



February 2011



The end of the PhotonicRoadSME story...

After two years and a half of hard efforts, PhotonicRoadSME has definitely ended in November 2010 after the final review meeting in Brussels. That was the end of very good collaboration times between the members of the consortium to develop project activities and to provide you the expected outcomes.

The FP7-ICT PhotonicRoadSME project was a support action aiming at developing technology roadmaps in the field of photonics in order to help European SMEs to stay aware about latest technological developments related to their industrial needs in the field.

In order to achieve this goal, the project was structured in three phases:

- 1) the collection and analysis of technological and market data in the field of photonic, based on both technology-push and market-pull approaches;
- 2) the integration of these data into 4 branch-specific roadmaps in the field of ICT, Health & Well being, Environment & Energy and Safety & Security as well as 3 SME-specific Roadmaps oriented for developers, producers and users of photonic devices;
- 3) the validation of these Roadmaps through the implementation of in-house case studies and workshops for SMEs.

The technology roadmaps have thus the main purpose to help SMEs that are looking for novel photonic materials, devices and/or fabrication technologies to be integrated in their new products and to give them a first list of relevant photonic devices, materials and/or fabrication technologies they should consider, depending on the industrial applications foreseen, the time to market and the R&D capacity of the company. Through these documents, we hope to help SMEs to enter new markets or confirm their position.

PhotonicRoadSME has now achieved his main goal...

All the results of the project are now accessible for free on our website as well as on our Wiki area to help you to built your future in photonics. Your story is beginning...

Thanks a lot to all the persons and companies who have supported us during this project... We hope to see and support you once again in a near future.

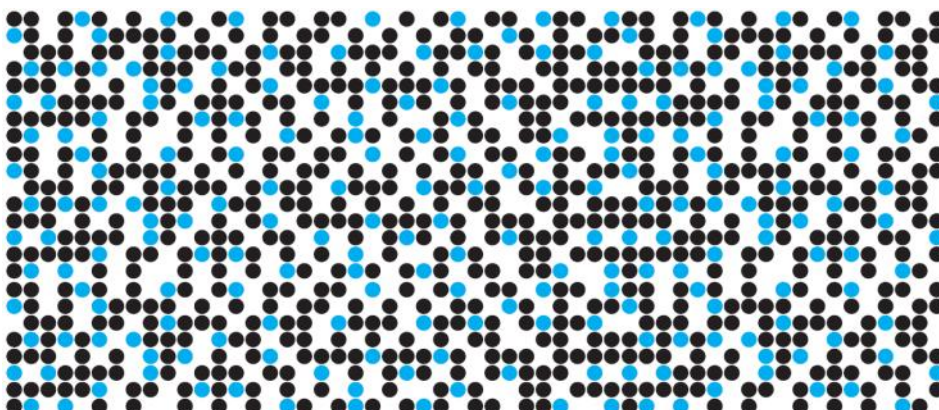
Sincerely,


Dr Anthony Salingre and Dr Jonathan Loeffler

PhotonicRoadSME coordinators

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**Spotlight on
PhotonicRoadSME**

FP7 - Support Action in Programme Theme 3

Project number
224572

Duration
05/2008 - 11/2010

Partner countries
Spain, France, Poland,
Finland, Germany



Technology roadmaps: a tool for innovation and competitiveness for the European photonic industry

An useful tool for companies' strategy

Scientific developments in the field of photonics are a key industrial driving force and will influence many different industrial branches in the coming years. Many small and medium-sized enterprises (SMEs) are involved in the European photonics' industry as traditional suppliers, start-ups or producers of high tech products. In order to remain competitive, these SMEs have to integrate the latest results and developments in their commercial vision for future applications and products.

The long-term competitiveness of a company depends mainly on its ability to establish a successful product and market position, which are well connected to the management of the hidden potential in existing technological capabilities. Technology roadmaps are useful tools used in industry, government and science to portray the structural and temporal relationships among science, technology and applications, and that can help in the decision-making process to achieve these goals. Technology roadmaps offer then a systematic help to prepare the technologies that are essential in delivering a product in the future. In order to develop such a tool, companies need information about the future development of the relevant technologies, processes and components.

PhotonicRoadSME Roadmaps

The Roadmaps developed within the framework of the FP7 funded project PhotonicRoadSME have been structured by taking into account all the results obtained during the technology-driven and market-driven approaches: a European market survey, R&D reports on 9 nanophotonic material categories, SMEs' technology audits, 4 SWOT analyses in the industrial sectors "ICT", "Environment", "Health & Well-Being" and "Safety & Security", and interviews and workshops with photonic experts from R&D and industry.

By integrating these results altogether, the 4 branch specific roadmaps provide thus information about:

- the main application areas in the 4 sectors investigated that will largely benefit from the progresses made in the field of photonics;
- the main technological and socio-economical challenges to overcome in these application areas;
- the most relevant devices, components and materials that will help to overcome these challenges;
- the level of development of these devices as well as their potential applications, main features and properties for problem solving.

Level of development - ICT / data storage / optical buffer																	
Timeline	Short term			Middle term			Long term										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
Slow light application using metamaterials	TI		LP			ID			I								
Optical buffer based on SOI microring resonators		LP		ID	I												
Semiconductor all-optical buffers			LP			ID			I								
Slow light application using photonic crystals		LP		ID	I												
Legend :	Technology Invention			Laboratory Prototype			Industrial Demonstrator			Industrialisation			Market Entry				

Applications - ICT / data storage / optical buffer				
Timeline	Unspecified	0 - 2 years	3 - 5 years	6 - 10 years
Slow light application using metamaterials	All-optical memories			
Optical buffer based on SOI microring resonators			Optical on chip buffers	
Semiconductor all-optical buffers	All-optical buffer for data storage			
Slow light application using photonic crystals			All-optical buffer for data storage	

It is therefore important to note that the analyses done in the course of the project do not claim to be exhaustive but rather give an overview of the technological problems to be overcome and the opportunities for SMEs to solve these problems by using nanophotonic materials and devices.

Additionally and because SMEs have different needs, the branch-specific roadmaps have been adapted to different SMEs profiles according to their positioning in the product supply-chain: „**developers**“, „**producers**“ and „**users**“.

The Roadmaps developed in the course of the project identify thus trends in research and development and associate them to products and applications, thus outlining their technical and economical potential for problem solving. Analysis of relevant international research and development results concerning nanophotonic materials, novel photonic devices and components as well as related key fabrication technologies shall enable SMEs to better react to these emerging requirements.

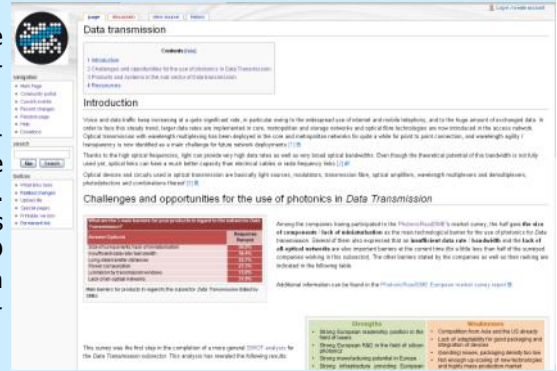
The Technology Roadmaps are available on the PhotonicRoadSME website <http://www.photonicroad.eu/> in the Download section. For further information concerning the Roadmaps, please contact Dr. Anthony Salinger, salinger@steinbeis-europa.de.



PhotonicWiki area: on-line public Wiki area to share and disseminate the project results

Having roadmaps available and structured in form of documents is of course interesting for companies, but looking into these documents is often time consuming to find the right information in time, especially for SMEs.

Since the increasing importance of new communication channels in our society, PhotonicRoadSME has decided to implement a public Wiki area, the PhotonicWiki, as a main entry point for dissemination and knowledge transfer. This site has been set-up for collecting online all relevant data and results generated by the project in a well structured manner. The results of the R&D reports, the expert panel meetings, the SWOT analyses, the roadmaps and, in some parts, of the technology audits and the market survey have been incorporated into this public area.



At present, the PhotonicWiki is of open access for the general public. This platform allow SMEs to find quickly the relevant information in order to develop on-line individual roadmaps. We hope also that this will give the opportunity to openly discuss the project's findings, keeping the data update for all stakeholders and the interested public from now and on. In order to control the quality of the information, edition of the content is at the moment restricted to the consortium members and some international experts. If you would like to suggest content updates or discuss an entry, please contact the project coordinator at the following address salingre@steinbeis-europa.de.

The PhotonicWiki is available following this link: http://www.photonicroad.eu/quadi/phase3/index.php/Main_Page



Best practices for roadmapping: lessons learned from case studies and implementation workshops



Using roadmaps or prepare a company-specific roadmap is not always as easy as people may think and can often be very time consuming, especially when you have no ideas on how to implement it by your own. In order to help companies, and especially SMEs, to get an insight in how to run such a process in-house, the consortium has developed a methodology as well as a practical guide. This document groups the best practices from case-studies and implementation workshops run in the course of the project.

The case studies had for main aim to demonstrate the validity of the PhotonicRoadSME technology roadmaps for the development of companies' product strategy, as well as to achieve a proper integration and transfer of the roadmaps' results into the relevant industrial sector. 12 SMEs have benefited from this process in Germany, Finland, France and Spain. As explained earlier, a methodology has been set up and of course improved during the process with the participating SMEs. Best practices have thus been analysed and summarised and the main methodology explained so that European SMEs could profit from the consortium's experience.

In parallel of these case studies, workshops in each industrial field covered by the project were implemented. The aim of these workshop was to inform companies, and especially SMEs, about the main activities and to present the drafts of the roadmaps. We have also used these workshop to collect the advices and feedback of the companies in order to improve and adapt better our results, mainly the roadmaps, to the industrial context.

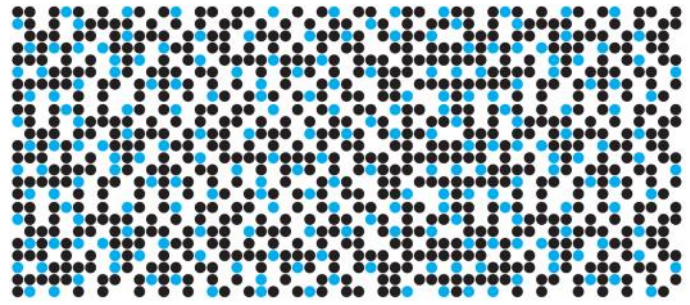
The practical guide resulting from both processes provides thus guidance to SMEs on how to implement roadmapping process with the help of the PhotonicRoadSME roadmaps in-house. Of course, each partners in the respective countries are still active in the field and could be contacted for further information or help on the implementation phase. You can find their coordinates on our [website](#).





Photonic Road SME

Development of Advanced Technology Roadmaps in Photonics and Industrial Adaption to SMEs



You are now the main actors...

The project final meeting was held last November with the aim to present the final results and outcomes of PhotonicRoadSME to the European Commission and external evaluators. This official meeting gave end to approximately two years of hard but nice work where the basic research and the market joint together for developing roadmaps for the benefit of SMEs in the field of photonics.

Roadmaps are thus the result of many experiences and cross-links between research and industry. They are planned to evolve and improve themselves in order to keep you updated about the latest developments in the field. Although the project is now closed, consortium partners will still stay reasonably active in the follow-up activities of the project like roadmaps and Wiki area updates. Please be also sure that you are free to contact any member of the consortium for more information and support concerning the project. PhotonicRoadSME roadmaps can stay alive and useful only if you take an active role by making use and help us to make updates by contacting us... By waiting news and comments from you, PhotonicRoadSME wishes you lot of success in your future activities.



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