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On May 9, 2004, I boarded a flight to Düsseldorf, Germany, to attend drupa with some of my colleagues. The following days proved to be a fabulous opportunity to network and learn about the greatest innovations in printing and, specifically, gravure. A portion of my trip was funded by the Gravure Education Foundation, to whom I express great appreciation.

An incredible array of today's graphic communication technology and visions for the future were showed at drupa 2004. There were approximately 350,000 visitors, down from 428,248 visitors at drupa 2000. The lower attendance is likely a reflection of the world economy and related to the pressures that the printing industry, worldwide, has faced due to the decline in the demand for printed products in some industry segments.

There were 1,862 exhibitors showing 161,415 different products broken down as follows:

- **Prepress and Premedia** – 292 companies showing 21,229 products
- **Printing** – 515 companies showing 69,579 products
- **Bookbinding, Print Finishing** – 248 companies showing 28,669 products
- **Paper Converting, Package Production** – 294 companies showing 23,276 products
- **Materials** – 204 companies showing 6,565 products
- **Paper, Pasted Boards, Carton** – 61 companies showing 4,706 products
- **Printing Inks** – 48 companies showing 3,369 products
- **Services** – 194 companies showing 4,022 products

Exhibits where displayed in 17 large, city-size convention centers making up what is called the “Messe” in Düsseldorf, Germany. Some of the larger exhibitors were Heidelberg (two full halls), MAN Roland and Xerox. Medium-size exhibits were shown by Agfa, KBA, Bobst, Scitex, Kodak Polychrome Graphics, Muller-Martini and nearly all of the digital press manufacturers such as HP, Screen, Oce and others.

Despite spending five full days at drupa, I was unable to see every exhibit, or even every exhibit hall. This is a reflection of the magnitude of the event. As part of our travel group, I also participated in early morning breakfast briefings each day conducted by Creo, Agfa, Heidelberg and Frank Romano.

One observation of particular interest was that this was the first “filmless” drupa — virtually no film products were shown. Wide-format inkjet and digital photography were everywhere. And this is the first major show where multiple new digital cylinder preparation processes were available. In this article, I have included some of my observations on the companies that I visited at drupa. This is not intended to be a comprehensive review of gravure companies at drupa, but rather a journal of my adventures. There were many more gravure companies exhibiting, but I simply could not visit them all due to the enormity of the show.
Aabach Graphic Systems
Aabach, best known for their DIGRA front-end systems, was showing electromechanical engraving machines to compete with Max Daetwyler Corp. (MDC) and Hell Gravure Systems. They displayed their DIGRA Ekon, a small, low-priced packaging engraver. It features manual loading and unloading and is targeted at the high-growth Chinese market.

Bobst/Rotomec/Schiavi
Bobst Group had a large booth and showed a broad range of equipment including die cutters and presses. Bobst Champlain has incorporated many automation features into their Lemanic board presses, which were previously available only in their flexible packaging presses. These include automatic trolley systems and shaftless designs. Rotomec and Schiavi also displayed presses focusing on fast changeovers. The theme at Bobst was short-run gravure.

Chardon Tool
Chardon Tool Vice President Michael Hunter was displaying his engraving tools in the Daetwyler booth. Chardon Tool will be providing diamond tooling to Cal Poly.

Creo/Acigraf
Creo and Acigraf have teamed up to develop a new engraving system called “Exactus” that is based on Creo’s SquareSpot technology. This intriguing technology involves laser-imaging a resist on a prepped cylinder. The image-area is then reverse-electroplated to create the recessed cells. The result is a quickly imaged cylinder using a digital, non-impact workflow. One characteristic of the Acigraf technology is that you no longer have variable depth cells. This may reduce the competitive advantage gravure possesses of printing a near continuous-tone image.

Esko-Graphics
I visited the Esko-Graphics booth and saw a demonstration of their PackEdge and ColorTone software packages. These high-end software applications are commonly used for prepress in flexible packaging, folding cartons and label printing. Trapping, warping of images, mixing new colors from other colors, color correction by region and many other advanced features were demonstrated.

Flint Ink
I made a quick stop at Flint Ink where they were showing their latest ink systems for commercial, packaging and publications. Flint also had a variety of partner and subsidiary businesses in their booth, including Precisia, which specializes in conductive ink systems such as RFID applications.

GAA/ERA
I stopped by the GAA booth a couple of times during my visit. The GAA and ERA joined forces at drupa to reduce costs. The booth seemed busy the majority of times I passed by.
George Bounelis

George Bounelis, National Geographic Society, and I met to discuss Cal Poly’s Gravure Day, scheduled for November 10, 2004. George will be our keynote speaker and will be joined by Chris Young of Quad/Graphics, Martinsburg.

Hell Gravure Systems

Hell had a very nice display. It was great seeing some renewed energy coming from the Hell/K. Walter/Bauer group. They were displaying their impressive K-6 engraver as well as their Xtreme Engraving technology, HQH Packaging software, Compact engraver, K-500 packaging engraver and the HelioCom X RIP software. I spoke for quite some time with Claus Zack and Ulrich Busche. Claus gave me a detailed overview of all of their products including their plating lines.

International Circles of Educational Institutions

I partially participated in the conference of the International Circle of Educational Institutes for Graphic Arts Technology and Management, which was comprised of graphic arts educators from 20 nations. As part of this, Harvey Levenson and I met with John Stephens, dean of the London College of Communication, and two other professors from European universities about a program between the European Commission and the US State Department for transatlantic joint projects. There may be funding available to bring together students and faculty advisors from Europe and the US to work on specified research projects. A project would be defined for students to work on together at a participating university with a process for reporting and publishing results. Proposals are due by January 2005. John Stephens and Harvey Levenson will be exploring this opportunity in greater depth in the months ahead.

Max Daetwyler Corporation

Daetwyler was showing a variety of products including their Vision 3 engraving system integrated in the Gravostar HS. They also had a Digilas on display. Hubert Metzger was discussing his DisCoP technology in the Daetwyler booth.
MDC’s Digilas laser-engraving system uses a resist system to image a prepped cylinder. The cylinder is then acid etched, similar to the Think Laboratory system. While efficient, it doesn’t take advantage of the variable cell depth of modern electromechanical and laser engravers of MDC.

I met with Peter Daetwyler, president of the Max Daetwyler Corporation USA Engraving Systems. Peter, in combination with Southern Graphics Systems, will be donating a completely rebuilt Ohio 710 engraving system to replace Cal Poly’s obsolete HelioKlischograph. This system includes the engraving machine itself as well as their Collage software package for setting screen angles, step and repeat and calibration. There will be a small monetary commitment from Cal Poly over three years to help offset the costs associated with freight, installation and training.

**RR Donnelley**

Cal Poly Graphic Communications alumnus Ray Hartman was part of our Print America travel group. Ray is Senior Vice President, Equipment, Technology and Engineering of RR Donnelley and was at drupa to purchase approximately $25 million in equipment for Donnelley plants. It was great to catch up with Ray and discuss Donnelley’s equipment needs. This gave me an interesting perspective from the buying side of drupa.

**Sinapse**

Mike Blum and I met with Sinapse consultant John Anderson. Mike met on a separate occasion with President Peter Herman. We discussed the opportunity to secure a Sinapse Gravure Press Simulator from them at Cal Poly.

**Sun Chemical Corp.**

I briefly visited the Sun Chemical booth where they were displaying their current line of ink systems for different markets.

**Think**

Think Laboratory was displaying their LaserStream-FX. Similar in concept to MDC’s Digilas, Think uses a resist with acid etching. As stated previously, one downfall of this technology is the lack of variable cell depth, equalizing gravure quality with offset or flexo. Think was also displaying their cylinder handling system.

**Uteco**

I briefly dropped by the Uteco booth. They had some large flexo equipment as well as some gravure. They were promoting their “real quick” job changeover. They offered shaftless press designs and improved drying capabilities.

**Xitron**

Cal Poly Department Head Harvey Levenson met separately with Jim Thrush, President of Xitron, a RIP manufacturer who works closely with Daetwyler engraving systems. Xitron will be providing a Harlequin-based RIP to support the Ohio engraving system.
Conclusion

This year's drupa was a fantastic experience and I am very grateful for GEF's support. It was a terrific opportunity to network with many gravure leaders and learn about up-and-coming technologies.

What does this mean for the classroom? As an educator, it is my responsibility to provide my students a multitude of skills and values. These include good writing and analytical skills, creative and critical thinking, taking ownership of their work, continuously improving and knowing current technologies and predicting industry trends. As you can imagine, staying current on technologies and predicting trends is extremely difficult — especially for educators. Having attended drupa, I feel better prepared to bring technology trends to the classroom. I can speak to the latest and greatest in gravure developments. I have photographs and can convey to my students the demeanor of the industry — how the people are feeling, the mood of the industry.

So despite the forty-six hours of travel time, small hotels and a lot jet lag, I am grateful for the experience and appreciate GEF's support. I am better prepared today to educate the next generations of leaders in the printing, publishing and converting industries.

Malcolm G. Keif is an Assistant Professor in the Graphic Communication Department at Cal Poly State University, San Luis Obispo, California. His current teaching responsibilities include courses in gravure, web offset and flexographic printing technologies, postpress technologies, as well as coursework in quality systems. Cal Poly is one of the leading graphic arts universities in the US.

Malcolm has written several articles for selected publications. His most recent work includes active involvement with two Gravure Process and Technology textbook chapters. In 2003, Malcolm published a book titled “Designer’s Postpress Companion”, a much-needed binding, finishing, and mailing book targeted at the graphic design community.