

Photonics 21

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Website: www.photonics21.org

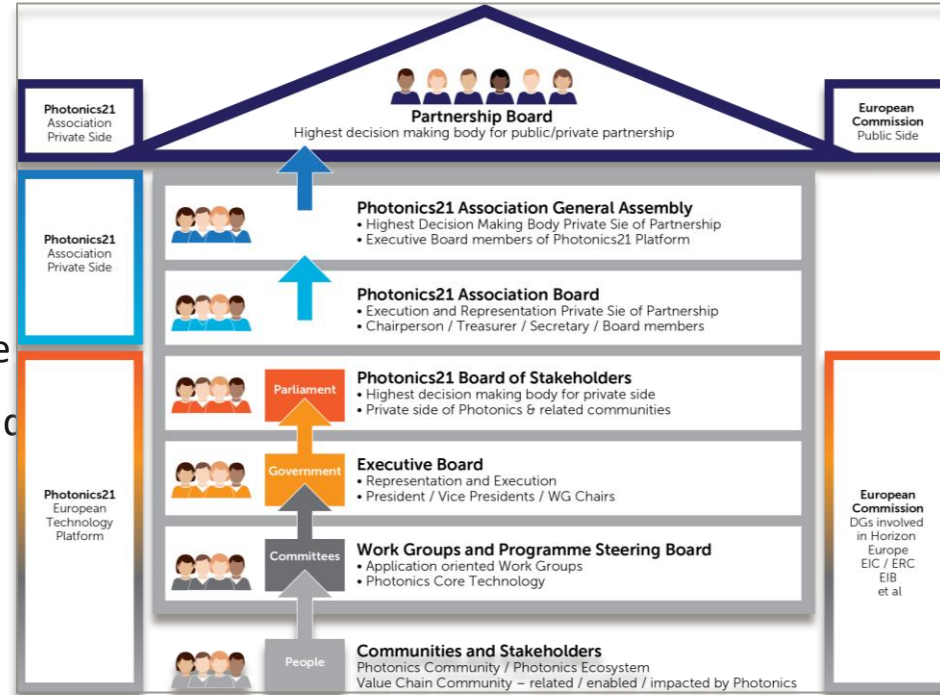
X / LinkedIn: Photonics21



PHOTONICS²¹

Photonics21 – EU stakeholder organisation with more than 4000 members from academic research and industry

- Democratic, industry driven, stakeholder organisation following a people-parliament-government principle
- All board positions are elected by the Photonics21 membership
- Membership is open to all and free of charge
- Close cooperation with end-user industry and other deep technologies key to implement strategy



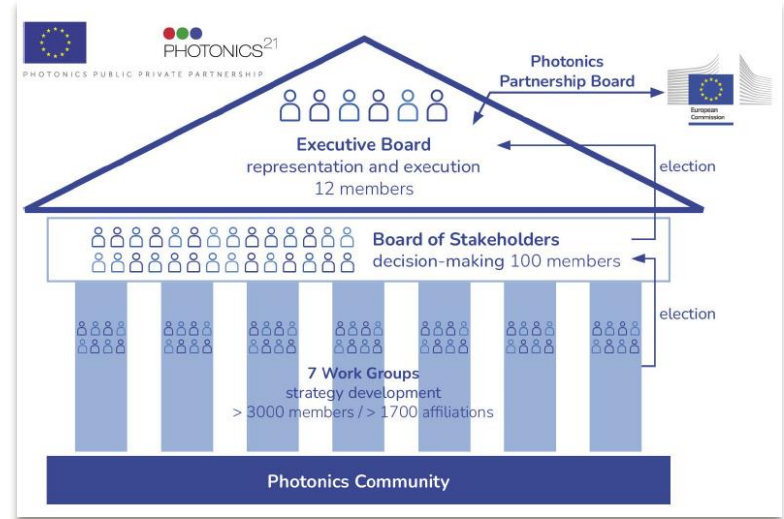
Photonics21 – Seven Work Group providing expertise to shape the future of photonics in Europe



<p>Health</p> <ul style="list-style-type: none"> • Cancer • Opto Genetics • Personalized Medicine • Mobile Biosensors & Image Systems • Photonic Drug Testing • Real Time Proteomics, Genomics, Metabolics • Human centric lighting system 	<p>Digital Infrastructure</p> <ul style="list-style-type: none"> • HPC, IoT, 5G • Cyber Security, Secured Communications • Optical networks// Data Intelligence Hubs for AI • Zero downtime in a terabit economy • Photonics Components for Quantum Computing and Cryptography 	<p>Manufacturing</p> <ul style="list-style-type: none"> • Industry 4.0 • Robot cooperation • AI / Machine Learning • for flexible production • Quality control and non-destructive testing • Photonics for Circular Economy & Recycling • Materials for photonic production and photon induced material modification 	<p>Safety, Security & Defence</p> <p>Civil Safety & Security</p> <ul style="list-style-type: none"> • Surveillance & Monitoring Systems, • Non destructive observation systems (e.g. in construction) <p>Defence Systems</p> <ul style="list-style-type: none"> • Night Vision, AR, VR, Autonomous Systems – Drones, Robots • Munition Imaging (mines) and Weapon Guiding Systems 	<p>Agro and Food</p> <ul style="list-style-type: none"> • Precious farming for lower fertilizers, herbicides, fungicides • On the fly 100 % quality control along the food processing value chain • Light based enrichment of substances in plants for medical application and food enrichments 	<p>Mobility</p> <ul style="list-style-type: none"> • Autonomous driving systems by sensors, imaging and wireless connectivity • Smart Lighting Systems for enhanced security • Real-time Road (and Track) Control and Traffic Monitoring • Smart City / Smart Parking and Traffic Flow Systems • Logistics
<p>Creation with other Programme Areas and Partnerships</p>					
<p>Creation with Photonics Stakeholders</p> <p>Core Products and Applications</p> <ul style="list-style-type: none"> • Materials for Optical Components & Systems, Production Processes for components, Robots and Human/Robots Cooperation • Materials for Light & Laser Sources, IC, Masks, • Photonic Components and Systems, Lenses, Optical Fibers, PICs, Freeform Optics • Optical Sensors, LIDAR, Spectrometers, High-precision VIS/NIR/MIR/FIR spectroscopy and imagers, Surveillance Systems • LEDs, Nano-LEDs; Human centric lighting system, Low loss LED drivers with sensor functionality and connectivity <p>Core Tasks</p> <ul style="list-style-type: none"> • Next Generation Skills Sets: Skill sets & Training - Education and Training • Standards and Regulations 					

Photonics21 – Advising the European Commission in Photonics Research & Innovation Priorities

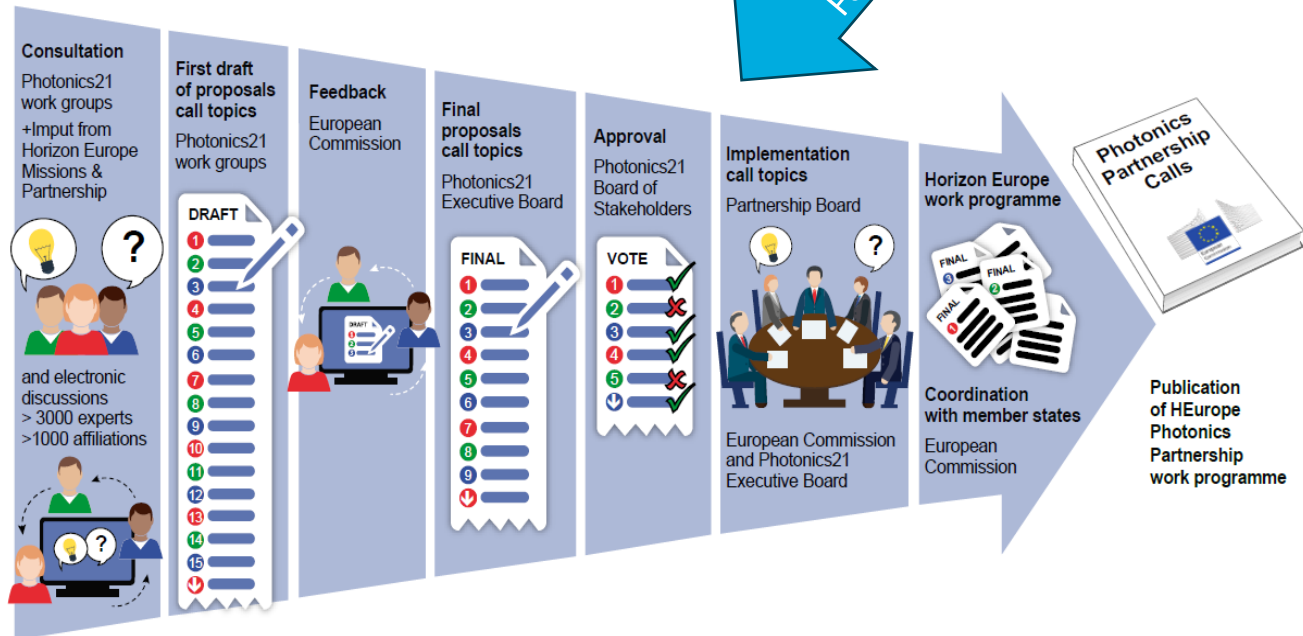
- Photonics Partnership with the European Commission since 2014
- Photonics21 officially advises the European Commission on Photonics Research & Innovation Priorities for photonics calls
- Photonics21 consults the European photonics community in an open, transparent and democratic strategy process



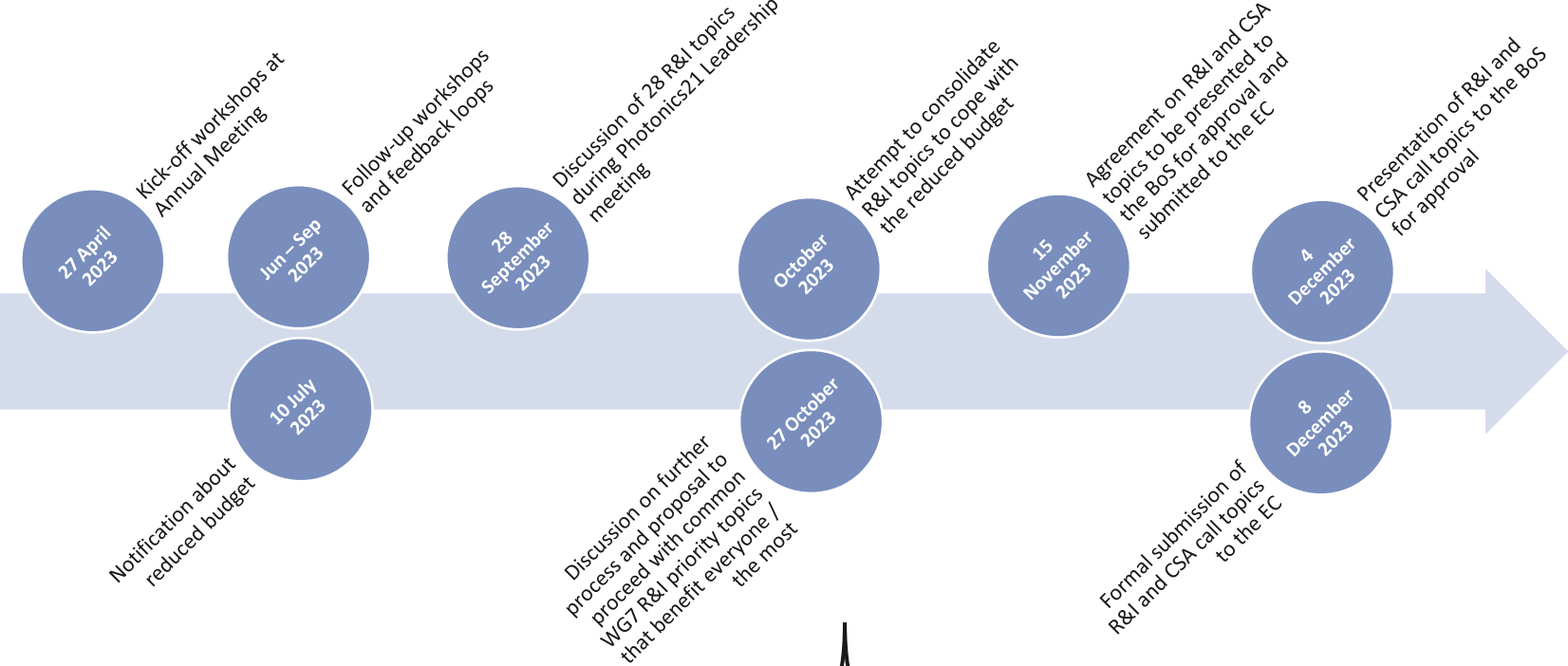
Photonics21 – member consultations for setting Photonics Partnership call priorities

Today
For 2025, 26, 27

Photonics21 Strategic Research & Innovation Agenda



Photonics21 – Steps toward Photonics Partnership call priorities **2025 & 2026/27**



Consultation process of the EC and the Member States

Join the Photonics Partnership Annual Meeting 2024

Shape the future of photonics in Europe!

Photonics Partnership Annual Meeting 2024

14 – 15 May 2024

DoubleTree by Hilton Brussels City Hotel



PHOTONICS PUBLIC PRIVATE PARTNERSHIP



Why attend

- Be part of a high-level panel discussion "Quo Vadis Photonics?"
- Get information on funding opportunities in other European partnerships or initiatives
- Learn about the economic performance of photonics on a global scale
- Network and develop new ideas for future Photonics R&I projects

Register now!

Early bird rates and sponsoring opportunities available at www.photonics21.org

Photonics21 funding in Switzerland

- **Phorwards21 (Christian and Christoph)**
 - Support action to run Photonics21
 - Switzerland is coordinating “Photonics 4...” workshops
 - Payed by SBFI
- **Photonhub (Pierre Yves)**
 - [Test before invest](#)
- **Carla360 (Pierre Yves)**
 - [Career in Photonics](#)
- **How to get EU funded**
 - Participate in EU call (cannot lead it)
 - Enter effort as usual (EU budget with 0)
 - Apply with SBFI to get project funding (academia as well as companies get funded)
 - (as in framework 6 and during blockage)

- **Phorwards21 contacts**

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Photonics21: Challenges

- **Photonics is key enabling technology**

- Technology driven
 - low TRLs, funding of technology
- But: EU is funding more and more market driven.
 - Technology loses importance with respect to challenges
 - Higher TRLs, funding of challenges (health, ..)

- **Chips act**

- Photonics is by many considered to be part of electronics
 - PICs will be part of “silicon” chips act
 - Silicon is dominated by huge companies, photonics by small companies (elephant and the mouse in one cage)

- **Quantum**

- Quantum started with mechanics (Fermions)
 - Photonics (Bosons) is dealing everyday with dualism of quantum and optical quantum computer gain ground
 - Some photonics academia has been switching to quantum

- **Photonics21**

- Will there be a Photonics 21 PPP for 2028 ???

Thank you!!

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