



Dear Photonics21 Secretariat

We herewith submit the nomination of the following Photonics21 Board of Stakeholder candidate
University of Eastern Finland / Jyrki Saarinen.

**- Letter of Nomination -
Photonics21 Board of Stakeholders
Election 2018**

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§ 5 BOARD OF STAKEHOLDERS (6) b....A candidate nomination will always contain the name of the candidate organisation together with its proposed BoS Representative, and voting on a candidate implies voting on this combination.

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

University of Eastern Finland

2. Full contact details of the affiliation (street, postal code, country) nominated as BoS Member and invoice address (in case the candidate is elected, the affiliation needs to pay an annual service fee according the Photonics21 Terms of Reference §5 (10)):

Yliopistoranta, Box 1627, FI70211 Kuopio, Finland

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

Jyrki Saarinen

4. Information about the BoS candidate and the BoS representative

Extract Photonics21 Terms of Reference¹: “§ 5 BOARD OF STAKEHOLDERS; ... (6) Election of BoS Members: “Description of the activities of, and information about the added value and contribution to the BoS by both the nominated BoS member and the BoS Representative”

a) Description of the activities and information about the expected contribution and value added the nominated BoS member (candidates organization) will bring to the BoS²

The University of Eastern Finland (UEF) is the largest university for photonics research and education in Finland. The university is located in two campuses: Kuopio and Joensuu, and it has total of 31 000 students. The Institute of Photonics gathers together photonics from four departments: Department of Physics and Mathematics, Department of Chemistry, School of Computing, and Department of Environmental and Biological sciences. The Institute of Photonics personnel includes 19 professors and over 120 scientists/researchers.

For education, UEF offers international Master's Degree and PhD Programmes in Photonics. All courses are taught in English. The majority of students come outside Finland and even Europe. UEF also develops novel experimental photonics studying methods for students, such as Sm4rtLab concept based on remotely controlled laboratories and augmented reality.

¹ Photonics21 Terms of reference are available at https://www.photonics21.org/download/about-us/structure/ETP_Photonics21_Terms_of_Reference_C3.pdf?m=1513688127&?m=1499877714

² The candidate is aware and accepts that according to the Photonics21 Terms of Reference a service agreement and a service fee invoice is to be signed / paid with the Photonics21 association.

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Research covers fundamental basic science (coherence, rigorous diffraction theory, polarization effects in nanophotonics) and integrated photonics (waveguides, sensors, and detectors). UEF has leading-edge clean room facilities and equipment for the manufacturing micro optics and nanophotonics, both for prototyping and even for volumes (via replication). As a unique novel manufacturing method, UEF has 3D printer for optics (millimeter and centimeter scale).

On application side, UEF has long-term experience in industrial collaboration with large-scale corporations (LSCs) from North America, Europe, and Asia as well as LSCs, SMEs, and start-up companies from Finland. UEF has also span out start-ups in photonics. UEF holds the position as KETs Technology Center for European Commission: an R&D center helping SME's to innovate through Key Enabling Technologies. UEF also belongs to the ACTPHAST 4.0 consortium.

Some important photonics societies are co-located in UEF Joensuu campus: the headquarters of European Optical Society (EOS), which is the umbrella organization of all European national optical societies, as well as the headquarters of Photonics Finland, which is the Finnish cluster on photonics for both industrial and academic parties. UEF is also founding partner of Photonics21.

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

Dr. Jyrki Saarinen holds the position as full professor on photonics applications and commercialization. He is also Head of the Institute of Photonics and Head of the Department of Physics and Mathematics at UEF. Besides, a D.Sc. (Tech.) degree from physics/micro-optics at Helsinki University of Technology TKK (nowadays Aalto University), he also holds an MBA from TKK Executive School of Business.

Before joining UEF six years ago, he spent 15 years at Heptagon (7 years in Silicon Valley at Heptagon USA, Inc.) co-founding and then growing the corporation to world-leading wafer-level optics and optoelectronics company (exit valuation up to US\$920M, now employing over 7 500 people worldwide). At Heptagon he was involved with numerous innovations and products based on micro-optics both with SMEs and LSCs from Europe, USA, and Asia. After returning back to academia and Europe he has co-founded five companies in photonics (three technology start-up companies, one consulting company and one non-profit company). Currently, he is Chairman/Vice Chairman/Member of the Board in seven SMEs. And he is involved with tens of start-ups and pre-start-ups in their Advisory Board or as their consultant/mentor. For example, Dispelix Oy (he is co-founder and Chairman of the Board) was selected as Top50 start-up companies in the world in 2017 by Bloomberg Businessweek out of 50 000 candidates. Spectral Engines Oy (Member of the Board, 2014-2018), a VTT spin-off, made a successful exit to m-u-t AG, Germany. Primoceler Oy (Mentor), a Tampere University of Technology spin-off, made a successful exit to Schott AG.

At UEF he is deeply involved in industrial collaboration as well as entrepreneurship, start-ups, and research teams commercializing photonics related innovations. In the past six years he has been Representative of UEF or European Optical Society in the following FP7 and Horizon2020 projects: ACTPHAST, ACTPHAST 4.0, ADOPSYS (Advanced Optical System Design – Marie Curie Initial Training Networks), FreeFORM (Reference algorithms and metrology on aspherical and freeform optical el-

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ements, since 2016), and SMETHODS (SMEs Training and Hands-on Practice in Optical Design and Simulation, 2013-2014); and LIGHT2015, respectively.

He is President of Photonics Finland, and past Executive Director of European Optical Society EOS (2013-2017), He is also member of SPIE, OSA, and Photonics21.

Final information from the Photonics21 secretariat:

- *We recommend limiting the BoS nomination letter to 3-4 pages max.*
- *Letters of nominations should be either submitted via the Photonics21 website*

<https://www.photonics21.org/bos-election/index.php>

or via e-mail to secretariat@photonics21.org .

- *It is highly recommended to consult the Photonics21 Terms of Reference before submitting the nomination.*
- *Please note that the deadline for providing BoS nominations to the Photonics21 Secretariat is the **21st September 2018**.*