

First

The Spanish Technological Platform for
Photonics, FOTÓNICA21

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Secretariat FOTÓNICA21-Spain
Poznan, 26th October 2011
Future Internet Assembly (FIA)



European Commission
Information Society and Media



SEVENTH FRAMEWORK
PROGRAMME

Summary

1. About the STP
2. ETP Research Areas
3. ETP Composition
4. ETP in FI an ICT Components
5. ETP Potential Cooperation with LAPTPs





About the TP

ETP Domains/Scope

- Funded in 2007 promoted by industry and supported by Ministry of Science and Innovation.



- It is a voluntary association of industrial enterprises and other stakeholders in the field of photonics in Spain
- AIM: Promoting and supporting the long-term success of the Photonics Technology. Bringing together the stakeholders of the industry and academia to work out the whole sector priorities.
- Influencing Spanish administration in considering Photonics as a strategic technology
- Mirror of the European Platform Photonics21



ETP Vision

- Coordinate the process of industrial innovation in the photonics technology and its applications.
- Establishing the Strategic Research Agenda for photonics in Spain and communicate to the Ministries
- Promote the generation of own technology
- Study the current status of the Photonics Technology
- Identify future needs for technological development
- Cause many R & D cooperation initiatives
- Develop new business contacts between members of the platform
- Fostering the entrepreneurship in photonics



ETP Research Areas R&D Priorities /Research areas

1. Information and Communication Technologies.
 - 1) Optical Performance Monitoring in access and transport networks
 - 2) Control Plane extensions for photonic transport networks based on wavelength and subwavelength switching technologies
 - 3) Integration of Optical Performance and Control Plane solutions
 - 4) Cost effective photonic switching and transmission technologies for ultra high capacity traffic flows (e.g OFDM)
2. Industrial Manufacturing Processes
 - 1) Present: Materials' macro-processing, Lithography, Quality optical control, Optical metrology
 - 2) Future: Micro and nano fabrication, Machine Vision, Biotechnology, Processing of new materials, Medical Applications



3. Life Sciences

- 1) Advanced and early diagnostic techniques
- 2) Non-invasive ophthalmic devices
- 3) Biochips and optical biosensors

4. Lighting and Displays

- 1) LED/OLED
- 2) Increase the lighting control

5. Security and sensors/6. Optical components and systems

- 1) Imaging sensors. Image processing
- 2) Milimetric waves and terahertz

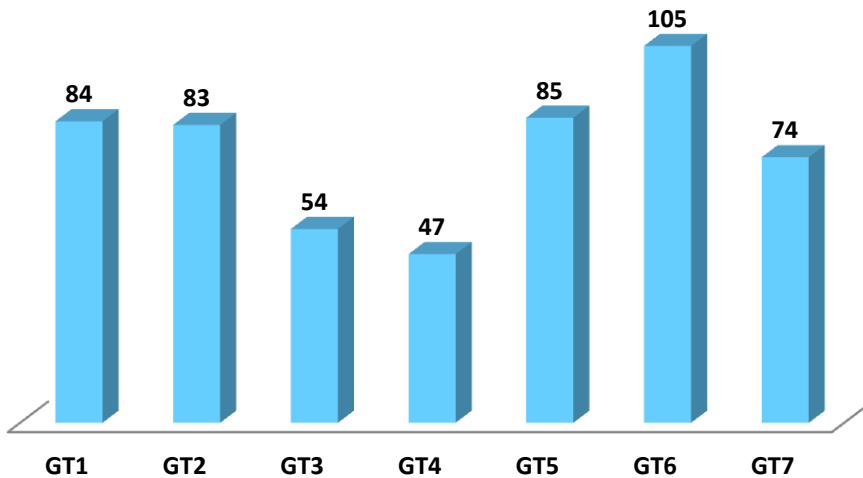
7. Cutting Edge Research, training and infrastructure

- 1) Promote photonics in third and second level education, for example by offering photonics-related courses

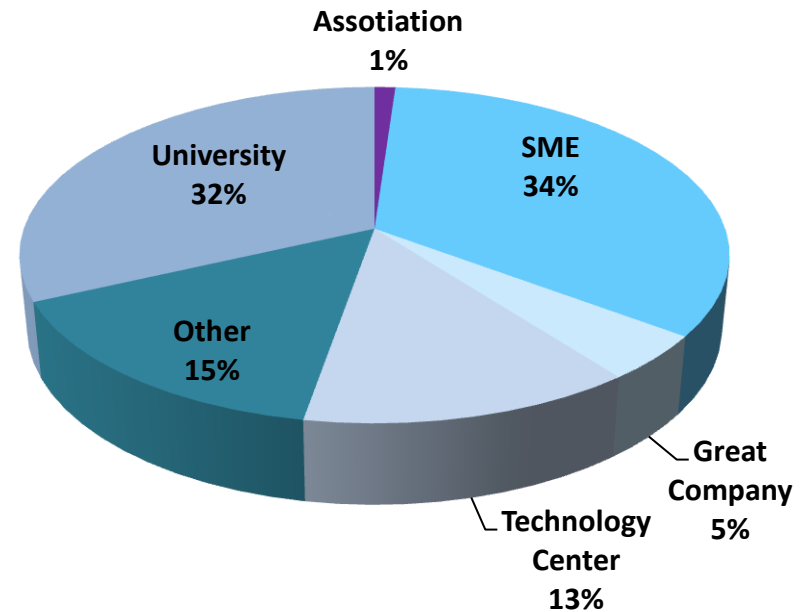
ETP Composition Membership composition

184 Members

By Working Group



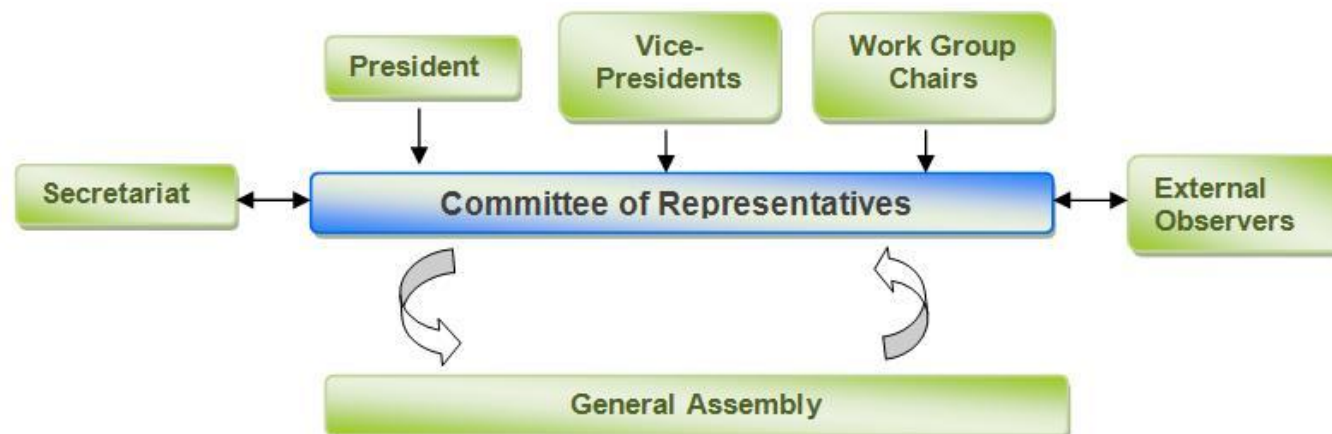
Type of Entity



Governance rules and ETP Structure

FOTÓNICA21 is composed of different bodies:

- **Committee of Representatives:** the managing body of the platform
- **The Secretariat** provides organizational and operational support
- The **Work Groups:** the main centers of activities within the Technology Platform





Governance rules and ETP Structure

✓ **Committee of Representatives- Chairs**

PRESIDENT: Jorge J. Sánchez. DAS PHOTONICS (Valencia)

VICE-PRESIDENTS: Silvia Carrasco. ICFO (Barcelona)

Carles Pizarro. SNELL OPTICS (Barcelona)

WG1: Francisco López ARAGÓN PHOTONICS (Zaragoza)

WG2: Sergi Ferrando. MONOCROM (Barcelona)

WG3: Jose L. Arce. U. CANTABRIA (Santander)

WG4: Ana Manzanares. GREENLIGHT SOLUTIONS

WG5: Carles Pizarro. SNELL OPTICS (Barcelona)

WG6: Francisco López. NTC (Valencia)

WG7: Silvia Carrasco. ICFO (Barcelona)

✓ **Secretariat:** Santiago Simón and Amparo Barreda. AIDO (Valencia)



ETP Challenges in FI and ICT Components

Influence of the Spanish administration to focus in photonics as a Key Technology for the future

Nanotechnology holds the promise of leading to the development of smart nano and micro devices and systems and to radical breakthroughs in vital fields such as healthcare, energy, environment and manufacturing;

Micro- and nanoelectronics, including semiconductors, are essential for all goods and services which need intelligent control in sectors as diverse as automotive and transportation, aeronautics and space. Smart industrial control systems permit more efficient management of electricity generation, storage, transport and consumption through intelligent electrical grids and devices;

Photonics is a multidisciplinary domain dealing with light, encompassing its generation, detection and management. Among other things it provides the technological basis for the economical conversion of sunlight to electricity which is important for the production of renewable energy, and a variety of electronic components and equipment such as photodiodes, LEDs and lasers.

Advanced materials offer major improvements in a wide variety of different fields, e.g. in aerospace, transport, building and health care. They facilitate recycling, lowering the carbon footprint and energy demand as well as limiting the need for raw materials that are scarce in Europe;

Biotechnology brings cleaner and sustainable process alternatives for industrial and agri-food operations. It will for example allow the progressive replacement of non-renewable materials currently used in various industries with renewable resources, however the scope of applications is just at the beginning;



ETP potential cooperation with LATPs

Identification of common areas of cooperation with Latin America LATPs

- F21 will act as a bridge between PH21 and LATPs. Agreed between F21 and PH21
- Join workshops and interchange missions
- R & D cooperation initiatives
- Develop new business contacts between members of both continents

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