# Organic and Large Area Electronics Newsletter

Organic and Large Area Electronics Newsletter, Issue No 2, November 2008

*Organic and large area electronics is one of the most promising fields of electronic technologies. R&D activities in this area have led to the demonstration of the main basic electro-optic functionalities. Similarly, the first commercial applications have already been announced by several EU companies. The future of this new class of technologies is expected to open up the possibilities for new products that will not compete with the existing silicon technology, but instead create a new market that could reach the size of silicon within two decades.*

## SUMMARY



**Dear reader,**

**In the forthcoming months a number of important events related to the area of Organic and Large Area Electronics will take place, the most relevant one being the ICT Event 2008 in Lyon, where the ICT Work programme for the years 2009-2010 will be presented.**

**In addition, the Third Organic and Large Area Electronics Stakeholders Meeting (18 November 2008) and the Fourth Organic and Large Area Electronics Cluster Meeting (13 & 14 January 2009) will be held in Brussels.**

**In this second issue of our Newsletter you will find further details on these events, as well as updated information on EC-funded projects (CombOLED, ROLLED), news about the breakthroughs in this field (IAPP) and information on recent conferences and events on Organic and Large Area Electronics (ICOE, IS-FOE).**

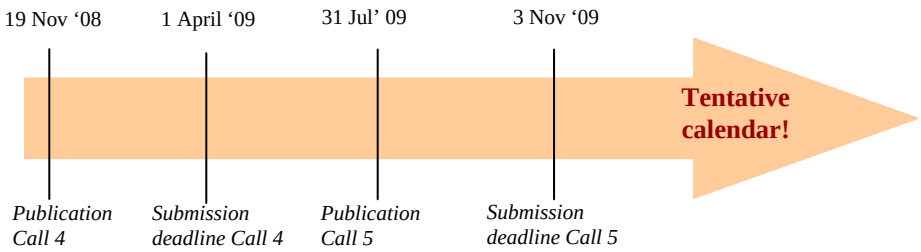
**I hope you will enjoy reading this Newsletter and will find valuable information in it.**

**Dr. Augusto de Albuquerque**

## ❑ ICT Work Programme 2009 - 2010

**Keep an eye out on our website for further news on ICT WP 09 -10!**

http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/home_en.html




The ICT Work Programme for the years 2009-2010 will be unveiled during the ICT Event 2008 in Lyon on 25-27 November. This ICT WP will set out the challenges and objectives for ICT research funding for the next two years.

To have the latest information on the ICT WP 09-10 and its R&D objectives, please consult regularly our site on CORDIS, where you will find comprehensive overviews on these research objectives, including target outcome, expected impact, instruments, call planning, etc.

**Organic and Large Area Electronics Newsletter**

This newsletter is issued by EC DG INFSO G2 "Microsystems". For any comments on or contributions to future issues of this newsletter and to subscribe/unsubscribe, please send an email to INFSO-OENEWSLETTER@ec.europa.eu

# Conferences on organic and large area electronics

## ❑ International Conference on Organic Electronics ICOE 2008

*The idea of arranging an annual conference on **Organic Electronics** evolved from Liverpool's position as leader of work package 6, responsible for roadmapping organic electronics as well as training and dissemination, in the FP6 project **Polyapply**.*

There were, and are, other conferences associated with organic and molecular electronics, which mainly have delegates from management and business. However, there was a recognisable need for a more fundamental meeting for scientifically active engineers, physicists at the postdoc and more senior levels, as well as those undertaking PhDs in the field, which was the objective of the **International Conference on Organic Electronics**.

The **ICOE Conference** is now in its fifth year and so far has been held in the conference facilities at the Philips labs in Eindhoven. It has been coupled with workshops, which were held free of charge, and 15 speakers, mainly covering fundamentals from photovoltaics to electronic circuit design, have participated.

### The ICOE Conference 2008

The 2008 meeting was, as usual, held in the middle of June and occupied 3 full days with invited talks from Neil Greenham from Cambridge University on photovoltaics. This subject acquires increasing levels of interest with time. There are problems with stability and efficiency but much of the understanding of photovoltaics in organic semiconductors has come from the Cambridge Physics group.

Ananth Dodabalapur is one of the fathers of the organic transistor technology, now at the University of Texas but previously with the start-up Organic IC and Bell Laboratories. He emphasised the need to understand trapping effects in determining device stability and circuit speed. Both of these are among the most crucial items in roadmapping the field. Sony presented an exciting talk on their new technology, and Savas Tay, a postdoc from the University of Arizona, described the use of organic materials in holography.

Several trends were noted from the abstracts submitted to the conference and the subsequent presentations. One was the increased interest in soluble versions of pentacene such as 'TIPS'. They have the advantage of more mobile carriers whilst being compatible with printing. It also became apparent that these films have irregular surfaces which, if not addressed, will have limitations in terms of reduction in channel length and maintaining the yield of interconnect in real circuits.

A disappointment was the lack of strong papers on circuit design. There is an increased realisation that new circuit design concepts may be the best way of overcoming some of the problems imposed by the materials.

These include the spread of parameters which is closely linked to the presence of trace amounts of air in the semiconductor. The need for a concentrated effort on ways of preventing the diffusion of air into the films has also been emphasized.

The workshop was planned as an interactive session and focussed on the difficulties of modelling organic devices for particular application with circuits. Although much progress has been made using Monte Carlo methods, there is a need for the kind of equations that facilitate the computer aided design of larger circuits.

The next ICOE will go on the road and it will continue to be organised by the Liverpool Group. In 2009 it will be held at Liverpool and in 2010 it moves on to Paris. A new web-site for the event is nearing completion. In addition, we would be interested in any organisation that would wish to be host in 2011 and for consideration by the Programme Committee. For further information on this event, please contact: Prof. Bill Eccleston (beccle@liverpool.ac.uk).

EuroSouthKorea-ICT.org
EU-SouthKorea ICT Cooperation

### 2nd EU-Korea Cooperation Forum on ICT

The **Second EU-Korea Cooperation Forum on ICT**, which will take place in Brussels on 1 and 2 December 2008, is a follow-up event to the one held in Seoul in June 2008.

The main objective of this forum is to further build upon achievements reached, relations established and to identify potential Euro-Korea cooperation projects on ICT research.

EU-Korea cooperation activities in the fields of Microsystems and Flexible, Organic and Large Area Electronics will be covered in this event, and will build on the results from the Microsystems sessions within the 1st EU-Korea Cooperation Forum on ICT, which can be consulted at: http://cordis.europa.eu/fp7/ict/micro-nanosystems/events-20080616-17_en.html

The conference targets an audience of up to 200 representatives from European and Korean organizations active in the ICT field interested in developing scientific and technological cooperation in areas of mutual interest. Participation is free of charge but subject to pre-registration. For further details on this event, please consult the event website: http://www.eurosouthkorea-ict.org


http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/home_en.html

# News about organic and large area electronics

## ❑ IAPP reports breakthrough towards single-layer high-efficiency white OLEDs

The Institut für Angewandte Photophysik (IAPP) at the Technische Universität Dresden has developed a novel device concept for white organic light-emitting diodes (OLED) based on simultaneous fluorescence and phosphorescence from the same emission layer.

The blue part of the spectrum is fully covered by a fluorescent emitter material which also serves as matrix for a matching phosphorescent orange emitter. Thus, singlet and triplet excitons are harvested for light emission nearly completely, avoiding the intrinsic energy losses of common host–guest approaches. Gregor Schwartz, who did these investigations in his PhD thesis, says *"We have simultaneously significantly improved the efficiency and simplified the device, using this novel approach"*.

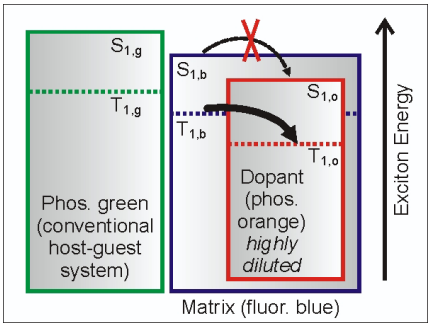



Figure 1. Scheme of the novel concept for high-efficiency white OLEDs. The orange phosphor is highly diluted in a bulk fluorescent blue material leading to simultaneous fluorescence and phosphorescence from this emission layer.

The first device realization already achieves an outstanding power efficiency of 49.3 lm/W at a high brightness level of 1,000 cd/m² with a colour rendering index (CRI) of 62. Further stack optimization improves the CRI to 82, making the device suitable for high-quality lighting applications.

The efficiency is measured in an integrating sphere including light emission from the substrate edges, but without any additional light outcoupling applications like a microlens foil or a macroscopic half sphere.

The corresponding external quantum efficiency of 24.1% emphasizes the high potential of this novel device concept *(for details, see G. Schwartz, S. Reineke, K. Walzer, and K. Leo, Applied Physics Letters 92, 053311 (2008))*.

This work shows that high-efficiency white OLED devices do not need a very complicated stack design, and furthermore, do not need blue phosphorescent emitters with their stability issues. With an ideally tailored blue fluorescent host material and the use of state-of-the-art phosphorescent emitters, efficiency is expected to further improve, with by less organic layers being necessary.

***K**arl Leo, head of the IAPP, comments: "Our novel approach should lead to very simple high-efficiency white OLED devices, avoiding the complications of blue phosphorescent emitters requiring host materials with a very large gap".*

The next goal is a single-layer high-efficiency white OLED ready for high-throughput large-scale production processes. The IAPP will continue to work on such novel approaches for a highly efficient white OLED with partners from the Dresden network such as Novaled and Fraunhofer-IPMS and many other European partners in the new project OLED100.

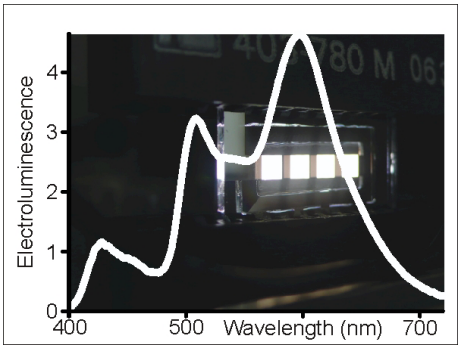



Figure 2. Electroluminescence spectrum of the optimized device with a high colour rendering index of 82.

## EC PUBLIC CONSULTATION ON ICT R&D AGENDA 2020

In search of the best strategies to boost Europe´s leadership in Information and Communication Technologies (ICT) research and innovation in the next decade, the European Commission has launched a public consultation on ICT R&D Agenda 2020.

The context of this consultation is the preparation of a EC Communication on "a strategy for ICT R&D and innovation in Europe", which is planned for April 2009.

This EC Communication will propose a policy approach for ICT research and innovation in the European Union designed to ensure ICT progress meets the needs of the citizens and businesses, to reinforce Europe´s industrial and technological leadership in ICT and make Europe more attractive as a location for investments in people, research and technology.

Through this public consultation on ICT R&D Agenda 2020, contributions from industry, ICT experts, policy makers and the wider public,, will be fed into this new strategy for ICT research and innovation. The aim is to put the European ICT industry, especially SMEs, to the fore of the race for global competitiveness. This public consultation is open until 7 November 2008 and is available at http://ec.europa.eu/yourvoice/ipm/forms/dispatch?form=ICTRDI. More information on the results of this consultation will be available on our next issues.

http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/home_en.html

# New projects in organic and large area electronics

## ❑ CombOLED: Combined Organic LED Technology for Large Area Transparent and low cost lighting Applications

Solid state lighting is a fascinating research field which brought up the revolutionary breakthrough technology of inorganic LEDs during the last decade. These are now migrating into the general lighting field. A new development route is already identified, with organic light emitting devices (OLEDs) in large area and nm architectures being complementary to inorganic point sources.

These organic light emitting devices for lighting purposes are expected to have broad market opportunities due to their properties. They can act as nearly two-dimensional diffuse light sources as well as signage applications. They have the potential to offer transparency and flexibility, opening up the possibility of creating completely new applications. In addition, as efficiencies above 50 lm/W are targeted, these novel light sources also have the potential to decrease the global energy consumption.

Similar efficiencies and lifetime compared to existing solution is a pre-requisite for new lighting technologies. A staircase improvement from today's level towards 50 lm/W and 5000 h lifetime of large area tiles can be expected, which will be sufficient for first niche applications soon.

However, an effective market introduction of OLEDs for lighting and signage will become the lighting revolution in the future as soon as the cost structure is competitive and unique selling points like transparency are explored.

Therefore, one of the major challenges that is still ahead is the manufacturing costs. If no breakthroughs are made in terms of new low-cost processes, OLED technology will not enter the market in large volume, even if the performance would allow competition.

The second issue to be addressed refers to the uniqueness of OLEDs for lighting. Besides the advanced form factor of OLED lighting panels, further unique selling attributes must be developed. An area of particular interest could be the creation of transparent devices which could open new perspectives for lighting and signage.

The **CombOLED** project, a European Commission funded RTD project within the Seventh Framework Programme under the ICT 2007 3.2 Objective "Organic and large area electronics; visualisation and display technologies", will address the above-mentioned objectives.


Figure 3. Logo of CombOLED

The goal of **CombOLED** is to combine new device structures, advantageous manufacturing approaches and less complex materials with the aim to achieve cost effective OLED lighting solutions.

The cost reduction, together with transparency as a device feature, will enable a huge penetration of the organic light-emitting device (OLED) technology into the lighting market. This will help European lighting companies to maintain their leadership in this market at worldwide level.

**CombOLED**

Website: http://www.comboled-project.eu

Timeline: 1st January 2008 – 31st December 2010

Contact person: Dr. Karsten Heuser

E-mail: Karsten.Heuser@osram-os.com

The major goals that should enable **CombOLED** objectives are related to the application fields and can be summarized as follows:

- A new substrate technology that is more cost effective than today's standard Indium-Tin-Oxide coated high-end glass.
- Stack technology that combines non-complex and cost effective deposition methods with a high device performance based on either small molecule or polymer materials or combinations of them.
- Deposition methods that are able to deposit layers of organic materials at low cost/high speed.
- A backside contact (top contact) that is transparent to the visible light and thus enables transparent devices.

To achieve these goals, the **CombOLED** consortium consists of 7 partners (Osram Opto Semiconductors, Siemens, CEA LETI, University of Valencia, Saint-Gobain Recherche, PPML Lighting Solutions and Schreiner Group) located in 4 countries all over Europe and resembles an OLED supply chain from substrate supply via device manufacturing to application design and prototype realization. The **CombOLED** project has a total budget of 7 million euros to accelerate the progress in the field of organic light emitting devices in large area and nm-thin architectures through investment in research and development.


*The "OLED Design Contest – CombOLED Edition" is launched with the aim of connecting the R&D running activities of **CombOLED** with the possible future applications of the lighting industry adopting OLED devices.*

*Based on the extremely innovative transparent features and on the final low cost of the next-to-come OLED device investigated by **CombOLED**, participants are invited to submit solutions preferably in the following fields: mood lighting/emotional lighting, static signage and low-content information display.*

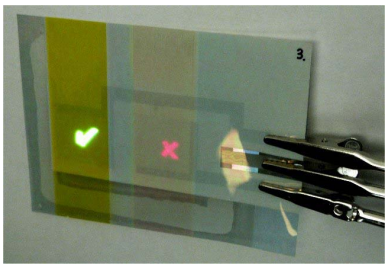
http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/home_en.html

# FP6 projects in organic and large area electronics

## ❑ ROLLED: Roll to roll manufacturing technology for flexible OLED devices and arbitrary size and shape displays

*Researchers working in the European project **ROLLED** have developed a flexible OLED element that can be mass produced using roll-to-roll printing technology. The OLED elements can be used to add value to product packages. The new method is considerably cheaper than the traditional manufacturing method. The project was coordinated by VTT, and project participants included INM, CSEM, Ciba, Hansaprint, UPM and PolylC.*

At its simplest, the flexible OLED element can be used in product packaging, posters or on supermarket shelves to attract the attention of consumers. It can also be connected to sensors measuring the freshness of food contained in packages. It can also be used to prevent product copying. Arto Maaninen, Technology Manager of VTT, predicts that the first OLED elements will be in commercial use within a couple of years.



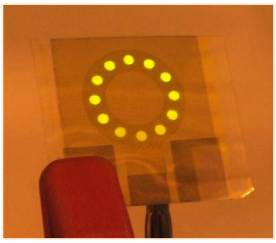
An OLED is an organic light emitting diode, functioning in a way similar to LED lights. Importantly, the power consumption of the OLED light source is very low. Using organic materials, OLED light elements can be affordably manufactured using printing methods on large, flexible surfaces. The OLED element developed under **ROLLED** is made from organic materials and is encapsulated in a moisture barrier film. The element is 200–250 micrometers thick, the equivalent to three or four sheets of paper.

The manufacturing method was tested in two demonstration tests. The first was presented as a two-colour OLED element that is attached to a product package. When the package is unopened, a green tick is displayed. When the package is opened, the fuse is blown and the tick changes into a red cross.

The second demonstration showed how the OLED element can be powered by an NFC telephone. The EU flag was printed on a business card. When an NFC phone was placed near the card, the stars printed with the OLED elements lit up.

The current production cost of an OLED element is tens of cents. Researchers, however, are aiming for some end applications that cost as little as just a few cents.

The acquisition cost of the equipment needed in the manufacturing process is clearly lower, and the speed of production is higher than in traditional production methods.



The savings achieved can be up to half of the traditional production costs of OLED elements manufactured using a glass substrate. For further information, please contact: Arto Maaninen (arto.maaninen@vtt.fi), Technology Manager, VTT Technical Research Centre of Finland.

http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/home_en.html

## EU-Russia Information and Brokerage Conference 2008

The European Commission together with the Russian National Contact Point (NCP) for ICT organized the **EU-Russia Information and Brokerage Conference on ICT 2008**. This event, which took place in Moscow on 21-23 October 2008, aimed to:

- Identify areas of common interest in the field of ICT
- Explore the potential for developing joint project proposals for submission in the forthcoming calls
- Allow both EU and Russian participants to consult EC officials on technical and administrative matters related to the FP7

The **EU-Russia Information and Brokerage Conference on ICT** was structured in two parts: an Information and Brokerage Event on 21 & 22 October 2008, and Project presentations and Bilateral Consultation Meetings with the EC officials on 23 October.

This Information and Brokerage Event consisted of a plenary session on the first day followed by parallel sessions on specific topics where R&D cooperation between EU and Russia was to be reinforced. These areas were: Photonics, ICT for Transport, Microsystems, Embedded Systems, Nanoelectronics and Future and Emerging Technologies, including both FET Open and Pro-active.

In the Microsystems parallel sessions, the fields of Microsystems and Organic and Large Area Electronics were addressed. During these working sessions, which were attended by more than 35 participants, the European and Russian speakers presented their R&D capabilities and the areas where research cooperation was sought. Embryonic proposal ideas and consortia were presented and discussed during these sessions.


On 23 October, the project presentations and the bilateral consultation meetings were held. These meetings allowed the participants to present their projects and to discuss general matters related to the FP7 ICT Theme as well as to make consultations on the R&D objectives of the specific focus areas covered in this event. For further details on this conference and to download the presentations made during the event, please consult: http://ec.europa.eu/information_society/events/moscow2008

# Conferences on organic and large area electronics

## ❑ International Symposium on Flexible Organic Electronics IS-FOE 2008

**The 1st International Symposium on Flexible Organic Electronics (IS-FOE08),** which took place in Halkidiki (Greece) on 10-11 July, brought together scientists and engineers actively engaged in the research, development, and manufacturing of flexible organic electronics including organic/inorganic materials, flexible substrates, manufacturing processes, circuit designs, flexible devices, system integrations and product applications.

*The **IS-FOE Symposium 2008** was organized by the Lab for Thin Film Nanosystems & Nanometrology (LTFN) of the Aristotle University of Thessaloniki and co-organized by the Plastic Electronics Foundation. It was also supported by the EC-funded R&D projects Flexonics, OLAtronics, PolyNet and OPERA.*

The symposium started with a Welcome Opening Event on 9 July entitled "Strategy of Europe & EC in Organic Electronics" during which the EC activities in the area of organic and large are electronics were presented. In addition, the co-ordinators of FP6 and FP7 EU-funded R&D projects, such as *Flexonics, OLAtronics, PolyNet, Fast2Light, FACESS, GREENBAT* and *OPERA,* presented detailed information on their breakthroughs, future activities and prospects.

On 10-11 July, the attendees presented their contributions to this symposium. Some of the most significant presentations are summarized below, although all of them were outstanding. In addition, some will be published as peer review papers in the European Physical Journal - Applied Physics http://www.epjap.org.

*A total of 97 presentations, coming from 22 countries, were received. Among them, 18 were invited presentations, 33 were oral contributions and there were 46 posters. The fields of expertise which were covered were: organic electronic materials, chemical synthesis, physical and chemical properties of materials, theoretical calculations, device design-manufacturing & testing, encapsulation and large area printing systems.*

Dr. K. Fostiropoulos, from Hahn-Meitner-Institute of Berlin, presented the current status of the research on OLEDs and OPVs in Germany with the presentations entitled: *"The German Initiative on OLEDs & OPVs" & "German Project: Self-assembly in Organic Hybrid solar cells".* During this presentation, the German funding opportunities in this area were presented. Similarly, the scientific-industrial network established within the frame of the OPV-Initiative 2007, called *"SOHyb Self-assembly in organic hybrid solar cells",* was described in detail.

Dr. N. Meyer from AIXTRON AG, presented the activities of the company on Organic Vapour Physical Deposition (OVPD). More specifically, the principles of the OVPD process were explained and various OVPD systems from lab to industrial scale were shown. The potentiality of OVPD is high enough for it to be applied in large area manufacturing of flexible organic electronic devices.

In the field of applications, Prof. G. Malliaras from Cornell, presented the use of flexible transistors as biosensors in the presentation entitled *"Conducting Polymer Transistors for Sensor Applications".* The biosensing properties are based on changes in electrical current of conductive polymers after the interaction with biological molecules.

Regarding large area manufacturing, Dr. A. Campbell, from Imperial College London, with his presentation entitled *"Gravure printing of polymer thin film transistors on flexible substrates",* gave a picture of the use of gravure printing in manufacturing OTFTs with P3HT top gates.

Finally, the presentation *"Nanoscale transparent barrier layers for technical applications"* by Dr. S. Amberg Schwab from Fraunhofer Institut für Silicatforschung, addressed the topic of passive components of flexible organic electronic devices, like the transparent barrier layer on flexible substrates for device encapsulation. This presentation covered the latest results of the technologies used for encapsulation with organic-inorganic hybrid layers.

### IS-FOE 2009

**The 2nd International Symposium on Flexible Organic Electronics 2009 (IS-FOE09)** will take place on 8-10 July 2009 in Halkidiki (Greece).

The topics of the IS-FOE symposium 2009 will include, but are not limited to: organic semiconducting materials (small molecules and polymers), organic/inorganic and hybrid materials and systems, transparent/non-transparent electrodes, flexible substrates and encapsulation methods & materials, molecular electronics and photonics, self organized molecules and systems, theory & modeling (materials, components and devices), manufacturing processes (printing, vacuum, chemical), flexible displays & lighting, flexible solar cells, flexible circuits and sensors and flexible batteries, etc.


For further information on the IS-FOE Symposium 2009, please consult the event website: http://isfoe.physics.auth.gr

In this context, Dr. A. Laskarakis from Aristotle University of Thessaloniki, with his presentation *"Real time optical monitoring of inorganic layer growth onto flexible polymeric substrates",* explained a non-destructive method for evaluation of the barrier layer properties on roll-to-roll processes. For further information, please contact: Christoforos Gravalidis (cgrava@physics.auth.gr).

http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/home_en.html

# Events on organic and large area electronics


***The biennial ICT Event is the most important forum for discussing research and public policy in information and communication technologies at European level.*** *The ICT Event presents Europe's future priorities for research funding in the ICT area, examines crucial issues of public policy for stimulating innovation and creates opportunities to establish research and business partnerships.*

The ICT Event 2008, which is organized by the EC Directorate General Information Society and Media in cooperation with the French presidency of the EU, will bring together researchers, innovators, policy and business decision-makers working in the field of digital technologies.

This event, which will take place in Lyon (France) on 25-27 November 2008, will examine: the European Union priorities in ICT research for over €2 billion of funding available in 2009-2010; the major current technological trends which impact upon strategic research planning, and public research policies to stimulate research and innovation.

The areas of Flexible, Organic and Large Area Electronics and Microsystems and Smart Systems Technologies will be represented, in particular, through:

- Presentations of the ICT Work programme for the years 2009-2010 and funding opportunities,
- Conference sessions on "Components and systems" and "bio-nano-frontiers",
- A networking session on Microsystems and Smart Systems Integration,
- A networking session on Microsystems for medical and bio applications.

In addition, two specific sessions are devoted to the presentation of the ICT Work Programme 2009-2010 objectives on "Flexible, Organic and Large Area Electronics" and "Microsystems and Smart Miniaturised Systems". These sessions will give comprehensive overviews of these objectives, including target outcome, expected impact, use of instruments, call planning, etc.

Furthermore, these sessions will include the possibility for participants to present their ideas for potential proposals corresponding to these objectives.

If you are interested in presenting ideas for potential proposals during one of these sessions, please send 2-3 slides describing the proposal idea, your technology capabilities and/or the partners you would be looking for to INFSO-OENEWSLETTER@ec.europa.eu.

For further details on the ICT Event Lyon 2008, on the themes, the conference, the exhibitions, the networking activities, the full programme, the registration or practical information, please consult the ICT Event 2008 website: **http://ec.europa.eu/information_society/events/ict/2008/index_en.htm**

## ❑ Third Organic and Large Area Electronics Stakeholders Meeting

The **Third Organic and Large Area Electronics Stakeholders Meeting** will take place at EC premises in Brussels on 18 November 2008. This event is a follow up to the 1st and 2nd Organic and Large Area Electronics Stakeholders Meetings which were held on 30 May and 1 October 2008.

The objective of these events is to contribute to the consolidation of the leading role of the European industry and research community in the field of organic and large area electronics through the identification of the main challenges in the area and the proposing of recommendations which will help to promote the growth and competitiveness of the European industry in the field.

During this event, the results of the activities carried out by the three working groups which were established during the 1st Organic and Large Area Electronics Meeting, will be presented by their respective leaders: Dr. Schoo, Dr. Hecker and Prof. Kopola and Mr. Van den Kieboom.

In addition, the programme for this event includes several presentations on other key issues of this field such as the situation of the research platforms in the area in Europe, international cooperation and education and training activities.

This Stakeholders Meeting will finalize with the presentation of the conclusions of the parallel sessions dedicated to analyze the best strategies to boost Europe´s leadership in the area and the co-ordination of national funding initiatives.

For further details, please consult the event website: http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/events-20081118_en.html

# Event calendar

18 NOVEMBER 2008, Brussels (BE)

**Third Organic and Large Area Electronics Stakeholders Meeting.** The third Organic and Large Area Electronics Stakeholders Meeting aims to identify the main challenges in this field and to make recommendations which will help to promote the development and growth of the European industry in Flexible, Organic and Large Area Electronics.

**Website:**
http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/events-20081118_en.html

25-27 NOVEMBER 2008, Lyon (FR)

**ICT Event 2008.** The ICT Event 2008 in Lyon will present Europe's future priorities for research funding in the ICT area, examine crucial issues of public policy for stimulating innovation and create opportunities to establish research and business partnerships. The R&D objectives in Microsystems and Flexible, Organic and Large Area Electronics will also be presented.

**Website:**
http://ec.europa.eu/information_society/events/ict/2008/index_en.htm

1-2 DECEMBER 2008, Brussels (BE)

**2nd EU-Korea Cooperation Forum on ICT.** This second Cooperation Forum on ICT is a follow-up event to the one held in Seoul in June 2008. The main objective is to further build upon achievements reached, relations established, and to identify potential Euro-Korea cooperation projects on ICT.

**Website:** http://www.eurosouthkorea-ict.org

2-3 DECEMBER 2008, Munich (DE)

**Forum "be-flexible" 2008.** This international platform is intended for an exchange of experiences of scientists, applied researchers, equipment suppliers and users. It will consist of two consecutive days with several sessions and keynote speakers focussed on thin semiconductor devices and flexible electronic systems.

**Website:** https://www.be-flexible.de

## 4th Organic and Large Area Electronics Cluster Meeting

**The Fourth Organic and Large Area Electronics Cluster Meeting** will be held at EC premises in Brussels on 13-14 January 2009.

It will cover organic electronics and photonics technologies, and combinations with inorganic materials & low temperature processes, that are enablers for large-area integration of devices into functional systems.

The event will bring together the active EC-funded projects from the different specific programmes under both FP6 and FP7 and also other European members in this research community.

It aims to:

- Encourage the exchange of information and best practices among projects
- Identify potential synergies and relevant topics for further cooperation
- Discuss future research challenges & priorities
- Build a critical mass of activities in the field

In the last edition of this cluster meeting more than 60 attendees participated, representing 28 different projects and more than 40 organizations. In 2009, the cluster meeting will be a two-day event:

- **The first day** will be restricted to project participants and will focus on the activities of the on-going projects

- **The second day** will focus on plans and strategies for future research. It will start with an overview of the new ICT Work programme for the next two years, focussing on the research objectives *"Flexible, Organic and Large Area Electronics"* and *"Organic Photonics and other disruptive photonics technologies"*.

The rest of the day will be used for discussion of future planned research collaborations in the area and long-term strategies, based on suggestions from participants.

For further details on these events, please contact us at: **INFSO-OENEWSLETTER@ec.europa.eu**

and visit our websites on CORDIS:

http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/home_en.html

http://cordis.europa.eu/fp7/ict/photonics/home_en.html

22 JANUARY 2009, Budapest (HU)

**FP7-ICT Proposers´ Day 2009.** The DG Information Society and Media in cooperation with the Hungarian National Office for Research and Technology will organize the FP7-ICT Proposers´ Day 2009 in Budapest on 22 January.

EC staff will be present to advise in the specifics of the ICT WP09-10 and on the general rules and procedures for participating in FP7.

**Website:**
http://ec.europa.eu/information_society/events/budapest_2009/index_en.htm

**Organic and Large Area Electronics Newsletter**

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