Project no.: 34041

ACCORD

Advanced Components Cooperation for Optoelectronics Research and Development

Instrument type: **SPECIFIC SUPPORT ACTION**
Priority name: **Information Society Technologies**

Periodic Report (M25 – M44)
Update of the Project fact sheet

Period covered: **from 01/09/08 to 30/04/10** Date of preparation: **31/03/10**

Start date of contract: **01/09/06** Duration: **44 months**

Project co-ordinator name: **Peter Van Daele**
Project co-ordinator organisation name: **IMEC** Revision: **version 3.0**

Update of the Project fact sheet

Advanced Components Cooperation for Optoelectronics Research and Development
Project Acronym: ACCORD
Project status: Execution

1.1 Coordinator

1.1.1 Organization:

INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM VZW

1.1.2 Contact person

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1.1.3 Address

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Organization Type: Research Institute

1.2 Objective:

The ACCORD project has the objective 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.
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.
Each company that participates in the programme, and particularly so for SMEs, has 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.
By involving potential end-users in the programme, the supplying company gets access to possible new markets outside its normal field of operation. The supplying company therefore has a possibility to investigate possible new applications and reach out towards new markets without a significant cost.
The ACCORD project greatly enhances professional mobility, particularly for students and researchers originating in new member countries. Through the ACCORD programme these professionals will be able to apply for a R&D agreement with a company located anywhere in Europe. The ACCORD project will act as a positive force to integrate this talented resource into the European economy.
The models tested in this project and the experience gained will be used to propose a self-sustaining components exchange programme.

1.3 Achievements:

Major results have been achieved in different areas since the start of the ACCORD-project, each of these areas corresponding to work carried out in different workpackages and according to the plan set out in the project proposal. All of this work has been carried out in the framework of setting up the exchange programme for the components and has resulted in 2 Calls for Components (35 components in total) and 3 Calls for R&D Projects (29 projects submitted in total), much higher than predicted at the time of submitting the ACCORD-idea into an FP6-project proposal.

1.3.1 Preparation of the "Call for Components" & "Call for R&D Proposals"

The first major result is the preparation of the documents that support the Call for Components and the Call for R&D Proposals. After carefully taking all possible requirements into account, it was decided to produce a single document containing both the information on submission of components as well as the information on submission of R&D proposals. This unified document has been published as Deliverable D1.2 and is available through the ACCORD-website. It is updated in view of the next Calls which are announced.

1.3.2 The ACCORD Website

The second major result is related to setting up and maintaining the ACCORD-website. This website has been developed at the start of the project and has been the major information exchange platform regarding the ACCORD-project and the exchange programme. Some difficulties at the beginning of the project in setting up the website were related to some changes in the requirements made during the course of the project when it became clear how this information exchange platform would be used during the course of the project.

1.3.3 Call for Components

A first call for components was opened on 15/01/2007 and closed on 28/02/2007. The Call was announced via the ACCORD website and through distribution of ACCORD Newsletter Issue 1. In total 22 components were received within the set time-frame and 20 components were considered within the scope of the Call. Three proposals were submitted after the set deadline and are withheld for the 2nd Call. The number of components received in the Call 1 was sufficient to justify expectance of an acceptable level of quality. No Back-Up calls were used.
A second call for components was opened on 01/01/2008 and closed on 31/03/2008. The Call was announced via the ACCORD website and through distribution of ACCORD Newsletter. In total 15 components were received within the set time-frame.

1.3.4 Call for R&D Proposals

Call 1 for R&D Proposals opened on 12/03/2007 and closed on 30/04/2007. The original Closing Date (13/04/07) was extended as a too small number of proposals were received on the deadline and indications were given that several R&D institutes were intending to submit a proposal. The Call was announced via the ACCORD website and through distribution of ACCORD Newsletter Issue 1. In total 15 proposals were received within the set time-frame. Out of these 15 submitted proposals, 13 were selected as being within the scope of the Call. Two submitted proposals did not make any use of one of the proposed components and were because of that taken out of the competition. In view of the sufficient number of submitted proposals, no "Back-Up Call 1" is applied.
Call 2 for R&D Proposals opened on 22/10/2007 and closed on 16/11/2007. This Call for Proposals relied on the remaining components from Call 1 – Components (Open 15/01/2007 – Closed 28/02/2007). It was opted to re-use these components in this Call 2 – R&D Proposals. The outcome

was a submission of 4 R&D Proposals (of which 1 was identified as being identical to a proposal submitted in Call 1 and 1 proposal was eliminated as being out of scope).
The reviewing process resulted in a selection of 1 proposal to be taken to the next round i.e. the negotiation between R&D group and component supplier.
Call 3 for R&D Proposals opened on 14/04/2008 and closed on 16/05/2008. The outcome was a submission of 12 R&D Proposals all of which were considered as being within the scope of the ACCORD-project.
The reviewing process resulted in a selection of 5 proposals to be taken to the next round i.e. the negotiation between R&D group and component supplier.
After optimisation of the budget, the ACCORD-project was capable of selecting an extra project and was also in the position to purchase extra components for another already selected project out of Call 3.

1.3.5 Setting up the Evaluation Panel

An independent evaluation panel was set up and constituted of 21 members. The selection of the members is based on a broad scope of expertise and of a firm commitment by the members to participate in the reviewing process. This commitment is made on the basis of the personal relationships between the members of the Evaluation Board and the ACCORD-partners who nominated them.

1.3.6 The R&D Proposal evaluation process

The proposals were submitted to the members of the reviewing panel where care was taken to submit the proposals to members who were experts in the specific field. Care was also taking to have each proposal being reviewed by at least 2 (preferably 3) panel members. The members of the evaluation panel were asked to fill out the evaluation sheet that was provided to them and score the proposals on different criteria.
The outcome of the evaluation process resulted for
Call 1 for R&D projects on June 15th 2007 in selecting 5 proposals for negotiation
Call 2 for R&D Projects on January 15th 2008 in selecting 1 proposal for negotiation
Call 3 for R&D projects on August 14th 2008 in selecting 5 proposals for negotiation with 1 extra proposal selected after optimisation of the budget.

1.3.7 Negotiation process & purchase of selected components

Following the award of components, the ACCORD-project has started negotiations to specify the terms of the research under contract and the acquisition of components. To date six awards were made, and all six projects have been negotiated successfully within the budget of the project. The negotiations have been completed in 3 to 6 months, including the July-August vacation time. Delays on the university side are the rule, due in part to the more complicated university management hierarchy.

1.3.8 Follow-Up of the selected Projects

A list of the selected projects is given below, together with start and end-date:

R&D proposal	University	Title	Component	Supervisor	Purchase Order Out	Component received	Kick-Off Meeting	Project end
102	Tampere University of Technology (FIN)	Short pulse laser Eolite Corus 10G for micromachining of biodegradable implants and grooving of silicon wafer	EOLITE - IR to UV Industrial Laser	Multitel	08/11/07	22/01/08	14/01/08	31/01/09
108	University of Latvia (LAT)	Adaptive Optics for Eye Physiology Studies	Visionica, Wavefront Sensors	WUT	07/09/07	03/10/07	15/02/08	04/06/09
109	St Andrews University (UK)	Photoporation using fiber tips	Lovalite, Fibre face components	SOA	23/09/07	22/12/07	21/01/08	03/06/08
112	Universidad Politecnica de Madrid (ES)	Testing and system upgrading	FiberLogix, All-fibre stripper	HES-SO	05/09/07	23/10/07	04/01/08	15/01/09
113	Universidad Politécnica de Valencia (ES)	Characterisation of Semiconductor Optical Amplifiers and Electroabsorbers and their use in novel applicationsding	CIP, SOA / EA Modulators	PERFOS	09/09/07	05/11/07	11/02/08	27/02/09
203	Strathclyde University (UK)	A multi-wavelength, time multiplexed, spectrometer for atmospheric sensing	Cascade Technologies Ltd	SAGEM	17/07/08	13/08/08	02/09/08	30/09/09
301	ETH Zurich (CH)	A high throughput terahertz spectroscopic imaging system for security applications	Onefive GmbH	Multitel	23/10/08	01/04/09	24/02/09	31/03/10
302	Georgia Tech – CNRS (F)	Development of GaN Based LEDs using ZnO/c-sapphire Templates	Nanovation SARL	HES-SO	22/04/09	18/05/09	18/05/09	18/02/10
304	Institute for photonic technology Jena (D)	Quasi-Multiplex CARS Microscopy with High Frame-Acquisition Rate	Fastlite	PERFOS	22/10/08	24/11/08	10/12/08	06/01/10
308	CNIT (I)	Integrated time domain optical interleaver for photonic-based full-digital radar receiver	Pirelli Labs	HES-SO	25/11/08	01/12/08	26/01/09	25/01/10
310	University of Dundee (UK)	Resonator modes in the presence of passive element for conical refraction (2 deliveries)	Conerefringent Optics S.L	SOA	24/11/08 & 05/02/08	10/12/08	10/12/08	30/06/09
312	University of Strathclyde (UK)	Adaptive optics for improved resolution in optical sectioning microscopy	Imagine Optic	SAGEM	29/10/08	01/03/09	05/03/09	23/03/10

1.3.9 Status of the components:

R&D proposal	University	Title	Supplier	Component	Component Status
102	Tampere University of Technology (FIN)	Short pulse laser Eolite Corus 10G for micromachining of biodegradable implants and grooving of silicon wafer	EOLITE	IR to UV Industrial Laser	TU Tampere decided to purchase the laser from Eolite by paying the price difference to Eolite. The laser is now in the laboratory of Tampere University.
108	University of Latvia (LAT)	Adaptive Optics for Eye Physiology Studies	Visionica	Wavefront Sensors	Components are still working and remain at R&D Group
109	St Andrews University (UK)	Photoporation using fiber tips	Lovalite	Fibre face components	Components are still working and remain at R&D Group
112	Universidad Politecnica de Madrid (ES)	Testing and system upgrading	FiberLogix	All-fibre stripper	Still working and fixed in set-up.
113	Universidad Politécnica de Valencia (ES)	Characterisation of SOAs and Electroabsorbers and their use in novel applicationsding	CIP	SOA / EA Modulators	Components are still at R&D Group
203	Strathclyde University (UK)	A multi-wavelength, time multiplexed, spectrometer for atmospheric sensing	Cascade Technologies Ltd	Quantum cascade lasers at 5 λ in IR	Operational, used in current set-ups
301	ETH Zürich (CH)	A high throughput terahertz spectroscopic imaging system for security applications	Onefive -	Origami: passively mode-locked ultrafast laser	The laser is still working and at ETH.
302	UMI2958 Georgia Tech – CNRS (F)	High quality ZnO-coated c sapphire epiwafers for the growth of GaN based LEDs	Nanovation	ZnO on c-sapphire wafers	Some broken, some still working, fixed in set-up or used for growth
304	Institute for Photonic Technology Jena (D)	Quasi-Multiplex CARS Microscopy with High Frame-Acquisition Rate	Fastlite -	Dazzler pulse shaper RF generator prototype	Components are still at R&D Group
308	CNIT (I)	Integrated time domain optical interleaver for photonic-based full-digital radar receiver	PGT Photonics	Waveguide integrated interleaver	Still working, fixed in set-up, to be used in new experiments.
310	University of Dundee (UK)	Resonator modes in the presence of passive element for conical refraction	Conerefringent Optics	3 laser grade Nd/KGW elements	Components are still working and remain at R&D Group
312	University of Strathclyde (UK)	Adaptive optics for improved resolution in optical sectioning microscopy	Imagine Optic -	GAO prototype	Operational, used in current set-ups

1.3.10 Summary of the ACCORD-Calls:

	Submitted	Evaluated	Selected
Call 1 for Components :	**22**		**20**
Call 1 for R&D projects	15	13	5
Call 2 for R&D Projects	4	3	1
Call 2 for Components	**15**		**15**
Call 3 for R&D projects	12	12	5 + 1

The "+1" on the selected Call 3 proposals indicates the extra project selected to optimise the funds.

1.3.11 Measurement of success of ACCORD-projects:

As set of criteria have been selected to evaluate the submitted project proposals. These criteria also serve partially as a measurement for the success of the ACCORD-projects. Therefore projects are considered as successful if they have met at least 1, but preferably more than one of the criteria:

For the R&D group:	For the Component Supplier:
- Scientific value: Publication in Journals or at conferences - Involvement in educational programmes: work and results used in PhD thesis, Master Thesis or Master courses. - New areas of research or access to new components - New collaborative projects as a continuation with the supplier -	- New collaborative projects set up as a continuation with the R&D group - Broadening of area of application of the component / broadening of market focus

Based on these criteria, a survey has been set up with both R&D groups as well as the component suppliers. The outcome of these surveys indicates very positive feedback on the ACCORD-project;

- ✓ ACCORD projects score positive on at least 1 or more of the above mentioned criteria
- ✓ ACCORD established new intensive collaborations and low administrative load
- ✓ ACCORD opened new applications for components even with new patents being filed
- ✓ ACCORD collaborative projects continued after ACCORD
- ✓ ACCORD is evaluated by the participants as an overall success
- ✓ ACCORD projects included PhD & Master Thesis work and were incorporated into Master Courses

Regarding funding, the clear indication is that this is a programme only achievable through public funding.

1.4 Project Details

Start date:	2006-09-01	End date:	2010-04-30
Duration:	44 months	Project Reference:	34041
Project cost:	€ 1 027 359.44	Project Funding:	€ 997 676
Programme Acronym:	FP6-IST	Programme type:	6th Framework Programme
Contract type:	SSA		

1.5 Other participants

P02	European Photonics Industry Consortium	EPIC	F
P03	Multitel	Multitel	B
P04	Haute Ecole Spécialisée de Suisse Occidentale	HES-SO	CH
P05	Wroclaw University of Technology	WUT	P
P06	Sagem Défense Sécurité	SAGEM	F
P07	Scottish Optoelectronics Association	SOA	UK
P08	Perfos	Perfos	F

1.6 Project logo