

EOS NEWSLETTER

THE OFFICIAL PUBLICATION OF THE EUROPEAN OPTICAL SOCIETY

OPERA creates European optics database

OPERA2015 is compiling a database that details Europe's optics and photonics infrastructure.

The OPERA2015 project will play a big part in making the European Research Area in Optics and Photonics (OP) a reality. At the moment, research and relevant activities in OP for IST and beyond are fragmented and tend to lack stable links. This has been improved recently through the establishment of the European Technology Platform Photonics²¹. Nevertheless, there is still a need for information about the research capabilities in both industry and science in European countries.

Establishing a database that details the optics and photonics industrial and scientific infrastructure throughout Europe will increase the levels of co-operation and coordination. In view of the general need for stronger links between the different levels of publicly funded research, the need to encompass national programmes and stakeholders from research and industry is essential for the successful realization of a European Research Area in OP.

In the second year of the project, the central OPERA2015 website will provide all the relevant information for any co-operation efforts in photonics. It will be updated frequently and measures will be taken to increase the website's visibility.

Inventory of European OP projects

An inventory of the current European optics and photonics research projects in the EU Sixth Framework Programme (FP6) and the EUREKA Programme has been compiled using each programme's respective website. This resulted in an overview of 173 research projects in FP6 and 56 projects in EUREKA.

We used the Web-based Dynamo Database of TNO to create the inventory. Dynamo is a relational database that facilitates the information

management and analysis of foresight and market studies. It has been used extensively in earlier EU projects and will be an efficient and helpful tool for the OPERA project.

We developed the specific items that are important to OPERA WP 3 and incorporated them into the database. These items fall into three main subjects: basic information such as location and products; the level of research and development; and innovation strategies and innovation areas.

We estimate that there are between 1000 and 3000 companies active in this field. We encourage optics and photonics companies to send their information to the database manager, Bart Snijders (e-mail: bart.snijders@tno.nl), or to one of the contacts given on the OPERA2015 website.

Symposium on photonics in FP7

One of the goals of OPERA2015 is to provide a platform for interaction of the European IST-research activities in optics and photonics, and to develop a joint strategy for research and industry. To achieve this target the OPERA2015 consortium has invited the European photonics community to hear the results of the latest developments in this area and to provide further input into the Technology Platform for FP7 at its next symposium.

The symposium addresses the main themes of the Photonics Technology Platform and seeks to involve the scientific and engineering communities in the creation and implementation of the strategic agenda for optics and photonics in FP7.

The symposium will take place in Wrocław, Poland on 12–14 October 2006. To keep up-to-date with the progress of OPERA2015, visit the project's website (www.opera2015.org).

EOS launches electronic journal: JEOS Rapid Publications

In June 2006, EOS launched a fully electronic journal, *JEOS Rapid Publications (JEOS:RP)*, at www.jeos.org. "The motivation behind *JEOS:RP* is to offer the optics and photonics community a means to rapidly publish their latest research findings and reach the largest possible readership," explained Joseph Braat, president of EOS. *JEOS:RP* is the first European online journal that is accessible to every Web user, offering authors the maximum reader potential.

"*JEOS:RP* is published continuously, making it independent of editorial deadlines. Once submitted, reviewed and approved, an article is adapted for online publication and can be published within a few days," said EOS secretary and *JEOS:RP* deputy editor Peter Török. "The traffic to www.jeos.org is recorded and the number of downloads can be tracked for every paper." Topics covered range from classical optics and nonlinear optics to biomedical and terahertz imaging.

Problem is speed, not quality



Alexander von Witzleben, president of the Technology Platform Photonics21, talks to EOS about the prospects and challenges for the European photonics industry, as well as the current discussions on a European Institute of Technology.

On 4 April, Alexander von Witzleben, president of Photonics21, handed over the Strategic Research Agenda for Photonics in the 7th Research Framework Programme to EU Commissioner Viviane Reding in Strasbourg. This agenda had been drawn up by more than 350 members of the technology platform, more than half of which are from industry.

EOS: What does industry expect from its co-operation with Photonics21?

AvW: European companies must co-operate in global competition – that's not specific to optical technologies. We are a fast-growing industry sector (13% per annum over the past 10 years) with enormous potential for our users.

If you want to make a target-orientated plan for the future, it all depends on communication and coordination. And this raises another point – we are dealing with a cross-sectional technology that offers opportunities to many industry sectors and fields important to Europe in creating jobs and improving quality of life.

This concerns, for instance, information and communication (I&C), manufacturing engineering and life science, to mention the most important. To seize these opportunities, we have to coordinate our innovations with users and research institutes early, and the platform offers great potential to do so. However, as yet, we don't know if this instrument will really work. To date, there has been enormous commitment from platform members.

EOS: Which fields in the European photonics industry have the potential to compete with the US and Asia on a long-term basis?

AvW: European companies have leading roles in a broad range of optical technologies. For example, in the field of materials processing and lighting, European companies hold a global market share of about 60%.

Much more important, however, are the applications of optical technologies in other industry sectors and there European companies have also taken the lead. There are more lasers used in manufacturing and more economic lighting deployed in Europe than in any other region of the world. That said, we have lost important ground in the mass markets of display and I&C. The causes of this development have to be discussed by Photonics21 too.

EOS: What percentage of the European photonics industry would you attribute to manufacturing and innovative activities, and what growth rates do you expect in these two fields?

AvW: That's hard to answer, as the companies cannot be classified easily. A lot of manufacturers of optical technologies are also their users. Take my company, Jenoptik AG, we are a manufacturer and user of optical technologies. We have achieved double-digit growth per annum in the past and I have no reason to believe that this will change in the near future.

EOS: What strengths and advantages should Europe use to keep the transition from application- to product-oriented research in motion on a long-term basis?

AvW: We have a highly qualified workforce in Europe and a tradition of co-operation between research institutions and companies. There is good top-level research and there are established institutions that adapt these results to the requirements of companies.

However, we still need to improve on the transnational co-operation in application-orientated research. Here, the problem lies in speed, not in quality.

The European Commission (EC) understands the signs and will give special support to co-operations between two or even three countries of the community. With the massive resources Europe has at its disposal with regard to research, our prospects in the global competition should be particularly strong.

EOS: In the Strategic Research Agenda, Photonics21 states the research areas that have top priority in the photonics industry in Europe. Can you name the most urgent topics of which the results will be transferred as soon as possible from application-oriented research into manufacturing?

AvW: Here, I have to ask for your patience. All seven task groups are working at full steam on the formulation of the relevant prioritized research topics. I expect this process to be finalized by the end of June. The task managers and other representatives of the task groups will then present the results to the head of unit in the EC in each case.

EOS: The photonics industry is characterized by its strong fragmentation. Will the sector be overwhelmed by its role as a key technology?

AvW: With approximately 100 000 employees, I think that our industry sector is well structured. There are global corporations like Philips and OSRAM, to mention just two, but there are also many well-established medium-sized companies. Market as well as customer-orientation strengths accrue from that. The fragmentation relates

mainly to the different application fields of optical technologies. Within themselves, optical technologies have a coherent structure with one link – the photon.

I can assure you that by no means will the industry be overwhelmed – we firmly believe that the photon is the technology driving force of the 21st century.

EOS: One central topic in European discussions is the proposal to set up a European Institute of Technology (EIT) along the lines of Massachusetts Institute of Technology (MIT) in the US. How do you assess the two models under discussion (a monolithic or networked EIT) and what role could technology platforms play to create a networked EIT?

AvW: This is a typical discussion – concrete or network. I think that the first question regarding such an institution is what should it achieve – simply looking towards MIT is not enough.

Most European countries have excellent research institutions with decades or centuries of tradition. It is vital that their transnational cooperation be improved and resources bundled.

I think that many of these European research institutions will become market orientated. But at the same time, the institutes placed further behind in the innovation chain must aim to act

on an European level increasingly more.

The Fraunhofer-Gesellschaft is one institute that is immediately convincing. Therefore, my agenda would be to find out what will be achieved in Europe, what is existing, and only then establish additional institutes.

It is important that we in Europe bundle the resources now and agree on the key aspects that are important to succeed from a European viewpoint. The technology platforms can and must contribute actively to this process.

EOS: What motivated you to get involved with Photonics21?

AvW: My company stands for tradition, recommendation and for seizing the opportunities that are given by optical technologies. In this respect, I gladly accepted the vote for president of the platform. Until now, we have been working efficiently, surrounded by an atmosphere of departure. I get together with many colleagues from European companies and research institutions who are also investing their time. The opportunities of the platform definitely compensate for the effort. At the end of the day, there's no way to get past Europe.

This interview was conducted by EOS. For further information, see www.myeos.com.

DGaO: the German Branch of EOS

The German Society of Applied Optics outlines its objectives, activities and member benefits.

Established in 1923, DGaO, the German Society of Applied Optics, is a non-profit making organization that aims to promote applied optics and contribute to the development of the science. Currently, the society has 582 individual and 29 corporate members.

As of 1 January 2004, all individual members of DGaO are also full individual members of EOS, with half of their membership fee going to EOS. With DGaO joining, EOS gains in strength and can also have a decisive influence on European research promotion, as well as becoming a partner on an equal basis with other major international optical societies.

This move involved a change of name for DGaO: its full German name is now followed by the German Branch of the European Optical Society. However, this move does not mean that DGaO has given up its own identity or independence. As well as being represented on the advisory committee of EOS, DGaO as a branch of EOS also has a seat on the board of directors.

DGaO offers annual individual membership at €30 or a reduced rate of €15. Member benefits include a free subscription to the German-language journal *Photonik*; a free subscription to the German-language membership journal *Optik* and an invitation to attend the three-and-a-half day

DGaO conference. This event is traditionally held the week after Whitsun and is an opportunity to hear the latest scientific findings (around 160 presentations are given usually by young scientists), make contacts and also find jobs.

Promoting training and education

One important concern of DGaO is the promotion of training and further education in all fields of optics. In this respect, the society supports the Campaign for Training and Further Education in Optical Technologies funded by the German Federal Ministry of Education and Research.

A topical subject is Bachelor's and Master's Degrees as new qualifications, which guarantees the comparability of degrees, especially within the European Union. DGaO believes that a common basic training for all courses in optical technologies is necessary and has developed recommendations.

DGaO has held joint annual events with the optical societies of France and Switzerland. A joint event with the optics section of the Polish Physical Society was a great success in Wroclaw in 2005. For 2009, DGaO anticipates holding a joint event with the Italian Optical Society in Italy. For more information on all aspects of DGaO, see <http://www.dgao.de>.

Calendar

DATE	EVENT	LOCATION
13–15 September	Speckle 2006	Nimes, France
25–27 September	Boulder Damage Symposium XXXVIII	Boulder, US
12–14 October	OPERA2015 Symposium: Photonics Technologies for the 7th Framework Programme	Wroclaw, Poland
16–19 October	EOS annual meeting and topical meetings	Paris, France
10 November	1st International Optence Workshop on Silicon Photonics	Mainz, Germany
6–8 December	Optics–Photonics Design and Fabrication ODF'06	Nara, Japan
31 January – 2 February 2007	PSIP 2007: 5th Workshop on Physics in Signal and Image Processing	Mulhouse, France
3–8 June	Optical Interference Coatings (OIC 2007)	Rucson, US
11–14 September	8th International Conference on Correlation Optics	Chernivtsi, Ukraine

For more information on any of these events, please visit www.myeos.org.

Are you a member of EOS?

Look at the benefits

Individual members are eligible for:

- reduced fees for JEOS:RP at www.jeos.org;
- a regular EOS Newsletter e-mail;
- reduced conference fees;
- reduced prices for EOS journals;
- free subscription to *Optics & Laser Europe*;
- and, for those living outside Germany, a 50% discount on a subscription to the German-language journal *Photonik*, published by AT-Fachverlag.

Additional benefits for corporate members:

- a company profile in the EOS directory;
- a presence on the EOS website;
- free advertisements for jobs in the EOS market;
- reduced conference fees for all employees.



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