not covered above**

- 2<sup>nd</sup> IEEE British and Irish Conference on Optics and Photonics will run 11-13 December <https://ieeebicop.com/> Richard Pitwon seeking industrial speakers
- Quantum Technology Leadership group held first meeting to define its term of engagement and membership
- Photonics Europe abstracts deadline has closed with increase in submissions, exhibition open for bookings.

## 9) **Up-coming funding competitions & business support**

- Smart grants continue now with more regular call / closing dates and a increase in budget to 25m / call
- Innovation loans are returning with an extension to previous Pilot scheme
- Frist competitions under ISCF wave 3 have opened (and in some cases closed) e.g. Made Smarter. Photonics community encouraged to look for where they can apply and engage
- Celtic 5G call open

I discussion noted that the smaller shorter of the two levels of Smart grant are much more competitive.

## 10) **Next Meeting**

Suggested to hold in London mid Feb 2020

**ACTION JohnL**> approach Keltie to host next meeting at 1 London Bridge

**Huge thanks to Xmark Media, SPIE and Photonex for hosting and providing lunch.**