



# visie



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## Chinese sage

表面贴装技术设备与服务, 电子制造服务, 测试与测量设备及服务, 电子元器件, 印刷电路板, 防静电产品。

*Ages ago in beautiful China of old it was discussed what would be more useful: the rabbit's speed or the tortoise's intellect. In order to find out, rabbit Koh-Ne-In and tortoise Shi-Pat decided to run a race.*

*They decided upon a starting point and a finish line, they fixed a date; people were invited and obviously an umpire was to be present in order to have it all recorded fairly. On the day of The Pink Blossom Koh-Ne-In and Shi-Pat had their go, but as everybody had expected Koh-Ne-In headed of immediately to the finish line and Shi-Pat was way beyond. The onlookers cheered for the rabbit and he felt as proud as a peacock. The tortoise magnanimously shook paws and congratulated him. Shi-Pat, though asked him for a return and*

*said that Koh-Ne-In was allowed to pick the course.*

*The rabbit bowed reverently to the onlookers and accepted the challenge and so it happened that on the day of The Gleaming Dewdrop a new race was held. Koh-Ne-In had plotted the course, the onlookers were there and the umpire gave the green light. Sadly, for Shi-Pat this time, again Koh-Ne-In was fastest and he congratulated him again with his head high for his victory. And again, the tortoise asked for a return. Amused the rabbit agreed and this time the tortoise was allowed to pick the course.*

*Between the blossoming trees, bamboo bushes and bonsai trees Shi-Pat carefully picks a course and on the other side of the river he sets the finish line. The third*

*starts and Koh-Ne-In takes the lead, but he cannot swim... By the time Koh-Ne-In has found a ford Shi-Pat already has swum across the river and has arrived at the finish line. The cheering of the onlookers is very big as Shi-Pat crawls across the finish line!*

*After Koh-Ne-In had congratulated the tortoise with his victory, they consulted whether they would hold another race. And the Chinese myth tells us that they would cooperate in future and the tortoise and the rabbit agreed that in the case of a land course Shi-Pat would sit on Koh-Ne-In's back and in case of a water course Koh-Ne-In would travel on Shi-Pat's back.*

*That is ultimate cooperation, isn't it? We will have to learn from the Chinese!*

Ton Plooy

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# tbp grand café: the magnet at HET Instrument 2008



*HET Instrument 2008 has been a successful happening for tbp electronics*

*Although there were slightly less visitors than*

*at the previous fair according to the organisation, we did not notice it at our stand.*

*We suspect that our Grand Café formula was the reason why business relations almost constantly were visiting our stand. And of course, one of the accelerometer's components was available at our stand. Frans Geerts, a good acquaintance of many a client, looks back with pleasure on a fine result: "We have been able to make new contacts. By creating a congenial atmosphere, in which we thought*

*of the inner human being as well, we have been able to listen well to what visitors want. This has led in a number of cases to a continuation with as a result an extension of our clientele".*

Some visitors were put on the wrong track while they were walking past our stand. They thought that they were visiting a pub and ordered a drink unsuspectingly. It was not until they wanted to foot the bill, they noticed that they were at the fair's tbp-stand!

This led sometimes to some hilarious moments, but in a number of cases it turned out the visitors were interested in tbp's activities. Frans on this:

"It sometimes is surprising, that's a fact. Although those visitors had no intention to visit us, it appeared that there were potential clients among them. Otherwise, we had missed those for sure. So you see what the creation of the right atmosphere can do."

The announcement to our clientele that a happy hour would be organised has lured many a man/woman to our stand. Over, among other things, live music, everybody was able to share his/her thoughts in an informal way.

Our clientele let us know that they appreciated this reception for sure.

Shortly we will be at the Electronica fair in Munich, and we will use the same formula of our Grand Café. There we have great expectations as well. Obviously, you are very welcome there indeed! We are providing free of charge entrance via [www.tbpeu.com](http://www.tbpeu.com) (under 'latest news, entrance free of charge Electronica 2008').



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# talking about fairs

*Gladly we offer you an outline  
Of future fairs that may be of interest  
to you:*



**Electronics & Automation** 27-29 mei 2009, Jaarbeurs Utrecht  
Almost obviously ttp electronics will be there again.  
([www.eabeurs.nl](http://www.eabeurs.nl))

**PTA Progressive Technologies in Automation**  
2-4/12/2008, Yekaterinburg, Russia ([www.nepconchina.com](http://www.nepconchina.com))

**Aimex** (Industrial Automation, Instrumentation & Measurement Exhibition)  
4-7/03/2009, COEX World Trade Centre, Seoul, Korea  
([www.aimex.co.kr/2009/eng](http://www.aimex.co.kr/2009/eng))

**Electronica & Productronica China**  
17-19 /03/2009, Shanghai New International Expo Centre SNIEC  
([www.global-electronics.net](http://www.global-electronics.net))

**PTA Progressive Technologies in Automation**  
18-20/03/2009, Krasnoyarsk, Russia ([www.pta-expo.ru/en](http://www.pta-expo.ru/en))

**Automaticon** 31/03-03/04 2009, Warschau, Poland  
([www.automaticon.pl/english](http://www.automaticon.pl/english))

**Interop Las Vegas** 17-22/05/2009, Mandalay Bay Convention Centre,  
Las Vegas, USA ([www.interop.com/lasvegas](http://www.interop.com/lasvegas))

**electronicAmericas** 1-5/06/2009, São Paulo, Brazil  
([www.electronicamericas.net](http://www.electronicamericas.net))

**CTT Moscow 2009, 10<sup>th</sup> International Exhibition of Construction Equip-  
ment and Technologies** 2-6 juni 2009, Moskou, Russia  
([www.ctt-moscow.com](http://www.ctt-moscow.com))

**Interop Tokyo 2009, the leading business technology event**  
10 t/m 12 juni 2009, Tokyo, Japan ([www.interop.jp/english](http://www.interop.jp/english))



**4<sup>th</sup> International Exhibition for Logistics, Telematics and  
Transportation** 8-10/06/2010, Shanghai New International Expo Centre, China  
([www.transportlogistic-china.com](http://www.transportlogistic-china.com))

## The Mesago is organising various events

(see [www.mesago.de](http://www.mesago.de)):

**SPS/IPC/DRIVES 2008** 25-27/11/2008, Nürnberg, Germany  
Electric automation - systems & components.

**Smart Systems Integration 2009** 10-11/03/2009, Brussels, Belgium  
European conference & fair on integration and small systems -  
MEMS, MOEMS, IC's and electronic components.

**EMV 2009** 10-12/03/2009, Stuttgart, Germany  
international trade fair with workshops on electromagnetic  
tolerance.

**Product Life live 2009** 17-18/03/2009, Bochum, Germany  
Application conference on PDM and PLM.

**SMT/Hybrid/Packaging 2009** 5-7/05/2009, Nürnberg, Germany  
System integration in microelectronics. International trade fair  
& conference

**PCIM Europe 2009** 12-14/05/2009, Nürnberg, Germany  
**PCIM China 2009** 2-4/06/2009, Shanghai, China  
International trade fair and conference on power-electronics  
and drive techniques.

## Nepcon (Reed Exhibitions) is organising events at various locations

(see [www.nepcon.co.uk](http://www.nepcon.co.uk)):

**Bohai Electronics Week (BEW)** 10-12/11/2008, Tianjin, China  
([www.nepconchina.com](http://www.nepconchina.com))

**38th Internecon Japan** 28-30/01/2009, Tokyo, Japan  
([www.nepcon.jp/english](http://www.nepcon.jp/english))

**Componex Nepcon India 2009** 24-26/02, Pragai Maidan, New Delhi,  
India ([www.componex-nepcon.com](http://www.componex-nepcon.com))

**SMT/PCB & Nepcon Korea** 8-10/04/2009, COEX, Seoul, Korea  
([www.nepcon.jp/english](http://www.nepcon.jp/english))

**Nepcon Microelectronics China 2009** 21-24/04/2009, Shanghai, China  
([www.nepconchina.com](http://www.nepconchina.com))

**Nepcon Malaysia 2009** 15-17/06/2009, Penang, Maleisië  
([www.nepcon.com.my](http://www.nepcon.com.my))

**Nepcon Thailand 2009** 25-28/06/2009, Bangkok, Thailand  
([www.nepconthailand.com](http://www.nepconthailand.com))

**Nepcon Microelectronics South China 2009**  
26-29/08/2009, Shenzhen, China ([www.nepcon.jp/english](http://www.nepcon.jp/english))

# electronica 2008

Munich Tuesday 11 - Friday 14 November 2008

*Are you visiting the electronica fair in Munich too? Then tbp electronics invites you gladly to be our guest at stand B1.111, our Grand Café. It promises to become yet again a convivial meeting place, where we will welcome our relations hospitably.*

*Take some time for a good conversation or simply catching up. And we will not forget the inner man/woman.*

## A formidable international fair

It is the 23rd time already that this fair is being held and the third time that tbp electronics has its own stand on this gigantic fair. This biennial fair attracts a lot of international public and pays attention to electronics in the broadest sense of the word. You can find semiconductors, passive components, electromagnetic components, solutions for system periphery, servo technique, everything about printed boards, sensor technique, power supplies, electronics- design (ED/EDA), software, electronics in cars (automotive), wireless communication, micro/nano-electronics and a lot more. As the organisation describes it: "the complete spectrum of all areas in all of its variety, breadth and depth, showing components, systems, applications and technologies in their relevant contexts reflects the great innovative power of electronics."

In addition to the fair, a great number of conferences are held, as are practice related forums and podium discussions. It is "the place to be" for the specialised public.

It is the meeting place for decision-makers and people of the trade, to take notice of what some 3.000 exhibitors have on offer. The fair being high on the score-lists appears from the number of visitors. In 2006 over 77.000 (trades)people walked past the entrances.

## to stand B1.111

It was in 2004 that tbp electronics ventured into the lion's den and tried to attract the attention of German companies with a stand of its own. The idea is clear: By one's presence people get interested and that could yield a profit in the long run. Although it is difficult to get involved in the establishment in a country such as Germany, we will try to go for it and we will show them what we are made of. It is at the business of perfection (tbp) that "Gründlichkeit" is our golden rule. Many of you obviously know this already. That stands atmosphere is comparable with that of the stand at the fair of HET Instrument. A grand bar with draught beer, a hint of nostalgia, but surely with innovative solutions in favour of the client.

## Entrance ticket

Don't you have an entrance ticket? Quickly send an e-mail to [info@tbp.nl](mailto:info@tbp.nl). State with how many persons you think you are visiting and how many days. You receive the registration numbers you need in order to send for entrance tickets at the website [www.tbp.eu](http://www.tbp.eu). At the site [www.electronica.de](http://www.electronica.de) you may find all information on this fair. Oh, please do not forget to put on your sensible walking shoes, as hall B1 on its own contains 11.426 m<sup>2</sup> of fair floor!



# cleanroom

## the ultimate clean room

Some appliances have to operate in an environment that needs to be exceptionally clean. One can think, for instance, of a machine that produces integrated circuits (chips). The trace widths of the circuits that are applied in nano-electronics on these chips are in the order of about one hundred thousandth of a millimetre (e.g. 45 nm).. Many dust particles in the free atmosphere are considerably larger than the circuits on the chip itself. This means that a dust particle during production may make a chip completely useless. Dust is enemy number one and determines for the greater part the output of production. These machines are working in a dustproof environment for good reason.



### in Dirksland, and in Geel as well

On the premises of tbp electronics in Dirksland there is a clean room in which circuit boards are being produced for e.g. a producer of chip production machines. In this mini plant of about 170 m<sup>2</sup> are sitting a series of machines for assembling printed boards such as a pick and place machine, an X-ray inspection- machine and a silkscreen printing table. In this production line circuit boards are being assembled. When all components are placed, then all boards are guided to the soldering line, where the actual soldering process is taking place completely conditioned. Our employees try to avoid as much as possible direct contact with the boards.

Depending on arrangements with the client the boards may be cleaned between times. After each soldering round for instance the boards may be cleaned in the clean room with a spray in air washing machine (by Miele, a sort of luxury dishwasher). Then a last cleaning takes place. Some products even get washed four times or (in our Belgian premises in Geel) treated with a "spray under immersion" washing machine by MBtech. After the last washing round pre-packaging happens in the clean room. The packaging in cardboard boxes happens at the regular place and after that, the product can leave the plant heading for the client.

It goes without saying that our employees and the materials used have to meet extra

stringent requirements. Colleagues working in the clean room may only enter this room via an air lock. Employees are wearing special gloves in order to avoid possible pollution. It is compulsory for everyone to wear clean room-clothes that meet the stringent requirements. Hair and shoes need to be covered with a fluff-free net or cap. Entering goods as well have to meet stringent requirements. The bare boards for instance are meeting special specifications, concerning packaging as well. All measures are aimed at keeping all kinds of pollution outside the clean room. The rules that apply at Dirksland, apply as well at the clean room in Geel..



## the cleanest room

A clean room is the general indication of a room in which all sorts of pollution such as dust particles, micro-organisms and chemical fumes are only permitted to a certain level. The international organisation for standardisation ISO has made a classification according to the degree of permitted pollution. An ISO 9 clean room corresponds to the average air quality around you: the normal home or office environment. You don't see the dust, but a cubic metre of air contains on average about 35 million particles of half a micro-metre or larger! Sometimes, at a certain incidence of light one can see dust particles flutter. And those are only the big ones. The smaller ones you cannot see with the naked eye.



### conditioned

In order to reach this high degree of air purity a complete air treatment unit is sitting on the roof, composed of air filters and ventilators. This engine room is almost as big as the production room itself. The so-called Hepa-filters are catching the tiniest of air particles, guaranteeing that the clean room meets FED STD 209E class 100.000. This corresponds to ISO 8 standard ISO 146440-1. This means that the number of dust particles larger than 0,5  $\mu$ m, is reduced to about 1/10 with respect to ISO 9.

By a slight increase of air pressure in the clean room, "normal" air is prevented from entering, in case an open connection with the surroundings arises.

In that case air quality within the clean room is guaranteed as well.

Per hour the air is being refreshed 24 times. Not only dust particles are removed, but air humidity as well is being checked continuously.

In order to prevent damage to semiconductors by electrostatic discharges (ESD), the air is ionised electrically.

The clean room will play an increasingly important role in the near future now that the technology is putting increasingly stringent requirements on the production environment.

Anyway, tbp electronics is ready for it.



# Catching up in Geel



*Second time in row tbp electronics organised a successful informative meeting for both its clients and its suppliers. This time it happened in the premises in Belgian Geel. The aim was to discuss developments in the branch of trade with both groups and to promote mutual contacts. On 21 October the meeting was aimed at the suppliers, on 22 October the clients gathered. Speakers from within the company gave a presentation from various points of view such as vision, finance, production, quality and logistics.*

## growth

After the introduction by Ton Plooy (CEO) Anton Hermus (COO branch Geel) took up on the statements he had introduced and defended last year during the customer & supplier days in Dirksland. The forecasts appear to agree still. We see a shift from production of circuit boards from low-cost- countries back to Europe. This tendency is favourable for the continuity of tbp, that in view of its dimensions may be reckoned to be one of the largest players in the Benelux. Transport costs, oil price, the political climate, environmental aspects and the like are boosting this shift. Indeed, the consequences of the banking crisis will not remain unnoticed; nevertheless, expectations are that productivity will still increase.

Our policy will be a controlled growth with a selective number of clients. Tbp will manifest itself as the EMS-company (Electronics Manufacturing Services) "near the client" with attention to the complete "value chain": from design and prototyping to production, tests, logistics and ultimately service (repair or modification). To realise this a good cooperation is necessary between the partners involved. Openness in matters and discussions in order to reach an optimum result, are the keys to this success.

As a total tbp looks financially sound with motivated employees who are working constantly on further optimisation.

The object may be clear: tbp wants to offer the client just that bit more and in doing so stand out.

## quality

One of the pillars that support tbp is the sense of quality in its broadest sense. All employees are involved in it. Frequently sessions take place in which is considered in how far improvements may be realised with the greatest ease. This large scale approach is a constant part of its operational management and its in-company name is TOIS

(Tbp's Operation Improvement System). The entire production process constantly has all attention. After all, a good preparation leads to the best result. This requires an optimisation process in which all procedures, in the branch in Dirksland as well, are geared to one another. The success of this approach appears for instance, things from the fact that the, otherwise minor, number of complaints, has decreased since last year with 30%.

## logistics

In this, as well apparent improvements have occurred since last year. Not only the announcement of Aprolog (see page 12) and the integration of Ceva (see visie 25) lead to improvement of the logistics trajectory, our partners as well have contributed to it! The implementation of Isah in Geel, which has been realised in a record time of 64 days, has made the entire "supply chain" clear on all fronts, causing many improvements to be realised. Our suppliers did their share perceptibly.

## recurrence?

The meetings were not only useful, but pleasant as well, they were concluded with a beautiful buffet and a wine tasting of Chilean wines. Quite often we heard the question: "Again next year?"





# the watchful eye is using data-acquisition systems by Eonic

*Eonic is a company that supplies computer systems in the field of "signal intelligence". Experts talk about sigint, comint, elint and fisint\*. These techniques are mostly applied in the world of security and defence. It is all about data-acquisition systems that file information from all sorts of sources, such as radar, and make it suitable for further analysis. It is focussed on the particular fast digitalisation of the signals while a good signal quality (snr, sfdr\*\*) remains. The production of systems in which such digitalisation with fast data processing and data filing is combined, has become the specialism with which the company has since acquired world fame. Clients are using the data produced for further analysis, mostly intelligence actions. Often it consists of the monitoring of communication in war zones. There communication signals are collected from for instance walkie-talkie, GSM or (military) radio. Specialists unravel these signals further and are able to distillate among other things activities of dubious groups. Most buyers of these computer systems are based in Europe and the USA and are active in the field of MISS (Military Intelligence and Security Services). Examples are the Bundeswehr (Germany) and the US Navy. Eonic finds itself clearly in a niche market: small, but worldwide.*



*Wout Winkel, COO of Eonic, inspects visually the status of one of the circuit boards used.*

## **fables**

By far most of the give or take 20 employees at the Delft company are developers. All products are being developed in-company. The company is fables: everything is produced elsewhere. Eonic has looked for suitable partners for it and found them. For instance Elma builds the cabinets, for firmware-blocks it cooperates with English software houses etcetera. They have approached tbp electronics for circuit boards on which, despite their exceptional characteristics COTS-components (Commercial off-the-shelf) are being applied. Wout Winkel, COO of Eonic, on this: "End 2006, the time was ripe



*A data-acquisition system for fast signals by Eonic.*

to look for a good partner for serial production of circuit boards. From the pre-selection of possible partners tbp electronics emerged as one of three possible candidates. We were not yet ready, process-wise, for a direct transition. Procedures were not yet geared to one another, especially since we had to bring new developments into production on very short notice. Now we have had the time to tune in the processes internally well, the time is ripe to go to tbp. Quality in the processes has been the most important consideration for it." The first contacts went very smoothly and that means that we now leave the writing of testing programs for the boards to tbp. Wout on this: "Tbp appears to have sufficient knowledge to be able to do this. Half a word sometimes is enough. They are speaking the right language. We think that's great. We can leave these activities safely to their specialists."

## **various types**

We mean to leave all circuit boards of the various products with tbp. Each year we make about 20 to 25 systems. In one system there are about between 5 and 10 circuit boards. It is striking that despite the high-grade characteristics of the boards (one can say: top of the bill) as much as possible COTS-components are being ap-

plied. Basically, there are six basic devices with digitisers in various classes: 100 MHz, 200 MHz and 2,2 GHz. In addition, devices are being supplied according to the specification of the client. These devices are supplied under private label and next to Eonic there can be another name on the system as a whole. That is because of the fact that computer systems are mostly part of a greater system, in which the OEM (Original Equipment Manufacturer) puts its own name on it. That doesn't bother Eonic: they have supplied a unique product.

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**eonic**  
digitally mastering the spectrum  
www.eonic.com  
| www.eonic.com

\* sigint = Signal INTElligence  
comint = COMMunications INTElligence

elint = ELectronics INTElligence  
fisint = Foreign Instrumentation Signals INTElligence

\*\* snr = Signal to Noise Ratio  
sfdr = Spurious-Free Dynamic Range

# the use and abuse of e-mail

Ever since ancient times man has been looking for methods to improve mutual communication over distances. The use of tom tom and stage coach since is way beyond us and nowadays we can make use of numerous communication means such as (mobile) phone, fax, SMS, chat-channels, e-mail and the like. Each medium has found its place in society "automatically" and according to circumstances we decide again and again which we will use. Electronic mail has only existed for a few decades, but it has become by far the most popular transporting medium of non-verbal information. Its popularity is so big that no-one knows exactly how much e-mail is being sent per day. It is estimated by renowned research institutions that there are about 1,2 billion users of e-mail active worldwide, of which 780 million professional. In 2006, about 183 billion e-mail messages were processed daily, which is rather in sharp contrast with the processing of "only" 17 million postal items in the Netherlands by TNT Post. These need some 40.000 bearers, by the way. The very little cost that e-mail takes, its high speed and its flexibility are undoubtedly the biggest motives.

With one mouse-click, your message is delivered at the addressee, where-ever on the world. No courier can match that. There are some drawbacks as well, of course.

It takes some typing and you sometimes have to wait patiently for an answer. In addition, you are bothered by unwanted mes-

sages (spam) and the risk of viruses, worms and the like.

Curiously, more spam is being transported than normal e-mail

## forcing

Why do we find e-mail so convenient? In the first place because of its freedom to send a message or to read it at a time which suits us. You can include all sorts of attachments. Some users apply it for very impertinent things; they put the recipient before a "fait accompli". Did you hear about that, or even worse: have you been a victim of such a thing? We were. Such a dialogue avoiding e-mail stating "I would like to receive the ordered goods a week earlier than agreed."

Whether or not ending with the final number "Thanks in the mean time." The recipient is being forced into actions with which he does not make friends. Actions with sometimes far-reaching consequences such as total disruption of the production process. All inspired by the wish to maintain a good relationship with his/her client.

Such a mouse-click, surely, is not intended to play havoc? Shall we all agree now on this spot that we won't ever do this again?

## Legally valid

Some people wonder sometimes: "Is an e-mail legally valid?" As a lawyer would answer: "Yes, but it depends on the circumstances..." Just like an oral agreement is an agreement that is made via e-mail, is binding. The judge is the one to decide in disputes and he has to be convinced which party is right. As much evidence as possible needs to be at hand. In an oral agreement this can be a witness for instance, in an e-mail a print of all the messages. The fact that fraud can be lurking, makes the case more complicated.

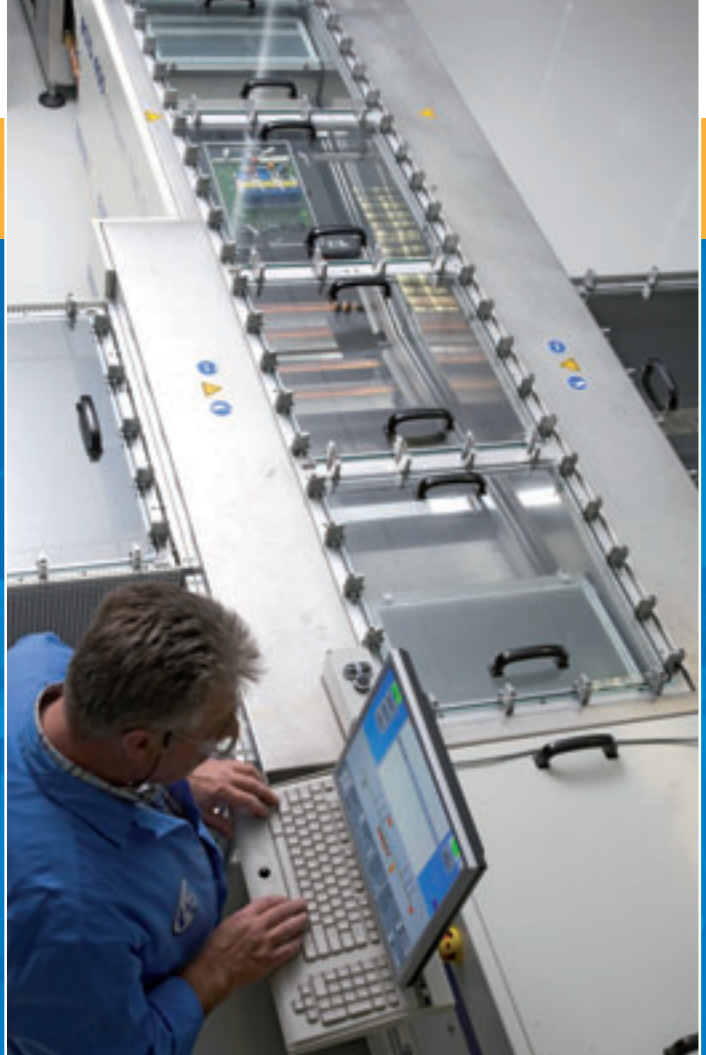
## paperless?

Finally: have you noticed that many of your colleagues (not you of course) print out many mails on paper? Who at the time mentioned the paperless office? In the past year, an unprecedented amount of paper had been used! And it wasn't only used for printing. Printer manufacturers and cartridge suppliers are making overtime. The advantage that e-mail would make paper almost redundant, obviously is a wrong assumption. We are going to do something about it here and now: less printing. That makes a difference for the trees. Digitally saving is possible as well, isn't it? And if we rather have a copy in our hands: quality is something we feel very strong about, but in such cases a draft print will do.



# new soldering line optimises tbp's pro- duction process

*The increasing demand from the market for more products that have to be realised on short notice has led to the purchase of a new soldering line. The choice has been made for the CIG Compact DuplexTMS by the well-known Swiss producer EPM. Since the summer of 2008 this machine has been soldering in top gear. This flow soldering machine is special by the fact that it can handle both leaded and lead-free soldering processes.*



Detail in which both soldering baths are visible

## flexible soldering process

This production line is soldering all conventional and bonded SMT-components on a circuit board. The pre-assembled circuit boards are mounted with all components on a so-called carrier for this purpose and guided automatically through the machine. During this progression, the actual soldering process takes place: liquid tin with a fluxer smelts and assures after cooling down an excellent mechanical bond. Another speciality of this production line is that it contains a separately placed doubly executed fluxer and two soldering baths. One bath contains the leaded soldering tin (Sn 63 - Pb 37) for clients with dispensation and the other the lead-free SAC305 (Sn 96,5 Ag 3 Cu 0,5). The machine recognises by a barcode that is attached to the carrier with circuit boards the required soldering process. The information the barcode contains determines the production process and guides the circuit board along the proper combination of fluxer and soldering bath. The shift of the bath goes semi-automatically.

The barcode determines which bath will be used, but the operator orders the shift. This prevents unnecessary shift cycles. On short notice, the operator can shift baths, if necessary (between 4 and 12 minutes; depending whether the machine is empty or not). The machine will block a carrier with a barcode having a wrong combination of circuit board/bath/fluxer. A lead free product is stopped at a leaded bath and the other way around of course. The odds of making errors are zero due to the use of barcodes.

## Soldering cleanly

After the carrier has passed the fluxer, the carrier rolls into the machine via various locks. These locks prevent the nitrogen that is in the machine from escaping. Once past the locks, the carrier enters the machine itself. Here the first pre-warming takes place and the activation of the flux (with infrared light) so that later the solder, together with the flux can make reliable bonds. The carrier is guided subsequently over the solder bath, in which the molten solder sits.

The circuit boards in the carrier are moved over the tin flow (the solder) and this way the metal to be soldered bonds. Both baths are kept on their own proper temperature.

The nitrogen mentioned earlier (inert protective gas) makes that the oven stays in prime condition (no oxygen) and prevents that the solder oxidises.

The carrier with the circuit boards leaves the machine again via a system of locks, cools down and returns for further processing.

The great advantage of the shifter is that the various processes can intertwine basically. This offers gain of time and with it, the question from the market is answered. An advantage for all parties!



## Jos Corstjens in the spotlight

Just before this Visie went to press we heard the news that Jos Corstjens, manager NPI, CS&Q, SHE, Engineering\* in the Geel branch, will be nominated Business Excellence/Quality manager 2008 of Flanders. He gets this prestigious award because of his extraordinary achievements during a number of transformation processes within our Geel branch. This meant that all business processes had to be described and transformed from the Alcatel-organisation to tpb electronics. This Award has been generated from an initiative of the Flemish Centre for Quality Service

This institution judges annually numerous questions that mostly are submitted by relations of the candidates. The three best candidates are allowed to show their achievements before a skilled audience in the form of an exam. Jos scored best in it and this means that he will receive the Award during the Quality party on 28 November in Antwerp.

In the next Visie we will elaborate on this happy fact.

\* manager New Product Introduction, Customer Satisfaction & Quality, Safety Health Environment, Engineering

## Aprolog puts production and distribution under one

The demand for more we hear increasingly from our clients. In particular, it is about performance of the trajectory that fits into the current activities: the entire logistics from the electronics' design via the production floor to the end user. In order to meet this need of the client, tpb electronics has looked for the right partner that can fulfil this need. Together with Nova Natie ([www.nova.be](http://www.nova.be)), an internationally well-known player in the field of logistics, we have combined forces in a new company: Aprolog. Aprolog, standing for Association PROduction LOGistics, is going to execute this entire trajectory from the supplier (tpb electronics and other suppliers) to the (end)user, where-ever in the world. Aprolog unites the two worlds of industrial electronics and logistics! Tpb electronics offers its clients more added value by manifesting itself as a "one stop shop".

### logistiek

Nova Natie offers a so-called full logistics service, popularly translated with "transport from door to door", and is established in the ports of Antwerp, Rotterdam, Amsterdam and Zeebrugge. The company has a worldwide network of independent partners at its disposal and attends to (almost obviously) added matters such as storage and customs matters. In addition to transport, 'custom-made' repackaging of goods takes place, which can only ameliorate the efficiency of the goods stream. Aprolog will help companies to simplify the entire distribution process and to execute it more efficiently, which will lessen the total costs for those companies. Due to this far-reaching specialisation and the knowledge of the trade ways abroad, clients can profit of the extension of the clientele. Companies do not have to go deeply into the logistics process and can concentrate more on their core

activities. Aprolog and tpb "de-provide" as it were by an integrated offer of services.

### An example

To make clear what Aprolog may mean to a client we give an example. Suppose a producer sells an electronic device on the international market. There are contracts with four countries, each good for a take up of an average of 500 per month. The products are identical, only the accessories such as brochures, manual and cord switches are specifically aimed at a specific country. In the conventional situation, the producer will have to keep 4 x 500 pieces in the right packaging in his storeroom in order to be able to deliver in time.

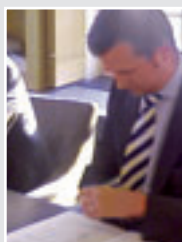
In the new situation a buffer stock is in a strategic place, where shipments are being composed and transported on demand to the buyer. This buffer stock can be significantly lower than the total of 2,000 pieces, which renders a saving in costs.

### Brand names

Producers of electronics deliver sometimes products as OEM (Original Equipment Manufacturer) for machines that are being assembled by other parties and that are being sold under a certain brand name. This composition that is, qua design, often dependent on the country in which the product is being sold, may be assembled centrally and with the proper accessories shipped as the end product. This is the perfect solution for companies that have no production facilities of their own.



Firstly, the fulfilling of formalities



Next, a toast and immediately plans are made for new challenges