

Sheraton Lisboa
Hotel & Towers
Lisbon
Portugal



Courtesy of Fuji Photo

11th Annual European Ink Jet Printing Conference

**LATEST PRINTHEAD
TECHNOLOGY
ANNOUNCEMENTS!**

Monday 10th - Wednesday 12th November, 2003

Join us for the biggest and best ink jet conference this autumn. Learn about the latest technology and market developments, hear the major vendors announcements, and network with the movers and shakers from this fast growing industry

1st European UV Ink Jet Conference

Wednesday 12th - Friday 14th November, 2003

A 2 day conference covering basic UV chemistry, formulations, hardware issues, curing, and health and safety issues presented by leading experts in the field of UV and ink jet printing

Ink Jet Academy Theory of Ink Jet Technology

Sunday 9th - Monday 10th November, 2003

A 1 1/2 day comprehensive course describing the latest advances in ink jet and ink technologies, led by Mike Willis of Pivotal Resources & Alan Hudd of Xennia Technology. In five years over 1,000 have attended this broad and up to date introduction to this fast growing technology

PIVOTAL RESOURCES
MARKETS • TECHNOLOGY • RESEARCH • CONSULTANCY

XENNIA
INNOVATIVE INKJET SOLUTIONS

IMI EUROPE

IMI runs the largest and most comprehensive conference and seminar programme in the digital printing industry. Each year over 2,000 industry technical and management personnel from over 600 companies attend more than 20 programmes covering ink jet, thermal, laser, high speed digital printing, textile, industrial and other forms of digital printing.

THE CONFERENCES

IMI Europe brings together a major annual conference, a timely new conference plus the acclaimed course - The Ink Jet Academy. Each programme has been designed to give participants a thorough technical and marketing perspective of their industries, with presentations by acknowledged leaders in their field. Completely up to date, there is simply no better information available.

THE LOCATION

This autumn we have chosen Lisbon for our conference programmes. This one thousand year old city is the capital of Portugal. Built on seven hills and mirrored by the Tagus River, it was once the capital of a mighty empire that spanned five continents. There are reminders everywhere of its victories and defeats going back to the Roman times.

WELCOME TO DIGITAL PRINTING 2003

IMI Europe has once again put together an outstanding programme for Digital Printing 2003. Our 11th Annual European Ink Jet Printing Conference is packed with the latest overviews, updates and technology developments for office, industrial printing and media. This year the 1st European UV Ink Jet Conference gives a first class overview of this emerging and important technology. And if you need to get up to speed with ink jet, join our very popular and successful course - the Ink Jet Academy - Theory of Ink Jet Technology.

Our programmes offer the best value in the industry - great registration rates, discounts for multiple registrations, and opportunities to network with the speakers and attendees at our inclusive lunches and receptions. Also registrants are welcome to display company literature in our separate display area.

How could you miss it. See you in Lisbon!

Mike Willis, Managing Director, IMI Europe Ltd



Lisbon's Cathedral, Courtesy of Turismo de Lisboa

UPCOMING IMI CONFERENCES

2nd Annual Digital Electronic Materials Deposition Conference

October 20-22, 2003, Scottsdale, Arizona

1st Digital Dispensing, Dosing and Metering Briefing

October 22-23, 2003, Scottsdale, Arizona

1st Paper-Like Displays Course

October 23-24, 2003, Scottsdale, Arizona

Ink Jet Academy: Practice of Ink Jet Technology

Nov. 17-21, 2003, Cambridge, UK

Ink Jet Academy: Theory of Ink Jet Technology

February 2-3, 2004, Scottsdale, Arizona

2nd UV Ink Jet Symposium

February 2-3, 2004, Scottsdale, Arizona

Ink Jet Developers Conference 2004

February 4-6, 2004, Scottsdale, Arizona

12th Annual Laser Printing Conference

February 9-11, 2004, Scottsdale, Arizona

7th Annual Toner & Imaging Chemicals Conference

February 11-13, 2004, Scottsdale, Arizona

7th Annual Digital Textile Printing Conference

March 2-4, 2004, Cary, North Carolina

13th Annual Ink Jet Printing Conference

April 19-21, 2004, St. Pete Beach, Florida

15th Annual Thermal Printing Conference

April 26-28, 2004, St. Pete Beach, Florida

For complete details and registration information visit IMI's web site www.imiconf.com



Tower of Belém, Lisbon, Courtesy of Turismo de Lisboa

LOCATION

The Sheraton Lisboa Hotel & Towers is centrally located in Lisbon, and is a ten minute taxi ride from Lisboa International airport.

The Sheraton Lisboa Hotel & Towers features underground parking, a business and communications centre, a variety of shops, a health club with a heated outdoor pool, gym, sauna, steambath and massage. This hotel offers a unique opportunity to combine a relaxing weekend or vacation in Lisbon in conjunction with attendance at IMI Europe's conferences.

Lisbon offers plenty of bars, restaurants, sightseeing, monuments, museums and shopping. The city is relatively small and easy to get around. Just outside the hotel is a metro station, and also taxis are plentiful and low-cost.

Within easy reach of Lisbon are some of Europe's most beautiful beaches and golf courses, as well as horse riding centres, water sports, the glamorous resort of Estoril, the village of Sintra and the mountains of Arrábida.

For additional information on Lisbon, visit Turismo de Lisboa Web Site at:

<http://www.atl-turismolisboa.pt>

The Sheraton Lisboa Hotel & Towers address is:

The Sheraton Lisboa Hotel & Towers
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WORLDWIDE PRINTER AND SUPPLIES MARKET REPORT

Information Management Institute, Inc. is pleased to announce that it has commissioned IT Strategies of Hanover, Massachusetts to prepare a study report entitled "WORLDWIDE PRINTER AND SUPPLIES MARKET REPORT" for distribution to all registrants to IMI's programmes.

This exclusive market report is updated at least twice annually and provides an ongoing source of market information based on a consistent methodology and reporting structure. The report is generated from IT Strategies' worldwide computer printer industry model.

All registrants to IMI Europe's Digital Printing Conferences at the Sheraton Lisboa Hotel & Towers, Lisbon, Portugal will receive a complimentary copy of the latest edition of the "WORLDWIDE PRINTER AND SUPPLIES MARKET REPORT."

HOTEL INFORMATION

The 11th Annual European Ink Jet Printing Conference, the 1st European UV Ink Jet Conference and the Ink Jet Academy are being held at the Sheraton Lisboa Hotel & Towers, Lisbon, Portugal. Hotel reservations and charges are the responsibility of each conference registrant. The discounted hotel rate is Eur. 140 for single occupancy and Eur. 160 for double occupancy - buffet breakfast included. **EARLY BOOKING IS ADVISED:** The Sheraton Hotel & Towers will guarantee the reduced rate only until **October 13, 2003**. Requests after that date will be on a space available basis. To receive the special rate, you must identify yourself as a registrant to an IMI Europe Conference.

To make hotel reservations:

Phone +351 21 312 0000
Fax +351 21 357 5073

PRODUCT DEMONSTRATIONS

Product demonstrations or displays by both conference speakers and registrants are encouraged. IMI will cooperate with all interested parties to provide appropriate space so products can be displayed and demonstrated during the conference breaks. There is no charge in addition to the conference registration fee to have a display table. Interested companies should contact Alvin Keene at IMI Inc. to book space.

email: imi@imiconf.com
tel: +1 207 235 2225
fax: +1 207 235 2226



Eating out in Lisbon, Courtesy of Turismo de Lisboa

Ink Jet Academy

Theory of Ink Jet Technology

Sunday 9th - Monday 10th November, 2003

1.5 day course

Sheraton Lisboa Hotel & Towers,
Lisbon, Portugal



THE THEORY OF INK JET TECHNOLOGY

THE INK JET ACADEMY provides a programme and format to get an expert start in the ink jet industry, to get an update or to open up new ink jet fields.

Understanding the fundamentals is a prerequisite to any development. The Ink Jet Academy offers a one and one-half day course covering the basic theory of all the diverse types of ink jet technology

in use today. Learn how the printheads work, what materials are used in their fabrication and the theory of operation. Learn about inks and media, how they are formulated and the supply and support systems. This course assumes a basic scientific knowledge and will provide a useful background to anyone entering the ink jet industry or seeking an efficient update of ink jet technology.

SUNDAY NOVEMBER 9, 2003

8:00 a.m. - 9:00 a.m. Registration

9:00 a.m. Opening session

INTRODUCTION

- Course overview
- Types of ink jet technology
- Brief history
- Drop on demand technologies
- Thermal & piezo ink jet
- State of the art
- Office & SOHO markets & applications

INDUSTRIAL APPLICATIONS

- Industrial drop on demand
- Continuous ink jet
- Industrial applications

INK TECHNOLOGY

- Evolution of ink jet inks
- Ink jet ink formulations
- Ink types & properties
 - Aqueous-based
 - Oil-based
 - Solvent-based
 - Phase change
 - UV curable

DOD PRINthead DESIGNS AND VENDORS

- Thermal ink jet
- Piezo ink jet
- Moving wall technology

1:00 - 2:00 p.m. Lunch

MATERIALS FOR INK JET INKS

- Critical materials
- Colorants
- Polymers
- Solvents and additives
- Vendors & ink distribution chain

DOD PRINthead DESIGN CONSIDERATIONS

- Drop ejection frequency
- Crosstalk

- Printhead life
- Temperature control
- Drop placement accuracy
- Considerations for page arrays
- Greyscale techniques
- Drive waveforms

MEDIA & PRINT QUALITY

- Paper & coatings
- Drying mechanisms
- Light & waterfastness
- Non-paper media
- The 3 factors affecting print quality
- Technologies to improve print quality
- Improving image quality

5:30 p.m. Session closes
7:00 p.m. Reception

MONDAY NOVEMBER 10, 2003

9:00 a.m.

UV CURING TECHNOLOGY

- Chemistry of UV curing
- Ink formulation issues for piezo DOD
- UV curing systems

SYSTEM DESIGN ISSUES

- Nozzle maintenance
- Drop detection
- Filling/bubble removal
- Ink supply and replacement

INSTRUMENTATION FOR INK JET DEVELOPMENT

- Reliability
- Jet characteristics
- Quality control

FUTURE DEVELOPMENTS

- Evolution of current technology
- New developments
- Status and developments of ink technology

1:00 p.m. Adjournment & Lunch

COURSE LEADERS

Mike Willis, Managing Director
Pivotal Resources Limited
Cambridge, UK

Mr. Willis founded Pivotal Resources, a consultancy in the digital printing industry, in 1995. He has experience in a wide range of technologies and markets including drop-on-demand and continuous ink jet printing, electrophotographic technology, greyscale and colour reproduction methods and light sensitive materials.

Prior to founding Pivotal Resources, Mike was Director of Electronic Printing at Meta Generics. Mr. Willis was a founder member of Xaar - a spin-off company from Cambridge Consultants where Mr. Willis spent ten years working in a number of roles, culminating as Group Leader of Non-Impact Printing. Before that, he spent six years at Gestetner developing photocopiers.

Mr. Willis graduated from the Polytechnic of Central London with an honours degree in Photographic Sciences.

Dr. Alan L Hudd, President & CTO
Xennia Technology Limited
Royston, Hertfordshire, UK

In 1996 Dr. Hudd co-founded Xennia Technology; the world's first independent contract ink jet technology house dedicated to developing new ink jet inks for both the industrial and office ink jet industries.

In 1987 Alan joined Domino Printing Sciences and spent eight years as the Fluids Technology Manager, developing a wide range of ink jet ink for diverse applications and is credited with a number of patents and significant innovations within the industrial ink jet industry. Prior to Domino, he spent almost eight years with the Ministry of Defence and Royal Ordnance in the UK, developing new solid polymer rocket propellants for air to air missiles.

Dr. Hudd graduated with B.Sc. Honours degree in Chemistry and Physics, M.Sc and Ph.D research degrees in Polymer Chemistry from Manchester University.

Dr. Kevin Hall, Business Support Manager
Xennia Technology Limited
Royston, Hertfordshire, UK

Dr. Hall joined Xennia Technology in 1998 and is Business Support Manager, responsible for new business development and project support.

From 1996 Kevin was the Technical Manager of Imation's European Research Centre in the UK with responsibility for the development of new photographic media. Successes include technologies used in medical and colour photographic silver halide films known under the Trimax™ and Scotch™ film brands. He has also worked in the field of liquid toner electro photography. Kevin joined 3M in 1984, working as an emulsion scientist at the 3M UK research facility. His work in the areas of antistatic coatings, high contrast and contact emulsions led to the graphic arts products such as 3M Excelerate™ and DRC™, with the antistatic technology being used in a range of film products. He holds over 13 patents and has presented at a variety of conferences.

Dr. Hall graduated with a 1st class BA Honours degree in Chemistry and a D.Phil in Gold Chemistry from Oxford University, UK. He is a Fellow of the Royal Society of Chemistry.

11th ANNUAL EUROPEAN INK

Monday 10th - Wednesday 12th November, 2003

Sheraton Lisboa Hotel & Towers, Lisbon, Portugal

CONFERENCE FOCUS

Ink jet printing continues to make technology advancements in product functionality, cost performance, print quality, and colour printing capabilities. Such improvements have made ink jet printing the leading computer printer technology and have enabled the development of new markets and applications. In addition to personal computer printing, applications such as wide format printing, photo quality printers, multifunction printers, digital

presses, colour office printers, and industrial printing are providing market opportunities for ink jet printing technology, but in a very competitive environment.

This conference programme is designed to provide participants with a comprehensive assessment of technology and market development trends that will determine ink jet printing's role in the overall

printing marketplace. The formal sessions and informal networking sessions provide a unique, interactive environment for leading hardware, consumables, components, system integrator and user company representatives to network and develop an improved understanding of current developments and other forces that are shaping ink jet printing's role in the evolving digital printing industry.

MONDAY, NOVEMBER 10, 2003

11:00 a.m. - 5:00 p.m. Conference Registration
2:00 p.m. Opening session

WELCOME AND INTRODUCTIONS

Alvin G. Keene, President, Information Management Institute, Inc., Kingfield, Maine, USA & Director, IMI Europe, Cambridge, UK

INK JET INDUSTRY DEVELOPMENTS & DIRECTIONS

TECHNOLOGY DEVELOPMENTS AND FUTURE ADVANCEMENTS

Michael Willis, Managing Director, Pivotal Resources, Cambridge, UK

- Latest products and developments
- The desk-top confusion
- Industrial products & applications
 - What's new?
- The patent scene
 - Emergence of MEMS technology
 - New players

CONFERENCE CO-CHAIRMEN

Mike Willis, PIVOTAL RESOURCES
Dr Ross Mills, ITi

CONFERENCE SPEAKERS

EASTMAN KODAK, Dr. Gil Hawkins
FERRANIA IMAGING, Dr. Walter Fontani
HITACHI PRINTING SOLUTIONS, Mark Elsbernd
ILFORD IMAGING, Rob Kershaw
INGEDE, Axel Fisher
ITi, Dr Ross Mills
IT STRATEGIES, Mark Hanley
KONICA, Dr. K Onodera
PIVOTAL RESOURCES, Mike Willis
SAMSUNG, Dr Jaewoo Chung
SEIKO EPSON, Paul Patterson
SII PRINTEK, Masao Tachibana
SPECTRA, Edward Chrusciel
UNITED STATES SECRET SERVICE, Gerry LaPorte
WEB CONSULTING, Stewart Partridge
XAAR, Dr. Werner Zapka
XENNIA, Dr. Alan Hudd

EVOLUTION OF THE GLOBAL MARKET FOR WIDE FORMAT GRAPHICS - USERS, MANUFACTURERS, APPLICATIONS, TECHNOLOGY AND FUTURE MARKET OPPORTUNITIES

Stewart Partridge, Managing Director, Web Consulting, Abingdon, UK

- Segmentation of today's WFG market: by technology (printheads, inks, media); application; user group; geographic region
- WFG - the limits to growth
- Drivers for emergence of disruptive technologies
- Market modelling - is the past a guide to the future?
- Forecasts and future developments
- Strategic issues for OEMs and manufacturers

INDUSTRIAL INK JET MARKETS - MARKET & TECHNICAL PARAMETERS

Mark Hanley, President, IT Strategies, Hanover, Massachusetts, USA

- Performance of ink jet
 - What is acceptable to industrial users & what is not
- Path to revenue
 - More complex than selling products
- Missing pieces

INKJET TECHNOLOGY: THE NEED FOR SECURITY AND FORENSIC TRACEABILITY

Gerry LaPorte, Forensic Scientist, United States Secret Service Forensic Services Division, Washington DC, USA

- Counterfeiting of currency and identity documents from printers and copiers
 - Death threats
 - Illegitimate business transactions
 - Terrorist-related activities
- Opportunities for the ink jet industry to carve out a niche in printing security
- Incorporation of security features and/or forensic traceability into documents produced via ink jet
- Benefits to governments and companies

7:00 p.m. Reception

Why not register on-line?
<http://www.imieurope.com>

Questions? Then email us at
enquiries@imieurope.com

TUESDAY, NOVEMBER 11, 2003

9:00 a.m. SESSION 2

ADVANCES IN PRINthead TECHNOLOGY

KONICA-MINOLTA IJ HEAD FOR INDUSTRIAL APPLICATIONS

Dr. K. Onodera, President Konica Technology Center; Dr. S. Nishi, General Manager, IJ-Head Development; A. Ohno, General Manager, Business Development, Konica, Hachioji, Japan

- Konica-Minolta new family of IJ heads based on well established technology
- Common features
 - Ink path material is compatible to oil, solvent or UV ink
 - 512 nozzles, 360 native dpi
- Variety of the products
 - 42pl at 7.6 KHz or 14pl at 14 KHz
 - with or without heater
- Family is suitable for a wide range of requirements for industrial applications
- Typically, 360 dpi + 42pl is ideal for single pass printing
- Future developments:
 - Gray scale, more nozzles

NEW PIEZO PRINthead TECHNOLOGY ADVANCEMENTS

Mark Elsbernd, Vice President, Ink Jet Technology Division, Hitachi Printing Solutions America, Inc., Simi Valley, California, USA

- Advancements in mathematical simulations
- High performance printhead designs
- New fabrication techniques for stainless steel parts
- Advanced mechanical design structures
- Manufacturing and process improvements

PIEZO TECHNOLOGY FOR HEAVY-DUTY INDUSTRIAL TEXTILE PRINTING

Masao Tachibana, Business Development Manager, SII Printek Inc., Chiba, Japan

- What is required for heavy-duty industrial printing?
- What governs reliability of inkjet printing systems?
- Ink delivery - bulk feed and cartridge system
- Printhead - performance, reliability and longevity
- Ink - the last but not the least

INK JET PRINTING CONFERENCE

2 day conference

APPROACHES TOWARDS HIGH FREQUENCY PRINTING

Dr. Werner Zapka, Manager - Advanced Manufacturing Technology, Xaar, Järfalla, Sweden

- Assessment of situation today
- Potential for performance improvements
- How these improvements may be approached
- Experiences to date
- Potential benefits

1:00 p.m. Luncheon

2:30 p.m. Session 3

INNOVATIVE PIEZO INK JET PRINTHEAD TECHNOLOGY

Dr. Jaewoo Chung, Project Leader, MEMS Lab, Samsung Advanced Institute of Technology, Suwon, Korea

- New MEMS technology piezo ink jet printhead
- Manufacturing processes
 - All fluidic channels and diaphragm prepared with micro-machined silicon single crystals thick film
 - Piezo actuator formed on diaphragm by high temperature annealing, producing a directly bonded structure without any adhesive conductive layer
- Micro fluidic simulation and structure analysis for inks channels and actuator
- Printhead performance
 - High reliability
 - High viscosity inks can be used
 - High firing frequency
 - Wide range of ink chemistries for industrial applications
 - Easy customisation for new applications
- Applications for this technology



Courtesy of Fujji Photo



Courtesy of Turismo de Lisboa

NEXT GENERATION CONTINUOUS INK JET TECHNOLOGY

Dr. Gil Hawkins, Hardcopy and Display Technology Division, Eastman Kodak Company, Rochester, New York, USA

- Printhead selection criteria for commercial IJ printers
- Principles of operation of a new ejector device
- Physics of droplet formation
- Fabrication
- Performance and market applications
- Implications for ink/media systems

ADVANCES IN INK JET INK & MEDIA

GAS FADING - THE ULTIMATE SOLUTION

Dr. Walter Fontani, Technical Service Manager, Color Imaging Systems, Ferrania Imaging Technologies, Montenotte, Italy

- Market issues related to IJ image permanence
- Image fading background
- Catalytic fading on IJ porous media
- The ultimate Ferrania Imaging Technologies solution
- Applications of the novel technology and advantages
- Future development and full exploitation of the benefits

SELF SEAL MEDIA

Rob Kershaw, Regional Sales Director, Ilford Imaging, Marly, Switzerland

- Principles of sealable layer technology
- Equipment required
- Properties of sealed media
 - Security
 - Gloss & surface features
 - Abrasion resistance
 - Resistance to liquids
 - Resistance to fading
- Applications

RECYCLING OF INK JET PRINTED PRODUCTS

Axel Fischer, Public Relations, INGEDE e.V. (International Association of the De-inking Industry), Munich, Germany

- Paper recycling: Major fibre source
 - How does it work?
- Why do digital prints create problems?
- Why are most ink jet prints not recyclable?
- What could be done about it?

7:00 p.m. Reception

WEDNESDAY, NOVEMBER 12, 2003

9:00 a.m. Session 4

SYSTEM APPLICATIONS - WHAT'S NEW?

INDUSTRIAL INK JET APPLICATIONS PROJECT

Paul Patterson, General Manager, IJA Business Development, Seiko Epson Corporation, Beaverton, Oregon, USA

- Implementation of industrial ink jet applications such as:
 - Micro lens
 - Colour filters
 - Metal printing
 - PDP
 - OLED/OEL
- Technology suitability & capabilities
- Laboratory facilities & resources
- Opportunities & challenges

EMERGING CUSTOMISED INDUSTRIAL INK JET APPLICATIONS

Dr. Alan Hudd, President & CTO, Xenxia Technology Ltd, Royston, Hertfordshire, UK

- Challenges of industrial ink jet implementations
- Ink is key but only the starting point of a complex integration process
- Examples of two contrasting industrial applications
 - UV cure optical and high mechanical performance coatings for production line PVC card protection
 - Development of direct metal ink jet printing process to create active RFID tags
- Range and outlook for customised applications

SYSTEM INTEGRATION FOR INK JET MATERIALS DEPOSITION

Dr. Ross N. Mills, President & CTO, imaging Technology international Corporation, Boulder, Colorado, USA

- Applications
- System parameters
- Ink jet technology
- "Jetability" requirements
- Available print heads
- System integration
- Deposition systems
- Challenges for ink jet

NOVEL DISPENSING AND IMAGING APPLICATIONS USING PIEZOELECTRIC MICROPUMPS

Edward T. Chrusciel, Marketing Director, Spectra Inc., Hanover, New Hampshire, USA

- Enablers and inhibitors
- Technological advancements
- Applications development
- Flat panel display and electronic applications
- Food decoration
- Future directions

1:00 p.m. Adjournment and Luncheon

1st EUROPEAN UV INK JET C

Wednesday 12th November - Friday 14th November, 2003

Sheraton Lisboa Hotel & Towers, Lisbon, Portugal

1st EUROPEAN UV INK JET CONFERENCE

As ink jet printing continues to make technology advancements in product functionality, cost performance, print quality and colour printing capabilities, the interest in utilisation of UV ink jet inks is expanding rapidly. The 1st European UV Ink Jet Conference is designed to provide thorough coverage of the basic capabilities of UV technology for ink jet printing applications to enable its more effective use in various application sectors. While UV inks provide instant drying, enable a wide choice of substrates, result in good end use properties (adhesion, durability, flexibility, etc.) and enable good printhead reliability – potential users must understand basic UV chemistry, UV ink components,

ink formulation issues, hardware development criteria, health & safety issues, etc. to effectively and successfully implement UV ink jet systems.

The 1st European UV Ink Jet Conference brings together leading experts from the UV and ink jet industries to provide technical information, current state-of-the-art and development trends for the use of UV technology in ink jet printing applications. As UV ink jet printing continues to expand, this conference provides a unique opportunity to obtain information critical to UV ink jet printing technology implementation in ever growing market and application sectors.

WEDNESDAY, NOVEMBER 12, 2003

11:00 a.m. - 5:00 p.m. Registration

2:30 p.m. Session 1

WELCOME AND INTRODUCTIONS

Alvin G. Keene, President, Information Management Institute, Inc., Kingfield, Maine, USA & Director, IMI Europe, Cambridge, UK

UV INK JET - ALL SET FOR GROWTH

THE GROWTH OF UV IN INK JET

Jan Denies, Marketing Manager Europe, VUTEK, Zaventem, Belgium

- UV's initial penetration into wide format graphics
- What drives the market for UV ink jet: segments, applications, market dynamics
- Future applications in industrial markets

UV-CURABLE INKS - HOW WIDESPREAD WILL THEIR ADOPTION BECOME?

Stewart Partridge, Managing Director, Web Consulting, Abingdon, UK

- The emergence of UV-curing in analogue decoration and coating (screen, offset, flexo, gravure, UV-varnishing, coating systems, market sizing)
- Why has UV-curing entered the ink jet market?
- Advantages and limitations of UV-curable inks
- Opportunities under the flatbed phenomenon
- Other opportunities for UV ink jet
- Discussion of future scenarios; forecasts

INK COMPONENTS FOR UV INK JET PRINTING

RAW MATERIAL CONSIDERATIONS FOR UV INKS

Jean-Philippe Masson, Graphic Arts Specialist, Cray Valley, Verneuil en Halatte, France

- Basic UV curing chemistry
- Choosing the right monomer & oligomer
- 100% UV ink jet ink raw materials
- Overview of waterbased UV ink jet

PHOTOINITIATORS IN UV INKJET INKS

Marco Visconti, Technology Manager, Lamberti S.p.A., Albizzate, Italy

- Mechanisms of action of photoinitiators
- Sensitisation
- Air inhibition
- Photoinitiators in ink formulations
- Photoinitiators for 100% solids inkjet inks
- Photoinitiators for aqueous inkjet inks

NOVEL PIGMENT DISPERSANTS FOR 100% SOLIDS AND WATERBORNE, RADIATION CURABLE INK JET INKS

Dr. William R. Dougherty, Technical Manager SMA Resins, Sartomer Company, Exton, Pennsylvania, USA

- The need for stable pigment dispersions
- Novel polyester acrylate oligomer
- Co-functioning surfactant
- Acid-stable pigment dispersions
- Demonstration in water-borne radiation-curable ink jet formulations

7:00 p.m. Reception

CONFERENCE CHAIRMAN

Dr. James S. Balcerski, Sartomer

CONFERENCE SPEAKERS

AELLORA DIGITAL, Dr. Rick Larson
AVECIA, Dr. Andrew Overend
CANON, Dr. Hiromichi Noguchi
CRAY VALLEY, Jean-Philippe Masson
DURST, Norbert von Aufschnaiter
INCA DIGITAL, Dr. Will Eve
INTEGRATION TECHNOLOGY, Adrian Lockwood
LAMBERTI, Marco Visconti
SARTOMER, Dr. William Dougherty
SCITEX VISION, Dr. Boaz Nitzan
SERICOL IMAGING, Carole Noutary
SPECTRA, Terry O'Keefe
SUNJET, Nigel Caiger
VUTEK, Jan Denies
WEB CONSULTING, Stewart Partridge
XAAR, Jill Woods

THURSDAY, NOVEMBER 13, 2003

9:00 a.m. Session 2

UV INK JET INK FORMULATIONS AND ISSUES

LAMP SYSTEMS FOR UV CURING

Adrian Lockwood, Applications Director, Integration Technology, Upper Heyford, UK

- UV Lamp systems & the generation of light
- Mechanical requirements for UV lamp units in inkjet printing
- The effect of differing lamp spectra on UV inkjet inks
- Typical lamp configurations

UV INK JET PRINTING

Dr. Hiromichi Noguchi, General Manager, Inkjet Supply Material Development Center, Canon Inc., Kanagawa, Japan

- Inkjet printing by UV curing
- Printing process
- Water-soluble UV inkjet ink
- Photo polymerization in water
- Image formation by water soluble UV ink
- Applications

UV INK JET TECHNOLOGY - CHALLENGES AND OPPORTUNITIES

Carole Noutary, Technical Manager, Sericol Imaging, Broadstairs, UK

- The benefits of UV for ink jet printing
 - Productivity
 - Environment
 - Application flexibility
- The challenges of UV ink jet ink development
- Physical properties
- End-user requirements
- Current applications for UV ink jet
- Wide format graphics
- Industrial markets
- New developments in UV ink jet ink technology

UV CURING INK JET FOR FOOD PACKAGING APPLICATIONS

Nigel Caiger, Technical Manager, SunJet, Bath, UK

- Advantages of UV-curing systems in packaging printing
- Problems with UV-curing inks - odour, migration
- Migration in packaging:
 - Sources of migration
 - Routes for migration
- Photoinitiator chemistry modifications to reduce migration
- Printing system issues and optimisation to reduce odour and migration

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<http://www.imieurope.com>

CONFERENCE

2 day conference

UV CURE INK JET INKS FOR HIGH SPEED PRINTING & MICRODEPOSITION APPLICATIONS

Dr. Andrew Overend, Research Manager, Avecia Ltd., Manchester, UK

- Overview of the UV cure ink technologies for DOD IJ printing
- Chemistry
- Pros & cons of each technology
- Ink performance criteria necessary for IJ to enter the high speed and microdeposition print applications:
 - Behaviour in the IJ print head
 - Behaviour on target substrates prior to cure
 - Performance image after curing
- Future development needs

1:00 p.m. Luncheon

2:30 p.m. Session 3

SYSTEM ISSUES FOR UV PRINTING

UV INK JETTING IN WIDE FORMAT APPLICATIONS

Terry O'Keeffe, Technical Support Manager Europe, Spectra, Amsterdam, The Netherlands

- Basic nature of UV inks
- Contamination-free ink handling & delivery design
- Maintenance system design for UV inks
- Cost of ownership models
- Expected roles of
 - Printhead supplier
 - Printer OEM
 - Ink supplier

SELECTION CRITERIA FOR UV INKS

Jill Woods, Ink Product Manager, Xaar, Cambridge, UK

- Partnership approach
- Printhead parameters
- End-user requirements
- Ink manufacturer challenges
- Integration: the concluding factor



Lisbon's waterfront, Courtesy of Turismo de Lisboa

PRINTING UV WHITE INK JET INK

Dr. Rick Larson, CTO, Aellora Digital, Keene, New Hampshire, USA

- Developing UV white ink jet ink – challenges
 - Physics, chemical and process
- System design considerations
 - Ink delivery
 - Print head maintenance
- System integration/development
 - End user product, OEM, or integrating into manufacturing line
 - Why a need for systems integration
 - What the integrator needs to know
 - Being an OEM – challenges
 - The end-user – expectations vs. reality
- Recommendations on choosing partners

SUPPLIERS FORUM

Five minute presentations related to technology, capabilities, services, new product introductions etc. The Suppliers Forum is open to all conference registrants.

7:00 p.m. Reception

FRIDAY, NOVEMBER 14, 2003

9:00 a.m. Session 4

INTEGRATION OF UV INK JET FOR INDUSTRIAL APPLICATIONS

PRINTER ARCHITECTURES FOR UV INKJET

Dr. Will Eve, Technical Director, Inca Digital, Cambridge, UK

- Why does UV have different requirements from solvent inkjet?
- Sheet fed and web fed architectures
- Dealing with stray light
- Surface energy effects
- Lamp characteristics: which ones matter?
- Oxygen inhibition and inerting

Lunches will be held in the rooftop restaurant of the Sheraton Lisboa Hotel & Towers with a magnificent panoramic view across the city of Lisbon

SYSTEMS INTEGRATION - DIRECT DIGITAL PRODUCTION FLATBED PRINTER

Norbert von Aufschnaiter, Large Format & High Speed Printing Division, Durst Phototechnik AG, Brixen, Italy

- Why UV ink jet is the technology of choice
- Importance of complete workflow from printing to finishing
- Special considerations: color management, color conversion, image on the fly processing, etc.,
- Media & finish choices
- Customer experiences

THE DEVELOPMENT OF SCITEX VISION'S UV DIGITAL FLATBED PRINTER - A SUCCESS STORY

Dr. Boaz Nitzan, Materials Department Manager, R&D Division, Scitex Vision, Netanya, Israel

- Scitex Vision's product range: from solvent-based inks to water-based inks and finally to UV curable inks
- Market requirements for a UV digital printer
- Application requirements for the Scitex Vision VEEjet
- Key R&D issues encountered through the development process
- Scitex Vision's solutions implemented in the VEEjet
- Summary and ideas for future developments

12:00 p.m. Luncheon & Adjournment



Courtesy of Turismo de Lisboa



Courtesy of Turismo de Lisboa

REGISTRATION FEES

THE INK JET ACADEMY THEORY OF INK JET

- Attendance at all sessions
- Course reference binder
- Two lunches
- One reception
- Coffee breaks

Registration fee £725, €1,095

11th ANNUAL EUROPEAN INK JET PRINTING CONFERENCE

- Attendance at all sessions
- Conference reference binder
- Two lunches
- Two receptions
- Coffee breaks

Registration fee £725, €1,095

1st EUROPEAN UV INK JET CONFERENCE

- Attendance at all sessions
- Conference reference binder
- Two lunches
- Two receptions
- Coffee breaks

Registration fee £725, €1,095

DISCOUNTS

A discount of £75; €100 is given for the second and subsequent registrants from the same company for the same course or conference when registered as a group. For each additional course or conference we offer a registrant a £75; €100 discount. You are only eligible for one discount per person.

BOOKING POLICY

Cancellations will receive a 100% refund if made 72 hours prior to the start of the conference. Substitutions may be made at any time.

HOW TO REGISTER

- 1 Fill in the form below (copy it first if you wish to register more than one person)
- 2 Fax it to: Christine Reed at IMI Europe, Cambridge, UK - Fax: +44 1223 235901
- 3 We will check availability and fax you back confirmation of your requirements and an invoice with details of how, when and where to pay. If you prefer, register on-line via our web site - <http://www.imieurope.com>

I wish to pay in the following currency: UK £ Euro €

Hotel reservations and charges are the responsibility of each conference registrant - For details see page 2
Special rates are available up to October 13th 2003

REGISTRATION FORM

Conferences or Course required - indicate below

- INK JET ACADEMY £ 725 € 1,095
- 11th ANNUAL EUROPEAN INK JET PRINTING CONFERENCE £ 725 € 1,095
- 1st EUROPEAN UV INK JET CONFERENCE £ 725 € 1,095
- Discount for multiple courses or registrants £ 75 € 100

NOVEMBER					
SUN 9	MON 10	TUES 11	WEDS 12	THURS 13	FRI 14
INK JET ACADEMY					
	INK JET CONFERENCE				
			UV CONFERENCE		

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