

newsletter

Advanced Displays Research in Europe: where do we stand and where do we go?

EURODISPLAY '05



The 25th **International Display Research Conference**, Eurodisplay 2005, took place on September 20-22, 2005 in Edinburgh, Scotland. It was 9 years since the SID UK and Ireland Chapter last organised this Conference, so this was a welcome return to the British isles. Looking back over the past 9 years, John Raines, Eurodisplay 2005 Chair, in his opening address congratulated participants from the Displays Community on the amazing obvious progress. Several hundred people visited the Eurodisplay conference and exhibition this year. Some 80 papers and 78 posters, describing the continued advancement in the displays field, provided a good update on the state of the art since the SID Conference in Boston.

Coffee and lunch breaks offered convenient networking opportunities and directed visitors to the modestly sized exhibition. More networking took place at the Wednesday special event, a tour of Edinburgh Castle with a meal and a drink in highly historic surroundings.

The workshop on the first day of the conference, featuring technical contributions and market analyses from about a dozen experts on e.g. *displays for Mobile Phones, displays for Wide-Screen Television, OLEDs & Organic Electronics*, was the main business related event of that Conference.

An impressive large area display for conference announcements was attracting considerable attention right at the entrance of the conference center. A domestic company had provided a sample of its products, a large area display screen with superior image quality which is based on seamlessly tiled individual LCD panels. For more details on contributions and products have a look at the adria website

www.adria-network.org/downloads/

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advanced displays
research integration action

adria's mission

is to strengthen the advanced display industries in Europe by creating a European platform for advanced displays research and technology



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Advanced Displays Research in Europe: status and outlook

Advancing display technology from a European position ...

Europe is recognised for its renowned research institutes and universities, many of which are involved in advanced displays research. Some of the technological breakthroughs we now see commercially exploited in the display industry are based on European research results. Novel applications, based on the development of new display technologies, are often designed in Europe, where materials and processing technologies are still strongholds.

The European research perspective has traditionally been long-term and visionary, not so much focused on manufacturing aspects of displays but rather on their application. Asia on the other hand, obviously gives priority to manufacturing related display research activities with the overall objective of cost reduction. It is essential that future European displays research is considered a long-term commitment to the advancement of new technologies, products and applications for the information society. For that purpose European research activities need to be properly aligned and focused, and based on strategic and sustainable funding policies.

It is one of the key objectives of **adria** to compile a **map of advanced displays competences** in European academia and industry as a basis for focused consistent support of research activities in the displays field.

Maintaining the outstanding level of European displays research

From the late 1990s on Europe has become increasingly aware of the risk of losing its prerogative within displays research and development since it had to watch mass production of displays being established in other parts of the world. This has left both the European

displays industry and research institutions with some open questions: who will the research be done for? What type of research should be performed? How should available resources be distributed? How to link future displays research to European niche markets and applications, and how to maintain the European precedence in advanced displays research and development?

the adria coordination action: created to support the community

Realising the need for a detailed overview of ongoing European research activities as a basis for a decision on which route to depart into the future, the **adria** Coordination Action was created to address these issues. The mapping of European display research activities and industrial capabilities as carried out in the **adria** project together with the advanced displays roadmapping activities, are aimed at establishing the foundations of a future permanent **European Displays Platform**.

European objectives

It has been generally felt, not least by the EU and its research funding bodies, that to meet the political goal of becoming "*the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*" by 2010 (statement of the Lisbon European Council in March 2000) we need to address some obvious weak spots. Among the objectives for ERA (European Research Area) we find the creation of an "*internal European research market*", better allocation of resources and the development of a European research policy which is setting research activities in perspective of other EU and national policies. In order to maintain and advance European R&D excellence we need a more detailed overview of European research efforts

in the advanced displays area, we need to pool resources and wisely distribute the fundings to remain competitive also in the future.

adria is currently **mapping research activities and competence centers** in Europe to identify strongholds, interesting new initiatives, missing, complementary or overlapping activities.

Displays Research in the future

Besides large-scale production of LCD computer monitors and TV-sets in Asia and as the result of European-based research and development, there are business opportunities for Europe in new display applications. New materials and processes have to be developed, tested and evaluated in order to realise such new applications. Market demands in Europe tend to be increasingly sophisticated, and with concepts like ambient intelligence, the intelligent home, and other converging functions, there will be an increasing demand for complex advanced systems and integrated solutions, competence areas that are traditionally strong in Europe.

It can also be expected that European research activities would benefit from alignment and harmonisation of education systems in Europe. Initiatives to this end have been presented over the years, the Bologna agreement the one most widely recognised so far. This agreement is a strong commitment by EU member states to work towards a 3+2+3 educational system where the undergraduate 3 years form the basis of a 1-2 year Masters course, followed by 3-4 years of doctorate studies.

European research would be well served with a system that allows simple interchange and mobility of PhD students between universities. A common academic credit system and evaluation of education programs would surely help to remove formal obstacles for ...

adria at the Eurodisplay 2005 Conference & Exhibition

... further European research cooperation. It would also help in attracting more non-European students to pursue their research in Europe. It should be noted here that European advanced displays research at renowned institutions has a high standing in Asia.

Displays education and research thus is a commodity for Europe to commercialise and to exploit ! The risk for Europe, on the other hand, is to lose its research prerogative if universities, institutes and other research institutions fail to attract bright students and reasonable fundings.

These days there is growing understanding of environmental concerns on a global level. Europe is well equipped to continue pushing the development of these aspects. Asian companies experience that they are not able to sell their products to Europe or the US without consideration for recyclability, waste disposal, working conditions for the staff etc. The future will see an increasing need for research concerning human factors coupled to technology and product development. The European displays community is acutely aware of this, as has been demonstrated e.g. in the adria roadmapping meetings.

For the commercialisation of research, there is a wide acceptance of what is widely phrased as *applied research*. However, in order to secure further progress we also need visionary research. What can we do to step up development within the now "hot" technologies like *Flexible Displays* and *OLEDs* ? What are the next technologies to come ? How are the societal aspects of new display technologies explored ?

The big strategic challenge for European display research will be to embrace both the sustainability aspect, and the openness and flexibility needed for visionary research.

In the midst of several hundred attendees that could choose from about 80 oral presentations and 78 poster papers to get an update on state-of-the-art display technologies, and well placed among 20 companies showing their products in the exhibition area, adria had placed its booth in order to make new contacts to experts from the European displays community and to reconfirm existing relations. The consortium partners at the booth took the opportunity to inform visitors about various aspects of the adria project.

adria (advanced displays research integration action), being an EU Coordination Action project in the 6th Framework program, invites the European display community to take part in the creation of a permanent European Advanced Displays Platform. At the booth, Eurodisplay participants were informed about ongoing adria activities, such as the web-based competence mapping and advanced displays roadmapping workshop meetings. It was

gratifying to the consortium to note that many of the visitors were already familiar with the adria project. The work now focuses on broadening the participation in the project and on making more and new partners contribute to both competence mapping and roadmapping.

The **adria website** with the web-based mapping application was demonstrated, and prospective contributors were shown how to feed their information into the database. Contributors will have access to the information pool resulting from the data supplied by the displays community, enabling participating members to find products, services and research partners. adria also advertised the upcoming Roadmapping Workshop Meetings. It is now of special interest to attract more industry experts, end-users and product designers to get all aspects on the future of advanced displays properly covered. Remember that

"creating a roadmap is more important than having one" !



The **adria** booth at the Eurodisplay Conference and Exhibition in Edinburgh: Stefanie Jost-Köstering (VDMA-DFF), Alain Doré (Club VISU), Anette Skarp (Swedish LCD Center), Michael Becker and Jörg Winkler (VDMA-DFF), from left to right

Organic Electronics & Displays: Second Project Concertation Meeting, February 14, 2006

What is now commonly referred to as the "**Organic Cluster**" for displays and large-area electronics can be said to have formed with the first meeting of EU displays projects in Brussels on October 26, 2004. This was the first opportunity for all project consortia to present their scopes and to look for cooperation and synergies with internal and external partners. The meeting attracted a vast number of participants from European key projects. IST Director Dr. Rosalie Zobel opened the meeting, introducing the topics of the day: overview of projects and collaboration opportunities, roadmapping of displays, and dissemination and planning of future activities.

The participants welcomed the opportunity for networking and dissemination between the projects, and declared the need for a forum for discussions on areas of common interest and possible synergies.

It was generally agreed that such meetings on a regular basis would be very attractive to the European displays community. The meeting was also unique in the way it presented the European commission with a "personalised" overview of the European displays related RTD projects.

**adria means "we are you"
created to serve the community**

The next meeting of the **Organic Cluster** research community will take place in Brussels on **February 14, 2006** (admission by invitation only).



Events Calendar

February 14, 2006	Organic Electronics & Displays in FP6 Brussels, Belgium
February 22, 2006	adria 4th Roadmapping Workshop Meeting Munich, Germany
February 23 & 24, 2006	Flexidis Training Workshop Stuttgart, Germany
May 2006	adria Display Training Seminar (3 days) Pforzheim, Germany
May 4, 2006	adria 5th Roadmapping Workshop Meeting Frankfurt/Main, Germany
June 4-9, 2006	SID 2006 Conference & Exhibition San Francisco, California
June 27-29, 2006	adria Display Training Seminar (3 days) Milton Keynes, UK
July 2-7, 2006	21st Int. Liquid Crystals Conference Keystone, Colorado, USA

for more events and
for details see:
www.adria-network.org/events

A consortium of six partners – industry associations and academia networks themselves – provide the **adria** services

