



# Are you RFID-ready?

*Do you remember when the information specialists were in their Ivory Tower? Or when computers occupied a huge space? This situation well represents what has actually happened with RFID technology, that many know but only a few have mastered.*

FRANÇOIS BAYZELON

A lot of industry' sectors are becoming more pre-occupied with the traceability of the products they manufacture, from the beginning to the final use. These companies must be able to detect some parts or products automatically, at the same time they collect all types of information such as the product's location, sources, destination etc. RFID tags allow this situation to be remedied and to overcome many problems such as theft or counterfeit.

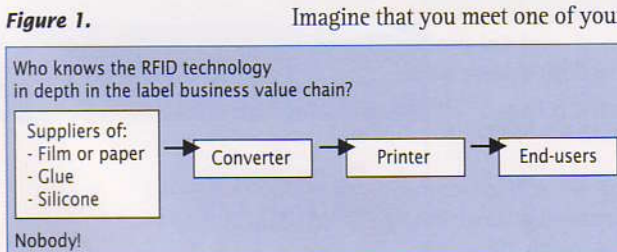
## Printer's role and limit

1. Do you know which RFID technology can fulfil the end-user's needs?
2. Can you identify the customers that might need this technology?
3. Can you identify the critical production phases in a printed RFID label?
4. Can you technically integrate and inspect the production RFID label?
5. Can you support the customer RFID management system?
6. Can you manage stock and analyse the RFID collected data?

This is probably the reason why you don't sell any RFID chips. Don't worry, you probably are not the only one who has not demystified this whole thing.

## First situation

Imagine that you meet one of your



customer and he needs a new label. He has some special requests. While he is talking to you about this new label, you have quite a good idea on how you will make the label, on which machine you will produce it, the problems you may encounter with the so called label, etc.

## Second situation

Imagine that on the same day, a customer requests a RFID label that will perform at 5 meters distance in a silver plant for collecting real time data on stock? You're getting into trouble! It is the same thing as if I would ask my grandma to trade stock on *ebay*. You are over-passed by technology! (figure 1).

## RFID rhymes with technology

Remember, RFID is not a tag or a label, it is a technology! The printer's job is not to know and advise on technology. It is not even to integrate technology into its products.

Technology never implicates the knowledge of one single person or company. It is a puzzle were you need to know and assemble each piece. The IT companies have been doing all kinds of strategic partnerships and alliances for many years. They are aware that they can not be specialists in all sectors of their business, as a printer cannot be a specialist in RFID technologies.

## Alliance with an RFID specialist

*Quelis* and *ETI Converting Equipment* have all the technical resources to allow the manufacturing of RFID labels and to technically and technologically support the printer and the end user (figure 2).

This will allow mass accessibility to a technology that is still not standardized. Moreover, the cus-

tomers will be able to directly consult the RFID suppliers to determine which transponder is suitable for his applications.

## What about the technical/ technological integration?

From now on, it will be possible to integrate RFID technology into pressure-sensitive labels. The process consists of the insertion of RFID transponders into the labels produced with *ETI's Labeline* and *Cohesio* machines. This project has been made possible with the partnership of *Quelis ID*, a Canadian leader in the RFID manufacture. Moreover, on June 16, 2005, a Doors Open day took place at *ETI Converting Equipment's* plants in Boucherville/CND, to present the RFID label products and the new patented *Labeline*.

This partnership has revolutionised the labelling world. Currently, there are no printers able to satisfy the needs of their end-users concerning the traceability of their products. Of course, the printers know about the technology, but they do not have all the expertise to identify the type of RFID transponders to use or to determine the exploitation systems which is going to offer the best performance. Even if they would have this technical knowledge, there would still be a huge issue concerning the integration the RFID antennas in the pressure sensitive labels. At this point, *ETI Converting Equipment* intervenes: it is possible to produce RFID labels on *Cohesio* and *Labeline* machines.

«*ETI's* manufacturing lines are actually the best adapted to integrate RFID transponders into labels» according to *CHRISTIAN BUSSIÈRES* and *DANIEL DUSSAULT*, respectively Founder and CEO of *Quelis ID*, located in Mirabel, Quebec/CND.

## A process for manufacturing labels and RFID labels

Considering the process of manufacturing any kind of label with *ETI* equipment, the facestock is printed before the creation of the pressure-

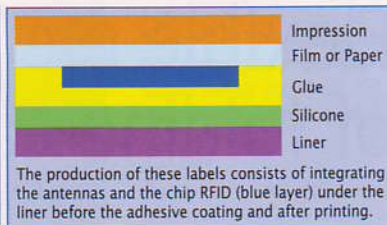
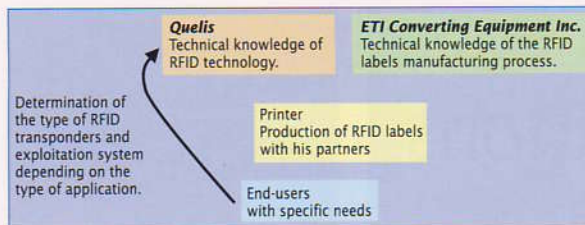
FRANÇOIS BAYZELON is President, *ETI Inc Converting Equipment*, Boucherville, Quebec/CND

sensitive labels (including printing, siliconising, adhesive coating and lamination). *ETI* has popularized its manufacturing lines by praising their cost savings advantages (30–70% savings on the raw materials purchase costs).

»When we saw the machines and studied the whole process, we immediately understood that the risk of damaging the transponder during the label printing process would dramatically decrease on *ETI* machines« added Mr DUSSAULT. »We have already made tests on a few traditional labels printing lines in Europe, but the rejection rate was too high. We think that we have now found the solution!«

The RFID technology allows identification and individual authentication of a product and also the recording of much data during its production. The result is that all the logistics surrounding the traceability of a product is simplified. Logistics are also improved by better stock management and order preparation, lower waste and a big gain in productivity (figure 3).

Compared to other technologies



such as bar coding, the RFID antennas offer lots of advantages: they use a unique serial number, they are robust and they can collect real time data with high reliability. Theft is countered because the chip can be read at distances up to one meter even if the tags are covered by dust or paint or if they are in another container. But, the major advantage with is that objects cannot be counterfeited because the chip is destroyed when the label is taken off the container.

RFID technology can be used at different frequencies. RFID antennas can even be read on wet or metal surfaces.

**Targeted sectors**

This technology, with its high in-

vestment cost, covers particular fields. The needs have already been identified in the pharmaceutical sector, electronics, auto parts, logistic, luggage identification, luxury products (such as cloths or perfumes), tools and furniture markets. The reasons are always the same, counterfeit and security.

According to FRANÇOIS BAYZELON, *ETI* President, this strategic association is a first, as nobody before had regrouped RFID manufacturing and label technology. With this association, the two companies propose a turnkey solution for printers. They concreted what many others cannot do.

Figure 2 (left), Figure 3 (right).



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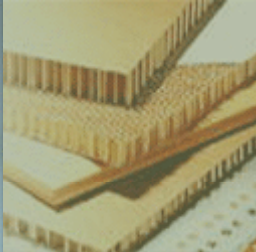
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Following the approval of its patent in 2005 (Method and Apparatus for Manufacturing Pressure Sensitive Adhesive Label Stocks with printing under adhesive and product produced thereby, United States Patent Number 6,852,181 B2), ETI Converting Equipment forecasts a huge success at Labelexpo Brussels 2005.

The Labeline and Cohesio technology is increasing in popularity thanks to the great savings and process improvement it provides to the label printers. ETI process allows the label manufacturer to print the face stock, one and/or both sides, coat the silicone and the adhesive and finalize the label. One of the benefits of ETI technology is to save 30% to 70% on raw materials as well as the opportunity to supply unique products to reply on specific demands.

Discover the most profitable way to entirely manufacture labels and visit ETI Converting at Labelexpo Europe 2005, Booth 11P30, Hall 11.

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Additional info:

\* For further information regarding Labelexpo Europe please go to <http://www.labelexpo-europe.com>

\* For further information about ETI Converting please go to: <http://www.eticonverting.com>

- \* Labelexpo Europe 2005 is supported by FINAT.
- \* The Encyclopedia of Labels & Label Technology, written by Mike Fairley, will be available at Labelexpo Europe 2005.
- \* Labelexpo Europe 2003 attracted over 20,000 visitors
- \* Photography of Labelexpo Europe 2003 is available upon request.
- \* Interviews with Roger Pellow, Labelexpo Managing Director, are available on request.
- \* Further Exhibition dates:
  - Labelexpo Europe 2005, 21-24 September, Brussels Expo, Belgium
  - Labelexpo Asia 2005, 7-9 December, Shanghai New International Expo Centre, China
  - Packaging Services Expo 2006/ Packaging Containers & Materials Expo 2006, 16-18 May, Donald E Stephens Convention Centre, Chicago
  - Labelexpo Americas 2006, 11-14 September, Donald E Stephens Convention Centre, Chicago
- \* Further Conference dates:
  - Smart Labels 2005, 27-30 June, Baltimore, USA
  - Label Summit India 2006, 21-22 February, Grand Hyatt, Mumbai
  - Label Summit Japan 2006, 25-26 April, Tokyo
  - The Packaging Summit Conference 2006, 16-18 May, Donald E Stephens Convention Centre, Chicago
  - Label Summit Latin America 2006, 23-24 May, Mexico City
  - Packaging Services Summit Europe 2006, 12-13 June, Amsterdam
  - Smart Label Summit Americas 2006, 26-29 June, Miami
  - Label Summit Asia 2006, 10-11 October, Intercontinental Hotel, Bangkok, Thailand
- \* Labelexpo is organised by Tarsus Group plc, the international media group with interests in exhibitions, conferences, publishing and the Internet. For further information on Tarsus and Labelexpo please see <http://www.tarsus-group.com>

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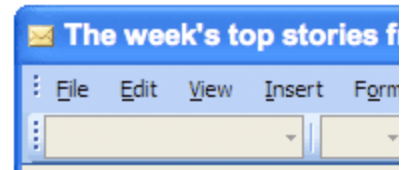
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News Story from: **Labelexpo**

Edited by the Packtalk Editorial Team on **25 August 2005**

## New Process Prints Labels Under The Adhesive

**ETI Converting Equipment is to use Labelexpo Europe 2005 to present its patented Labeline and Cohesio technology for printing under the adhesive on pressure-sensitive label stock.**

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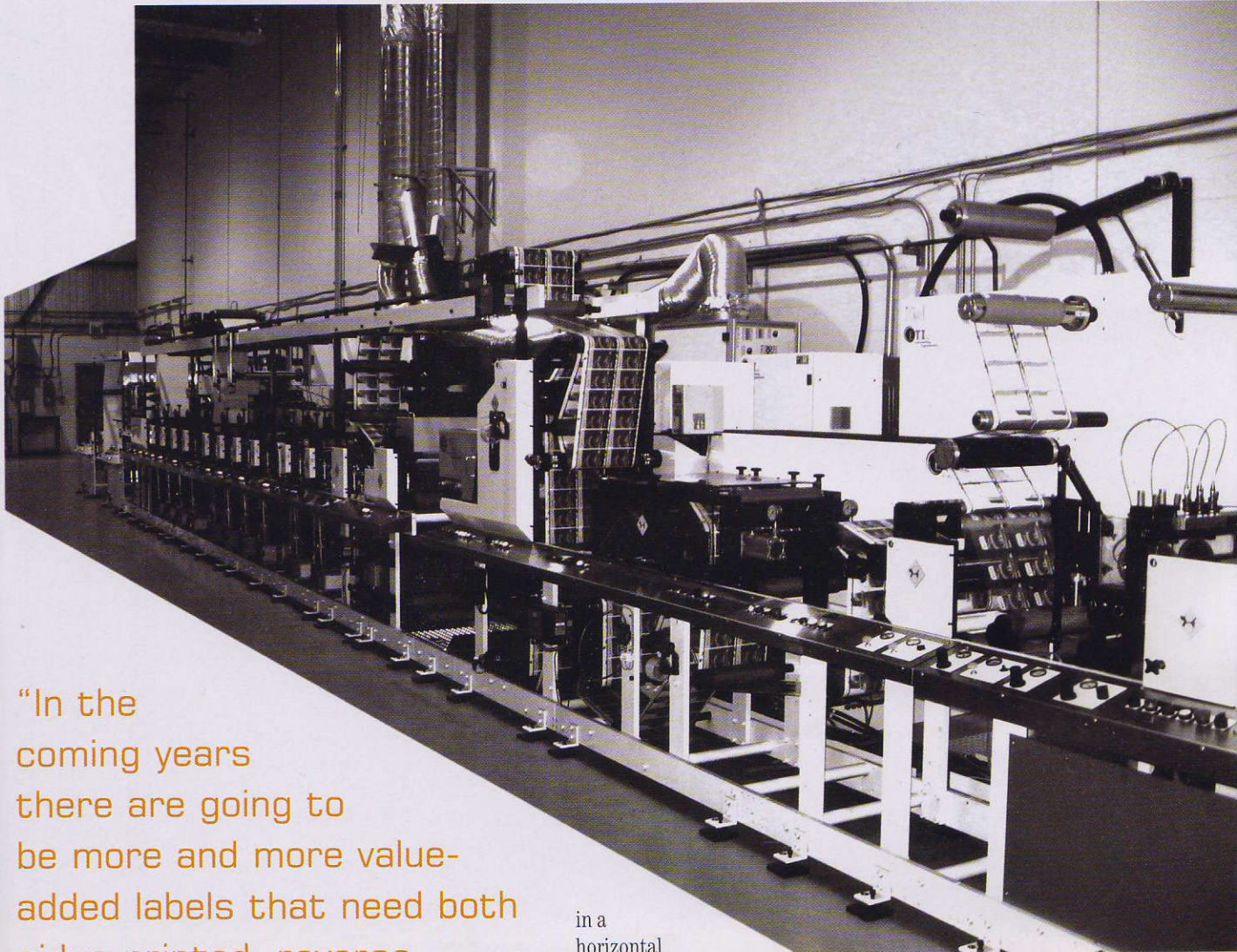
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Discover the one of the most profitable ways to manufacture labels by visiting ETI Converting at Labelexpo Europe 2005, Booth 11P30, Hall 11.

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“In the coming years there are going to be more and more value-added labels that need both sides printed, reverse printing or chip insertion. Half of these specialized labels will be made this way over the next five years”

and publicly introduce the Labeline Solution. The demonstration in Boucherville featured a 10-color press with 4-color process printing on the first four stations. There are two unwinds on the press – one for the BOPP substrate and another for the PET liner. The BOPP web is initially cleaned and then both films are Corona treated. The substrate is then process printed on the first side, reversed with a turnbar and printed on the other side. The turnbar has been especially designed to cater to the printed film before it has been laminated to a carrier, which ensures that it doesn't scratch the image on the film. The facestock is coated with adhesive and the release liner then gets coated with silicone and cured, and is laminated to the facestock. The labels are then die-cut

in a horizontal die-cut, re-registered and rewound. The press also has a slitting station.

*ETI Labeline converting system*

The modular design of the press means that you can slot in hot foil, cold foil, die cut or even gravure units. These stations – as well as the turnbar – are on rails so that you are able to change their inline positioning around. In the particular press configuration that L&L was shown, six of the units were running UV, with IR drying for water-based inks on the rest. Tension is critical on this press since it must handle unsupported film into its transition to a pressure-sensitive construction. The tension control is able to handle printing on substrates from 12 micron up to 300gsm board. The press uses a back-to-back vision inspection system from BST Promark and also has a matrix waste removal system that slows down the web and maintains registration. It does not need to stop the machine, so you don't waste time and materials.

The press can also be used to convert single-sided reverse-printed pressure-sensitive labels in house. Again, the converter can reverse print on one side of the unsupported film and coat with adhesive to create a pressure-sensitive label, which when applied, protects the graphics. Bayzelon showed examples of

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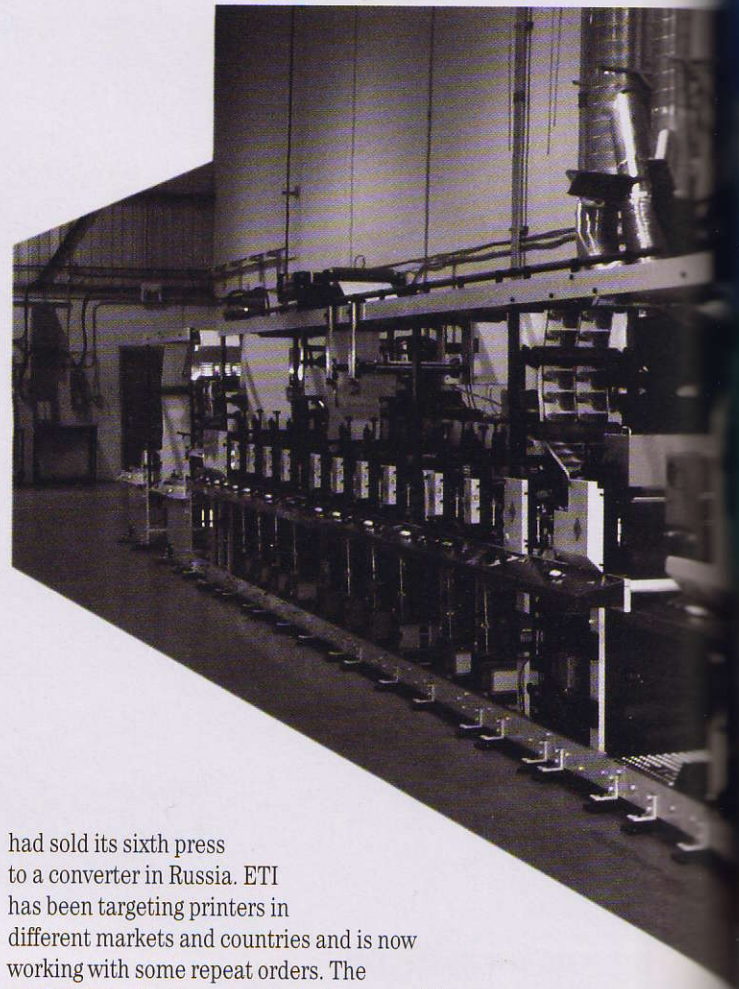
beer and spirit labels that have been printed this way – protecting the label graphics in this way also protects the integrity of the package and the value of the brand.

But that’s not the only benefit for brand owners. Bayzelon says that converters will make significant savings from converting their own PS labelstock, which they can pass on to their customers. Labeline can also be used for linerless labels, ‘The manufacturers in the machine label market all do the same thing,’ says Bayzelon. ‘They make a press that is tailored to the pressure-sensitive material manufacturers’ product catalogues. We decided to make labels a more intelligent way, but it’s difficult to change the market paradigm.’

Leveille points out other advantages: ‘Using a screen ink for traditional double-sided labels is very expensive. We just reverse the film and it looks the same, but it is more than 50 per cent cheaper. This method is also much more logical than other alternatives such as printing on the adhesive and using deadening agents.’

Using a PP labelstock is cheaper than a paper alternative and also means that it can be recycled. Leveille also believes that being able to control adhesive and silicone coating is of further benefit to the converter, even though it is unfamiliar territory. ‘If your customer has a problem with adhesion or application, you can resolve it on the same day. If you are relying on your labelstock suppliers to come up with a solution, then you could be waiting for several weeks. Labeline labels are already proven and being used on high-speed application lines of around 1,000 per minute.’

On the day that L&L visited the ETI facility, the company



had sold its sixth press to a converter in Russia. ETI has been targeting printers in different markets and countries and is now working with some repeat orders. The configuration has been particularly successful in Europe, a mature market where competition is high, margins are declining and there are great pressures on converters.

‘There are two ways of differentiating yourself as a converter,’ says Leveille. ‘Either you can be different on price or you can be different because of innovation. With this machine, you get a mixture of both.’

‘Labeline has unlimited potential,’ adds Bayzelon. ‘It is a new way to work with labels. In five years, if you are not printing labels like this, you won’t be able to make money anymore.’ ■

#### Future developments

ETI is also offering an RFID insertion unit for use on its Cohesio and Labeline machines. The prototype uses placement technology for inlays similar to that used for booklet labels, and the company has already made a sale to a converter in Canada. The RFID tags are dispensed on to the web after the adhesive is added. ETI has teamed up with RFID tag manufacturer Quelis, who will act as a consultant for converters who wish to enter this market.