To Photonics21 Secretariat
via eMail: secretariat@photonics21.org

Dear Photonics21 Secretariat,

We herewith submit the nomination of the following Photonics21 Board of Stakeholders candidate Ensemble3 sp. z o.o. / Dorota Anna Pawlak.

- 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):**

   Ensemble3 sp. z o.o.

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).)*

133 Wólczyńska St.
01-919 Warsaw Poland

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

   Dorota Anna Pawlak

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[1]

ENSEMBLE[3] CoE (E3) is dedicated to developing next-generation materials platforms that address the most pressing challenges in photonics and beyond. Our activities span the full innovation chain starting from fundamental crystal growth and design of novel materials to their integration into optoelectronic, photonic, and quantum devices.
At the core of E3's research are advanced crystal growth methods and the tailoring of functional materials with engineered optical, electronic, and magnetic properties. These include oxide single crystals, III-V compound semiconductors, topological insulators, fluorides, organic crystals, eutectic heterostructures, and glass-based nanocomposites. By combining materials design with cutting-edge characterization tools, E3 is able to explore new physical phenomena, such as plasmon-exciton coupling, nonlinear optics, and quantum effects, while also providing scalable solutions for applications in photonics, energy, medicine, and information technologies.
Expected Contribution to Photonics21 BoS:

- **Expertise in Materials for Photonics:** E3 brings unique know-how in crystal growth and advanced functional materials, offering new opportunities for the development of tailored platforms for nanophotonics, quantum communication, sensing, and high-speed optoelectronics.
- **Bridging Research and Applications:** E3's activities directly support the Photonics21 vision of accelerating translation of research results into real-world applications. It

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

provides materials platforms that can be integrated into energy-efficient devices, quantum technologies, and emerging THz systems.
- **Cross-Sectoral Impact:** Beyond photonics, our materials contribute to energy harvesting, biomedicine, and ICT, ensuring strong synergies with other European strategic priorities such as the Green Deal and digital transformation.
- **Innovation Ecosystem & Networking:** With established collaborations across leading European institutions and industry, E3 can serve as a hub for joint R&D initiatives, fostering industrial uptake and creating a pipeline of new photonics technologies.
- **Value Added for Photonics21:** E3's contributions will strengthen Europe's position in advanced materials for photonics by (i) offering novel, scalable crystal growth technologies, (ii) advancing material-driven innovations for quantum and opto-spintronics, and (iii) supporting the strategic roadmaps of Photonics21 with concrete material platforms ready for industrial adoption.

In joining the Photonics21 BoS, E3 aims to provide thought leadership in advanced materials, to engage in shaping future research and innovation agendas, and to work collaboratively with stakeholders to ensure Europe's competitiveness and sustainability in the global photonics landscape.

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

Prof. Dorota Anna Pawlak (DAP) is an accomplished leader in advanced materials, nanophotonics, and crystal growth technologies, with a proven track record in building high-performing research units, managing international scientific consortia, and securing competitive funding. She is the founder and current President of the E3 (established in 2020), where she leads a team of around 100 researchers and staff, advancing innovations in functional materials and photonics applications. Her earlier achievements include the creation of the Laboratory of Materials Technologies at the University of Warsaw, leadership of the Department of Functional Materials at ITME (currently IMiF), and co-founding of the spin-off company 3C CRYSTALS.
DAP has successfully coordinated and led numerous high-impact national & international projects, including the EU FP7 ENSEMBLE Collaborative Project, the Horizon 2020 Teaming for Excellence programme (15 MEUR, 6 partners from 4 countries), FNP FENG (from 2025), FNP IRA (2020-2023), FNP TEAM (2018-2021, 2009-2013), Air Force Office for Scientific Research project, AFOSR (2014-2017), Polish-Swiss Research Programme (2011-2016), and the ERANet RUS Plus Innovation project. These initiatives demonstrate her ability to bring together academia and industry across Europe and beyond, fostering collaborative ecosystems to drive innovation. Her expertise lies not only in pioneering scientific contributions in functional and optical materials but also in creating sustainable research structures that expand Poland's and Europe's leadership in photonics and advanced materials.

Expected Contribution to Photonics21 BoS:
- **Strategic Leadership in Materials for Photonics:** Drawing on her extensive experience in crystal growth, advanced functional materials, and nanophotonics, DAP can contribute unique perspectives on how materials development underpins breakthroughs in photonic technologies.
- **Bridging Science, Innovation, and Industry:** With experience in creating research units and spin-offs, she brings insight into how research excellence can be translated into industrial applications, supporting Europe's competitiveness in photonics.

- **Building International Collaborations:** Through years of coordinating EU consortia, she can strengthen Photonics21's international partnerships and promote Europe as a global leader in material-enabled photonic innovations.
- **Mentorship and Capacity Building:** Her leadership in developing new laboratories and large-scale centres demonstrates her commitment to cultivating scientific talent, a key element for sustaining innovation in photonics.

DAP's engagement in Photonics21 BoS will provide value not only through her deep technical expertise but also through her ability to shape research agendas, foster cross-disciplinary collaboration, and ensure that Europe maintains a strong position in photonics-enabled technologies addressing societal and industrial challenges.