

Towards Deinkable Inkjet – Little by Little

Conferences at CTP and IMI Show More Awareness of Recyclability



IMI Europe Audience at the IMI Conference in Lisbon
Axel Fischer of INGEDE

Photos: Mike Willis/IMI Europe

Deinkability and the need for prints to achieve this goal got more attention than ever at IMI's annual European Inkjet Printing Conference early November in Lisbon. The week had already started with a more focused audience at a two-day meeting on Deinking of Digital Prints at Centre du Papier in Grenoble. There the experts from printer manufacturers such as those engaged in the Digital Print Deinking Alliance (DPDA, consisting of HP, Kodak, Océ and Ricoh) had gathered with competitors as well as suppliers and scientists from research institutes. The key issues were the interactions of ink and paper – and how to successfully remove inks from all digital printing processes, be it dry or liquid toner, water based inkjet or solid ink.

Promising results from prototype inks tested in a cooperation between UPM and HP were then presented by Heike Ehrlich and Minedys Macías. They saw a “significant improvement in filtrate darkening” that “may be explained by impact of surfactant used in ink formulation on foam properties”. Plans are now to extend the studies to additional paper grades and

to look further into the ink surfactant impact

as well as deinking process optimization. Dennis Voss of PMV showed results of PMV tests with changes in the collector and foaming chemistry by adding “special surfactants”. For these, he found slight decreases in luminosity and flotation yield but a slight increase in ink elimination and less dirt particles.

Though most of the improvements have been achieved with special pigments, dye-based inkjet is still the most prominent process in the field: David Hatfield of Kodak estimated a share of about 70:30 versus pigmented ink. And dye-based inkjet printed newspapers keep their position at the lower end of the deinkability scores: Actual samples of a German tabloid collected in Cyprus failed the deinkability test in terms of brightness, colour shade and ink elimination. Axel Fischer of INGEDE also presented

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CALENDAR OF EVENTS

28 – 29 Nov 2011

INGEDE Working Group
“Recovered Paper Management”
Ortmann, Germany

1 Dec 2011

Centro di Qualità Carta
Workshop: “Recyclability of packaging & products made of cellulose”
Lucca, Italy

13 Dec 2011

INGEDE Project meeting 132 10
“Deinkability of recovered paper depending on water circuit quality”
Ortmann, Germany

8 Feb 2012

INGEDE Symposium
Munich, Germany

9 Feb 2012

INGEDE Communication Platform
Munich, Germany

9 Feb 2012

INGEDE General Assembly
Munich, Germany

14 - 16 March 2012

IMPS - 21st International Munich Paper Symposium

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results of a new approach: Resin based pigmented inks of a small Austrian company that had been used mainly on other substrates than paper showed promising deinkability properties in a first test even with much higher coverage than the current INGEDE test form.

Waterless inkjet is the option that Jeffrey Folkins described at the IMI conference in Lisbon. Also known as “solid ink”, the polymeric resin is hard at room temperatures and melts within the print head without water or solvent having to evaporate. Originally developed for better image quality, the ink properties also match the requirements for good deinkability. By staying as a coherent particle on top of the paper rather than bleeding into the

lumen of the fibres, these inks can easily be removed in the recycling process and do not depend on special papers. ‘The same is true for water based resin inks developed by Sepiax and introduced by Franz Aigner in Lisbon: Depending on the substrate used, which can be highly absorbent such as paper napkins and packaging or with hydrophobic surfaces such as polystyrene boxes or PU films, these inks can be formulated in different ways either for recyclability/deinkability or for durability/permanence.

Science at CTP, marketing in Lisbon: Just as HP’s representatives in Grenoble, but a little more “optimistic”, Stephen Goddard of HP presented “INGEDE Method 11 results from independent test labs

and paper companies”. He claimed good deinkability scores “on over 15 papers with current HP ink” with six samples scoring “over 90” – and pointing at “competitors” having “just one paper tested” (not mentioning the fact that dry toner prints usually are good deinkable independent from the paper used). At least in Europe, where INGEDE has not seen a single deinkable inkjet print by HP in the field yet, it is not as easy as the HP speaker tried to put it in his conclusion: “It’s simple: place HP inkjet prints in normal recycling collection bins”. If this collection would go into board, this makes sense – for graphic paper it is currently still undesirable, but progress is on its way.

Axel Fischer

Doxnet in Vienna: No Eco-label for Water-based Inkjet or Liquid Toner Sustainable Prints in Austria Must Be Deinkable



Prof. Dr. Sobotka

Differing views about sustainable printing in Vienna, home of the

first eco-label for printed products: Together with the Austrian printer Dataform, “Doxnet” had invited for a day of presentations in Vienna. Doxnet is an association of professionals in document management, its current chairman is Peter Dehm of T-Systems DDM GmbH, a data and print service center in Weingarten (Germany). About 65 participants came for the meeting to Vienna, where Thomas Haas of Ricoh InfoPrint Solutions presented the colorful world of his company’s high-speed water-based inkjet, a world that does not include deinkability yet. Prof. Dr. Werner Sobotka, among others CEO of the VFG, president of the Vienna Photographic Society and former Dean of the College for Telecommunication and Media in Austria, contrasted this by an overview about ecological aspects of digital printing processes and printing systems. He described the history of the

Austrian eco-label for printed products and gave an overview of different digital printing technologies.

Being a consultant for the Austrian eco-label and certification of printers, he clearly stated that Austria will continue being a leader in promoting environmentally friendly print products. The Austrian eco-label is currently only available for toner-based digital printers, not for inkjet. According to Prof. Sobotka, a specification for inkjet prints is about to be developed, which will reflect the recent developments demonstrating that also inkjet prints can be deinkable (Fujifilm JetPress 720 with pre-coating, Xerox CiPress 500 with non-aqueous ink). The last presentation, an introduction to Xerox’ solid ink technology by Gerhard Jarosch, matched these criteria: Jarosch referred to deinkability and recy-

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clability criteria, quoting tests that INGEDE had performed in cooperation with Xerox.

The second day of the Doxnet meeting, a visit to Dataform, a major Austrian form printer and mail service provider, with a demonstration of several lines of printing and processing concluded the meeting.

Axel Fischer

Audience at Doxnet

New commitment:

European Declaration on Paper Recycling 2011 - 2015

On the occasion of the European Paper Week and in the frame of the CEPI Open Seminar “New Quality Paradigm for Recycling” Ulrich Höke, Chairman of INGEDE, presented the new version of the European Declaration on Paper Recycling, valid from 2011 to 2015.

Since 1991 the European paper value chain achieved a continuous improvement in the recycling rate, developed score cards and a “Guide to Optimum Recyclability of Recovered Paper”. In order to continue this successful path, the paper value chains addressed some requirements to policy makers. These “enabling conditions are the key novelties in the Declaration:

1. Renewable Energy Policy

Support schemes for the use of renewable energy sources must not lead to the burning of the paper.

2. Collection of Paper

The provisions of the Waste Directive with respect to separate collection must be implemented and enforced throughout Europe

3. Trade of Paper for Recycling

The increase in the collection of paper must be higher than the increase in the net trade of paper for recycling

4. Recyclability

Conflicting policies and legislation preventing paper products from being recycled should be reviewed.

Download on :<http://www.paperforrecycling.eu/publications/erpc-publications>

Andreas Faul, Marion Klabunde

Comieco Workshop “Recyclability of packaging & products made of cellulose”

On 1st December 2011 the Centro Qualità Carta together with Comieco organizes a workshop in Lucca on “Recyclability of packaging & products made of cellulose”. Graziano Elegir the INGEDE representative for Italy will hold a presentation on “Recyclability of Printed Products”.

Advance Notice:

INGEDE Working Groups “Recovered Paper Quality” and “DIP Quality Management” will meet in April 2012 in Perlen.

Perlen Papier in Switzerland is so kind to host both of the groups. The Recovered Paper Quality group will meet from 17 to 18 April and the DIP Quality Management group will meet from 18 - 19 April 2012.

On 18 April, the groups will have a mill tour together. One of the highlights of the mill tour will be the new recovered paper treatment facilities and the new PM 7 with a yearly production of 360 000 to of recovered paper.



Recovered Paper Treatment Facilities „Alpa“ in Perlen