



To Photonics21Secretariat
via eMail: secretariat@photonics21.org

Dear Photonics21 Secretariat

We herewith submit the nomination of the following Photonics21 Board of Stakeholders candidate
IQE plc / Iwan Davies

**- Letter of Nomination -
Photonics21 Board of Stakeholders
Election 2023**

Photonics21 Board of Stakeholders - Letter of Nomination

1. Full legal name of the affiliation nominated as BoS Member (candidate's organisation):

IQE plc

2. Full contact details of the affiliation (street, postal code, country) nominated as BoS Member and invoice address:

IQE plc
Pascal Close
St Mellons
CARDIFF
CF3 0LW
United Kingdom

3. Name of the suggested BoS Representative (the personal candidate):

Iwan Davies

4. Information about the BoS candidate and the BoS representative

a) Description of the activities and information about the expected contribution and value added the nominated BoS member (candidate's organisation) will bring to the BoS¹

IQE was created in 1988 to provide a foundry service for advanced compound semiconductor wafers. Headquartered in Cardiff, UK, and is now clearly recognised as the leading global supplier of advanced wafer products and wafer services to the Compound Semiconductor industry, operating across a broad range of markets. IQE plc is the parent body of 9 manufacturing entities spanning Europe, Asia and the USA, providing pure-play foundry III-V epitaxial services to a worldwide client base of many hundreds of commercial, academic and research organisations. The group has an annual turnover of ~€200M and employs roughly 700 people worldwide.

IQE's core business is the design and manufacture of compound semiconductor wafers or "epiwafer" using a process called epitaxy – for which we have 24 MOVPE/MOCVD reactors located in the UK. IQE's epiwafer, up to 200mm in diameter, are used in advanced electronic and photonic components which enable a broad portfolio of today's technology products. Our vision is to be the best advanced semiconductor materials solutions company in the world - delivering outstanding quality, service, technology and value such that we become the first choice supplier for all our customers. We aim to deliver the best advanced semiconductor materials solutions to our customers through technology leadership; to provide our employees with a safe, stimulating and rewarding work environment; to partner with our suppliers to

¹ The candidate is aware and accepts that according to the Photonics21 Terms of Reference (§ 5 (10) a membership fee - as determined by the General Assembly of the Association - needs to be paid to the Photonics21 association.

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form mutually beneficial relationships; and to provide our stakeholders with a rewarding investment.

Additionally, IQE has an extensive suite of materials characterization and metrology tools, including photoluminescence (PL), SurfScan, CAMTEK, X-Ray, Scanning Electron Microscopy (SEM), as well as ready access to external services such as Transmission Electron Microscopy (TEM) and Secondary Ion Mass Spectrometry (SIMS). Many of these techniques can be applied at 150mm and 200mm diameter, and the combination of all of these tools provides the best opportunity of succeeding in combining these novel epitaxial structures with large area diameter Si, GaAs/Ge and InP substrates, in achieving the challenging targets.



Our focus areas are:

Wireless: the supply of material high frequency RF devices such as HBT, pHEMT, BiFET for applications in mobile communications, wireless interconnections, the Internet of Things etc.

Power: Power switching, base stations, automotive, radar, military communications, MMICs, cable TV, Point to Point, RF Microwave Backhaul, satellite communications etc.

Photonics: laser and detector structures for telecommunications, sensing & biophotonics, healthcare, medical diagnostics & treatment, solid state lighting, infrared Imaging, communications, advanced sensing applications, spectroscopy etc.

Solar: Clean energy generation (HCPV), space power applications, UAVs, LEO satellites etc.



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- b) Description of the activities and information about expected contribution and value added the BoS Representative (candidate / person) will bring to the BoS.



Dr. J. Iwan Davies obtained a B.Sc. in Chemistry from Imperial College, London and his Ph.D. on MOVPE Studies in Compound Semiconductors from the University of Manchester. He is a member of the Royal Society of Chemistry. With over 40 years-experience in the epitaxial growth by MOVPE of arsenide/phosphide/nitride III-V and selenide II-VI semiconductors, he has co-authored over 100 publications covering a very broad range of optoelectronic devices and material systems. Following a period of research and development at Plessey Research (Caswell) Ltd., he has managed the growth and characterization of epi-wafers, research & development, plant operations, product engineering, and chemical, safety & environmental systems during the last 35 years

at IQE. He is currently IQE plc Group Technology Director, representing the company on numerous European associations, including Photonics 21 (Board of Stakeholders), European Photonics Industry Consortium, Aeneas and Important Projects of Common European Interest (IPCEI). He leads IQE plc in UK National Research Projects and European (Horizon, ECSEL/KDT) projects. He supervises ~10 UK-based PhD studentships and has supported numerous EPSRC, NRN Wales, Centres for Doctoral Training and Knowledge Transfer Partnership projects with UK universities and numerous collaborations with European universities.