



**The Strategy of
the Polish Technological Platform on
Photonics**

Warsaw, 26 January 2015

Introduction

Photonics is an interdisciplinary field of science and technology combining the achievements of optics, electronics and computer science and dealing with the technologies, components and systems utilising electromagnetic radiation, ranging from gamma, UV and VIS rays to the far infrared and THz wave frequencies. Photonics is essential to the development of modern economy and the proper functioning of the socially important sectors, such as: science, education, communication, safety and medicine. The European Union has acknowledged the importance of photonics by making it one of the 7 key technologies and one of the top research priorities under the Horizon 2010 programme. At the same time, the UN announced that the year 2015 would be known as “the International Year of Light and Light-based Technologies”. In Poland, the study “*Forsight technologiczny przemysłu polskiego do 2030 roku*” (“Technological foresight of the Polish industry until 2030”) (InSight 2030) indicated that photonics is considered a technology with the greatest development potential and the one set to receive considerable support.

The Polish Technological Platform on Photonics was established to meet social needs arising from a common desire of the Polish businesses and scientists to cooperate in the field of photonics.

1. Polish Technological Platform on Photonics

The Science and Technology Consortium “Polish Technological Platform on Photonics”, hereinafter referred to as “the PPTF”, was founded on 27 February 2013 under the circumstances described in the documents of the Council of the European Communities of 2003 regarding the formation of Technology Platforms (*“Investing in research: an action plan for Europe”* of 4 June 2003 and *“A European Initiative for Growth. Investing in networks and knowledge for Growth and Jobs”* of 21 November 2003).

Members of the PPTF include organisations that carry out scientific or business activity, state or local government organisations, and NGOs involved in the development of photonics in Poland.

The main objective of PPTF activities is to provide conditions favourable to the development of Polish photonics with the aim of increasing sales of innovative photonic products manufactured in Poland, including in particular the increase in their exports.

➤ Mission of the Polish Technological Platform on Photonics

The mission is to increase the innovativeness of the Polish photonic industry by coordinating the actions of Polish businesses, scientific units, government and local authorities and non-governmental organisations related to the development of new technologies and opto-electronic products, improvement of staff qualifications and the extension of the range of applications of photonic technologies in Poland.

➤ Vision of the Polish Technological Platform on Photonics

By 2030, Polish photonics is expected to become an influential and widely recognised European provider of key technologies and innovative products designed for use in national industry and in international markets, which is the result of the dynamic development of opto-electronics and photonics in Poland.

➤ Motto

‘Photonic technology as a stimulus to the development of modern industry in Poland’.

2. Strategic Priorities and Areas of Activity of the Polish Technological Platform on Photonics

2.1. Strategic Priorities of the Polish Technological Platform on Photonics.

Strategy – the PPTF, as an organisation bringing together research institutions and photonic companies with considerable experience, both in the national and the international market, will implement the national strategy for development of photonics and adjust it to the changing economic and social situation.

Cooperation – the PPTF aims to establish effective cooperation between photonic companies, research institutions and administrative bodies. As a representative of the Polish photonic community, the PPTF will launch and cooperate to develop the national projects in this area.

Marketing – the PPTF will promote the achievements of Polish photonics, in particular those of the industrial photonic sector and the Polish educational system. At the same time, the PPTF will conduct information campaign addressed to government agencies and the general public in order to indicate the major importance of photonic development for the modern world.

Education – the PPTF will seek to improve the national system of photonic education by extending cooperation between national educational institutions and photonics companies, and will build upon the experience of other countries.

European projects – the PPTF, as a representative of the Polish photonic sector in the EU and in the European platform, Photonics21, will take measures to ensure that a research subject favourable to Poland is selected and that national companies and research institutions are adequately informed about the EU projects related to photonics. At the same time, the PPTF will promote the formation of consortia applying for European funds with the participation of Polish entities.

International market – the PPTF will seek to increase the share of the Polish photonic industry in the global photonic market by initiating and co-organising the participation of its members in international trade fairs, exhibitions and conferences.

2.2. Areas of Activity of the Polish Technological Platform on Photonics.

The PPTF's main areas of activity will be:

- 1. Including the widest possible group of photonic components manufacturers in the joint scheme organised under the PPTF in order to ensure that the Platform represents the interests of developers, producers and users of photonic components and systems.**

The PPTF will organise and coordinate actions aimed at:

- Establishing a common open-access forum for exchange of thoughts and ideas through the organisation of themed conferences and seminars;
 - Organising the database of capabilities and interests of economic operators in order to facilitate cooperation;
 - Organising the database of technical, technological and organisational problems (including the legal ones) in the area of photonics in order to find common solutions or to report such problems to state institutions.
 - Providing a common executive database in order to facilitate and reduce the costs of R&D, implementation and production activities;
 - Assisting Polish institutions, businesses and organisations in the optimal use of photonic devices and technologies;
- 2. Strengthening cooperation in the field of opto-electronics and photonics between Polish entrepreneurs, research units, and state and local government, non-governmental organisations and similar organisations abroad.**

The aim of PPTF's activities in this area will be to:

- Analyse the condition of photonic community in Poland, identify its achievements, deficiencies and needs, as well as the areas of common interest, and to propose measures to improve the situation;
- Establish cooperation with Polish and European organisations (platforms, clusters, associations, chambers of commerce, research institutions) and maintain regular contacts with the European, national and local government administration;

- Improve and specify the national development strategy for Polish photonics, taking into account the current opportunities and needs of the country and its business and research communities.

3. Taking advantage of the national and European funding in order to ensure that Polish photonic products and technologies have a competitive advantage in global markets, using the research and educational potential at a national level.

The objective of these measures will be to:

- Assist Polish economic operators in their efforts to increase competitiveness and innovativeness of Polish photonic products and technologies through effective transfer of high-tech technology from research centres to companies;
- Provide assistance in obtaining funding for research and development projects carried out by Polish companies and research units under the POIR and Horizon 2020 schemes;
- Cooperate with vocational schools and institutions of higher education to prepare staff for the use of photonic devices and technologies.

4. Promoting the knowledge of photonics and photonic technologies among political, economic and research elites as having strategic importance for the economic and social development of Poland and its national safety.

The PPTF's areas of activity will be the following:

- Promoting the development of opto-electronics and photonics in Poland and the knowledge of photonics through public media among the general public and political, economic and scientific elites;
- Organizing conferences, seminars and lectures to demonstrate the achievements of photonics and its strategic importance for the economic and social development, as well as the national safety of Poland;
- Preparing documents for state administration indicating the need for development of photonics in Poland and the associated economic and social benefits;

5. The PPTF will seek to become part of European photonic institutions and will actively participate in their activities in order to represent the interests of its members, promote their achievements, collect and transfer information to prepare such members for competitions as part of the Horizon 2020 programme and establish the European international cooperation.

Summary

The Polish Technological Platform on Photonics is one of the first projects in Poland to have such a significant global impact on the current and future trends in the development of photonics. It is also intended to expand the forum for national and international cooperation and coordinate the efforts of industry representatives, research and scientific centres, government and local authorities and NGOs involved in developing photonic technologies.

The PPTF is a project which aims at developing technological awareness and providing specific systemic solutions in the field of photonics, and thus contributing to the future development of science and economy in our country. It provides an added value to the technological development of the twenty-first century, both in our country and in Europe.

Appendix No 1 to the Strategy of the Polish Technological Platform on Photonics

The organisational structure of the Polish Technological Platform on Photonics:

➤ **Council of PPTF Representatives**

A general decision-making body of PPTF is the Council of PPTF Representatives, composed of representatives of all Consortium Members, and capable of making decisions on their behalf.

President of the PPTF Council of Representatives

gen. bryg. prof. dr hab. inż. Zygmunt Mierczyk

Military University of Technology

Vice-President of the PPTF Council of Representatives

dr Adam Piotrowski

VIGO System S.A.

➤ **PPTF Coordinator**

The registered office of the PPTF is PCO S.A., and the Coordinator is dr inż. Ryszard Kardasz

➤ **PPTF Steering Committee**

The Steering Committee is responsible for operational management of PPTF functioning understood among others as: organisation of the work of research and implementation teams and establishing cooperation with national and foreign institutions and business entities other than Consortium Members to accomplish set tasks, and taking measures to obtain funding for such tasks. The Committee assisted by thematic teams prepares the PPTF action plan and strategy.

Members of the PPTF Steering Committee:

- Jerzy Wiśnioch (PCO S.A)
- dr Marek Daszkiewicz (Maksymilian Pluta Institute of Applied Optics)
- prof. dr hab. inż. Andrzej Domański (Sensomed S.C.)
- prof. dr hab. inż. Krzysztof Chrzanowski (Inframet)
- prof. dr hab. inż. Tomasz Woliński (Photonics Society of Poland)
- dr Dariusz Litwin (Optolab Sp. z o.o.)
- prof. dr hab. inż. Andrzej Jeleński (Institute of Electronic Materials Technology)
- prof. dr hab. inż. Małgorzata Kujawińska (Warsaw University of Technology)
- dr Lech Boruc (Solaris Laser S.A.)
- Janusz Noga (CRW Tele-system Mesko)

Appendix No 2 to the Strategy of the Polish Technological Platform on Photonics

Members of the Polish Technological Platform on Photonics:

The Polish Technological Platform on Photonics brings together 2 universities, 9 research institutes, 2 associations, 1 chamber of commerce, and 13 companies.

1. PCO S.A.
2. VIGO System S.A.
3. Sensomed S.C.
4. Inframet
5. Optolab sp. z o.o.
6. Solaris Laser S.A.
7. CRW Tele-system Mesko
8. Solaris Optics S.A
9. Semicon sp. z o.o.
10. Smarttech sp. z o.o.
11. Top-Gan sp. z o.o.
12. Lasertex Sp. z o.o
13. CTL/LASERINSTRUMENTS Sp. z o.o.
14. Warsaw University of Technology
15. Military University of Technology
16. Polish Chamber of Commerce for High Technology
17. Instytut Innowacji i Technologii Politechniki Białostockiej (Institute of Innovation and Technology of Białystok University of Technology)
18. Institute of Medical Technology and Equipment
19. Electrotechnical Institute
20. Maksymilian Pluta Institute of Applied Optics
21. Tele and Radio Research Institute
22. Institute of Electron Technology
23. Institute of Electronic Materials Technology
24. Industrial Research Institute for Automation and Measurements
25. Military Institute of Aviation Medicine
26. Photonics Society of Poland
27. Association of Polish Electrical Engineers