



To Photonics21 Secretariat  
via eMail: [secretariat@photonics21.org](mailto:secretariat@photonics21.org)

Dear Photonics21 Secretariat,

We herewith submit the nomination of the following Photonics21 Board of Stakeholders candidate  
asphericon GmbH / Ulrike Fuchs.

**- Letter of Nomination -  
Photonics21 Board of Stakeholders  
Election 2025**

## Photonics21 Board of Stakeholders - Letter of Nomination

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

asphericon GmbH

**2. Full contact details of the affiliation (street, postal code, country) nominated as BoS Member and invoice address** *(In accordance with the Terms of Reference §5, which the Affiliation acknowledges having received, an Annual Service fee will be invoiced every year during the first quarter to the BoS Member. By signing the present letter, the BoS candidate agrees to pay this Membership Fee. The Fee will be considered an asset of the Photonics 21 AISBL in accordance with its statutes (article 12b).)*

Stockholmer Str. 9  
07747 Jena  
Germany

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

Dr. Ulrike Fuchs

**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 BoS<sup>1</sup>

asphericon was founded in 2001 at the International Optics Centre in Jena. It has since evolved into a global leader in aspheric lenses and advanced optical system solutions, serving a wide range of high-end applications. From the outset, the company has driven a paradigm shift in optics manufacturing, setting new industry benchmarks with its intelligent, proprietary CNC control technology. This innovation enables highly precise and reproducible production of aspheres of virtually any geometry and size, achieving efficiency gains of up to 50 percent compared to competitors.

Since its inception, asphericon has embraced the principles of Industry 4.0 with this patented control platform, establishing itself as a true digital-first manufacturer. Data-driven processes, AI-supported quality analytics, and fully integrated metrology ensure a seamless digital workflow spanning design, simulation and automated production.

The company's in-house CNC technology enables the machining of larger diameters and achieves unparalleled form accuracy, offering exceptional material versatility. By combining this technology with custom-engineered tools that are precisely synchronised with the control system and real-time surface measurement, asphericon is able to manufacture aspheric components that boast outstanding surface quality and unmatched shape fidelity.

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<sup>1</sup> 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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As a driver of innovation, asphericon invests heavily in research and development, working closely with leading partners across the photonics sector to define the future of optical manufacturing. These initiatives include disruptive production concepts, the creation of complex freeform optics, and the development of new digital design and simulation methods. Through these activities, asphericon plays a pivotal role in bolstering the European photonics ecosystem, facilitating technology transfer and generating sustainable value within the European economy.

With a clear focus on precision, digitalization and global collaboration, asphericon is actively shaping the future of the optics industry and setting new global standards for high-tech manufacturing in the digital age.

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

Dr. Ulrike Fuchs serves as Vice President Strategy & Innovation and Authorized Officer (Prokuristin) at asphericon GmbH, a global leader in aspheric and freeform optics. With over 15 years of leadership experience in the photonics industry, she combines deep scientific expertise with strategic foresight and industrial application focus. She has successfully led the Applications Department at asphericon, building interdisciplinary teams in optical design, system integration, metrology, and drives the company's innovation and business strategy.

Dr. Fuchs is widely recognized within the international photonics community. She is an Optica Fellow, SPIE Senior Member, and currently serves as Optica Director at Large and Chair of the Optica Award Council. She has co-chaired major international conferences (e.g. SPIE Optical Design & Engineering), acted as Associate Editor of *Optics Express*, and delivered numerous keynotes, invited talks and tutorials worldwide. Her scientific contributions include more than 70 publications and six patent families, demonstrating her ability to translate research into industrial impact.

Throughout her career, Dr. Fuchs has been responsible for more than 20 national and international research and innovation projects at asphericon with a funding volume of nearly €30 million. These projects, often conducted in strong partnerships across academia and industry, underline her commitment to collaborative progress and technology transfer. At asphericon, she has pioneered the development of advanced product lines such as modular beam shaping systems, bringing cutting-edge optical design into high-end industrial applications.

As a member of the Board of Stakeholders, Dr. Fuchs will contribute a strong industrial perspective, complementing the academic viewpoints represented in the community. She brings first-hand expertise in translating optical innovations into scalable manufacturing processes and high-end applications. Her focus lies on ensuring that photonics research is not only visionary but also deployable in real-world industrial contexts from laser-based manufacturing and quantum technologies to life sciences and space applications. She is passionate about fostering cross-border collaboration, strengthening the dialogue between research, SMEs and

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large industry players, and supporting the next generation of photonics professionals through mentoring and training initiatives.