PROJECT PERIODIC REPORT
Publishable Summary

Grant Agreement number:	**258178**
Project acronym:	**NEXPRESSO**
Project title:	**Network for EXchange and PRototype Evaluation of photonicS componentS and Optical systems**
Funding Scheme:	**FP7-ICT-2009-5**
Date of latest version of Annex I against which the assessment will be made:	**02-05-2010**
Periodic report:	**1st ☐ 2nd ■ 3rd ☐ 4th ☐**
Period covered:	**from 01/06/11 to 31/05/12**

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1 Project objectives

1.1 Introduction & General Objectives

1.1.1 Introduction

The NEXPRESSO project is based on the experiences from the FP6-project ACCORD and is designed

- to put pre-competitive photonic components and systems in the hands of researchers and students
- at no net cost to the university or to the company that furnishes the prototypes and
- to facilitate transfer of the university results for potential end-users especially SMEs in new markets, new applications
- to enhance the mobility of trained engineers and scientists in the European community.

NEXPRESSO puts pre-competitive photonic components and systems in the hands of researchers and students, at no net cost to the university or to the SME that furnishes the prototypes. As a result:

- students are trained on the next generation of emerging technologies and products as identified by European industries. This training orients students toward advanced technology jobs in Europe, thus helping to develop a highly educated and productive workforce in Europe.
- SME companies that participate in the programme have a new and valuable resource for implementing research and development at a reduced cost that is also precisely focussed on the products and on the issues that are most relevant to that company's continued growth and success.

NEXPRESSO greatly enhances professional mobility, particularly for students and researchers originating in new member countries. Through NEXPRESSO these professionals can apply for a R&D agreement with a company located anywhere in Europe. NEXPRESSO is acting as a positive force to integrate this talented resource into the European economy.

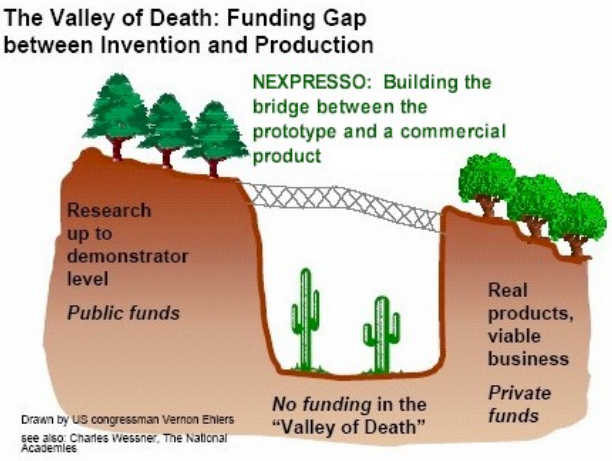


Figure 1: "The Valley of Death" - This concept of Vernon Ehlers has been developed by the ACCORD project and further applied by Nexpresso. It has been adopted recently by the KET report and the European Commission

Photonics is a field of constant innovation that produces truly revolutionary products and capabilities based on investment in research and development. R&D funded by the European Commission is largely limited to pre-competitive research. Bringing advanced technology to the product stage requires an equally significant investment, but the resources to fund this investment are scarce. Banks will loan money based on customer

orders, but if the product is still in the prototype stage, there will be no customers, yet. This critical gap of photonics product development, between R&D and product launch has been dubbed the “Valley of Death”. The NEXPRESSO initiative helps to bridge this gap, and this concept is diagrammed in Fig. 1.

NEXPRESSO streamlines this exchange concept into an attractive and efficient procedure and will package the result into a kit that can be shared and used by interested funding agencies all over Europe.

NEXPRESSO will identify and demonstrate mechanisms for sustainable operation independent of additional funding from the European Commission.

1.1.2 Objectives

The objectives of NEXPRESSO are:

- to implement a set of collaborative schemes between R&D groups and industry. ACCORD was solely based on the proposal of R&D work to be carried out on pre-commercial components listed by industrial suppliers. Nexpresso goes beyond this and will explore new types of collaboration.
- to develop and disseminate a procedure for efficient and productive evaluation programmes in the form of a Copy-Kit, so that local, regional and national authorities can implement their own “NEXPRESSO” programmes. This Copy-Kit will consist of a set of documents describing the findings of NEXPRESSO.
- to implement several methods of sustainable funding independent of the European Commission so that the NEXPRESSO initiative will continue to operate when the project is completed. These methods can either be through support from end-users, support from industry or support from local; or national funding agencies.
- These objectives respond directly to the call specification: “SME and researchers support through access to photonics technology and design expertise, prototype components and manufacturing facilities”.

Participation in the NEXPRESSO-projects is in principle open to any participants in the world, some of which could even receive funding. A project however without any participation from EU/FP7-associated states will not be supported. Where one party is not from the EU/FP7-associated states the benefit of its participation must be justified in the proposal and will be taken as one of the selection criteria.. Examples can be:

- component from US purchased by NEXPRESSO– research in EU: this could be very beneficial for the EU side.
- component from the EU – research in US could also be very beneficial for the supplier of the component.

1.1.3 Measurable objectives:

Following the ACCORD-project the measureable objectives for NEXPRESSO are as follows:

- response to the Call for Components and Projects: these should result in at least a similar number of submitted proposals as ACCORD: i.e. 30 components and 30 R&D proposals
- Projects should involve students and PhD-level researchers
- Projects should result in papers published in scientific journals or presentations at conferences
- Projects should involve new areas of research or access to new components or should cover new applications for the components.
- Projects should lead to a continued collaboration

2 Work progress and achievements

2.1 Summary of the project flow:

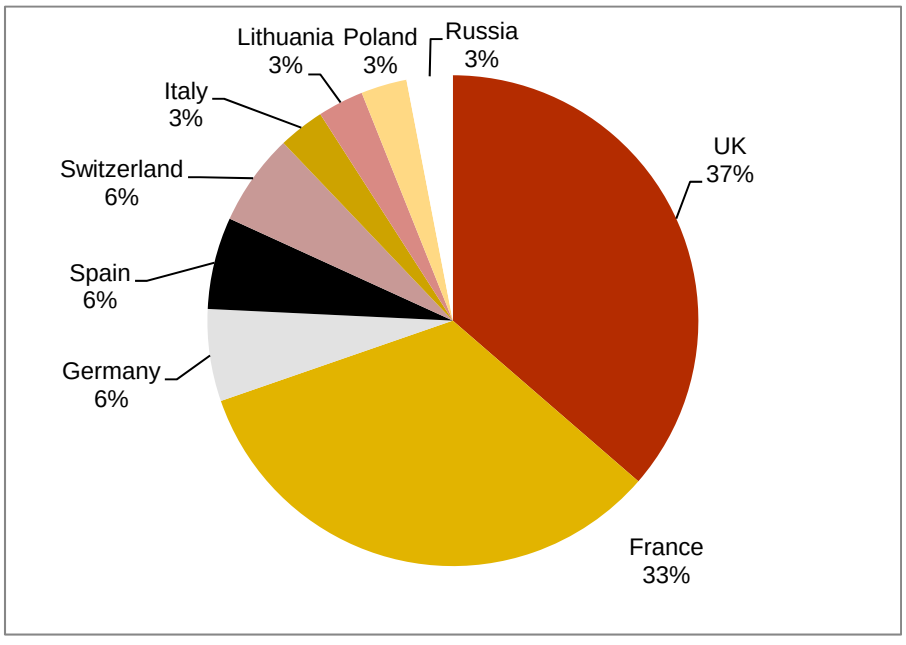
	Open	Close	Submissions	Eligible	Awards
Type 1					
Call 1 for Components	16/08/10	08/10/10	33	33	
Call 1 for R&D proposals	21/10/10	30/11/10	27	27	4
Call 2 for Components	25/05/11	01/07/11	22	22	
Call 2 for R&D proposals	18/07/11	26/08/11	3	3	1
Call 3 for Components	01/02/12	30/03/12	16	16	
Call 3 for R&D proposals	07/05/12	22/06/12	NA	NA	NA
Type 2					
Call 1 for R&D proposals	15/08/10	15/06/11	2	1	
Call 1 for Components	15/06/11	20/08/11	1	1	1
Type 3					
Call 1 for R&D proposals	15/08/10	15/06/11	1	1	1

2.2 Solicitation and Evaluation of Proposals and Components (WP2)

2.2.1 Type 1 - Call 1 and 2 for Components

The Calls were announced via the NEXPRESSO website and other channels (presentations, newsletter of other projects,..).

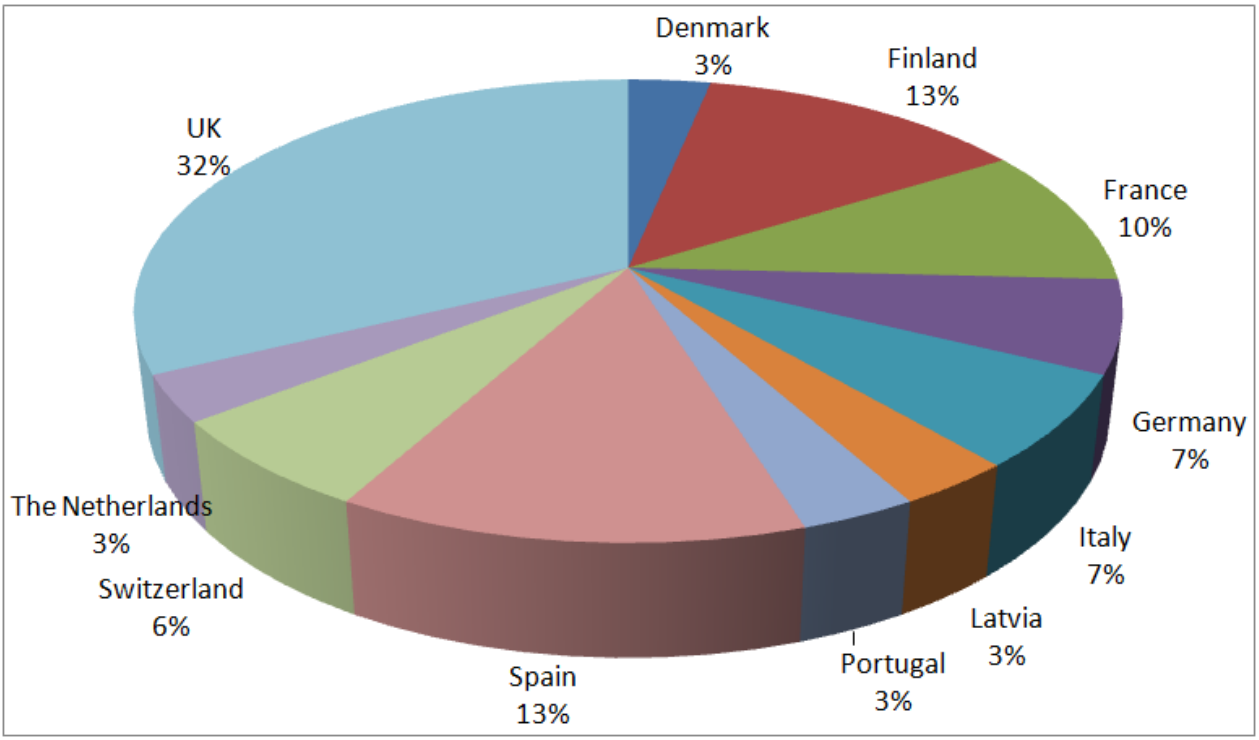
In total 33 components were used for both Calls (no new components submitted in Call 2)



2.2.2 Type 1 - Call 1 for R&D Proposals

The 33 submitted components were listed on the NEXPRESSO website.

In total 27 proposals were submitted in Call 1 and 3 proposals were submitted in Call 2



2.2.3 Type 2 Proposals

The Call was announced via the NEXPRESSO website and other channels (presentations, newsletter of other projects,..).

In total 2 proposals were submitted of which only 1 was considered eligible and for which a component was submitted.

2.2.4 Type 3 Proposals

The Call was announced via the NEXPRESSO website and other channels (presentations, newsletter of other projects,..).

In total 1 proposal was submitted and considered eligible.

2.2.5 Awards winners:

The 4 selected award winners in Type 1 – Call 1 are:

R&D Ref:	University	Research Proposal Title	Component Offered By:	Component Ref:
Call_1 - 010	Institut Curie	Adaptive Optics in Spinning Disk microscopy (AOSD) of living samples	COSINGO-Imagine Optic Spain S.L.	Call_1 - 011
Call_1 - 013	The Institute of Photonic Sciences	Compact STED CW sources emitting in the yellow range	Solus Technology Ltd	Call_1 - 029
Call_1 - 016	The Institute of Photonic Sciences	Super Resolution Multimodal Microscopy with Ytterbium Laser Systems	Time-Bandwidth Products AG	Call_1 - 031
Call_1 - 023	CNIT	Toward Integrated photoNicaSsisted fully-dIgital raDar transceiver (INSIDE)	Selex Sistemi Integrati SpA	Call_1 - 026

The selected award winner in Type 1 – Call 2 is:

R&D Ref:	University	Research Proposal Title	Component Offered By:	Component Ref:
Call_2 - 030	ENSTA Paris Tech	“Laser Beam and Tissue Characterisation for Ultrashort Pulse Laser Eye Surgery” and “Direct Imaging of Intense Pulsed Terahertz Beams	ALPhANOV.	Call_1 - 001

The selected award winner in Type 2 – Call 1 is:

R&D Ref:	University	Research Proposal Title	Component Offered By:	Component Ref:
Call_1 - 211	University of Parma	Short-Pulse High-Speed Fiber Laser Cutting of Multilayer Materials	Innolight Innovative Laser & Systemtechnik	Call_1 - 201

The selected award winner in Type 3 – Call 1 is:

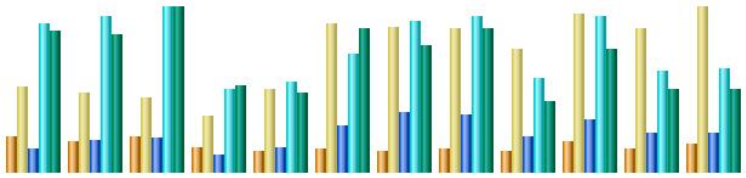
R&D Ref:	University	Research Proposal Title
Call_1 - 311	HoWest	OLED lighting applications in outdoor conditions

2.3 Summary of Dissemination and Exploitation activities

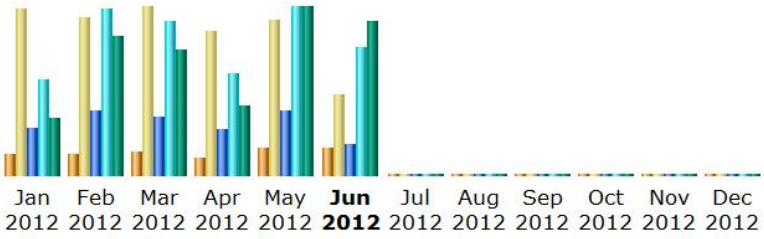
2.3.1 NEXPRESSO Website

Screen shot of the NEXPRESSO Homepage

Web Statistics



Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2011	408	963	2170	13726	152.45 MB
Feb 2011	342	894	3033	14373	148.80 MB
Mar 2011	396	847	3071	15216	177.84 MB
Apr 2011	290	633	1575	7761	93.77 MB
May 2011	231	934	2214	8332	86.66 MB
Jun 2011	254	1685	4247	10899	155.63 MB
Jul 2011	239	1646	5566	13895	138.12 MB
Aug 2011	264	1628	5400	14439	154.70 MB
Sep 2011	246	1408	3261	8785	75.54 MB
Oct 2011	352	1792	4748	14490	133.68 MB
Nov 2011	259	1625	3583	9313	90.29 MB
Dec 2011	315	1867	3666	9575	89.31 MB
Total	3596	15922	42534	140804	1.46 GB



Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2012	229	1746	3685	7558	69.70 MB
Feb 2012	233	1657	5027	13140	167.19 MB
Mar 2012	241	1762	4652	12071	152.59 MB
Apr 2012	187	1522	3558	7953	84.69 MB
May 2012	287	1643	5057	13234	203.22 MB
Jun 2012	277	843	2397	10129	185.87 MB
Jul 2012	0	0	0	0	0
Aug 2012	0	0	0	0	0
Sep 2012	0	0	0	0	0
Oct 2012	0	0	0	0	0
Nov 2012	0	0	0	0	0
Dec 2012	0	0	0	0	0
Total	1454	9173	24376	64085	863.27 MB

Statistics of visits on the NEXPRESSO Website

2.3.2 Nexpresso and Social media

Nexpresso information is distributed through high quality official web page. (http://www.nexpresso.eu/)

However, as all “classical” web pages, the Nexpresso web page is characterized by:

- static character - the content is generated by one user (the owner), who alone is responsible for the content and form of presented information.
- lack of interaction with the user / participant

Development of technologies used to build online resources has made possible changing the way we use websites. The revolution has been started with the advent of Wikipedia and new ideas how to share knowledge in different areas of science.

Today, number of publicly available interactive internet services (so called Web 2.0 services) exceeds hundreds.

Within the Nexpresso project we have been testing the possibility to use the selected Web 2.0 tools to improve distribution of the Nexpresso related information. We started with testing two services:

- Facebook
- Twitter

2.3.2.1 Facebook

Facebook, due to its nature and extensive functionality, is no longer just a place to meet new people and to maintain relationships with current friends. With many internal tools it is often an essential part of an Internet platform, which allows companies and organizations to interactively reach a wider audience.

Facebook seems to be very well suited for NEXPRESSO project, with its aim to create a bridge between industry and academia. Facebook can create a virtual ground where the two groups meet.

We have created the Nexpresso Facebook page. The page is connected with the official Nexpresso web page through the so called “Like box”. The Like Box is a social plug-in that enables Facebook Page owners to attract and gain "Likes" from their own website. The Like Box enables users to:

- See how many users already like this page, and which of their friends like it too
- Read recent posts from the page
- “Like” the page (connect to the page) with one click, without needing to visit the page

Currently, the Nexpresso Facebook page is fully functional social media page. Operation modes of the page will be discussed an implemented in soon.

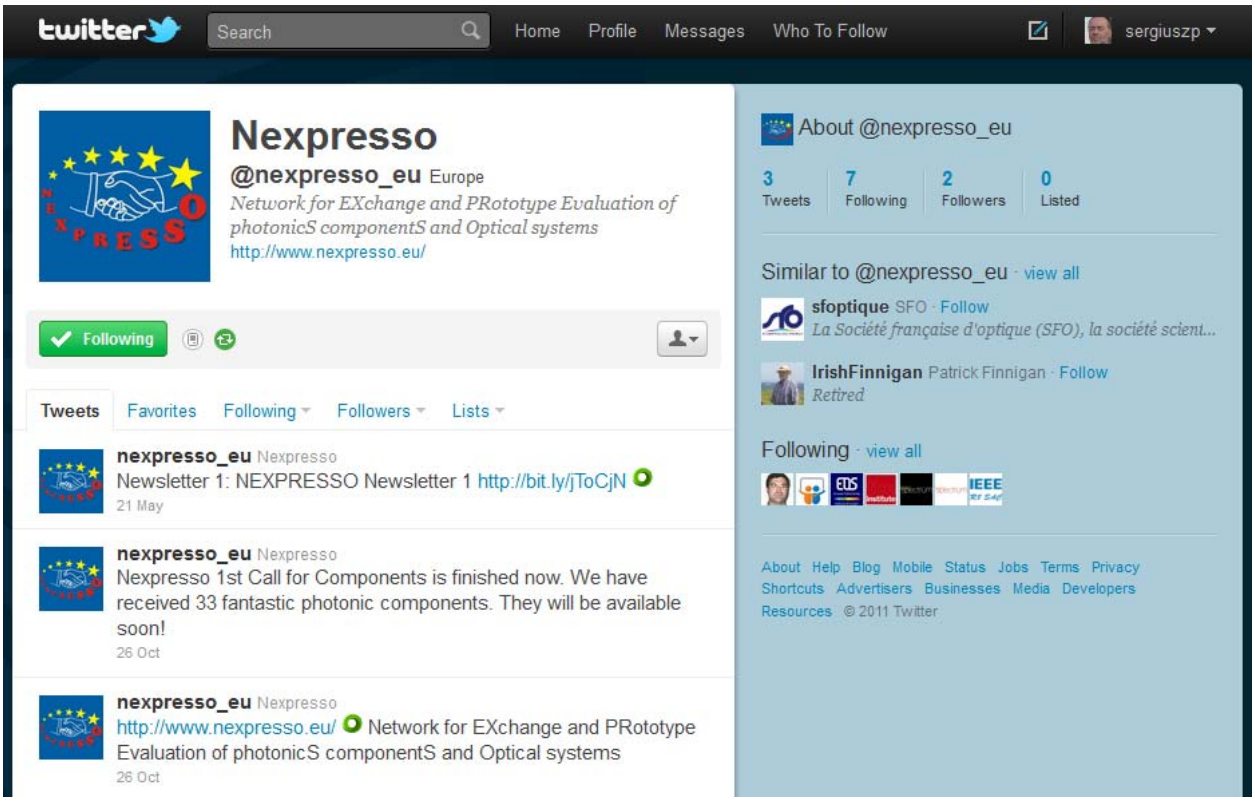
The Nexpresso Facebook page

2.3.2.2 Twitter

Twitter is a service that provides a microblogging function. Additionally, Twitter serves as a social networking site, and communications tool that can answer the question: What's happening? Some entries (tweetts) answers the question what is happening around the user, but most of them refer to other entries (igniting discussion, exchanging ideas) or interesting sites on the Internet (articles, videos).

We have created a Twitter account for Nexpresso. A brief description of the profile and an image was added to the account profile. NEXPRESSO logo was used as the image. Additionally, in description of the profile, active link to the official NEXPRESSO page was placed.

Currently, the Nexpresso Twitter account is fully functional microblogging page. Operation modes of the page will be discussed an implemented in soon.



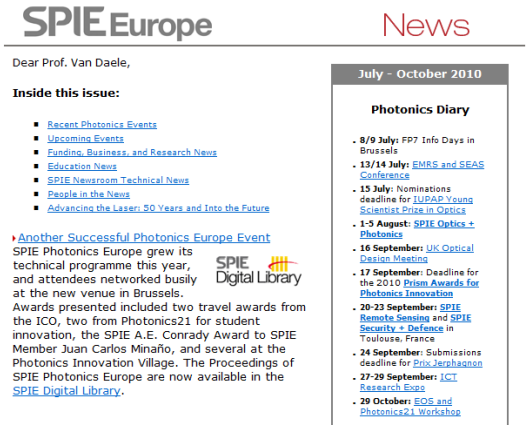
Twitter account for the Nexpresso project (http://twitter.com/#!/nexpresso_eu)

2.3.3 Presentations

Event	Dates	Place	Website
2010 International Students and Young Scientists Workshop "Photonics and Microsystems"	25/06/10	Szklarska Porebal, Poland	http://www-old.wemif.pwr.wroc.pl/optoel/worksh op2010/index.php
Industrial Technology Programme (ITP) at the PHOTON10 Conference and Exhibition	23-26/08/10	Southampton, UK	http://www.photon.org.uk
ICT 2010	29/09/10	Brussels, Belgium	http://ec.europa.eu/information_soci ety/events/ict/2010/index_en.htm
FP7 Photonics Unit – Concertation Meeting	20/10/10	Brussels, Belgium	http://cordis.europa.eu/fp7/ict/photon ics/concertation201010_en.html
Optics Valley Members Meeting	20/10/10	Paris, France	Presentation
International Technology, Education and Development Conference	07-09/03/11	Valencia, Spain	http://www.iated.org/inted2011/anno uncement
Optics Valley Members Meeting	06/04/11	Paris, France	Presentation
Photonics SME Workshop	20/06/11	Brussels, Belgium	Presentation
Generalitat de Catalunya	31/08/11	Barcelona, Spain	Presentation
Conseil Regional de Bretagne	13/11/11	Rennes, France	Presentation
Conseil Régional d'Ile de France	02/12/11	Paris, France	Presentation

2.3.4 Newsletters

- Besides the presentations, NEXPRESSO Calls were also announced in newsletters as e.g. the SPIE Europe News, and more specifically under the item “Funding, Business and Research News” and the ElectroOptics Newsline



SPIE Europe News

Dear Prof. Van Daele,

Inside this issue:

- Recent Photonics Events
- Upcoming Events
- Funding, Business, and Research News
- Education News
- SPIE Newsroom Technical News
- People in the News
- Advancing the Laser: 50 Years and Into the Future

Another Successful Photonics Europe Event

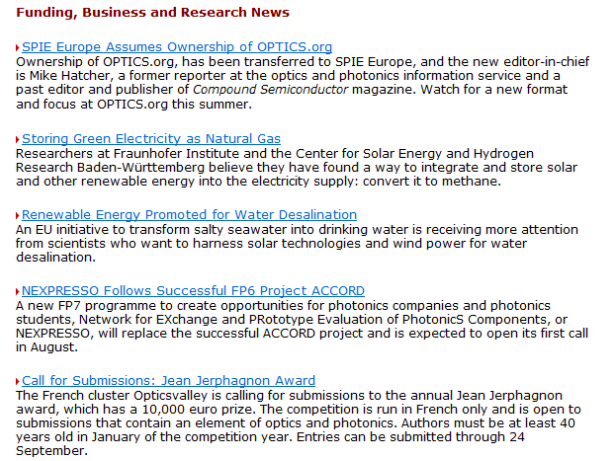
SPIE Photonics Europe grew its technical programme this year, and attendees networked busily at the new venue in Brussels. Awards presented included two travel awards from the ICO, two from Photonics21 for student innovation, the SPIE A.E. Conrady Award to SPIE Member Juan Carlos Miñaño, and several at the Photonics Innovation Village. The Proceedings of SPIE Photonics Europe are now available in the SPIE Digital Library.

SPIE Digital Library

July - October 2010

Photonics Diary

- **8/9 July:** FP7 Info Days in Brussels
- **13/14 July:** EMRS and SEAS Conference
- **15 July:** Nominations deadline for IUPAP Young Scientist Prize in Optics
- **1-5 August:** SPIE Optics + Photonics
- **16 September:** UK Optical Design Meeting
- **17 September:** Deadline for the 2010 Prism Awards for Photonics Innovation
- **20-23 September:** SPIE Remote Sensing and SPIE Security + Defence in Toulouse, France
- **24 September:** Submissions deadline for Prix Jerphagnon
- **27-29 September:** ICT Research Expo
- **29 October:** EOS and Photonics21 Workshop



Funding, Business and Research News

SPIE Europe Assumes Ownership of OPTICS.org

Ownership of OPTICS.org, has been transferred to SPIE Europe, and the new editor-in-chief is Mike Hatcher, a former reporter at the optics and photonics information service and a past editor and publisher of *Compound Semiconductor* magazine. Watch for a new format and focus at OPTICS.org this summer.

Storing Green Electricity as Natural Gas

Researchers at Fraunhofer Institute and the Center for Solar Energy and Hydrogen Research Baden-Württemberg believe they have found a way to integrate and store solar and other renewable energy into the electricity supply: convert it to methane.

Renewable Energy Promoted for Water Desalination

An EU initiative to transform salty seawater into drinking water is receiving more attention from scientists who want to harness solar technologies and wind power for water desalination.

NEXPRESSO Follows Successful FP6 Project ACCORD

A new FP7 programme to create opportunities for photonics companies and photonics students, Network for EXchange and PRototype Evaluation of PhotonicS Components, or NEXPRESSO, will replace the successful ACCORD project and is expected to open its first call in August.

Call for Submissions: Jean Jerphagnon Award

The French cluster Opticsvalley is calling for submissions to the annual Jean Jerphagnon award, which has a 10,000 euro prize. The competition is run in French only and is open to submissions that contain an element of optics and photonics. Authors must be at least 40 years old in January of the competition year. Entries can be submitted through 24 September.

electro optics newsline

Welcome to Issue 57 of EO Newsline, the monthly e-newsletter from the team at *Electro Optics* magazine.

Please forward this newsletter to any colleagues you feel would find it useful, and encourage them to subscribe by visiting our subscription page, where you can also manage your own subscription to both EO Newsline and *Electro Optics*.

NEWS FEATURE

Project launched to accelerate prototype commercialisation

NEXPRESSO, the 'Network for EXchange and PRototype Evaluation of photonicS componentS and Optical systems', has been launched, which looks to provide support for SMEs in commercialising their photonic device prototypes

SPONSORED LISTING

Ocean Optics NIR Spectrometer Now with free iPad*

LATEST NEWS

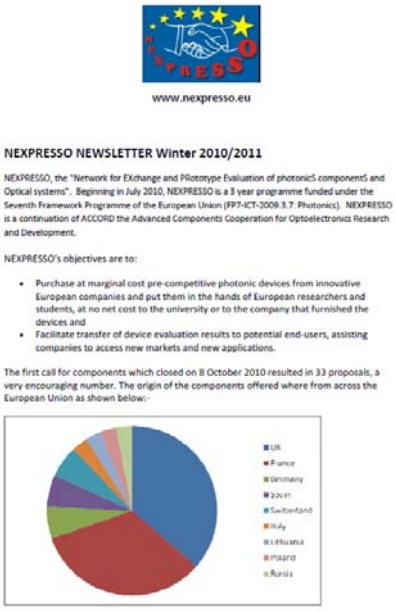
Laser on board Mars mission

The Space Technologies group of Laser Zentrum Hannover is developing a laser suitable for use in outer space as part of the ExoMars-Mission. The laser will be used to help establish if there is any form

Lambda Research to distribute ScatterMaster products

Spectrometer helps dentists use curing lights

SPIE begins accreditation cycle with



www.nexpresso.eu

NEXPRESSO NEWSLETTER Winter 2010/2011

NEXPRESSO, the "Network for EXchange and PRototype Evaluation of photonicS componentS and Optical systems". Beginning in July 2010, NEXPRESSO is a 3 year programme funded under the Seventh Framework Programme of the European Union (FP7-ICT-2009.3.7: Photonics). NEXPRESSO is a continuation of ACCORD the Advanced Components Cooperation for Optoelectronics Research and Development.

NEXPRESSO's objectives are to:

- Purchase at marginal cost pre-competitive photonic devices from innovative European companies and put them in the hands of European researchers and students, at no net cost to the university or to the company that furnished the devices and
- Facilitate transfer of device evaluation results to potential end-users, assisting companies to access new markets and new applications.

The first call for components which closed on 8 October 2010 resulted in 33 proposals, a very encouraging number. The origin of the components offered where from across the European Union as shown below:-

2.3.5 NEXPRESSO Newsletter

- Newsletters 1 to 3 have been produced and added to the web
- The newsletters were circulated to all registered on the web
- The newsletters were circulated to all on the partner databases.

3 The NEXPRESSO-consortium:

3.1 NEXPRESSO Partners

-	P01	Interuniversity Microelectronics Center	IMEC	B
-	P02	European Photonics Industry Consortium	EPIC	F
-	P03	Multitel	Multitel	B
-	P04	Haute Ecole Spécialisée de Suisse Occidentale	HES-SO	CH
-	P05	Sagem Défense Sécurité	SAGEM	F
-	P06	Wroclaw University of Technology	WUT	P
-	P08	Scottish Optoelectronics Association	SOA	UK
-	P09	Perfos	Perfos	F
-	P11	Optics Valley	Optics Valley	F

The project leader is Prof. Peter Van Daele, at the INTEC Dept. of IMEC (B).

3.2 NEXPRESSO Contact information & Logo

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