



QUADRIGA NEWLETTER – ISSUE 1 NOVEMBER 2008

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1. Introduction

Welcome to the first issue of the Quadriga Newsletter.

This newsletter will be published a minimum of 3 times a year and it will inform you of progress within the 4 Quadriga Partners Projects. Additionally it will contain information about major developments, and research achievements in the field of the Organic & Large Area electronics (OLAE) in Europe, plus important updates about call for proposals from the Commission in Brussels and upcoming events.

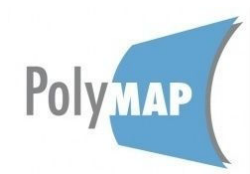
The Quadriga Project is a joint initiative of the European Commission, the Directorate General of Information Technology & Media and 4 Coordination Action Projects within the seventh framework programme: OPERA, Polynet, Polymap and Prodi. The main and common objectives of all four collaborative projects are to foster the position of Europe as the gravitation point in the research of organic & large area electronics, and to strengthen the position of Europe as a main hub in this area. Ultimately the objective is to contribute to the

creation of new start-ups and to the creation of a knowledge based European economy with strong comparative advantages.

We hope you find it informative and interesting and we welcome feedback and contributions.

The Quadriga Partners

(For more information and project links go to <http://www.quadriga-org.eu/>).



2. From the European Commission

Organic and Large Area Electronics in the EU Framework Programmes

Organic and large area electronics is one of the most promising fields of electronic technologies. Intense R&D activities in this area have led to the demonstration of the main basic electro-optic functionalities. In addition, the first commercial applications have already been announced by several EU companies, and the future of this new class of technologies is expected to open up the possibilities for new products that will create a new market which could reach the same size as the one for the silicon today within two decades.

*The European Commission has been funding R&D activities in this field during the Sixth and Seventh Framework Programmes, with an overall EC contribution exceeding 140 M€ and 31 R&D projects funded in this area. **The new ICT Work programme for the years 2009-2010 will continue to fund R&D activities in this area, through the two R&D objectives “Flexible, organic and large area electronics” and “Organic photonics and other disruptive photonics technologies”.***

Organic and large area electronics in FP6 & FP7

The European Commission has been actively supporting R&D activities in the emerging field of organic and large area electronics during both the Sixth Framework Programme (FP6) and the Seventh Framework Programme (FP7).

In FP6, a total of 17 projects have been funded, with an EU contribution exceeding 100 M€. These R&D projects are successfully covering a complementary set of activities ranging from materials or technologies and systems development to new manufacturing processes. In FP7, the first dedicated call on organic and large area electronics, with a total budget of 63 M€, was launched within the FP7 Cooperation Theme “Information and Communication Technologies” (ICT). As a result, 15 new R&D projects were funded with about 55 M€. The main R&D topics covered by these projects are large area technologies and materials for low cost manufacturing and subcomponents like energy scavenging and storage, OLEDs, memories, sensors and flexible displays. Also among the EU-funded projects is a subset of four projects which aim to contribute to the consolidation of a critical mass in organic and large area electronics and to reinforce the European leading role in the area.

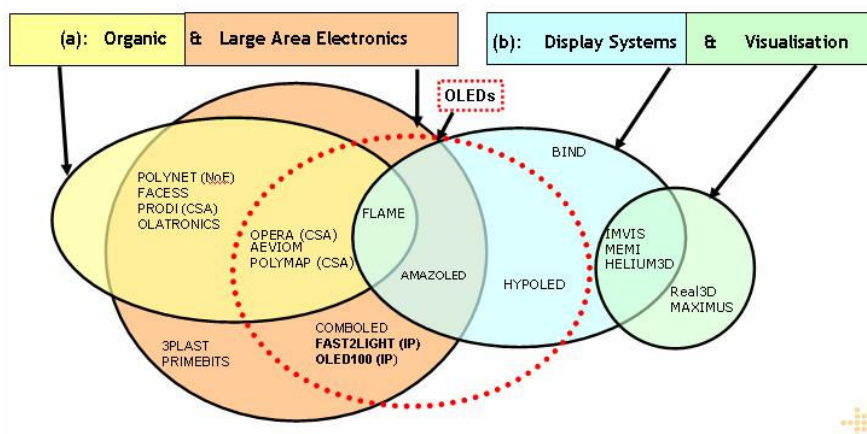


Figure 1. EU-funded R&D projects in the area of organic and large area electronics after the ICT Call on “Organic and large area electronics, visualization and display systems”

Funding opportunities in organic and large area electronics in ICT WP 2009-2010

At present, the new challenges and objectives for ICT research funding within FP7 are set out by the ICT Work programme 2009-2010, which has recently been unveiled. In the ICT Work programme 2009-2010, organic and large area electronics continues to be a priority area, which will be covered by the two R&D objectives “*Flexible, organic and large area electronics*” and “*Organic photonics and other disruptive photonics technologies*”.

The objective “*Flexible, organic and large area electronics*”, which has a dedicated budget of 60 M€, covers R&D activities ranging from the development of devices and functional blocks to their integration into systems. Emphasis is on device demonstrators such as power converters, batteries, memories, sensors, active RFIDs, D&A circuits and CMOS; and systems applications such as e-paper, e-card, energy storage, OLED/PV based systems, chemical/physical/bio sensors, signal processing, radio transmission & receive and signage.

In addition, this call will fund non-R&D activities aiming at structuring and consolidating this field. Support measures are expected to stimulate international cooperation, coordinate regional, national and EU R&D programmes and provide access to prototyping and design competences. The networks of excellence to be funded should aim at structuring and integrating the research capabilities in the area, providing links between R&D organizations and the industrial needs, coordinating R&D and providing training and education in the area.

The field of organic and large area electronics is also partially covered by the objective “*Organic photonics and other disruptive photonics technologies*”. This R&D objective, which has a total dedicated budget of 30 M€, addresses research activities in organic photonics but also in other photonics technologies. In organic photonics specific targeted actions should address organic, polymer, single molecule and carbon-nanotube based photonic components, including organic-inorganic hybrid components. Work should aim at photonic functional components. Included in the target outcomes of this objective are: OLEDs and lasers for lighting, illumination, projection and display applications, light guiding structures, organic photonic laser, amplifiers and sensors and organic photovoltaic cells.

The call for proposals in these two objectives has been opened on 19 November 2008 and will close on 1 April 2009. For further details on the ICT Work programme 2009-2010 regarding these objectives, please consult the Organic and Large Area Electronics website on CORDIS <http://cordis.europa.eu/fp7/ict/organic-elec-visual-display> and the Photonics website: <http://cordis.europa.eu/fp7/ict/photonics>. The e-mail address INFSO-FOLAE-

ELECTRONICS@ec.europa.eu has been also created to give proposers the possibility to send their pre-proposals for the objective of "*Flexible, organic and large area electronics*".

3. Quadriga Partner Project News

Opera



The Future of Organic & Large Area Electronics in Europe

The OPERA Task Force Presents Vision Paper



Above, from left to right: Prof. Dr. Harri Kopola, Prof. Dr. Karl Leo (coordinator), Mr Thomas Reibe (European Commission), Mr Ed van den Kieboom (secretary), Prof. Dr. Sir Richard Friend, Dr. Thomas Geelhaar, Ir. Jaap Lombaers (missing from photo)

Introduction

In a knowledge-based economy, the future of the emerging European organic and large area electronics sector will increasingly depend on the industry's ability to innovate. To achieve such an innovation process, a close collaboration between universities, research institutes, industry and the funding bodies is most important.

The goal of this task force working within the OPERA project is to briefly outline the opportunities in OLAE and to make a set of specific recommendations to further strengthen the European position in this field.

This paper is the first draft of this initiative. It is our goal to continuously update and enhance this paper in discussion with the stakeholders in the OLAE field and that is why we urge you to read the full paper and give us your feedback and opinions.

Opportunities and Challenges

Europe has demonstrated to be the global region with the strongest ability to create fundamental innovations in organic and large-area electronics. The strong well organised basic research, the well organised funding schemes of the EC and the fact Europe already

leads in many essential to OLAE fields make many big opportunities for Europe to take up. To also become the leading region in bringing these innovations to successful applications, a number of challenges must be addressed. The main challenges are:

- Overcoming fragmentation, duplication and discontinuity of research efforts by the many small partners involved
- Eliminating shortcomings in the ability to translate research results into product- and process-innovation,
- Improving coordination of international and national funding activities
- Installing regulatory frameworks at European level that enable and encourage commercialization of new OLAE product.

Executive Summary and Key Recommendations:

- **Why Organic and Large Area (OLAE) business and why in Europe?**
 - OLAE will create a global market of more than €100 Billion in the mid-to-long-term future.
 - OLAE is a disruptive technology that will enable next-generation ICT, energy, healthcare, entertainment and advertising industry with solutions to meet large end-user markets in Europe in the future.
 - OLAE provides significant societal benefits such as more effective usage of materials and energy and added functionality of products. It will enable new cost-effective products for healthcare and wellness, in particular for changing demographics.
 - OLAE will change the way we live, consume, work, and play.
 - Europe possesses a full set of excellent technical competences for realising these opportunities. If Europe maintains and further expands its present competitive edge, it can be the leading global region in this field.
- **What position in OLAE can and should Europe have reached in 2015 - 2020?**
 - European players are global leaders in the OLAE markets with a combined market share of over 50%.
 - A significant part of the value created along the value chain is generated in Europe, including materials, equipment, components, products, up to media and content.
 - Europe is the leading R&D and innovation powerhouse in OLAE.
 - Europe plays a major role in defining standards and visions in this field.
- **What needs to be done to reach these visions?**
 - Establish a strong and focused European Platform on OLAE and actively link with EC programs that represent application areas for this technology.
 - Develop a coherent strategic research agenda, including roadmaps, to coordinate EC and national research.
 - Establish specific measures, e.g. pilot production centres, to close the gap between R&D and products.
 - Nurture the emergence of a European OLAE industry, for example through new approaches to create lead markets, such as the Lead Market Initiatives (LMI).

- Increase the funding budget in proportion to the huge expected markets and establish new ways to access venture capital.
- Develop an “Era-Net Plus” approach for cooperation in and beyond Europe.
- Take measures to early establish standards for new products.
- Establish new training schemes which fit to the interdisciplinary nature of the OLAE field and which range from basic science through engineering and business planning.

Links:

To receive the full document please email victoria.plompen@plastic-electronics.org

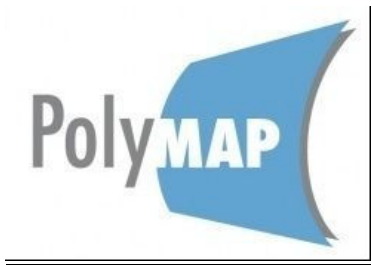
If you would like to make comments or if you have suggestions on the vision paper, please also email the above address. We would welcome any feedback!



Above: The Vision Paper

To learn more about the Opera project please click on the below link:

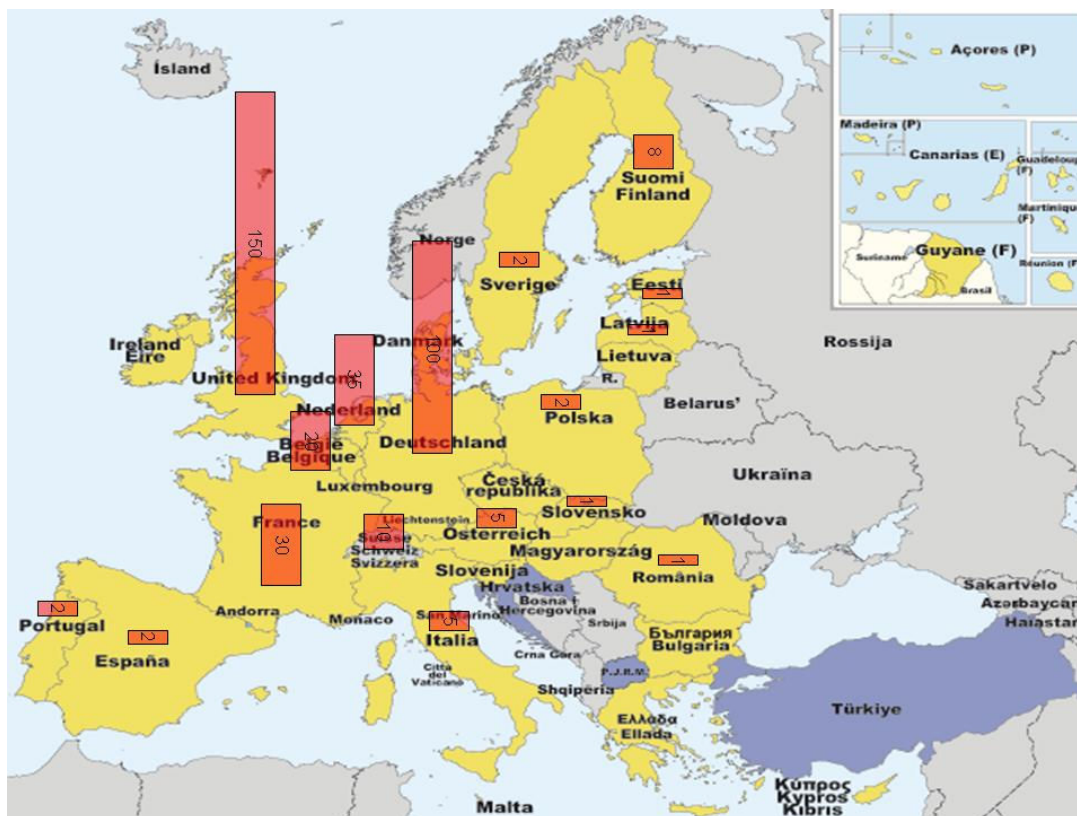
<http://www.opera-project.eu/>



PolyMAP Project

The main focus of the PolyMAP Project is on the mapping of National Public Funding in the field of OLAE. Aim is to investigate the possibility to line up national and regional programs on a European level. A complicating factor in this is the fact that the majority of National Funding for OLAE is not in specific calls, but is allocated within more general topics, such as “New Materials”, “Nanomaterials”, “High Tech Equipment”, etc.

Although the picture is no yet complete, it is clear that most countries in the European Union offer National Funding Schemes for OLAE activities. The first estimate of the (National) budgets available is in the range of 300-500 Meuros:



Impression of National Funding in OLAE in the EU

Currently however, a large part of National/Regional programs related to OLAE have a rather broad scope, and consequently show a lot of overlap. Also, a substantial part of this is spent apparently on trying to catch up with the state-of-the-art.

A general feeling within the OLAE community is that a better coordination of these activities, in combination with a shared research roadmap would lead to a much bigger footprint of the European OLAE efforts, thus positioning European stakeholders much better on a global scale. The next step that will be taken - in close cooperation with the European Commission Program Officers - is to set up discussions between the national funding organizations to determine what would be the preferred way to coordinate a common approach to OLAE. Stakeholders are more than welcome to participate in this process.

For further information on Polymap, please log onto <http://www.polymap.eu/>

PolyNet

The NoE PolyNet (Network of Excellence for the Exploitation of Organic and Large Area Electronics / OLAE) aims to establish Europe in the OLAE area as the world leader in science, technology development and subsequent commercial exploitation of printing and large area technologies for heterointegration of flexible electronics. For further information on PolyNet please go to www.vdivde-it.de/polynet.

The NoE PolyNet will support these aims with three platforms on Research Cooperation, Service and Knowledge. Please find a summary on the NoE PolyNet under <http://www.vdivde-it.de/polynet/public/further-information>

News from the PolyNet Platforms

Research Cooperation Platform

The Research Cooperation Platform provides an overview of the available knowledge and expertise within the PolyNet consortium. Based on this overview the PolyNet Research Cooperation focuses on such issues and problems that demand the collected effort of several partners. For the current overview on the PolyNet R&D expertise please see <http://www.vdivde-it.de/polynet/public/polynet-r-d-expertise-overview-2008-06-24>.

Currently six PolyNet research collaborations are running integrating the competences of the PolyNet partners vertically along the value chain. The topics are reaching from "Integration of Laser-Ablative Microstructuring into R2R Printing Technology" and "Structural analysis of R2R-fabricated thin film batteries (TFB's) from process and product side" over "Large-Area High-Resolution Patterning for Organic Electronics on the basis of Hybrid R2R Nanoimprinting" and "Multifunctional materials for OFETs and OPVs" until "Modelling & Validation of the DC and Transient responses of Organic Devices and Circuits for Polycrystalline and Amorphous materials" and "Integration of two component classes into one system".

For more information please contact the leader of the Research Cooperation Platform: Isak Engquist (isaen<at>itn.liu.se / Linköping University, Sweden).

Service Platform

The PolyNet Service Platform aims to establish an integrated service offering providing cost effective and easy access to qualified Organic and large area electronics design, modelling, simulation and engineering services, advanced manufacturing tools and methods, testing and characterisation of materials and devices through one single customer interface.

The 1st PolyNet industrial workshop took place in Berlin, 27.11.2008. Please find a summary of the report here: <http://www.vdivde-it.de/polynet/public/public-events/polynet-ws-1/polynet-workshop-no-1> => "related content"

The 2nd PolyNet industrial workshop will take place in Munich, 04.12.2008 together with Be-Flexible (<http://www.be-flexible.de/>).

As part of European Network of Excellence in Organic and Large Area Electronics (OLAE) "PolyNet" (www.vdivde-it.de/polynet) commitment to providing state of the art research services and transferring scientific results to innovations, we are organizing an Industrial Workshop in collaboration with Fraunhofer IZM open day at Be-Flexible.

This workshop is geared towards leading companies in the area and will allow PolyNet to better understand and respond to your needs around development and commercialization of Organic and Large Area Electronics' products. We'd like to thank you in advance for showing interest in PolyNet and hope to receive your valuable input during this workshop.

Please find further information here: <http://www.vdivde-it.de/polynet/public/public-events/industrial-ws-no-2>

Knowledge Platform

The aim of the Knowledge Platform is to provide a scientific and technological survey of organic and large area electronics developments worldwide. The central tool of the Knowledge platform is the European Observatory of Organic Electronics (EOOE). The Knowledge Platform provides public information from the EOOE under <http://www.vdivde-it.de/polynet/public/eooe-results/>

In addition the knowledge platform aims to support the education of highly qualified students and employees with expertise and training in the O&LAE field.

For more information please contact the leader of the Knowledge Platform Isabelle Chartier (isabelle.chartier<at>cea.fr / CEA-LITEN, France)

Contact PolyNet coordinator

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VDI/VDE Innovation + Technik GmbH, Steinplatz 1, 10623 Berlin, Germany
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heinze@vdivde-it.de, <http://www.vdivde-it.de/polynet>



PolyNet Group Photo: 2nd PolyNet Work package Meeting (Paris / Oct. 2008)



Prodi Workshop on Organic circuit design.

Last Monday, November 24, 2008, a workshop on the specific design needs for organic circuits took place in IMEC, Belgium.

Almost 50 participants discussed the several options for how specific circuit design could solve the inherent parameter variation that is undeniable present in all organic transistors.

5 speakers [Prof. **Eugenio Cantatore** (TU Eindhoven, The Netherlands), **Mike Hamsch** (Technical University of Chemnitz, Germany), Kris Myny and Dieter Bode (both from IMEC, Belgium) and **Prof. Bill Eccleston** (University of Liverpool, UK)], each with actual experience in the design and measurement of organic circuits, first discussed the challenges and difficulties they encountered to get the (larger) circuits [e.g. 64 bit organic RFID tags] working. Each speaker constructed its own design methodology to deal with the design challenges of organic circuits. The subsequent panel discussion compared these approaches and concluded that a substantial part of the technology variations can be compensated by good circuit design.

PRODI project has selected the first members to the Industrial Advisory Board. The board consists of major European companies involved in the roll-to-roll machinery, measurement and automation. The tasks include steering the roadmap work of the project, and setting requirements for the future. The kick-off meeting was held at the Drupa show in June. The next IAG meeting will be held on 9th December, 2008 in conjunction with the 16th OE-A Working Group meeting in Gengenbach, Germany. All companies interested in R2R manufacturing are invited to join the Associate Network.

PRODI has released a brochure about the project. It is intended to provide fundamental information about the partners, tasks and activities. The brochure will be distributed at the major events of the OLAE community.

For further information on Prodi, please log onto <http://www.project-prodi.eu/>

4. General News

ICT Proposers' Day 2009

FP7 - ICT Proposers' Day 2009

22. January 2009

Budapest, Hungary

Organised by the European Commission's Information Society and Media Directorate-General, in cooperation with the Hungarian National Office for Research and Technology.



European key networking day in ICT R&D

Visit ICT Proposers' Day Budapest on the 22nd of January 2009 and build quality partnerships for participating in the new Information and Communication Technologies Work Programme for 2009-2010 (ICT WP 2009-2010). This one day event is a unique opportunity for already existing and future project participants:

- to familiarise themselves with the research challenges and objectives of ICT WP 2009-2010,
- to form project consortia for participating in calls for proposals.

Meet your future partners!

ICT Proposers' Day focuses on mobilising key research actors and firms from all over Europe and from third countries, in particular from neighbouring regions, to collaborate and establish partnerships in ICT research and development.

Who should attend?

Everyone who is interested in responding to calls for proposals for projects in the field of ICT. Budapest is the right place to bring well targeted ideas and clearly defined cooperation needs together from the research and business sector. Therefore, the Event aims to connect:

- key industrial and R&D actors,
- research institutes and universities,
- large science and technology based multinationals,
- High-tech SMEs.

About 2500 participants are expected to attend. How to make the best out of ICT Proposers' Day?

- Forthcoming features on this site will allow you to prepare yourself in advance of the Event. To find out more about how to leave a comment or submit a presentation go to [Networking](#).

Get a flavour of ICT Proposers' Day: Visit the [ICT 2008 Event](#) website!

International Symposium on Flexible Organic Electronics (IS-FOE)

The 1st International Symposium on Flexible Organic Electronics (IS-FOE) that took place at the Pallini Hotel in Halkidiki, Greece, on July 10-11, 2008 is the first international scientific event in the area of flexible organic electronics. The IS-FOE has been organized by the Lab for Thin films Nanosystems & Nanometrology (LTFN) of Aristotle University of Thessaloniki, Greece and co-organized by the Plastic Electronics Foundation. Also, it has been supported by the EC funded R&D Projects: Flexonics (FP6 STREP), OLAtronics (FP7 STREP), PolyNet (FP7 NoE), OPERA (FP7 CSA). The purpose of IS-FOE was to bring 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, and to discuss current progresses in this emerging field. The number of the contributed presentations was 97 (invited, oral & poster), from 22 countries with some of the contributed presentations will be published as peer review papers in the European Physical Journal - Applied Physics (<http://www.epjap.org/>).

The continuation of this effort will be realized by the 2nd International Symposium on Flexible Organic Electronics (IS-FOE09) that will take place in 8-10 July 2009 in a beautiful location in Porto Carras Hotel, in Halkidiki, Greece. The IS-FOE-09 topics will cover the most advanced subjects in the areas of (but not limited to):

- Organic semiconducting materials (small molecule 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
- Flexible batteries

In order to emphasize the symposium's focuses, outstanding researchers and executives of leading organizations from around the world (NSF and Asian representatives) have been invited to share their research and manufacturing experiences with the European colleagues. Finally, PhD candidates are welcome to apply for the awards given for the best oral and poster presentation.

The scopes, the important deadlines and other useful information of IS-FOE09 can be found on the official website <http://isfoe.physics.auth.gr>



IAPP reports breakthrough towards single-layer high-efficiency white OLED

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 as well 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”.

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 out coupling 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, accompanied by less organic layers necessary. Karl 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 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 highly efficient white OLED with partners from the Dresden network such as Novalod and Fraunhofer-IPMS and many other European partners in the new project OLED100.

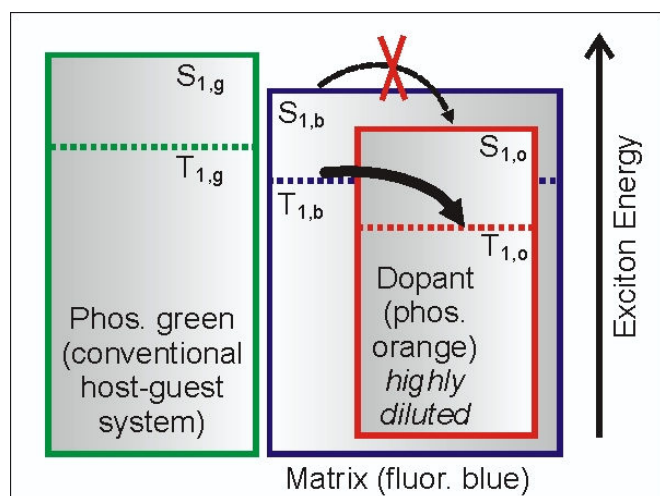


Figure 1: Scheme of the novel concept for high-efficiency white OLEDs. The orange phosphor is highly diluted in a bulk fluorescent blue material leading to simultaneous fluorescence and phosphorescence from this emission layer.

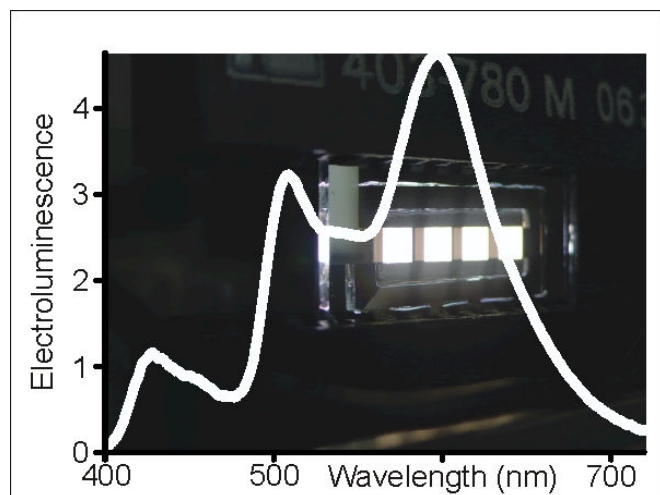


Figure 2: Electroluminescence spectrum of the optimized device with a high colour rendering index of 82.



5. Offer to become a member of the Quadriga Associated Network on Organic and Large Area Electronics

The Quadriga Project is a joint initiative of the European Commission, the Directorate General of Information Technology & Media and 4 Collaboration Action Projects within the seventh Framework Program: OPERA, PolyNet, PolyMap & Prodi [See also www.quadriga-org.eu]. The main objectives of all four collaborative projects is to foster the position of Europe as a gravitation point in the research of organic & large area electronics, to strengthen the position of Europe as a main hub in this area and ultimately to contribute to the creation of new start-ups and to the creation of knowledge based employment. The first OLAE newsletter which was published by the EU is now available on the website. Contributions for the second are welcome and we will endeavor to include all relevant news submitted.

Here are just a few of the benefits offered:

- You will receive **newsletters** on the topic area of large area and organic electronics regularly, but at least twice a year;
- You will receive first hand information and participation details about **Networking Events** organized by the EU;
- You will receive **advanced information** about Quadriga Workshops on the topic area;
- You will receive **preferred registration** information about all Quadriga events

Please go to the following at www.quadriga-org.eu/index.php?id=12&lang=EN to register

6. Upcoming events:

The “2nd Euro-Korea Cooperation Forum on ICT research”

Dec. 1-2 in Brussels (Radisson Hotel), under the aegis of the EC (DG INFSO) and the Ministry of Knowledge Economy (MKE) of South Korea (the very successful 1st edition took place in Seoul last June).

(Registrations for the event are free of charge but - due to room capacity constraints - pre-registrations are compulsory. As a consequence it is highly recommended to register as soon as possible.)

<http://www.eurosouthkorea-ict.org>

Forum be-flexible 2008

Fraunhofer IZM, Munchen, Germany, December 2 - 3, 2008

<http://www.be-flexible.de/>

SPIE Smart Materials, Nano- and Micro-Smart Systems 2008

9 - 12 December 2008 - Melbourne, Australia

This symposium gives you the opportunity for in-depth communication with researchers and developers in: • Smart materials • Smart structures • Smart micro-nanoengineering devices and systems • Nano- and microtechnology with special emphasis on packaging and integration of MEMS and NEMS for diverse applications areas • Biomedical applications (i.e. bio-surveillance systems).

http://spie.org/micro-nano-mems.xml?WT.mc_id=RCALENDARW

Organic and Large Area Electronics Cluster Meeting

13-14 January 2009, Beaulieu 25 SdR1 (Brussels)

The Organic and Large Area Electronics Cluster Meeting 2009 will be held at the EC premises in Brussels on 13-14 January 2009. This event, which will bring together all active EC-funded projects in this field from the different specific programmes under both FP6 and FP7, aims to:

- Encourage the exchange of information and best practices among projects
- Identify potential synergies and relevant topics for further cooperation
- Improve the performance of the individual projects

Build a critical mass of activities in the field of Flexible, Organic and Large Area Electronics

http://cordis.europa.eu/fp7/ict/organic-elec-visual-display/events-20090113_en.html



FP7-ICT Proposers' Day 2009

22 January 2009,
Budapest, Hungary

The European Commission's Information Society and Media Directorate-General organises, in cooperation with the Hungarian National Office for Research and Technology, this FP7 ICT Proposers Day. The event will help researchers, interested in the upcoming calls for proposals of the FP7 ICT Theme, to find potential partners.

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

The 34th IEEE Photovoltaic Specialists Conference

7 - 12 June 2009 - Philadelphia, Pennsylvania, USA

We expect to present a very strong Technical Program that will encompass 9 programmatic areas covering topics from novel materials and devices, thin film cells made from CIGS and CdTe and emerging semiconductors, crystalline and amorphous silicon, III-V cells, concentrator devices and systems, space technologies, and module and system experience including reliability studies.

<http://www.34pvsc.org/>

LOPE-C, Large-area Organic and Printed Electronics Convention

June 23-25, 2009, Frankfurt, Germany,

The official annual conference & exhibition of the Organic Electronics Association (OE-A)

<http://www.lope-c.com>

ISFOE 09

2nd International Symposium on Flexible Organic Electronics

July 8 -10 2009, Porto Carras Hotel, Halkidiki, Greece

<http://nn.physics.auth.gr/isfoe>

The next issue of the Quadriga Newsletter will be released in February. If you have any news or wish to have an event included in the "Upcoming Events" section, please email copy to

victoria.plompen@plastic-electronics.org

We would like to thank all contributors for their work.

For more information on Quadriga please go to <http://www.quadriga-org.eu/>

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