

## column



### forced into the lead-free corner

At the moment the electronics market is riddled with RoHS-legislation. You cannot open a magazine without reading an article on this subject. It seemed that everything had been said already, didn't it? But nothing of the kind. The transition period from leaded to lead-free is where it mainly rubs. Especially during the so-called mixed production, in which both types of components are to be crumpled by one process - the companies that have been exempted initially as well - as the transition to lead-free is determined eventually by the components producers. The first question asked is: "what about the eventual reliability of the joint?" In most cases the question "what demands did it had to meet in the leaded



30 January 2006 - Henny de Graaff and Layla Plooy, Ton's and Ineke's daughters, together sink the festive pile

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## everything under one roof

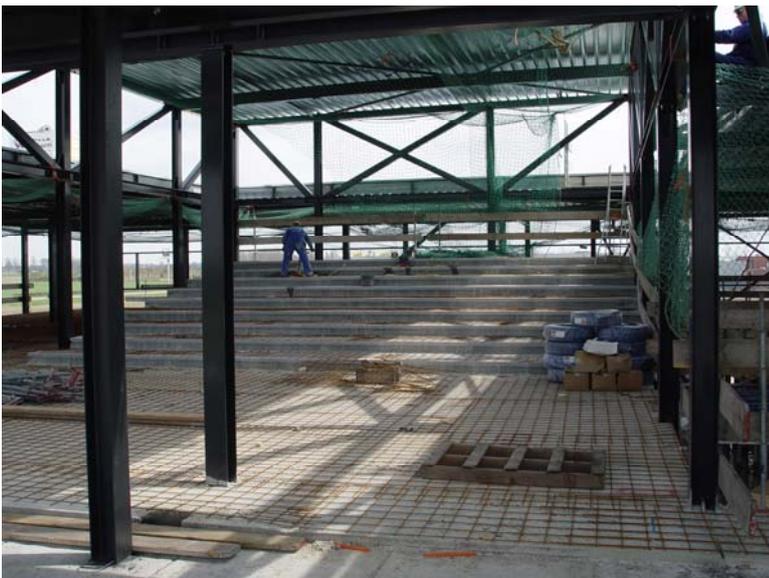
### *logistics as an architectural principle*

tbp's new industrial premises include state of the art facilities and conveniences. With it the company steps into a - to the branch - new era of mounting. In the design by Kees Vis the logistics process of electronics mounting has been taken into account. Thanks to the new opportunities the building offers, tbp once again proves to have innovation and use of state of the art technologies as its company strategy.

As these photos show the building of tbp's new premises is progressing steadily and it will be ready in time. Despite the very wet month of May that brought about considerable delays the contractor is working with might and main to complete the building fully functioning on schedule. In August (during our summer closure) we will start the removal so as to bother our clients as little as possible. The removal will take place in stages, as obviously it is impossible to set up a completely functioning company in three weeks time.

#### **thought of everything**

The building at the industrial estate of the Watertoren II in Dirksland is a state of the art assembly plant provided with cleanroom facilities for high-quality production. Moreover, the building has an auditorium with sophisticated multimedia facilities, with seats for over 100 people for seminars, conferences, meetings, courses and trainings. Thought of everything. Not only the departments of the Vroonweg will get a place in the new building, but the employees working in the annex at the Watertoren will be working there as well. "This will benefit efficiency more", says Kees Vis, who made the original design and who is managing the project together with construction engineer Paul Blok of Blok Bouwconsultancy.



the spacious auditorium with state of the art multimedia facilities

#### **purpose-made design for our branch of trade**

In addition to the production halls with light spot tables, mounting robots, testing facilities and soldering machines, special offices will be equipped offering space to purchase and sales employees, planners, the management and administrative and logistics departments. The entire building is equipped, from the design phase on, with IT-infrastructure and cabling, enabling all servers and departmental computers to be connected perfectly. All this is realised using a backbone of fibre optics cable. Moreover, the premises are designed based on the most recent infrastructure and they meet the most recent ESD-standards. A new feature is the cleanroom, enabling tbp to meet further-reaching client's desires and demands concerning mounting functionality. "The building is equipped with a special climate control which enables heating but cooling as well", Paul Blok explains. "The advantage of a new building that you can build from the foundation, is that you can equip it with all functions that fits your specific branch of trade. This is happening in this building."

### enjoyable working environment

The building is modular, offering opportunities for a possible future extension. All statutory rules for company premises have been met as well. The new tbp-building has a modern appearance, in which the rural environment has been taken into account. "Much glass and glass-like materials have been incorporated in the building, making all working places light and open", tells Kees Vis. "Both in the inner rooms and in the outer rooms we have taken into account enjoyable working conditions. Although we apply many sophisticated machines, in a company such as ours people are obviously still an important factor that shouldn't be underestimated. We have kept in mind the proper health and safety rules in the design and equipment." One of the general demands in the construction of a new building is that 10% of the premises have to be reserved for a pond enabling the drainage of excess water. "Both this pond and the building's colour scheme inside as well as outside, make that the building fits in beautifully in its surroundings", says Paul Blok.

### combination of knowledge

The tbp building, measuring 140 meters by 45 meters and having at some places a first floor, is in fact a sophisticated system in itself. The building is a paragon of looking forward with its secured separate room for network servers and its technical room for climate control, its auditorium shaped as an amphitheatre, integrated network infrastructure and partitioning of the shop floor following the logistic process of electronics mounting logically. "Having someone with knowledge of the electronics branch of trade cooperating with a construction engineer," says Kees Vis, "and adding the conceptualisation of Studio Architecture and the knowledge and skill of Aan de Stegge West and of subcontractors, then you get a company building that exactly meets what is necessary and essential in this specific branch of trade. And I am convinced that we are realising it for the mounting branch of trade here."

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## official opening new building

Can it be anything else? On Friday 13 October 2006 the new tbp electronics' building will be officially occupied. On that day there will be a party beneath the Watertoren! Our open days (usually in April/May) have been shifted for this purpose towards Saturday 14 October, following on the official opening.

The official occupation is on a Friday of course and on the 13<sup>th</sup> day of the month, of course we maintain that tradition. The removal will take place earlier - during tbp's summer closure in August - enabling you to tour a completely tidy and 'up and running' company.

The organization committee for the festive opening and the open day is fully working to compose an excellent program for you.



## the present state of lead-free at tbp (sequel to lead-free is nearing- visie 21)

In the last visie (21) Ton van Galen explained what the status of lead-free soldering is at tbp. Meanwhile the realization of the lead-free plan has been finished, this makes that the complete production process and soldering process can happen without lead.

tbp electronics has adapted its logistic process, so each part has a separate code indicating whether the part is leaded, lead-free or RoHS\*-compliant. For that purpose the whole stock of articles has been adjusted, making it obvious what the RoHS-status of the part in question is. This can be indicated even on a macro-level (the purchased components) in tbp's logistic system. 95 per cent of the articles database has been finished after a year's work. We confer with the client about whether redesigning is necessary for components that are not RoHS-compliant, or that he is exempted for the present leaded components.



Some time ago tbp purchased a new reflow-oven that is suitable for lead-free soldering. Ton van Galen of TvG Consultancy has defined a number of varying temperature profiles for this machine. tbp selected after some research the most suitable soldering pastes and alloys. In the case of the present flow-solder machine the purchase of an exchange cassette for lead-free soldering was sufficient. On the new tbp company premises both the old and new solder machines will be set up side by side. Our intention, obviously, is to produce all boards mounted by tbp electronics lead-free as from July 2006. Leaded soldering will only take place for clients that are exempted. We use a full nitrogen process for lead-free reflow soldering, as is the case for flow-soldering. tbp will keep offering the leaded process to 2009 at the very latest; as at that time leaded components are really out of the question in electronics. In the near-future tbp will carry out research into soldering with VOC-free fluxes, as legislation will restrict this as well.

\* RoHS: Restriction of use of certain Hazardous Substances

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## anniversaries

And again tbp may congratulate about three persons having an anniversary. We expect them to stay with us with much pleasure and for a long time. Elizabeth, Henry and Arie, congratulations!

### AN EMPLOYMENT OF 25 YEARS

Elizabeth Poorter Grinwis (Dirksland)

"Would you believe, I know Ton for a longer time than Ron (my husband)..."



**Arie Jongejan** (Dirksland)

It's just a question of keeping on breathing and working, then time passes automatically.



### AN EMPLOYMENT OF 12½ YEARS

Henry van Geemen (Den Bosch)

"These 12½ years are giving me the feeling of almost 3 years in Den Bosch."



## summer closure

As you are used from us, we will be keeping up our traditional summer closure in 2006 as well. Though this year we won't rest! Instead of on tropical places we will focus completely on the removal in order to subsequently occupy fresh-heartedly our ultramodern working space. tbp will be closed in weeks 30, 31 and 32: from Monday 24 July up to and including Friday 11 august.

Would you please send your orders and forecasts in time -due to our summer closure and move of our production departments - to Anita Veenstra, our (new) colleague in order processing?



Will you please keep in mind that we will have our seat at our new address after the summer closure: Vlakkodem 10, 3247 CP in Dirksland. Our PO box, telephone and fax numbers remain the same.

## trade fairs: 4U2B there

tbp electronics will be present at several of the most important trade fairs in the branch of trade, being HET Instrument in Utrecht and Electronica in Munich. You may register for HET Instrument via our website! Just one click on the button, it has never been easier!

### HET Instrument

This generally known trade fair will take place in the Jaarbeurs in Utrecht from Monday 30 October 2006 up to and including Friday 3 November 2006. The trade fair will be open daily from 9.30 to 17.30, except for Friday. Then the trade fair will be open until 16.00. You can find tbp electronics in the electronics cluster in stand number 8D018.

As of next month you can register for the trade fair via our website. We have a registration button ready for you. With one click on this button you can gain access to this important trade fair. You may ensure a place in the conference program, in order to remain up to date of the latest developments in your and our branch of trade. You can find more information on HET Instrument - and the fascinating conference program - on the Internet at: [www.hetinstrument.nl](http://www.hetinstrument.nl)

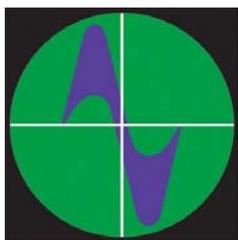


### Electronica

At this impressive German trade fair tbp electronics will be present as well. The trade fair will take place in the New Munich Trade Fair Centre, from Tuesday 14 November up to and including Friday 17 November 2006.

You can find tbp in **Hal B1** (PCBs and other circuit carriers and EMS), with stand number **B1.619**

As from July you can obtain free admission tickets for this trade fair (via our new website). More information on the trade fair Electronica in Munich: [www.electronica.de](http://www.electronica.de)



**electronica 2006**  
components | systems | applications



## supplier of the year 2005

tbp electronics received a prestigious award from Honeywell. Based on our quality, performance and process control we have been nominated worldwide as 'Supplier of the Year 2005'. Ray Cooke, General Manager Process Solutions at Honeywell, handed the trophy to managing director Ton Plooy and production manager Wim Schilders. Obviously we all are very proud that tbp has been elected 'supplier of the year'.

## cisko

Instead of sending promotional gifts or Christmas hampers tbp has donated money to various charities since several years. In 2005 we paid our Christmas mailing's budget to the account of the Stichting Hulphond Nederland (Foundation Assistance Dogs Netherlands). With the money Cisko has been sponsored, a Golden Retriever he-dog born on 27 October 2005. Thanks to our contribution Cisko will be trained to become an assistance dog. As tbp enabled the purchase of Cisko, we have become automatically a member of the puppy sponsor club of Stichting Hulphond Nederland ([www.hulphond.nl](http://www.hulphond.nl)).

We will keep you informed about Cisko's progress.

### earlier donations:

- in 2001 we were able to donate money to Calando thanks to your support of our 25th anniversary ([www.calando.nl](http://www.calando.nl))
- in 2002 chose to pay our Christmas mailing's budget to St. Vrienden van Sophia (Foundation Friends of Sophia) ([www.vriendensophia.nl](http://www.vriendensophia.nl)) and
- in 2003 the Stichting Vrienden van de Wegwijzer (Foundation Friends of the Guide) was very happy with our donation of a number of computers



## the MY500 - the first jet printer for the SMT branch of trade

Not only tbp electronics' company premises at the industrial estate the Watertoren are new. As the first company in Europe tbp electronics has put into use the MY500 jet printer.

As one of the important improvements and innovations of the machines tbp has put into use a Mydata MY500 paste jet printer in January 2006. The printing quality will be constantly of a higher level with this solder printer and the processing time during production will be considerably shorter. The use of this new machine involves as well that no stencils have to be purchased, which will yield an enormous reduction of costs per year. No stencils mean as well that prolonged cleaning during exchange of stencils is something of the past. Another way of saving in costs results from the fact that the processing time is considerably faster; there are no changeover times anymore.

Because of the fact that the MY500 does not need stencils anymore, it offers many advantages to a standard screen printer. By using a revolutionary new technology in the application of soldering paste, the

MY500 printer head hovers over the PCBs with 500 dots per second. Just like ordinary inkjet printers the MY500 comes in three parts: the printer itself, the printer cassette with cartridge and programming software.

#### MY500

- stencil free
- designed for fast changeover and maximum use
- high speed of 1.8 million dots per hour
- programming/adjusting times have become nil
- complete offline preparation
- lower paste consumption

#### instant control on solder paste volumes

The MY500 gives the user control over even the smallest amount of solder paste, so one can modify the area coverage and/or paste volumes per individual component, even during production.



#### hardly any changeover times

When changing from one PCB to another, the machine does not need to be cleaned and no minute modifications are necessary. By simply selecting a program on the touch screen you can quickly work on. The printer is able to handle a wide range of PCBs with sizes of 50 mm x 50 mm to 508 mm x 508 mm, with thicknesses of 0.4 mm - 7 mm and it can handle boards up to 5 kilograms.

#### faster than the eye can see

The MY500 gets its name from a jet speed of 500 dots per second. This amounts to 1.8 million dots per hour. This speed is reached thanks to the jet printing technology patented by Mydata.

#### further investments...

tbp made yet another number of important investments. In earlier numbers of our visie we talked about the Isah-system and QRS. Further news is that the currently used X-ray-machine will be replaced even this year. In addition we opted for the purchase of about three Mydata SMD Towers equipped with floating location. These towers are used for storage of components on reels and trays. A brand new lean manufacturing-based Mydata pick & place-line will be set up in the new building.

#### ... in quality

All these investments are meant to permanently position tbp as a leading producer in the mounting market. tbp electronics keeps focussing on the ultimate refinement of production processes and making them more efficient. The further optimisation of the quality registration system QRS/Q-Sight will certainly add to it. Therefore, Wout van Veen has come to reinforce the quality department on a full-time basis in addition to Kees Vis and Marja Klijn-Snijder.

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#### *another example of new investments*

## Mydata SMD Tower

After the pilot project in 2005 tbp decided to purchase the Mydata SMD Tower. The SMD-Tower offers a number of pros with respect to a paternoster. Storage and order picking are much faster and simpler thanks to the barcode-controlled storage of components. In order to find the right components, the user only has to enter the article number or to scan the barcode. Selection of wrong components or reels does not happen anymore. Moreover, it is possible to enter a complete bill of materials. The connected pc registers all operations and keeps track of the stock as well. Actually, manual order picking has been made redundant with this SMD-Tower. The next step is to connect the SMD-Tower with the pick & place-machines and the ERP-system at tbp in order to make the production process even faster. The use of the Mydata SMD-Tower fits in tbp's policy of 'lean and mean manufacturing'. Clients do not want to pay for production options they do not need for their order. That is why tbp invests in automation in order to be able to produce faster and better, but more cost-effective as well.

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## [www.tbp.nl](http://www.tbp.nl) is getting a new look

Web design company Comwave designed a whole new website for us with a completely new appearance. Firstly the website has become trilingual. Due to internationalisation of tbp electronics' clientele and the expansion to our neighbours in the east, the management has decided to serve German clients in their own language as well. Even better: our website is browser-controlled, so if a German browser is used you are redirected at once to our German site and likewise if you use an English browser.

### just a moment, please...

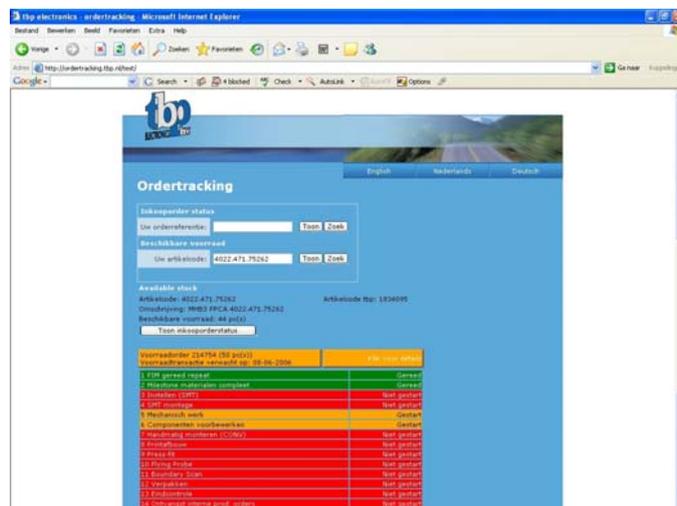
In addition tbp itself will manage the content with a so-called CMS-tool (content management system). News and announcements can now be published immediately. Shortly you will be able to follow the state of our new mounting plant on film, for instance. The site will be put into use this month, so watch [www.tbp.nl](http://www.tbp.nl)!

### brought up to date on the spot

A new feature too, but not available to visitors is the intranet on which the tbp employees register their working hours. And they inform this way when production processes are finished. This way the progress of the current production process at the tbp shop floor can be monitored on the spot within order tracking.

### order tracking more professional

To make this online application even more customer-friendly it is now also possible to call up all demand orders per product. In addition to progress within the production process you are now able to call up with



one click an overview on article level of your total order status. For your convenience, tbp has made a digital version of the manual of order tracking, so you can view or download it and you will never have to search for your paper copy ever again.

### more quickly and more efficiently

Thanks to this modernization you, as a client, will be able to see even more quickly and more efficiently all your orders. Moreover, this service is very suitable for our international clients who will be served in their own language. Many of you are using this information system gratefully. Would you like to login in future? Then contact Dana Wolters immediately after reading this visie ([dwolters@tbp.nl](mailto:dwolters@tbp.nl)).

## ISO 14001 certification

To meet the ISO 14001-certification tbp electronics went through a successful environmental audit. The certificate will be come effective in the newly built premises - that will be occupied in the foreseeable future. In addition to the ISO 14001-certification tbp possesses the following certificates too: ISO 9001-2000, AQAP 2120-2003 and IEC 61508.

## interview

### Delem - Van Doorne's Elektronica voor de Machinebouw bv (Van Doorne's Electronics for Machine construction ltd) controlling pressbrakes

Delem is specialist in the development and production of high-quality electronic controllers for machine constructors. The Eindhoven-based company is the world-market leader in the field of CNC-solutions for non-cutting metal working machines. "A very important part of our controllers is the integrated software that offers the sophisticated functionality which makes our products stand out", tells Leo Verhoeven, strategic buyer at Delem.

Delem is successful, because the company applies time and again the latest technologies in its products. The word describing Delem's success best is: know-how. Delem's added value consists of thorough knowledge of metal production and the expertise to turn this knowledge into user-friendly products, such as pressbrake controls and shear controls obviously equipped with the necessary programming software. This software and the user-friendly interface make that Delem's controls are distributed in numerous plants all over the world.

"Our company develops the software applications and produces the controllers", says Verhoeven, "but we are having many internal components produced by other specialized companies. Such as is the case with the motherboards that enable our software programs. We have them mounted by tbp electronics. The reason we chose tbp is because it is known as the leader in this technology in the Netherlands. Their automation in the field of logistics is of a high standard.

Luchthavenweg 42  
5657 EB EINDHOVEN  
Tel. +31 (0)40 2552969  
Fax +31 (0)40 2551923  
[www.delem.com](http://www.delem.com)

On top of that tbp employs a great number of control steps in its working process, which is very important to us. Our products are distributed worldwide and reliability is of extremely great importance. To fetch a product back from China in order to check or repair it is far too expensive. So we are supervising constantly a high quality and tbp provides it."

One of the Delem products that have a tbp electronics mounted board in it is the DM-103VA. It is a control module that controls the three main axes (Y1, Y2 en X-as) of a synchronised pressbrake. This module's control algorithms guarantee an optimal performance that is combined with flexible transitions in all phases. Thanks to the 24 I/O-signals and sequencer-functionality (PLC) the DM-103VA can be configured to meet the most complex control demands.



Delem was founded in 1976 by H.J.M.M. van Doorne. Shortly after this start of the company H.J. Versluis joined it. The

activities in the metal working line of trade started in 1979 with the development of a controller for pressbrakes to synchronise the speed and positioning of two hydraulic cylinders. Presently, sixty employees are working at the Eindhoven-based company, forty of which are highly trained development engineers. Their work exists of the development of innovative software that make the Delem systems so successful. In addition to the establishment in Eindhoven Delem has many highly qualified retailers in all continents. Machine constructors all over the world use Delem's products: in Europe, China, Korea, Taiwan, Australia, the United States and South-America.

**Delem**  
Everything under control

**colofon** tbp electronics bv  
po box 8 • 3247 ZG Dirksland  
T +31 (0)187 602744  
F +31 (0)187 603497  
E [info@tbp.nl](mailto:info@tbp.nl)  
I [www.tbp.nl](http://www.tbp.nl)

editorial office : Dana Wolters ([info@tbp.nl](mailto:info@tbp.nl))  
author : René Moscou (Custom Copy + Communication)  
design & printing : SFA Print ([www.sfaprint.nl](http://www.sfaprint.nl))

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