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**SOCIETY FOR INFORMATION DISPLAY**

## **SID-ME Chapter Fall 2001 meeting on Display Materials and Components at SCHOTT Glas in Mainz/Germany, October 11-12, 2001.**

### **Technical Meeting.**

The SID-ME Chapter Fall meeting was held on "Display Materials and Components" at SCHOTT GLAS. More than 100 people including 20 visitors from SCHOTT attended the meeting in Mainz. The meeting was opened by Dietmar Theis, SID-ME Director and Reiner Mauch on behalf of SCHOTT GLAS. Overshadowed by the political changes since September 11th, it was impossible for two of the speakers to attend the meeting. Their lectures were held via well organized telephone conferences.



### **Session 1, October 11th afternoon**

The first speech was held via telephone conference by Tim Butala (Sony Electronics Inc. Display Device, Pittsburgh, USA). Though new display technologies are coming into the VLS display market projection TV enjoys growth throughout 2005. Prerequisite for future market growth is the improvement of brightness through the implementation of impregnated cathodes and to capitalize on CRT strengths like the high peak brightness.

Stefan Hergott (SCHOTT Glas, Mainz, Germany) explained the light weight funnel designs of CRT's. The funnel weight is in general about one third of the tube weight. Therefore the reduction of the body wall thickness allows to save costs and support environmental protection. Besides it gives the possibility of prolonging the life time of the CRT.

The second speaker via telephone was *Ross Young (DisplaySearch, Austin, Texas, USA)* who gave an overlook on the current market situation of major small/medium and large area flat panel display applications. For notebooks he estimated a positive outlook although 2001 had been the worst year due to dramatic price drops and minimal unit growth. The market analyst forecasted that growth of notebooks is expected to rebound and will reach a market penetration of 27% in 2005. LCD monitors are expected to reach a similar market penetration with a 28% unit share of desktop market as prices fall considerably. LCD TV is considered as an emerging TFT LCD application however Japan plays the main role in this market due to less price sensitivity. In the area of small/medium displays the automotive monitors are dominated by TFT LCDs. Applications for rear seat entertainment are seen as a driving factor and will be led by the market in Europe and North America where 7" displays develop a major share of 42%. Ross Young defined the PDA market as the most interesting market. The increase of additional functionality and regional usage variations raise consumer interests. Furthermore volatile PC market conditions foster an expected market growth and a gaining share of AMLCDs and AMOLEDs. The slowdown in mobile phone replacement sales and the 3G delay lead to reduced growth expectations. Market potential is seen in the emerging markets as China is expected to be second largest mobile phone region by 2002. Besides, the focus in mobile display applications lies on new technologies like AM-OLEDs because of the higher performance and higher profit margins.

### **Evening session**

The evening session was combined with a visit and a dinner at the "world of senses" at Freudenberg castle located in Wiesbaden. After discovering the "world of senses" the dinner gave the opportunity for networking and personal contacts.

### **Session 2, October 12th morning**

Friday morning session was opened by Dr. Ungeheuer, Member of the Board of SCHOTT GLAS. After a warm welcome, he took the opportunity to give an overview of SCHOTT GLAS display activities which truly covers a wide range of display technologies.

*Jyrki Kimmel (Nokia Research Center, Finland)* concentrated on the requirements for displays triggered by the future developments in the mobile phone market which are connected to the success of new upcoming technologies with a wide range of features. New technical opportunities come up with the introduction of 3G. As for the short term, solutions will be found in reflective/ transreflective LCDs. One long term solu-

tion might be seen in future development of OEDs.

*Georg Wittmann (Siemens AG, Erlangen, Germany)* presented the OLED performance on ultra thin glass. As a self emitting device with the feature of a wide viewing angle it can meet the demand of an ultra thin and flexible all organic device which can reach any shape and any size for the usage in different kinds of applications.

*Jürgen Steiger (Covion Semiconductors GmbH, Frankfurt a. M., Germany)* stressed the future usage of light emitting polymer materials and gave an outlook on the usage in full color displays. The expected explosion of the OLED market generates the possibility of the coexistence of small molecular and polymer OLED technology. The strong market pressure for high resolution and full color consequently ask for consistent quality supply, scale up and material innovation from the supplier.

*Edgar Boehm (Merck Display Technologies Ltd, Taiwan)* introduced the role of conductive coatings for STN and future mobile display applications such as OLED, Micro Displays and Touchpanels. STN remains as a key technology on a long term base but needs further improvement of some features which can be useful to other display technologies as well. Higher transmittance can be reached by the reduction of sheet resistance via improvement of the thickness of ITO coating, temperature and pressure.

*Andreas Weber (SCHOTT Displayglas, Grünenplan, Germany)* focused on thin glass and polymer systems as substrates for flexible displays. He points out that a combination of the two technologies helps to minor the disadvantages like low stability, permeability and high costs. Current development identifies basic product requirements and suitable polymers as well as joint production of prototypes together with partners.

According to *Reinhard Hampel (SARL Display Control, Paris, France)* electrically conductive adhesives are a reasonable alternative to today's anisotropic conductive film materials. This liquid adhesive is characterized by longer storage time and is suitable for low cost foil substrates as minimal heating is needed in curing process. Further development of high precision dispensing equipment sustains the success of the product.

### **Session 3, October 12th afternoon**

*Georges Hadziioannou (Papyron B.V., Netherlands)* developed an overview of electrophoretic image displays used as digital paper technology. The technological features result in advantages in outstanding viewing angles, very bright light emittance and long term stability in off state.

Gerd Rieche (Carl Zeiss Jena GmbH, Jena, Germany) pointed out the requirements for optical engines for microportable DLP projectors which are mainly defined by weight of less than 6.6lbs (3kg). A strong market growth is foreseen for microportable projectors with the main requirements towards brightness, price and size. Developed optical engines for 3 lbs projectors show the advantage of high Lm-efficiency, maximal compactness, minimal height and cost efficiency. Disadvantages can be found in the risk of ghost images inside and outside the image field. For future projection systems one of the advantages in SCR technology is regarded in the achievement of high system efficiency.

Photomasks for displays are an optical tool with high requirements. Arto Salin (Terapixel Inc, Finland) introduced laser scanning as one technical solution for the achievement of these requirements. Laser scanning is very likely to meet smaller pattern demands and to work with larger substrate areas. Furthermore a higher degree of control, fewer defects, faster processing time and lower costs can be reached.

Holger Mönch (Philips Research Laboratories, Aachen, Germany) gave a presentation on the UHP lamp technologies for Video Projection. UHP lamp technology has an outstanding performance toward miniaturization, long life and high luminance. The radiating species of the implemented Hg allows high Hg pressure for a good spectrum, high burning voltage and a regenerative chemical cycle keeps the quartz walls clear.

### **Guided Tour through SCHOTT plant**

After the lecture program the participants had the opportunity to attend a guided SCHOTT plant tour to have a look at the technical facilities in CRT display production as well as other features of glass production.

Nadine Roemann



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## **DANKESCHÖN SCHOTT!**

On behalf of the SID Mid-Europe Chapter Committee it is my great pleasure to thank all our colleagues from Schott for their intense support of our Fall '01 Meeting in Mainz! Reiner Mauch and his co-workers were not only very active in helping us to put the program together and attracting eminent speakers to the conference, but also managing very efficiently the back office duties which is not negligible for a conference of this size and level.

We also want to congratulate our friends Mainz on achieving a "first" in our SID ME Conference series - they provided the presentation material of all lectures on CD-ROM at the registration for the conference. We also praise the co-operation and perfect competence of our speakers who have delivered their material early enough to make the timely production of the CD-ROM possible.

In particular we appreciate the extraordinary co-operation of our two speakers from the US who were ready to deliver their speeches via telephone - voice transmission and synchronisation with the slides shown was quite satisfactory, but nevertheless for the next meeting we hope to have all our speakers physically with us again in a peaceful world.

For those who have attended the quality and the spirit of the Mainz meeting met the high expectations we all had - including the superb experiences we had in the "world of senses" at Freudenberg Castle, starting with that beautiful sunset over the river.

Last but not least we gratefully acknowledge the draft for the conference report compiled by Nadine Roemann from Schott, a company who does not only offer "glass made of ideas" but who also is a reliable supporter of the display community!

Dietmar Theis, SID ME Chapter Director.

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## **Scholarships.**

The Society for Information Display (SID) Mid-Europe Chapter (MEC) is pleased to announce the availability of up to three scholarships for young European scientists in the form of travel grants for the purpose of presenting research results in the SID 2002 conference in Boston, May 2002. The requirements for the scholarships are:

- 1 That the applicant be enrolled and active in research in a European university within the charter area of the Mid-Europe Chapter (currently Western European countries excluding France and U.K.);
- 2 That the applicant has an accepted paper in the form of

an oral presentation or poster in SID 2002;

- 3 That the applicant is presenting the paper in person at SID 2002 and that he/she is prepared to present a travel invoice to SID-MEC up to the amount of the granted scholarship;
- 4 That the application for the scholarship has been submitted by February 28, 2002 to the address below.

The application should consist of a one-page free-form application letter with the following appendices:

- 1 A one-page curriculum vitae;
- 2 Copy of student registration showing current enrollment in the university;
- 3 A copy of the acceptance letter from SID;
- 4 An abstract of the paper to be presented.

The applicants will be notified of the result by March 31, 2002.

Andre Van Calster

SID-MEC secretary

ELIS-TFCG/IMEC

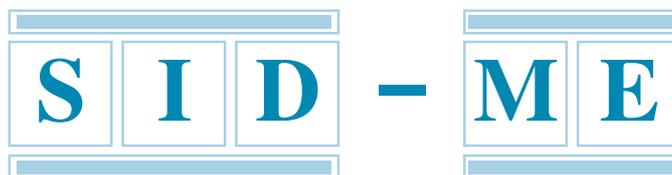
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## **Coming: SID-ME Chapter Spring 2002 meeting.**

**March 21-22, 2002, 2001**

The topics will be:

### **"Polysilicon technology and applications for AM-LCDs and AM-OLEDs".**

Location: IESS-CNR in Rome, Italy.

You are kindly invited to submit papers for this meeting and to mark your calendar.

At this Chapter meeting there will be elections for the SID-ME Chapter committee according to the SID Mid-Europe Chapter Bylaws.

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### **SID Mid-Europe Chapter Bylaws**

1. The Chapter shall operate according to the Bylaws of SID, particularly as set out under Article 12.
2. Membership of the Chapter shall comprise all SID mem-

bers normally resident in Belgium, Germany, Italy, Liechtenstein, The Netherlands and Switzerland, including those acquiring membership privileges in accordance

with SID Bylaws, Article 3, consequent upon their designation by a sustaining member.

3. Supplementary dues may be charged to members of the Chapter at the discretion of the Chapter Committee. Such dues shall not exceed 20% of the amount normally charged by SID for individual membership unless approved by a majority of members present at a general meeting of the Chapter.
4. The officers shall be Chairman, Vice-Chairmen, Secretary and Treasurer. Officers shall be elected at the annual general meeting for a term of one year, nobody shall be elected to the office of Chairman for more than two consecutive years, but the outgoing Chairman shall hold ex officio membership of the Committee for a period of two years.
5. The Chapter Committee shall consist of Officers and up to six ordinary members who shall be elected at the annual general meeting for a term of one year. In addition, there may be ex officio members. The quorum for the Committee shall be four, and shall include at least two officers.
6. The Committee may co-opt members to fill vacancies.
7. The Committee shall select a candidate or candidates for election as Chapter Representative(s) on the SID Board of Directors and on any European SID Chapter organisation. Such representative(s) shall serve for three years and shall hold ex officio membership of the Committee.
8. Nominations for office and committee shall not be valid unless supported by the nominee's approval and is the hands of the Secretary at least seven days before the annual general meeting, except that if no nominations for any office, or less than five nominations for ordinary members, are received in advance, then nominations for such positions may be accepted at the meeting.
9. There shall be at least one general membership meeting per year which shall be the annual general meeting. A minimum of 28 days notice of general meetings shall be given to members. The quorum for general meetings shall be ten, and shall include at least two officers currently serving at the start of the meeting.
10. There shall be at least two technical meetings per year; technical meetings shall be held jointly with other organisations if appropriate.
11. Resolutions for proposed changes in Bylaws can only be approved by a majority of members present at a general meeting; details of such resolutions must be given to members at least 28 days before the general meeting.

### **The SID-ME Chapter committee is now formed by:**

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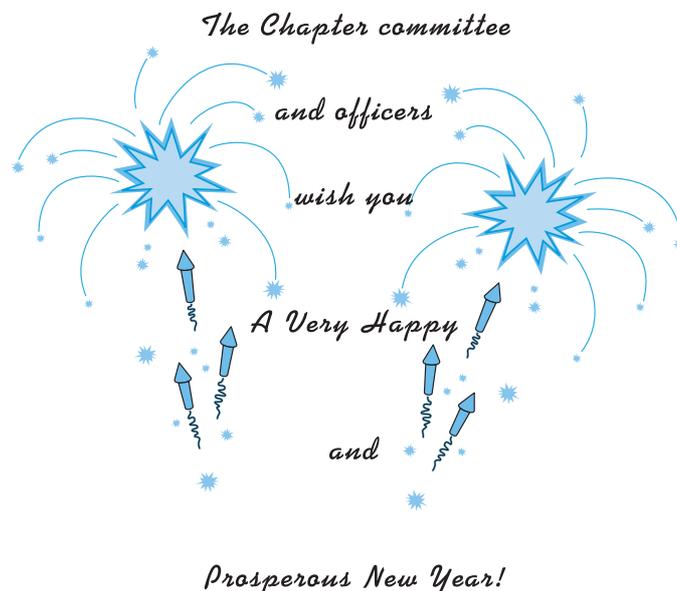
E-mail: wip@btf.balzers.net

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## SID payment.

The SID annual membership fee amounts US\$ 75. Please note that the membership is now a rolling membership, which means that it runs 12 months from the month in which the payment was made. For more information see the SID website [www.sid.org](http://www.sid.org).

We encourage our members to pay directly to SID-HQ in the USA, but if they want to pay to the ME-Chapter directly the annual fee should be EUR 90 **with all bank fees covered by the member !**

In case of direct payment to the SID-ME Chapter the payment in EURO should be done to

Account no.: 206 020 1104  
at: Berliner Sparkasse, Berlin, Germany  
Bank code: BLZ 100 500 00  
Account name: Frank Rochow, SID-ME

Please indicated your name on the remittance papers.

## The Newsletter.

If you want to place an article in the Newsletter, which is interesting for the European display society, please send it to: J.Bruinink, fax: +31 40 274 4335,  
E-mail: [Jaap.Bruinink@philips.com](mailto:Jaap.Bruinink@philips.com)