



EIPC SPEeDNEWS

The Weekly On-Line Newsletter from the European Institute of Printed Circuits.

Issue 25- September 2015

NEWS FROM BELGIUM

Thinking outside of the box with Ledia

In January 2015, and following benchmarking involving three Direct Imaging (DI) systems from leading suppliers, Eurocircuits – one of Europe's largest specialist suppliers of quick-turn low-volume standard technology PCBs – installed a Ledia V5 LED DI system in its principal PCB manufacturing plant in Eger, Hungary. The company's decision was driven by two factors: escalating spend on phototool films, and the limits of conventional exposure technology. Now, Eurocircuits runs all of its innerlayers and outerlayers and over half of its soldermask jobs through Ledia. Yields are higher, and soldermask rework and restarts have been reduced considerably, while based on film costs alone, the company estimates a return on its investment of no more than 4 years. Instrumental in its decision to invest in Ledia was the all-encompassing support it received from Ucamco, Ledia's European distributor.

**Eurocircuits Managing
Partner Luc Smets explains**



At Eurocircuits, we tend to think outside of the box – we always have done. Whereas Europe's PCB makers typically target the high-tech sector, and Asian companies go for high volume orders, we have always focused our activities on supplying prototypes and low volumes of standard technology boards. It's a niche market in which very few fabricators are interested, and even if they

were, it's one that very few could manage well: in the first 6 months of this year, we delivered over 47,000 orders to more than 7,500 customers, with around 80% of our turnover being made on orders that are turned around in 5 days or less. That's a pretty phenomenal task, and represents a hefty increase over the same period in 2014, which was already a record-breaking year for us. So our orders may be small and our products standard, but our business certainly isn't. And unusually for our industry, it's growing. Today, we are one of Europe's largest specialist suppliers in our sector, employing 140 people at our main manufacturing site in Eger, Hungary and 30 at our smaller facility in Germany. They are supported by 165 engineers in our engineering department in India, who carry out all our CAM work, and by our headquarters in Mechelen, Belgium.

Our success hinges on our being creative and innovative in the ongoing development of our business, management and production practices – for example, very few European PCB manufacturers use online technologies as intensively as we do. We are also unusual in that, because our orders are typically small, we always pool them, optimising our production by placing different boards from different clients and orders on pooling panels in the most efficient way possible.

Cost drivers for DI

This makes conventional phototool-based exposure very expensive for us, because we use the films to make relatively small numbers of panels, yet we can't re-use them. We realised some years ago that DI would eliminate our film costs, and so we started tracking our materials and processing costs vs. the costs of investment in the technology. Last year, the numbers finally made sense: DI systems costs had decreased sufficiently, and at our Eger plant alone, we used a record 36,000 films for inner and outer layers, and 25,000 films for soldermask. It was time to make the switch.

Why Ledia?

We had already benchmarked 3 systems from leading DI system suppliers, including Screen's Ledia LED-based system. For each test we prepared 12 panels for dry film tests and 12 panels for soldermask, which enabled us to calculate throughputs and capacities. The Ledia came out on top, for its technology offering and performance, not least for the fact that it was the only system that could process standard

soldermasks, and for the all-round support we received from Ucamco. Ucamco was the only supplier that let us carry out our benchmarking tests at one of their customer's sites, and both companies allowed us to conduct the tests ourselves, enabling us to see and understand the process at first hand. Afterwards, they helped us to run a second, fine-tuning test, from which we understood how to tailor the machine's output to our specific needs – Ledia is unique in that it has a broad output spectrum with peaks that can be adjusted to the specific sensitivities of the resists being exposed. The Ledia we benchmarked has 3 heads, making it a good, powerful system, but we felt that we needed a bigger machine with more capacity, so we opted for a Ledia V5 machine with 5 heads, which allows us to process all of our products and still have extra capacity into which we can grow in the coming years.

***Ledia is the only system that could process standard soldermasks.
We chose it for this,
for its innerlayer and outerlayer performance,
and for the all-round support we received from Ucamco***

Return on Investment

We installed the machine at Eger in the first half of January this year. It's the largest investment we've ever made in a single piece of equipment – and yet payback on the machine, just based on our savings on film, is just 4 years! We have also eliminated the process steps needed to plot, inspect and register phototools as well as to register them onto the exposure units, so overall cost savings are even higher. And given our unprecedented growth in 2015, it came not a moment too soon. Now we run all three lines through it – innerlayers, outerlayers and soldermask.

Ledia's unique all-round capabilities on dry resists...

All manufacturers wanting to make high-tech products will be bumping up against the limits of conventional technologies and should be looking to move to DI for all their exposure needs. For us, certainly for our inner and outerlayer work, the story was different as 80% of our orders call for class 6 non high-tech boards, which is why the principal driver here was

cost. That said, our innerlayer yields are much improved, and we very quickly got used to the ease of working with Ledia.

...and soldermasks

Where Ledia gives us a big technology advantage is in our soldermask work – indeed it is the only system we tested that offers standard soldermask processing capabilities. By the time we get to this point, all the layers have been processed and bonded together in a process that typically introduces linear and non-linear distortions across the panel that depend on board layout, copper distribution and product type, and are very difficult to predict. This is where Ledia really comes into its own, because unlike phototools, it treats each panel individually. It automatically aligns the image to each panel, and then uses fiducials placed wherever we need them on the panel to compensate dynamically for distortion “on-the-fly”, without loss of throughput. It's so precise that the soldermask openings do not have to be much bigger than the nominal size of the pads. It's enabled us to half our pad clearances, so the solder dams are wider, more robust and much more reliable, preventing solder shorts. So here too, Ledia has significantly reduced our scrap rates, and the need for rework and restarts.

The ultimate “drop in” technology...

One of the many things we liked about Ledia is the fact that it was practically a “drop in” technology for us. Its broad wavelength spectrum enabled us to continue to use our existing resists and – with minor tweaks – soldermask inks, so we and our clients did not have to go through major re-evaluation programmes. Because Ledia allows us to work to very tight tolerances, we can optimise our panel usage by working to very narrow borders, and that meant we had to make a few minor adjustments like buying a new more accurate laminator.

...with the ultimate support

We are so happy with Ledia that we are considering installing the smaller V3 system in our German facility, but we are also benchmarking several other systems with similar capacities to get an idea of what is currently available. Here again, we have Ucamco's unwavering support. We've known the people at Ucamco for 20 years. They are real engineering professionals, and it's an honest, open company run by honest, open people whose driver is excellence rather than the quick sale. That's pretty rare, if not unique, in our industry, and it's great for us

as clients. The support we get from Ucamco is extraordinary – we see this time and time again, and it was in no small part thanks to this that we decided to go for Ledia. We are currently working with Ucamco on our Visualiser software, which is based on Ucamco's Integr8tor engine, and we have access to a level of support that I doubt we would find anywhere else in the industry.

”

About Ucamco

Ucamco (formerly Barco ETS) is a market leader in PCB CAM software, photoplotting and direct imaging systems, with a global network of sales and support centers. Headquartered in Ghent, Belgium, Ucamco has over 25 years of ongoing experience in developing and supporting leading-edge photoplotters and front-end tooling solutions for the global PCB industry. Key to this success is the company's uncompromising pursuit of engineering excellence in all its products.

For more information on the Ledia range of LED Direct Imaging Systems please contact Ucamco:



Phone: +32 (0)9 216 99 00

Email: info@ucamco.com

Web: www.ucamco.com

About Eurocircuits

With its headquarters in Mechelen, Belgium, and manufacturing facilities in Germany and Hungary, Eurocircuits N.V. is a European reference for prototypes and small series PCBs. Drawing on over 40 years' expertise in PCB manufacture, Eurocircuits offers its services through a dedicated online portal that makes PCB procurement fast and easy. Eurocircuits developed an online PCB pre-CAM tool based on UCAMCO's Integr8tor, delivering instant PCB prototype prices and providing a smooth and error-free ordering process to its customers. By pooling multiple orders and by making the most of its broad online presence, as well as ongoing investment and developments in its business and production practices, Eurocircuits keeps its clients' costs down while ensuring that its quality products are delivered fast.

For more information contact Eurocircuits



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NEWS FROM GERMANY

IPC to Host Europe Forum: Innovation for Reliability in Essen, Germany

IPC will host this year's Europe Forum: Innovation for Reliability in October in Essen, Germany. This three day event consists of two parts. The 9th Annual CALCE Tin Whiskers Symposium on 13 October, followed by the Technical Conference: Innovation for Reliability on 14-15 October.

This event will focus on critical issues in high reliability electronics for a variety of industries, including military-aerospace, automotive, industrial, and medical. Attendees of the event will be able to connect with business leaders from top European organisations, and focus on innovations in materials, methodologies, and testing.

“The IPC Europe Forum is the premier place to discuss and learn about the newest innovations in the manufacturing of high reliability products,” said Sanjay Huprikar, vice president of member success at IPC. “From breakthroughs in packaging and future interconnection technologies, to the latest developments in achieving electrochemical robustness, this event provides a forum for forward-looking discussion and growth that will benefit the electronics industry.”

There is still time to register for the IPC Europe Forum: Innovation for Reliability. For more information, visit www.ipc.org.



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NEWS FROM ITALY

SOMACIS Receives Nadcap Merit Status for 24 Months

SOMACIS announces that once more it has been awarded Nadcap Merit status for Electronics at its Italian facilities, covering rigid and HDI PCBs. The very first European PCB manufacturer to achieve the Nadcap accreditation, SOMACIS has held the accreditation since 2005.

Having demonstrated ongoing commitment to quality by satisfying customer requirements and industry specifications, the Nadcap Task Group has determined that SOMACIS has earned special recognition. This means that, instead of having their next Nadcap audit in twelve months, SOMACIS has been granted an accreditation that lasts until 2017.

Hallmark Circuits Inc. renamed SOMACIS Inc.

Hallmark Circuits, Inc. - established in 1970, a wholly owned subsidiary of SOMACIS SpA, founded in 1972 in Castelfidardo (AN), Italy - has changed its name into SOMACIS Inc.

After the acquisition in 2012, SOMACIS has invested into equipment, facility and, most important, in additional skilled personnel, in order to expand the capabilities and capacity for the increasing customer requirements.

The advanced technology plant in Poway is now fully integrated into the SOMACIS group, which comprises three other production plants in Italy and China. Through a single point of contact, SOMACIS' customers have access to a global operating company and one of the leading high-tech PCB manufacturers.

SOMACIS organizes new IPC CID Courses in 2016

CID is a valuable professional credential recognized throughout the electronics industry. This technical education holds the most benefit for PCB designers with at least 2 years of hands-on experience. Because Designer Certification builds a foundation in design decision-making and practical application of IPC standards, the program is open to all engineering staff and managers with interest in design: Sales, Purchasing, R&D, Quality, Test.

If you are interested and if you'd like to receive more information, please contact us.

Next events: PCB West, SMTA International, IMAPS

The SOMACIS team will present a broad range of technologies for highly complex PCBs and the group services for time critical prototyping and mass production requirements at the following trade shows:

- [PCB West 2015](#), Santa Clara CA, USA, 16 September, Booth 618
- [SMTA International 2015](#), Rosemont IL, USA, 29-30 September, Booth 911
- [IMAPS 2015](#), Orlando FL, USA, 27-28 October, Booth 323

We are pleased to invite you to these important events and to discuss your requirements. Please contact us for a meeting and for an entry ticket.

We are looking forward to meeting you at our booth!



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NEWS FROM THE EU

EU Court of Justice Rules on REACH Articles Definition

On September 10, the EU Court of Justice released a ruling on a case about the calculation of levels of substances of very high concern (SVHCs) in articles under the Registration, Evaluation and Authorization of Chemicals (REACH) regulation. [The ruling](#) says that producers must calculate the levels of SVHCs in their products *at the level of the “simple” article*, rather than at the aggregate level of the “complex” article that is currently being used.

REACH defines an article as “an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition.” In its original guidance on reporting SVHCs in articles, the European Commission suggested that the 0.1% threshold should be based on the weight of the entire article as imported or as provided to the customer. However, six countries (Austria, Belgium, Denmark, France, Germany and Sweden) disagreed with this guidance. The dissenting countries argued that an SVHC that is above the 0.1% level in any individual article (component) within a product may pose a health or environmental risk and should trigger the reporting and communication obligations for the SVHC. The ruling agrees with the dissenting countries’ opinion that the European Commission’s interpretation, as represented in ECHA’s 2011 Guidance, is wrong.

The court ruling directly affects the disclosures required under REACH Article 33 requirements:

Article 33 of Regulation No 1907/2006, as amended, must be interpreted as meaning that, for the purposes of application of that provision, it is for the supplier of a product one or more constituent articles of which contain(s) a substance of very high concern identified in accordance with Article 59(1) of that regulation in a concentration above 0.1% weight by weight of that article, to inform the recipient and, on request, the consumer, of the presence of that substance by providing them, as a minimum, with the name of the substance in question.

This means that manufacturers must understand and report the presence of candidate list SVHCs (current count is 163) at a much lower level in their products than they generally currently do, which means far more work and effort. So rather than disclosing only if the level of an SVHC is above 0.1% by weight of your entire product, you must disclose its presence for each wire, cable, plastic casing, etc. that contains it above 0.1% by weight.

For more information on the REACH Directive, Teresa Bernheim, Federal Institute for Occupational Safety and Health (Bundesanstalt für Arbeitsschutz und Arbeitsmedizin), will provide an update including the recent decision by the EU Court of Justice ruling on articles definition at [IPC Conference on Government Regulation](#) on October 13, 2015 in Essen, Germany. For more information, Visit www.ipc.org/government-regulation-conference to view agenda, learn more about conference or register.



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NEWS FROM THE UK

IFS2015-MT Industry Update Seminar
Thursday 24 September, 10:30am-4:00pm

MARKET TRENDS - INDUSTRY ISSUES - TECHNOLOGY UPDATE

Counting down to **THE** most informative industry event of the year
Update your 2015 plans with the latest industry update and forecast for
2016

With the China stock market imploding and Smartphone sales faltering, the chip market is understandably full of woe and jitters ... is this a blip or time to take shelter for recession? This very detailed and always extremely accurate and candid look at the markets has become an institution and a day spent exploring this information in detail will help shape your market projections for the next year and beyond, whatever your precise role in this crucially important sector.

[Click here to register](#)

Seminar Logistics

The event will be held at the Holiday Inn Kensington Forum, London SW7 4DN, England, one minute walk from Gloucester Road underground station (Circle & Piccadilly lines) by Malcolm Penn, Future Horizons CEO, based on the knowledge and experience gained in his 50 plus years of electronics and semiconductor industry.

- Seminar fee £595 plus 20 percent UK VAT (UK£714 in total) per delegate
- Fee includes copies of presentation materials, coffee breaks and 3-course hot buffet lunch
- 30 percent discount for three or more delegates from the same firm at each event (must be booked together)

Can also be held in-house for your added convenience and flexibility

For more details call (+44 1732 740440) / Fax (+44 1732 464270) / E-mail mail@futurehorizons.com

The Institute of Circuit Technology



Institute of Circuit Technology

Hayling Island Autumn Seminar 2015

ICT Evening Seminar
at the
Newtown House Hotel, Hayling Island
22nd September

Presentations from :

Registration 17:00

START - 17:30

The REINDUSTRIALISATION of EUROPE

Interim list of Papers

ROMANIA - Joining the EU and the supply chain opportunities.

Repatriating PCB fabrication from Asia to Europe
– ie Romania

Sculptured Circuits and SMI Surface Mount
Interconnects

New developments in Legend Inkjet from Andre Bodegom, Mutracx Inkjet
technology for primary etch resist and Camtek soldermask Inkjet

A the close of the seminar, a Romanian Quartet will be

performing some classical music whilst we dine.

Further details will be posted shortly

Enquiries to :-

bill.wilkie@instct.org

IMAPS UK CALL FOR PAPERS – MICROTECH 2016

IMAPS-UK's next annual conference MicroTech, will take place at the prestigious Heriot-Watt University Campus in Edinburgh on 17th March 2016. The event features invited Keynote talks, technical presentations & table top exhibits on the latest developments, technologies and capabilities, in addition to a high-impact session and poster displays from UK research, on this year's theme:

"Sensors, MEMS & Advanced Packaging"

IMAPS-UK's MicroTech annual conference brings together the entire microelectronics supply chain and is the only UK event dedicated to Micro-Assembly and related technologies.

This call is divided into two parts:

Call for Academic Research Papers & Posters:

Session two of the MicroTech Conference includes a series of high-impact presentations on related material. These presentations will be selected from the submitted Research Papers by the events Technical Committee. In addition, all submissions will be reviewed for inclusion in the events static Poster Sessions.

Call for Technical Presentations: Technical presentations are sought showcasing related material. Each presentation will last for 25 minutes, followed by 5 minutes for questions.

Those wishing to present either a paper or poster at the IMAPS-UK MicroTech Annual Conference must submit a 200-

300 word abstract electronically by November 30th 2015,
to andy.longford@imaps.org.uk

Abstracts for presentations are being requested in the following areas:

Design Modelling & Test

- New Design Concepts
- Characterization Techniques
- Modelling & Simulation
- Test
- Reliability

Technologies

- Packaging Techniques & Processes
- Disruptive Technology
- Wafer Level Packaging
- Trends & Developments

Materials

- Thermal Management
- New & Advanced Materials
- Characterisation
- Reliability & Ageing

Applications

- High Reliability
- Telecoms
- Commercial & Consumer
- Automotive
- New & Emerging

All abstracts submitted must represent original, previously unpublished work. Student submissions will only be considered for the “Academic Research Session”.

Awards: Awards will be given in the following categories: Best Paper & Best Poster. The Best Poster winner will also receive an invitation to attend the next IMAPS-UK annual conference “MicroTech”, free-of-charge. Best Papers & Posters (full Paper required for Peer review) may also be considered for publication in the IMAPS-US Journal of Microelectronics and Electronic Packaging.

Submission: No formal technical paper is required. The chosen abstracts will be reproduced in the event handbook along with a short 'Author biography' and photograph. This information must be supplied to IMAPS by 31 December 2015. Electronic PDF copies of all Presentations will be distributed to delegates attending MicroTech, following the event.

All selected Speakers are invited to attend "Free-of-Charge" and are required to attend the entire Conference to maximize opportunities for interaction with registered attendees. All authors and attendees find that this Conference format is a proven forum for informal but highly effective networking between attendees and speakers.

THE NORTHERN MANUFACTURING & ELECTRONICS SHOW

EventCity, Manchester

September 30th – October 1st.

Northern Manufacturing returns to EventCity, Manchester from September 30th to October 1st - bigger and busier than ever

If you're in manufacturing in the North, there's never been a better opportunity to see the very latest industrial technology gathered in a single venue. Major international manufacturers such as Amada, Nikon, Faro, Bruderer, Bystronic, Haas Automation, Trumpf and Yamazaki Mazak join many hundreds of top engineering and electronics suppliers to create a totally unmissable event.

Alongside the very latest hardware, the show features the largest annual gathering of engineering subcontractors and specialists in the North, from every branch of industry including electronics assembly, PCB manufacture, precision engineering, fabrication and high-tech finishing. There's also a huge selection of components, production aids, tooling, software, industrial furniture, consumables, business services and much more. And as if that wasn't enough, there's a great [seminar programme](#) too, running over both days of the show.

Access to the show is completely free. Just [click here to register for your ticket and Show Guide](#). There's free onsite car parking and easy access by public transport from Manchester City Centre. Find out more on the show website www.industrynorth.co.uk

Learn about the future with the IMAPS-UK
*"Additive Manufacturing
and 3D Printing Workshop"*
22 October 2015, Loughborough University

This Unique Workshop, organised by IMAPS-UK and supported by Loughborough University is your opportunity to learn and to explore the new technologies of 3D prototyping and other processes for advanced package developments.

The workshop will cover:

- Technologies & Limitations
 - The Processes & Materials
 - AM Future directions (applied to Electronic Packaging)
 - Technical Case Studies
- and
Industrial Equipment Demonstration!!!

The programme will consist of 3 workshop sessions, on Additive manufacturing processes and 3D printing aspects followed by 6 short case studies covering a range of related applications and technologies.

Session One - Additive Manufacturing (AM) - Technologies and Limitations

Session Two - AM Processes and Materials

Session Three - Future directions of AM - Applications to Electronic Packaging

Session Four - Case Studies from: Fraunhofer IPA, Nottingham University and Neotech AMT GmbH

Session Five - Case Studies from: PEL Tamworth, Interposer Technologies and Loughborough

University

Plus a chance for a Tour of the 3D printing Facility Line at Loughborough University

Delegate rates are as follows:

IMAPS-UK Member: £155

IMAPS-UK Student Member: £125

IMAPS-UK Partner Rate: £175 (NMI, JEMI-UK & IEEE-CPMT Members)

Non Member: £195

Please visit our website for more details: <http://uk.imapseurope.org/index.php/event-calender/details/59-amws>

We look forward to seeing you at the Workshop!

Kind regards

Andy Longford, IMAPS-UK Secretariat

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Supporting Microelectronics Research, Development & Manufacturing in the UK



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PRINTED ELECTRONICS NEWS

Reminder of the free webinar by IDTechEx on Thursday 24 September 2015

The Rise of Perovskite Solar Cells 2015-2025

By Dr Xiaoxi He, Technology Analyst, IDTechEx

Space is limited - reserve your seat today!

As one of the top ten science breakthroughs of 2013, perovskite solar cells have demonstrated game-changing potential due to its extremely fast efficiency progress in R&D (from 2.2% in 2006 to 20.1% efficiency record for research-cell in 2014) and low potential material and manufacturing costs. Attentions that used to be paid to dye sensitized solar cells (DSSCs) and organic Photovoltaics (OPVs) are now transferring to perovskite solar cells with few research institutes remaining exclusively committed to OPVs and DSSCs. Perovskite solar cells also provide other value propositions such as flexibility, semi-transparency, tailored form factors, thin-film and light-weight. With so many improvements, perovskite solar cell technology is still in the early stages of commercialization compared with other mature solar technologies as there are a number of concerns remaining.

This webinar is based on the new report from IDTechEx Research, "[The Rise of Perovskite Solar Cells 2015-2025: Technology, Status and Market](#)". It will focus on the commercialization and business opportunities of perovskite solar cells and covers the following:

- Comparison with other solar technologies

- Status of the technology
- Challenges
- Potential markets
- Commercial players

We will be holding exactly the same webinar twice in one day. Please register for which ever session is most convenient for you.

Date: Thursday 24 September 2015

Duration: 30 minutes plus 10 minutes for Q&A

Webinar #1: Europe & Asia-Pacific

9:30am (BST/GMT+1) London

10:30am (CEST/GMT+2) Amsterdam, Berlin, Rome

11:30am (EEST/GMT+3) Athens, Jerusalem, Moscow

3:30pm (GMT+7) Bangkok

4:30pm (GMT+8) Singapore, Taipei, Beijing

5:30pm (GMT+9) Tokyo, Seoul

6:30pm (GMT+10) Canberra

[Register for session #1 here](#) or visit our webpage

www.IDTechEx.com/research/webinars.asp

Webinar #2: Americas

9:00am (Pacific DT) USA & Canada

10:00am (Mountain DT) USA & Canada

11:00am (Central DT) USA & Canada

12:00noon (Eastern DT) USA & Canada

5:00pm (BST/GMT+1) London

[Register for session #2 here](#) or visit our webpage

www.IDTechEx.com/research/webinars.asp

View system requirements [here](#)

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Printed electronics equipment sales: companies look to Asia

The printed electronics equipment and consumables supplier base consists of over 100 global organizations, according to IDTechEx Research in their report *Printing Equipment for Printed Electronics 2015-2025*. The majority of these are based in Europe, followed by a roughly even share of US and Asian based companies. Within Europe itself, Germany is home to more equipment makers than other European countries.

While initially the printed, organic and flexible electronics industry was driven by significant investment and technological development from the fine chemicals industry, the equipment sector followed soon after. Those involved in screen printing and screen printing consumables have had the largest market so far in printed electronics given that the equipment is used in commercial products such as solar cells and glucose test strips.

For more emerging printed electronics processes, such as inkjet printing, specialist coating systems applied to printed electronics, gravure and flexo, the market has been smaller but quickly growing. Most of the sales of such systems have been into Europe. This has been due to a high and consistent level of funding made available from European funding sources in addition to country specific funding programs.

Printed electronics is in most European countries a relatively high prioritization category for funding. Many of the funding sources have found that one of the most useful things to kick start the industry in Europe would be to make equipment available so that people can develop, prototype, pilot and even make low quantity product without the need for them to buy their own equipment which is capital intensive and high risk as development still has to occur.

Europe Government Funding for Equipment Declines

However, through many interviews IDTechEx Research has found that the equipment demand has mostly been met for the government funded programs. Of course, outside the government funded projects companies are buying equipment but the main funding until now has come from governments. For equipment supply companies, many of whom have enjoyed a good profitable period with top line sales growth, there is now a void as European companies' appetite for equipment lags the government funded programs.

The US equipment market has seen steady growth but until now has not been as big market as it is in Europe, due to lesser government funding. This has changed due to the recently announced \$75 million funding for a printed electronics manufacturing hub, but this is one project unlike the European market which consisted of many. Now, therefore, equipment makers are turning to Asia. There is an impending transition from equipment for development and prototyping purposes to buying equipment for higher volume manufacture. Here the equipment focus is different - it is not making state of the art transistors using printing, but doing simpler things but reliably that can be in commercial products today.

For example, this includes using inkjet printers for the polymer planarization layers for barriers on OLEDs or printing the bezel edge electrodes for touch screens, often

which are then patterned with a laser. So now the wave of new printed electronics capability truly becomes applied to product, with equipment companies sending their sales people out to Asia.

The IDTechEx research report Printing Equipment for Printed Electronics 2015-2025 assesses the applications, technologies and opportunities for equipment that is enabling printed electronics including looking at the main government centers and geographic trends. It covers the different types of printing, curing/sintering and other key manufacturing equipment, providing assessment of the manufacturing requirements for different applications, growth areas, ten year forecasts for each printing method by application and detailed company assessments.

Largest event on the topic with significant Asian presence

The Printed Electronics USA 2015 event - the largest in the world on the topic with over 200 exhibitors and 3000 attendees, reflects the increasing shift of interest to Asia with many exhibitors, speakers and attendees from Korea, Taiwan, Japan and China.

Learn more at the next leading event on the topic: Printed Electronics USA 2015 on 18 - 19 Nov 2015 in Santa Clara, CA, USA hosted by IDTechEx.

Read more at: <http://www.printedelectronicsworld.com/articles/8421/printed-electronics-equipment-sales-companies-look-to-asia>



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NEWS FROM PRODUCTRONICA

IPC Hand Soldering Competition to Heat up productronica 2015

BANNOCKBURN, Ill., USA, September 1, 2015 — In cooperation with [productronica 2015](#), [IPC — Association Connecting Electronics Industries®](#) is presenting the very popular Hand Soldering Competition in Hall A2, stand 405 at the event. Skilled competitors will demonstrate their soldering skills, on November 10–13, as they compete for cash prizes: 1st place — €300; 2nd place — €200; 3rd place — €100; and a coveted spot at the IPC Hand Soldering World Championship at IPC APEX EXPO® in Las Vegas, Nevada on March 15-17, 2016.

Hand soldering of high density printed boards demands highly skilled operators to ensure a zero-defect soldering process, and this competition will recognize the best skills in hand soldering complex printed board assemblies. Over three days, participants will compete against each other to build a functional electronics assembly within a 60-minute time limit.

Assemblies will be judged on soldering in accordance with IPC-A-610F Class 3 criteria, the speed at which the assembly was produced and overall electrical functionality of the assembly. IPC-A-610 Master

Instructors from IPC licensed master training centers will serve as the judges.

Competition entries will be accepted until October 25 at www.ipc.org/hsc-productronica. Participation is limited and competitors will be selected on a first come, first served basis.

IPC thanks Hand Soldering Competition Gold Sponsors: JBC Tools, PACE, Weller; Silver Sponsors: Almit GmbH, Balver Zinn GmbH, and Elmatica AS; Bronze Sponsors: IFTEC, PIEK International Education Centre, eTEK; and Contest Contributor sponsor Microsolder, for their support.

For more information on IPC's Hand Soldering Competition, visit www.ipc.org/hsc-productronica.



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NEWS FOR PRODUCTRONICA

Will you be exhibiting at Productronica?

If so, and you would like a few thousand people to know about this, then drop me a line or two, with some information on what you will be exhibiting, and where you will be, and the names of those nice people who will be on your stand.

It would be particularly nice to have news about EIPC Member companies who will be there, and I would welcome any photos as well as text.

I leave it to you to judge how far ahead of the show you wish to have some publicity, but there is no such thing as bad publicity, is there?

Sincerely,
John Ling
Editor.

johnh@grantlings.com

Issue 11 – September 2015

NEWS FROM THE IPC

EU Directives and Regulations Significantly Impact Electronics Industry

IPC Gathers Experts to Discuss Government Regulation in the EU

A September 10 European Union (EU) Court of Justice ruling on a case on the calculation of levels of substances of very high concern (SVHCs) in articles under the Registration, Evaluation and Authorization of Chemicals (REACH) regulation will significantly increase REACH reporting requirements in the electronics industry. For electronics manufacturers who want to learn more about the effect of the ruling on their compliance program, **Teresa Bernheim, Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (BAuA)** will provide an update at [IPC Conference on Government Regulation](#) on October 13, 2015 in Essen, Germany.

Attendees will also have the opportunity to learn about pending EU regulations on conflict minerals, which may prove to be even more burdensome than U.S. regulations. **Guenter Nooke, personal advisor on Africa to German Chancellor Angela Merkel**, will deliver an address on proposed legislation and its impact upon electronics manufacturers and **Ambassador Jean Du Ruyt, Covington & Burling, Brussels**, will discuss the European Union Parliament vote on conflict minerals legislation and negotiations between the EU Council and Commission.

Additional topics covered at the conference include RoHS exemptions review process and regulation of additional substances, and the EU's new circular economy strategy, addressing a range of economic sectors, including electronic waste.

“Staying on top of the ever-evolving landscape of EU Directives and regulations is critical to ensuring the continued compliance of a manufacturer’s products,” said John Hasselmann, IPC vice president of government relations. “It’s important for European electronics manufacturers to get the facts they need to prepare their companies for conflict minerals, RoHs and REACH legislation.”

For more information on IPC Conference on Government Regulation, visit www.ipc.org/government-regulation-conference.



EIPC SPEeDNEWS

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INTERNATIONAL DIARY 2015

Silicon Chip Industry Training Seminar

21st September 2015

Holiday Inn Kensington Forum, London, UK

mail@futurehorizons.com

ICT EVENING SEMINAR

22nd September 2015

Newtown House Hotel, Hayling Island, UK

bill.wilkie@instct.org

SMART Group European Conference 2015

22nd - 23rd September 2015

NPL, Teddington, UK

www.smartgroup.org

Silicon Industry Forecast Briefing

24th September 2015

Holiday Inn Kensington Forum, London, UK

mail@futurehorizons.com

TPCA SHOW

21st – 23rd October 2015

Taipei World Trade Centre, Nangang Exhibition Hall

show@tpca.org.tw

EIPC-EFRA- Cefic – Workshop

European Chemical Industry Council, Brussels, Belgium

November 11, 2015,

Messe Munchen, Munich, Germany

www.eipc.org

PRODUCTRONICA, EIPC stand with co-exhibitors (Stand B1-529)

10th – 13th November 2015

Messe München, Germany

www.productronica.com



ICT EVENING SEMINAR

17th November 2015

St George Hotel, Darlington, UK

bill.wilkie@instct.org

HKPCA SHOW

2nd - 4th December 2015

Shenzhen Convention & Exhibition Centre

Secretary@hkpca.org