

Photonics – Towards a Public Private Partnership in Horizon2020

**The European technology platform Photonics21,
the strategic research agenda, and the commitment
of the European photonics industry for a photonics PPP**

**European Technology Platform
Photonics21**

Markus Wilkens

Overview

- **About Photonics21**
 - **Photonics Public Private Partnership in Horizon2020**
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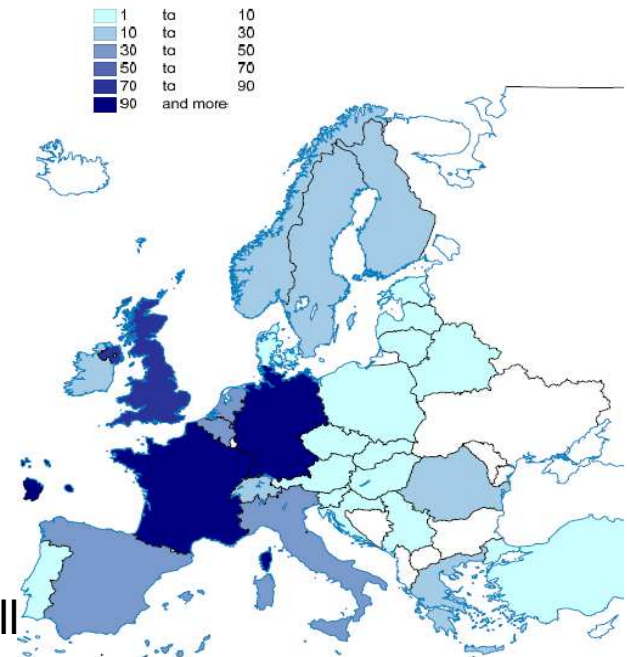
Photonics21 European Technology Platform

Mission:

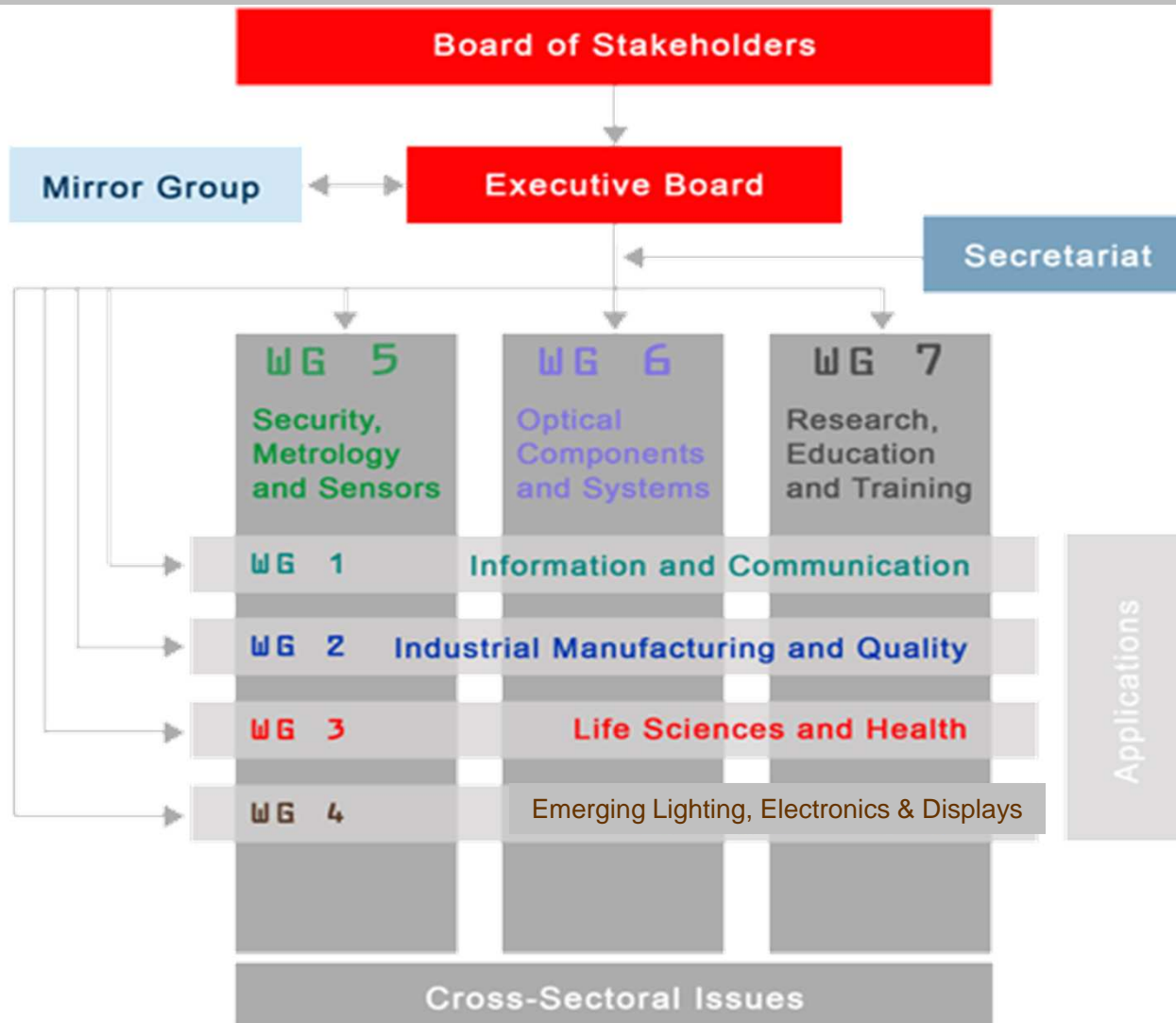
- Establish links between industry, science and politics in photonics
- Define a joined photonics strategy for Europe
- Align public financing with industry-perceived priorities
- Transform knowledge into leading-edge products

Membership:

- More than 2000 members (repr. >1000 affiliations) from all over Europe:
 - Balanced share of industry and Research & Technology Organisations, Associations, Cluster, National Technology Platforms
 - Multiple markets (telecom, lighting, manufact., health)
 - Throughout the value-chain (components-systems)



Structure of Photonics21



Photonics21 Executive Board – Top Level Representation

President:

Michael Mertin, President & CEO Jenoptik

Vice Presidents:

Giorgio Anania, President & CEO Aledia

Jaap Lombaers, Managing Director Holst Center, TNO

Malgorzata Kujawinska, Warsaw University of Technology

Bernd Schulte, COO Aixtron

Work Group Chairs:

Information &
Communication

Alfredo Viglienzoni,
Head New Business
Development, Product
Area IP & Broadband
Ericsson

Industrial Produc-
tion/ Manufacturing
& Quality

Lutz Aschke,
Managing Director
LIMO Lissotchenko
Mikrooptik

Life Science &
Health

Stefan Trager,
Vice President Life
Science Division, Leica
Microsystems

Emerging Lighting,
Electronics &
Displays

Klaas Vegter,
Chief Strategy &
Innovation Officer
Philips Lighting

Security, Metrology
& Sensors

Peter Seitz,
Managing Director
Hamamatsu Photonics –
Applied Research Europe

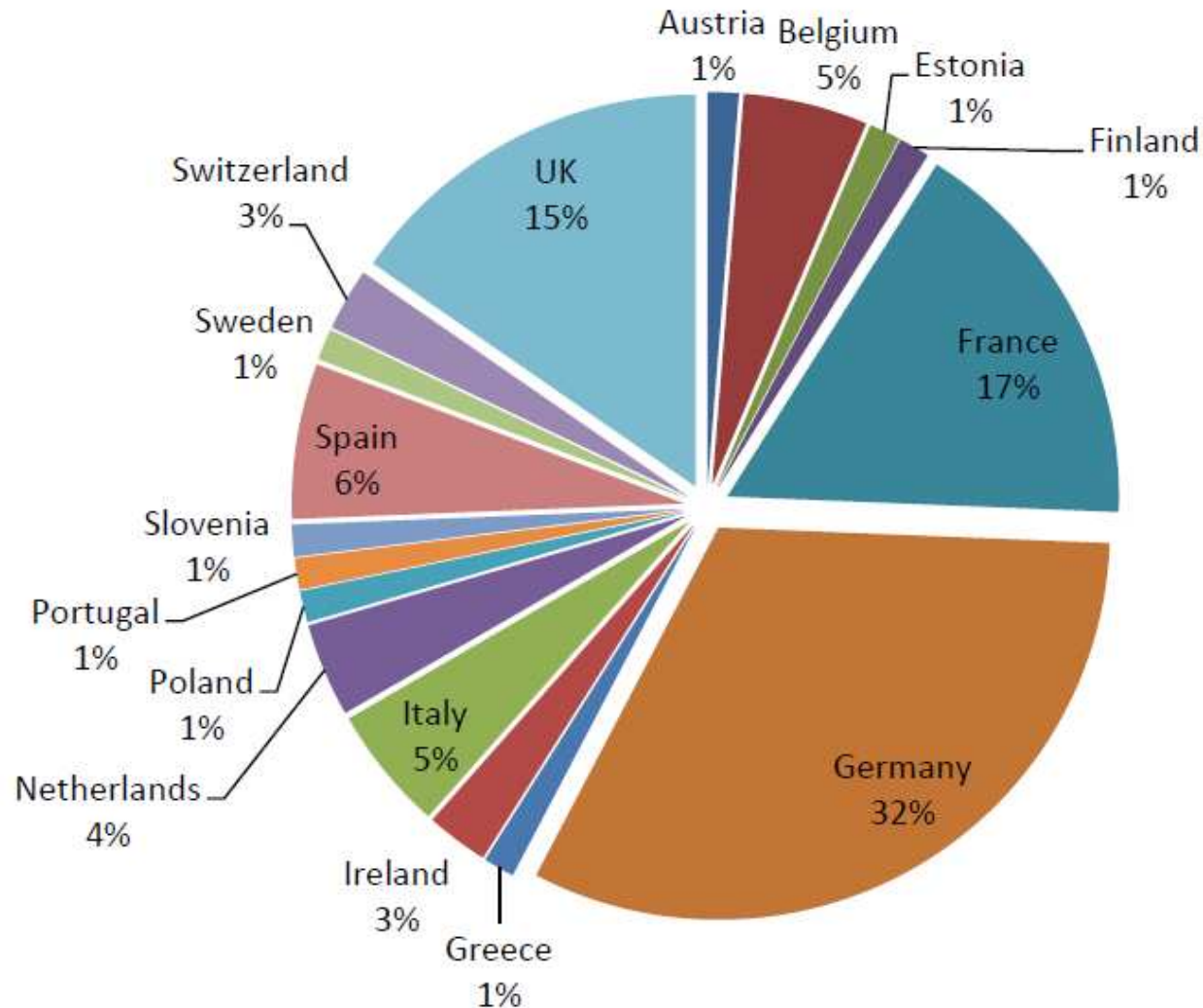
Design & Manu-
facturing of Compo-
nents & Systems

Mike Wale,
Director Active Products
Research Oclaro

Photonics Research ,
Education & Training

Roberta Ramponi,
Professor Politecnico
di Milano

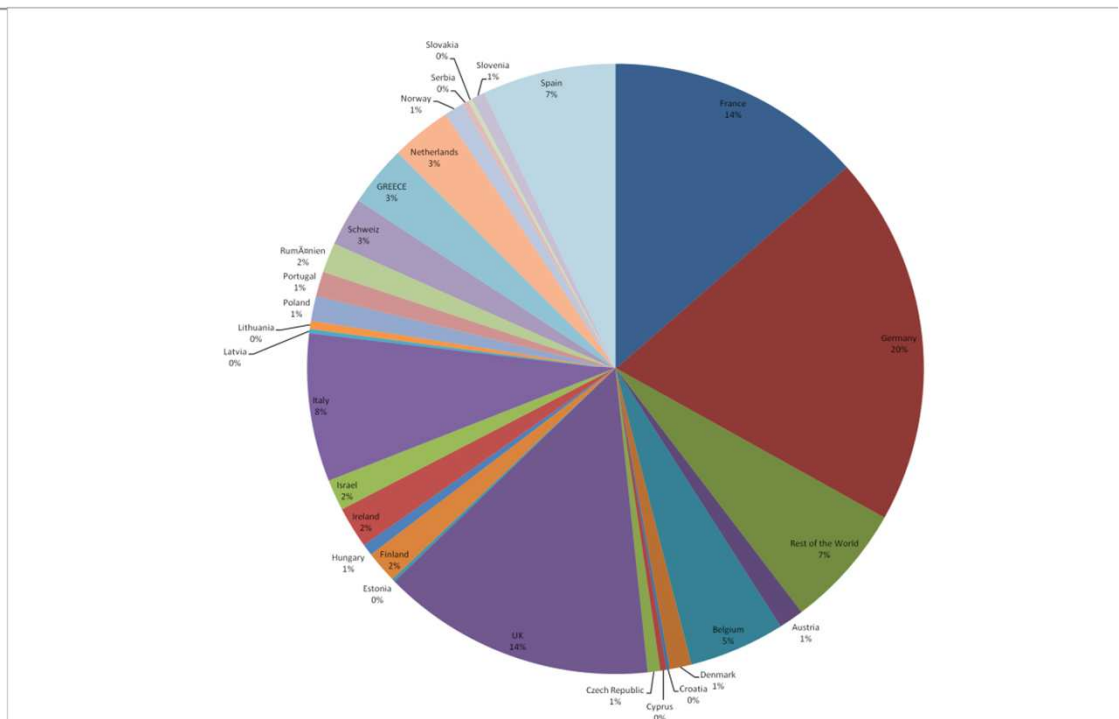
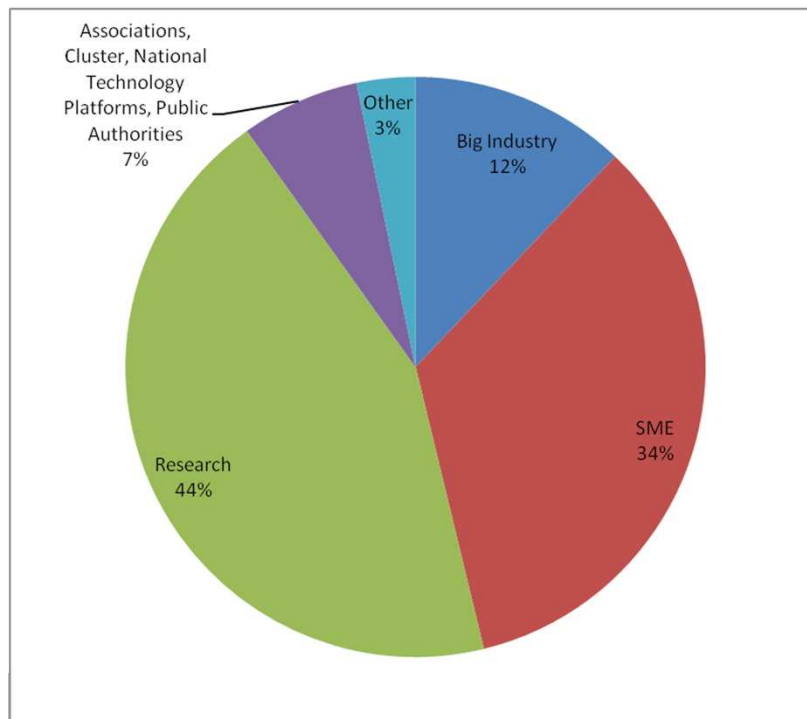
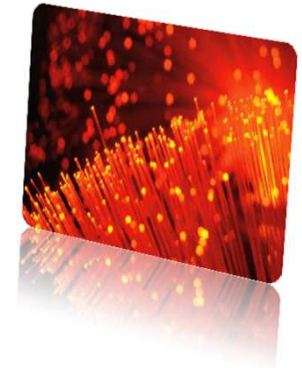
Main decision making body of Photonics21 (BoS) – Geographical distribution of the 75 members



Our Core – The Photonics21 Work Groups

Task:

- Discuss & agree about photonics research and innovation topics and priorities as well as on political recommendations
- Provide input to the European Commission's Framework Programme & the different work programmes by updating the Photonics21 Strategic Research & Innovation Agenda
- Provide networking opportunities for the European photonics community



➤ **Photonics Public Private Partnership in Horizon2020**

Why a PPP in Photonics?



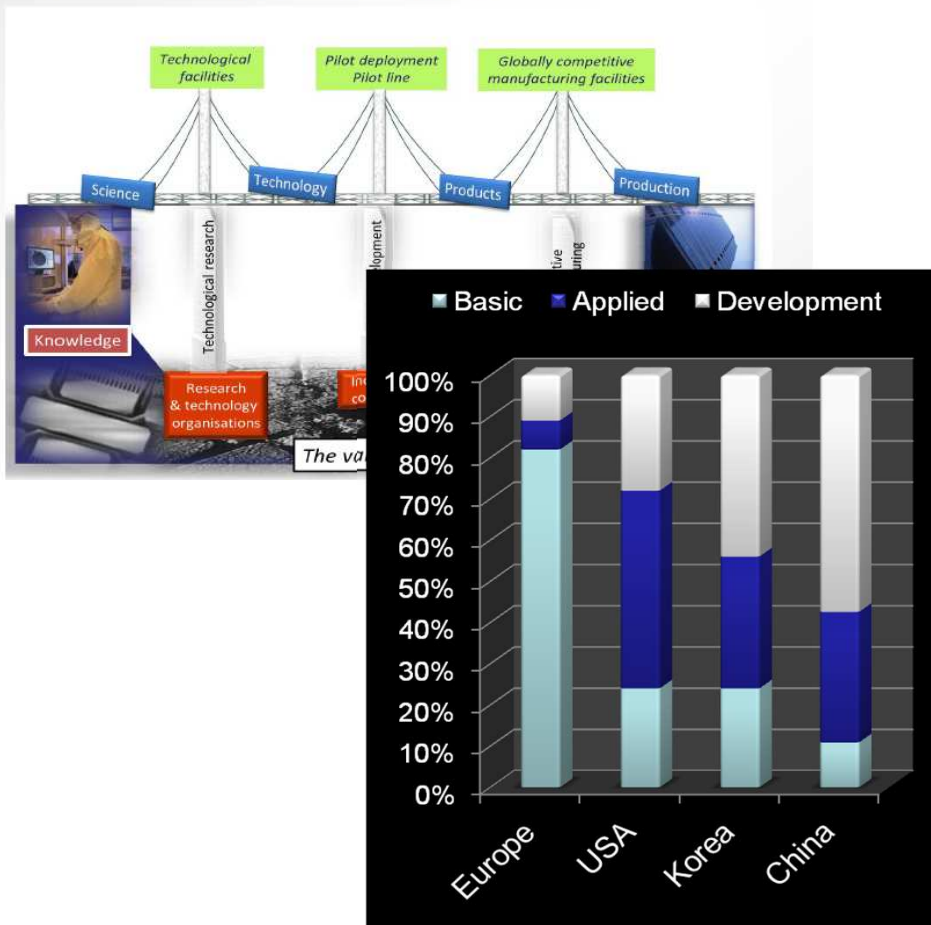
Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), 'Branchenreport Photonik 2013', Optech Consulting, Study 'Photonik 2013/Own calculations

- + Huge market prospects
- + Strong European position in many photonic sectors
- + Well developed innovation ecosystem: World leading companies (many SMEs), RTOs, Cluster, (National Organisations)

- Fragmented and uncoordinated strategy (implementation) for Photonics in Europe
- Insufficient prioritization of funding („coffee for all“) - lack of critical mass

Overcoming the „Valley of Death“

AN INTEGRATED APPROACH TO KETS FOR FUTURE COMPETITIVENESS: THREE PILLAR BRIDGE MODEL TO PASS ACROSS THE "VALLEY OF DEATH "



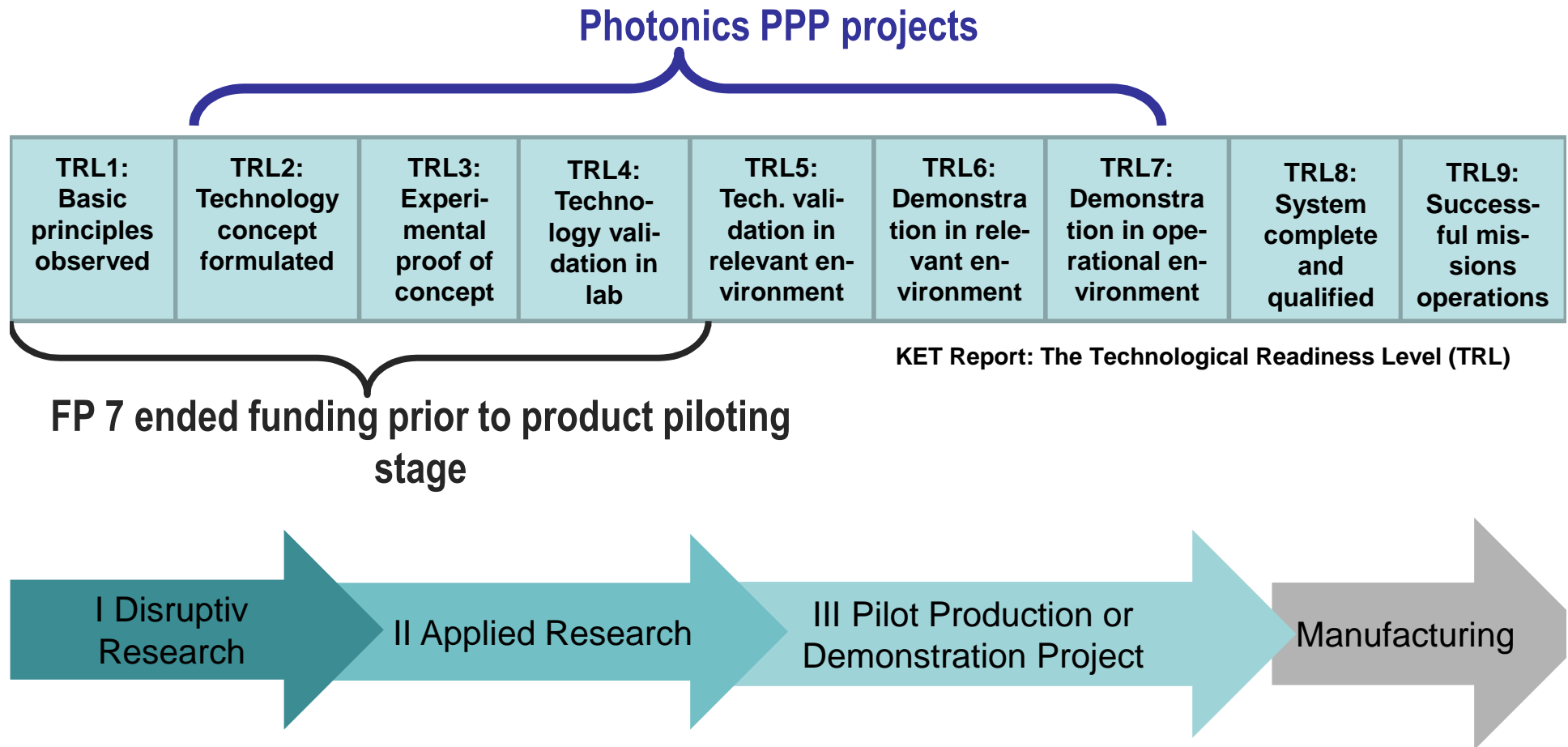
Analysis

- ▶ Europe lags ability to quickly turn inventions into innovations and products and therewith into jobs.

Our recommendation to overcome the “valley of death”:

- ▶ Integrated approach on innovation:
 - ▶ Link technology push and pull
 - ▶ Value chain correctness
 - ▶ Make it easier for SMEs to participate
 - ▶ Manufacturing platforms and services
- ▶ Rebalancing of the R&D&I funding programme necessary
 - ▶ More applied research
 - ▶ More steps towards development and demonstration.

Photonics PPP aims to cover also closer to the market activities



Photonics21 Public Private Partnership – Expectations and Commitment

What we expect and advocate

- Long-term commitment in funding
- Significant budget that reflects the means of Photonics as a KET
- Lean, simple and efficient structures



What the European Photonics industry commits to

- Investing in Europe's competitiveness and growth (R&D, manufacturing in Europe)
 - 4:1 leverage EU funding by private investment** → 200 m €/yr (=1,4 bn € public money over 7 years) x 4 (5.6 bn € private investment)= overall ~ 7 bn € investment

PPP Strategy development

- European Photonics industry/community determines and implements
 - **Photonics PPP Multiannual Roadmap**
 - **Research and Innovation Priorities** on Photonics in Horizon2020 (call topics)

Integrated Approach in a PPP to bridge the Innovation Gap

- **Disruptive and Road-Map based Core Photonic Technologies**
 - Roadmap-based research – value chain approach, involvement of end users
 - Disruptive technology - breakthrough advances for disruptive research
- **Demonstration Programmes**
 - Deployment programmes to leverage EU infrastructure to create jobs
 - Coordinated market pull/push measures seed and accelerate market penetration
- **Photonics Manufacturing Platforms – Manufacturing in Europe**
 - Generic photonic foundries – improve infrastructure for photonics manufacturing
 - Establish public-private pilot production facilities for industry/research
- **Innovative Photonics SMEs & Mid Sized Companies**
 - Light touch' open schemes
 - Fast-track funding allowing prototyping & short-term commercialization
- **Public Procurement**
 - Life Cycle cost approach by public procurement
- **Support Actions**
 - Education, training and skills development
 - Standardization & International Cooperation & Outreach.

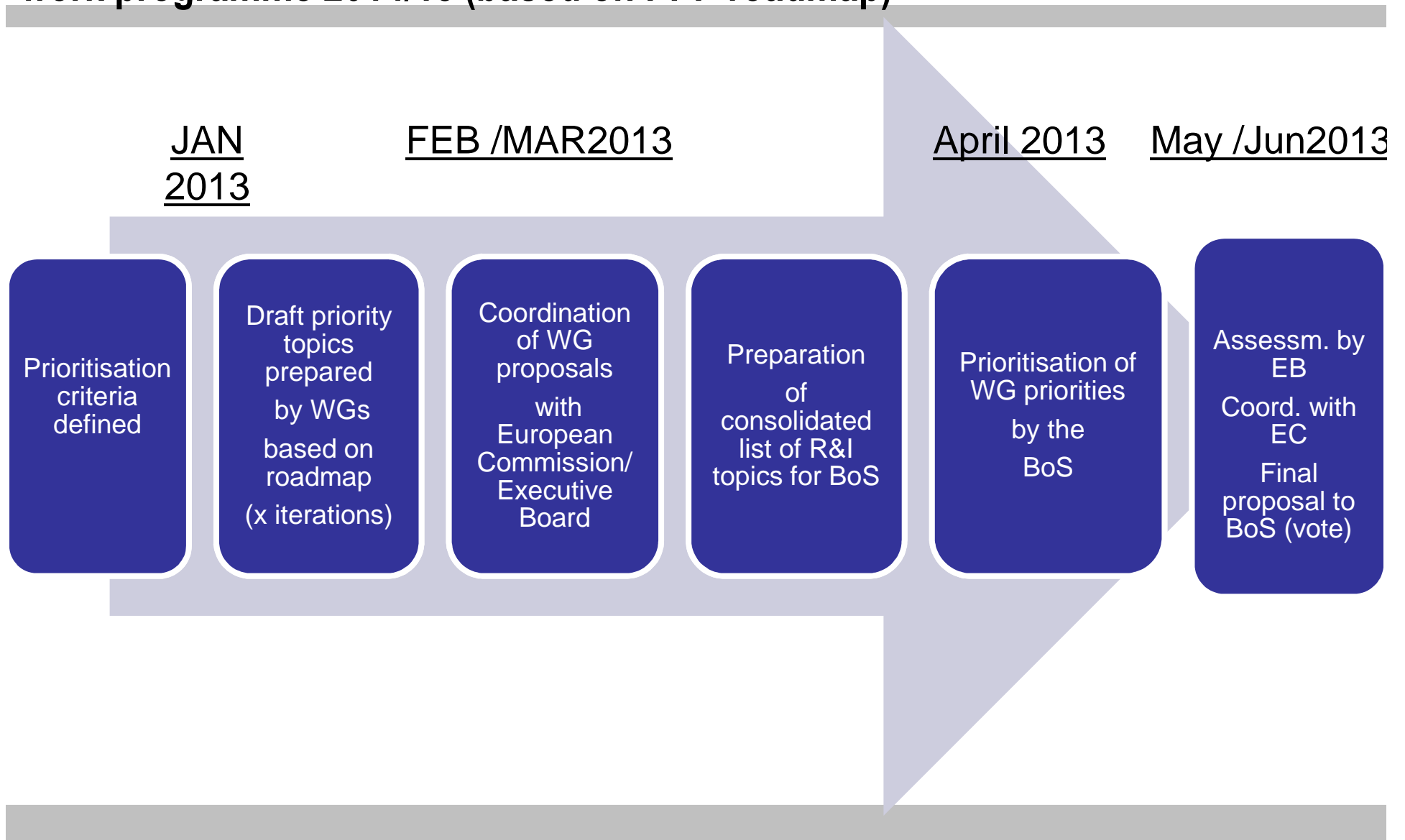
Roadmap: Towards 2020 – Photonics driving economic growth in Europe

Photonics Roadmap as a result of

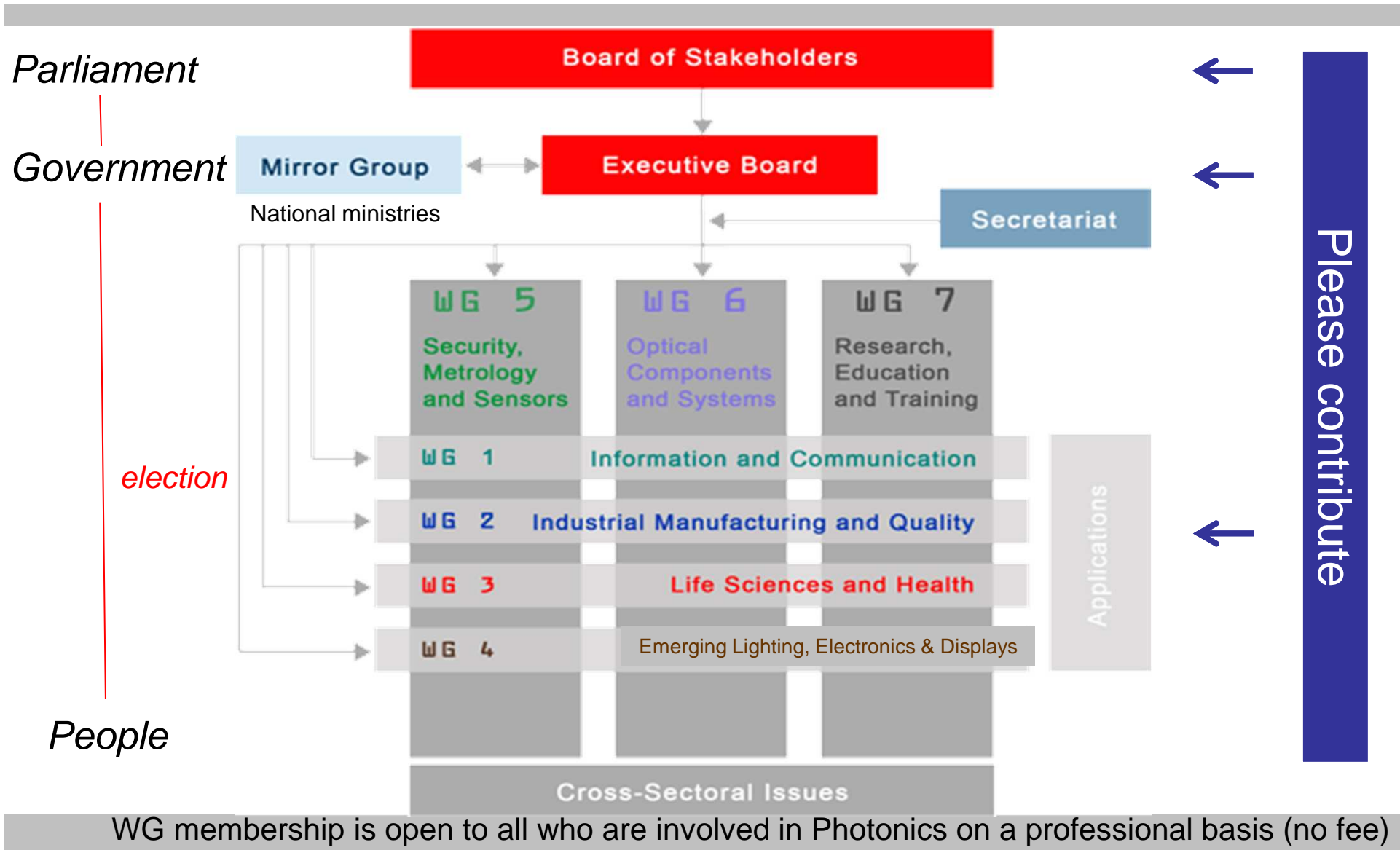
- Bottom-up process involving the European photonics community
- Participation of more than 400 photonics experts in 14 Photonics21 workshops
- Public consultation of the roadmap to involve other communities (ETPs, PPPs) and end-users
- provides a detailed roadmap for photonics research & innovation activities until 2020



Process: PPP Research and Innovation Priorities Horizon2020 Photonics PPP work programme 2014/15 (based on PPP roadmap)



How to get involved in Photonics21 / PPP



Thank's for your attention

Photonics21 – How to get in contact

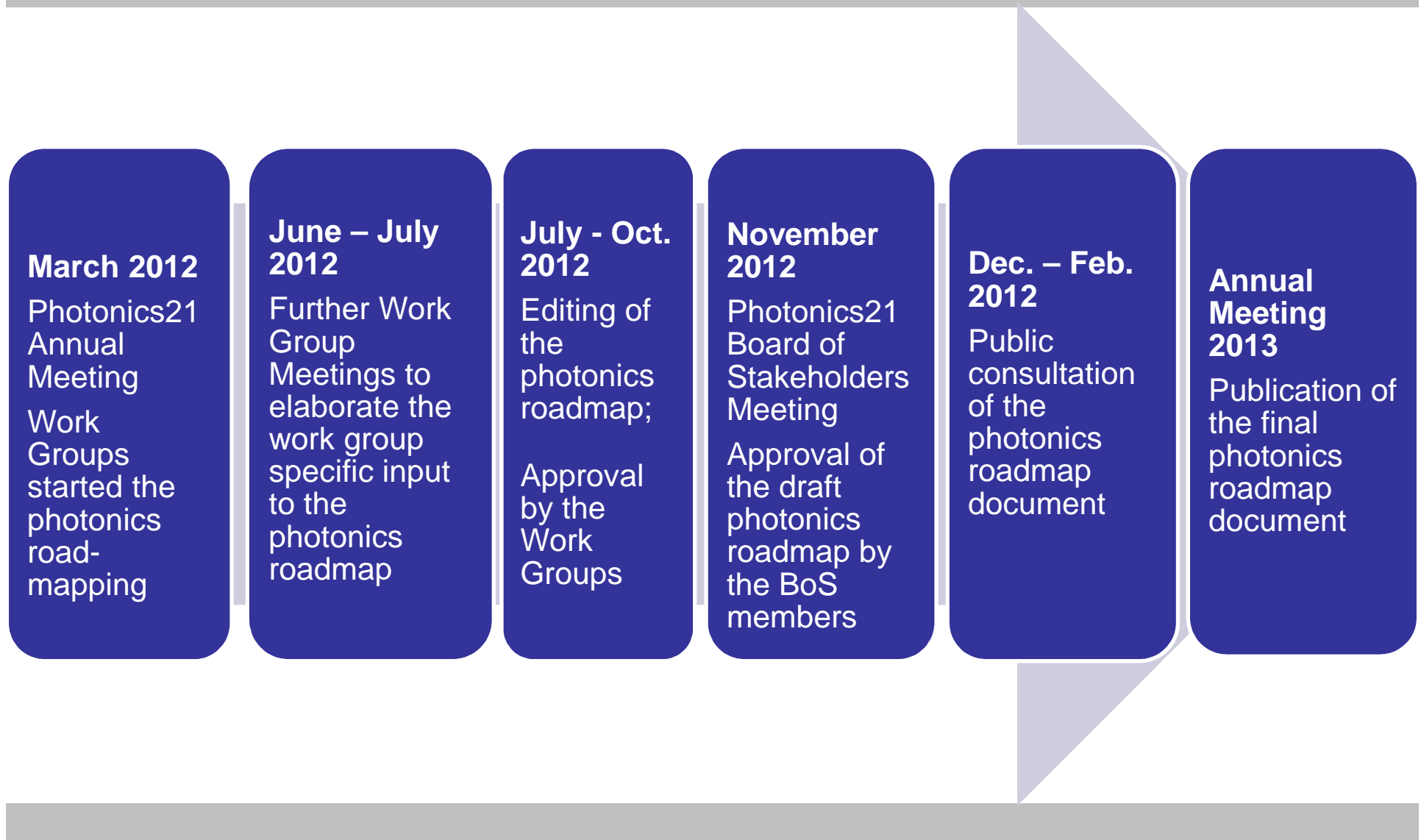
www.photonics21.org

secretariat@photonics21.org

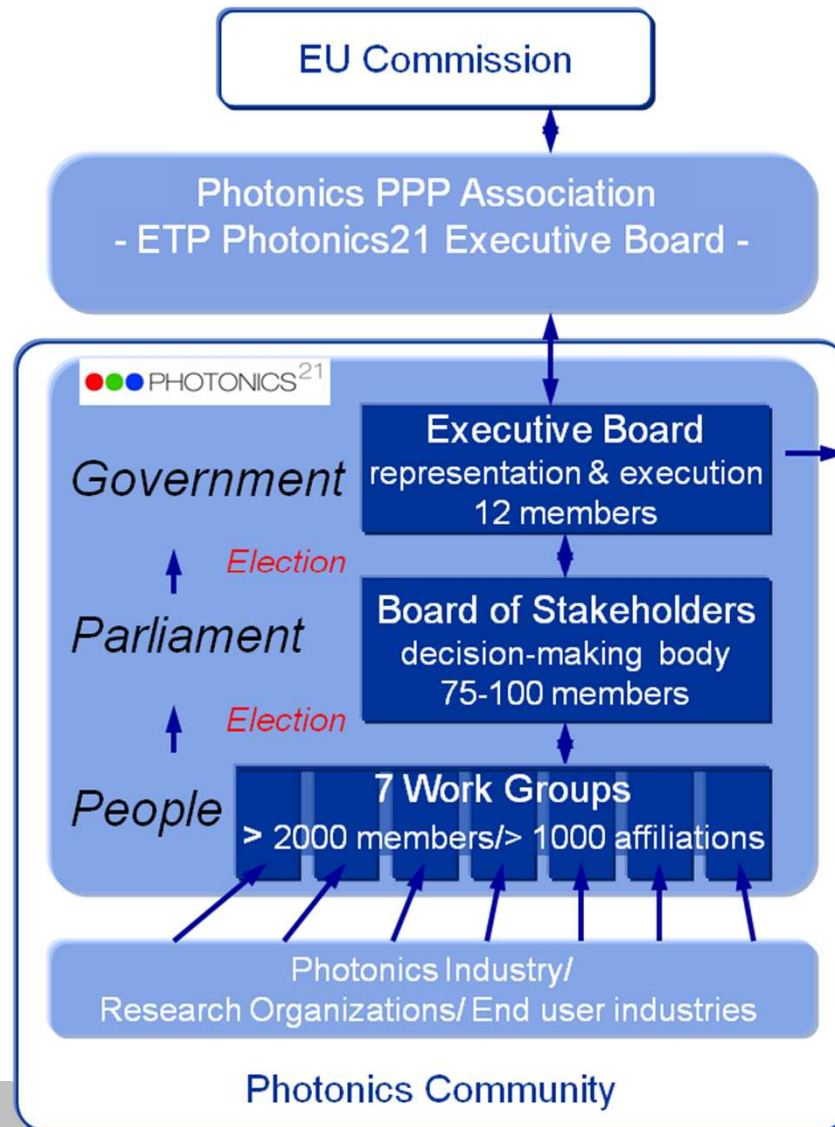
follow us also on Twitter:

www.twitter.com/Photonics21

Photonics PPP Multiannual Roadmap: process towards Horizon 2020



PPP Governance structure



Distribution of companies in Europe

Countries	Numers of Photonics research instituts	Number of Photonics companies
Austria	14	32
Belgium	15	62
Czech Republic	11	24
Denmark	11	37
Finland	12	27
France	141	359
Germany	143	472
Greece	12	20
Ireland	18	24
Italy	47	160
Netherlands	25	150
Poland	32	23
Spain	32	45
Sweden	6	70
Switzerland	10	44
United Kingdom	95	331

