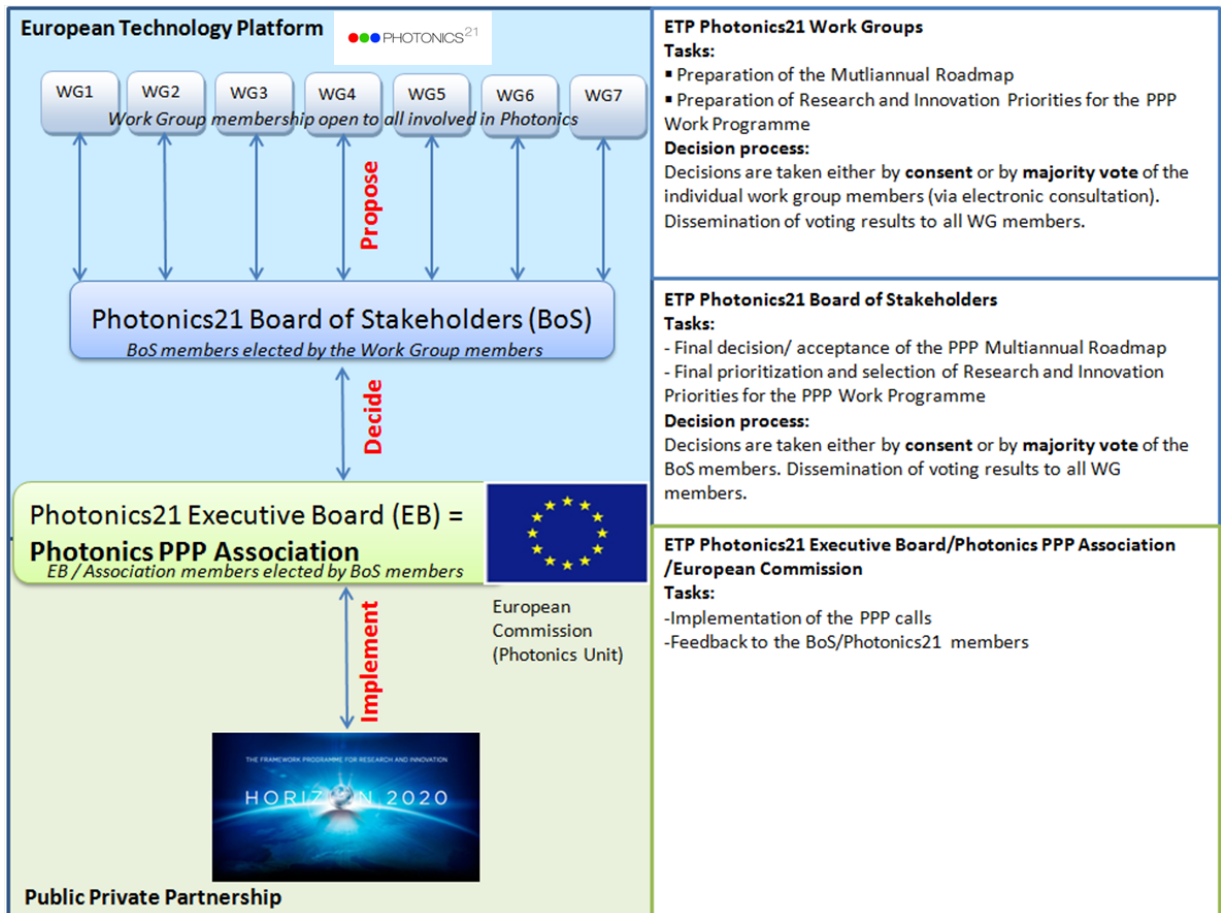


Description of the process for identifying the Photonics PPP Research and Innovation priorities and Multiannual Roadmap (update)

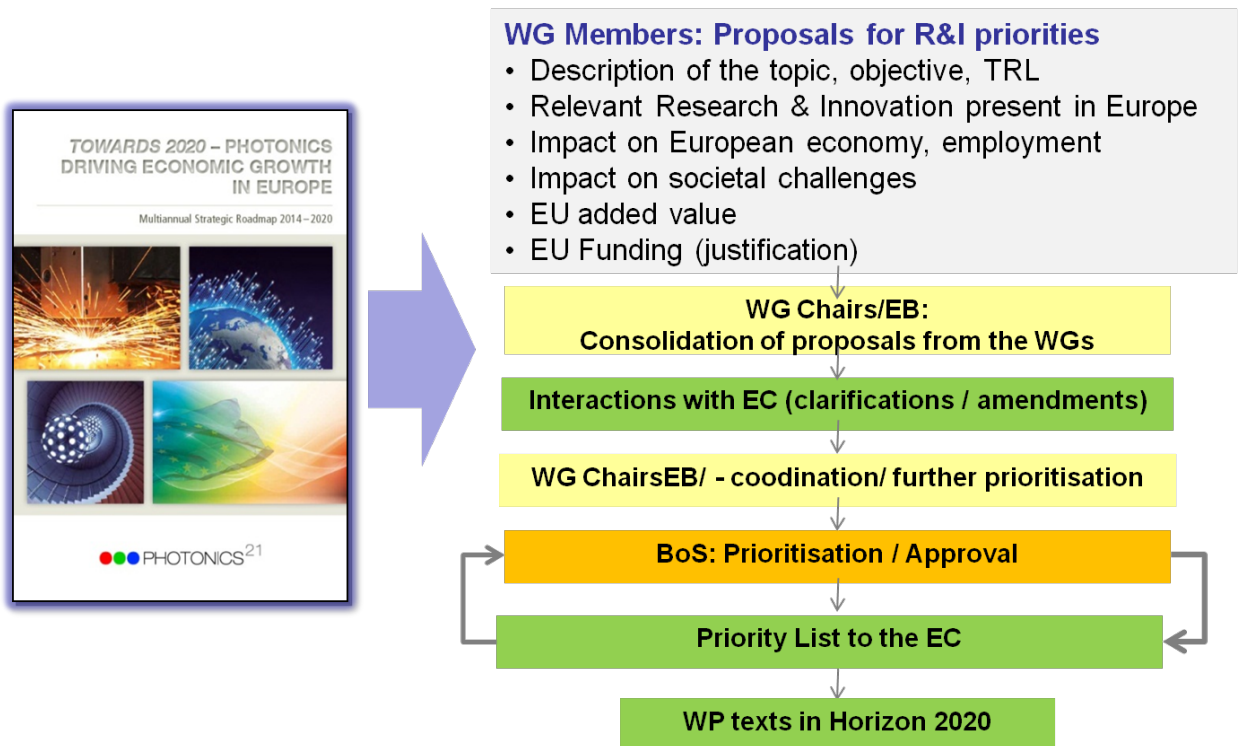
A. Overview: Tasks, responsibilities and process



The strategy development and the identification of research and innovation priorities includes the three organisational layers of the European Technology Platform Photonics21 with following roles and tasks:

- The **Work Groups (WGs)** are the major source of strategy (Multiannual Roadmap & R&I priorities) development within the ETP Photonics21.
- As the main decision-making body of the ETP Photonics21 the **Board of Stakeholders (BoS)** reviews the outcomes of the work group strategy and votes on the overall priorities and focus of the PPP activities.
- The **Executive Board (EB)/ Photonics21 Association** coordinates the input of the work groups and executes the decisions of the Board of Stakeholders. In this role it will be the mouthpiece of the ETP Photonics21 towards the European Commission in the Photonics PPP.

B. Detailed description of the decision making principles and the process



Work Groups (People): Strategy Development

Task: Proposal per work group for the specific part of the “Multiannual Roadmap” as well as “Research and Innovation Priorities for Horizon2020 PPP work programmes”

The Photonics21 ETP Membership forms the basis of the Photonics21 PPP. Membership in the ETP Photonics21 will continue to be on a personal basis and is open to all concerned with and active in research, innovation and manufacturing in the field of photonics in Europe on a professional basis. This also includes end user industries, European cluster organisations and national technology platforms. Each member (currently 2280) is assigned to a WG according to his/her preference. Thus, all strategic issues to be addressed in the PPP will originate from the WGs. The Photonics21 WGs each draft their strategy documents and research and innovation priorities for the PPP.

Decision taking – general principles:

- I. Decisions are taken either by consent or majority voting (no quorum) of the work group members
- II. Once a decision has been taken by the work group members on a specific topic/draft it is in principle regarded as definite. If, for whatever reason, an agreed draft/topic should be opened again, this can only be done with the consent of the work group chair and of at least 10% of the work group members (being WG members at the time the decision was taken).
- III. Any dispute that may arise between the chairman of the work group and individual member(s) or a subgroup(s) of the work group should be resolved in good faith by both sides. In case an issue cannot be resolved, member(s) or the sub group of the work group

can address the Executive Board in order to decide on the issue at dispute. Both sides are obliged to follow the decision of the Executive Board (vote) on that issue.

Strategy development process - general principles:

- I. Strategy development at work group level will be done through workshops and/or through electronic consultation
- II. Strategy development (R&I Priorities, Multiannual Roadmap) is a multistep, iterative process with involvement of all members of the respective work group or as the case may be with involvement of an even wider community, e.g. end user industry (R&I priorities) or the general public (Public consultation – PPP Multiannual Roadmap).
- III. Individual steps in the strategy development process:

Example

- a. As the case may be Work Group workshops 1-7 to discuss on the research and innovation priorities
- b. 1st draft strategy document prepared by work group chair/editor group
 - i. *Circulated to all work group members for comments with a fixed deadline for providing feedback.*
 - ii. *Feedback included into the 1st draft*
- c. 2nd draft strategy document by work group chair/editor group
 - i. *Circulated to all work group members for comments with a fixed deadline for providing feedback*
 - ii. *Feedback included into the 2nd draft*
- d. Final draft strategy document by work group chair/editor group
 - i. *Circulated to all work group members for information*

Subsequently, the EB and more specifically the WG chairs within the EB are coordinating the input from the WGs and preparing submissions to facilitate the decision-making process in the BoS. This may be in the form of an Executive Board Proposal towards the BoS for approval or a coordinated list of topics for further prioritisation through the BoS.

Board of Stakeholders (Parliament): Prioritization and Decision Making

The respective Photonics21 WG draft strategy documents and research and innovation priorities for the PPP are reviewed and prioritized (by consent or by vote) by the Photonics21 Board of Stakeholders (BoS)¹. As the case may be any prioritisation may be done upon the proposal of the Photonics21 Executive Board. Therewith the BoS determines the PPP strategy (like the Photonics PPP Multiannual Strategic Roadmap) and a focussed set of Research and Innovation priorities for the Photonics PPP.

The **Executive Board (EB)/ Photonics21 Association** serves as a mouthpiece of the ETP Photonics21 towards the European Commission in the Photonics PPP. It will represent the private side in the Partnership Board of the Photonics contractual Public Private Partnership (cPPP), execute the decisions of the Photonics21 Board of Stakeholders and report back towards the Board of Stakeholders about the issues discussed and decisions taken within the PB.

¹ See Photonics21 Terms of Reference (www.photonics21.org)

Closing remark:

As a matter of principle, proposals for PPP actions may also come from, e.g. the European Commission, other ETPs or PPPs. All proposals will go through the decision making process described above. However, in the case of PPP Coordination and Support activities not dedicated to a specific work group but aiming at overarching issues (e.g. open innovation actions, further structuring of the community, etc.) proposals may come from the BoS, the EB or the European Commission and may be decided by the BoS directly without going through the decision making process within the work groups. Likewise proposals on cross-cutting KETs activities which may not be dedicated to a single work group may come from the BoS, the EB or the European Commission and may be decided by the BoS directly without going through the decision making process within the work groups.

Finally, it is to be noted that in addition to the priorities defined by the PPP, there may also be actions for new ERANETs, which are discussed directly between the European Commission and the Member States participating in the Mirror Group of Photonics²¹.

(2) Description of the monitoring process of the PPP objectives, outcomes and impact and responsibilities of the respective parties

A. Indicators for Industrial Competitiveness and Economy Impact

- **KPI 1: Maintain / Increase the (European) market share of the global photonics market**

Baseline: In 2012, the global market share of Europe was 18%

Target: By 2020, keep a global market share of at least 18%

Data strategy:

Data is to be acquired through two independent studies that will be carried out under the responsibility of the Photonics21 ETP. The study results need to be available for the mid-term review (June 2017) and the final review of the Photonics PPP (2020) respectively. Additional data may also be acquired through the KETs Observatory.

- **KPI 2: (Develop) New photonics R&I capabilities for addressing the valley of death**
Metrics: new pilot lines and manufacturing capabilities and involvement of stakeholders

Data strategy:

Data to be obtained from the Photonics PPP Projects that will be funded under H2020 or under ESIF. Data to be provided by the European Commission Photonics Unit on a bi-annual basis.

- **KPI 3: (Improve) the innovation potential of photonics companies and notably of SMEs**

Metrics: new open access infrastructures and services to design, prototyping, manufacturing or testing, etc., and involvement of SME stakeholders;

Data Strategy:

Data to be obtained from the Photonics PPP Projects funded under H2020: Data to be provided by the European Commission Photonics Unit to the Photonics21 secretariat

B. Indicators for the socio-economic Impacts

- **KPI 4: Number of people directly employed by the photonics industry**

Baseline: In 2012, there were 300 000 direct jobs

Target: by 2020, increase by at least 10% new jobs in photonics

Data Strategy:

Data to be acquired through an independent Study, that will be carried out under the responsibility of the Photonics21 ETP

- **KPI 5: Education, training and skills development**

Metrics: number of specific activities undertaken to attract young minds to photonics or the number of young students addressed by educational material on photonics

Data Strategy:

Data to be collected by the European Commission Photonics Unit (from H2020 supported PPP projects) and the Photonics21 secretariat via the Photonics21 Stakeholders.

- **KPI 6: Scale of diffusion of photonics in application areas and in solutions addressing societal challenges**

Metrics: Representative examples of photonics in application areas and of breakthrough solutions for specific societal challenges

Data strategy:

Data to be obtained from the Photonics PPP Projects funded under H2020. Data to be provided by the European Commission Photonics Unit to the Photonics21 secretariat on a bi-annual basis.

C. Indicators covering the operational aspects of the PPP

• **KPI 7: R&I investments of the photonics industry in the PPP objectives:**

Metrics: Volume of investments on photonics R&I including:

Overall R&I investments of the photonics industry (as described in the section of the PPP proposal on "Monitoring Industrial Commitments").

Target: A four-fold leverage of the public funding that the photonics PPP will receive during the 7 years of Horizon 2020

Data strategy:

Information will be collected via the two studies referred to above (see KPI 1).

• **KPI 8: Efficiency, openness and transparency of the PPP Consultation Process**

Metrics:

- Monitoring the number of participants contributing to the strategy and implementation workshops
- Analysis of Photonics21 members and the Board of Stakeholders members to provide evidence for representation of the Photonics community
- Monitoring of the decision making process during the consultation

Data Strategy:

ETP Photonics21 secretariat will acquire this data and deliver it on a bi-annual basis.

• **KPI 9: The PPP Project Performance**

Metrics to monitor progress of the PPP implementation and of its RDI strategy:

- Time to contract
- Levels of response to calls
- Progress against technology roadmap timetable
- Value chain correctness of PPP projects
- Participation of Industry & SMEs in PPP projects. Target: Increase industry participation to 50 % in terms of both participants and funding over the 2012 baseline of approximately 36 % (in terms of participants) and 35 % (in terms of funding). SMEs should account for 50 % of industry participation.

Data Strategy: Data to be provided by the European Commission Photonics Unit to the ETP Photonics21 secretariat on a bi-annual basis.

• **KPI 10: Success stories relating to key developments in photonics by H2020 funded projects**

Metrics:

- a. technology breakthroughs (in terms of unprecedented functionality or performance of a prototype system/device), engagement with new industrial sectors or markets, and the identification of breakthrough solutions for specific societal challenges
- b. Patents and contributions to standards (where appropriate) by H2020 funded projects

Data Strategy:

Data to be provided by the European Commission Photonics Unit to the ETP Photonics21 secretariat. The Photonics21 secretariat will provide guidelines to be forwarded to the Horizon2020 projects.

- **KPI 11: Coordination of the PPP implementation with the Member States and the Regions**

- a. Strategy implementation coordinated and combined with regional and national activities in the field;
- b. R&I cooperation activities launched with national and regional funding agencies

Metrics: Number of cooperation meetings with national technology platforms and innovation clusters, mirror group meetings; examples of cross-national and cross-regional cooperation actions; number of new ERANETs launched, etc.

Data Strategy:

- a. Photonics21 secretariat
- b. Mirror Group of ETP Photonics21, ETP Photonics21 secretariat and the European Commission Photonics Unit

- **KPI 12: Dissemination and Awareness**

Make Photonics visible to the general public in Europe and to a broad range of stakeholders

Metrics: wide dissemination of information and tangible examples about how Photonics solutions contribute to the day to day live of European citizens by using various communication channels like social media, print, video, etc. awareness and information actions held for promoting the PPP activities to a broad range of stakeholders (within and beyond the ones included in Photonics21) – this includes events, targeted Newsletters, social media, etc.

Data Strategy

Data to be obtained from the Photonics Projects funded under H2020 and from the Photonics PPP Stakeholders (BoS Members in particular) and be collected by the European Commission Photonics Unit and the ETP Photonics21 secretariat. The ETP Photonics21 will be responsible for the dissemination of the information.

Milestones

Milestones / Outputs for Year 1:

- The definition and full implementation of the photonics PPP governance structures and secretariat
Target: 1st half 2014
- Contribution to the definition and dissemination of the first Horizon 2020 work programme of the PPP for 2014-15
Target: First half 2014
- The establishment of the Partnership Board of the photonics PPP (which is the main mechanism for dialogue to monitor and reach the objectives of the PPP)
Target: 2nd quarter 2014

Milestones for the Photonics PPP for the subsequent Years

- ETP Photonics21 annual events bringing together all the Stakeholders
- Monitoring of the functioning of the Photonics PPP (incl. the degree of satisfaction of the Photonics Stakeholders) and of its Partnership Board.
Target: Before every annual event of the Photonics PPP
- Monitoring the degree of implementation of the photonics multi-annual R&I agenda and delivering a prioritised list of R&I activities for the definition of the Horizon 2020 bi-annual work programmes. Target: by December every second year (to be delivered by the Photonics21 secretariat in cooperation with the European Commission Photonics Unit)

Additional contributions

- Contribution to the mid-term assessment of the Photonics PPP: 2017 (By the Photonics21 secretariat in cooperation with the European Commission Photonics unit)

Photonics world Market studies provided by the ETP Photonics21 providing the market status and competitiveness of the European industry.

