

Global Footprint: A new strategic step



Madern International

Local to local, now also in the United States

After previous production expansions in Germany and Malaysia, Hittech Group will start with manufacturing of parts and modules in the United States this year. This means that production within the group will then take place on three continents: Europe, Asia and America.

In doing so, Hittech Group takes an important step forward in respect of its global production strategy, where production preferably takes place in the region where the relevant customers are located. This 'local to local' approach is mostly driven by customer demand. OEM customers with branches on different continents do want the Hittech Group quality and reliability, but don't want the transport and currency differences that may come with a European based production.

A new business was established in the United States: *Hittech Machining and Assembly, Inc.* The company is situated in the fully air-conditioned building of our partner Madern International USA in North Carolina. The cooperation gives us fine synergy advantages, but also the possibility to machine big accurate parts with the machines of Madern. It is expected that the first production machines will be operational in the 4th quarter of this year. The company will focus mostly on the milling and turning of complex parts and the assembly of machines. For this reason an initial investment was made in 5 axis and 3 axis milling machines and a 3D Carl Zeiss measuring machine. Setting up a cleanroom is part of the growth plan. A turnover of 5 million USD must be achieved within 5 years. Extension on the site is possible. The site is big enough for expansion. To ensure the correct embedding of the Hittech philosophy, management rests with a Dutch Hittech employee relocating to North Carolina.

Further development Hittech Asia

The organisational structure of the Hittech companies in Malaysia changed in mid-2016. General Managers were appointed at both branches to deal with daily business matters. So far this has led to a substantial growth in turnover and results. These companies are directed and guided from within the Hittech Group to realise further growth.

The sales efforts have also resulted in the expansion of our customer base in Penang with three OEM businesses. In Kuala Lumpur we expect to welcome, at least, two new OEM customers this year.

Here the 'local to local' strategy will be rolled out as well and combined with our starting activities in the United States we expect a further worldwide growth of the Hittech Group.



COLUMN



This newsletter contains articles that indicate our considerable efforts in securing Hittech Group's future. Efforts such as expansion to the US, resulting in Hittech being represented with production companies in Europe, Asia and the US by the end of the year.

We will also continue to invest in our production companies to ensure that they remain among the top technological supply companies.

In addition, we have started with our Hittech University as we call it. This is a programme to secure knowledge but to also share and transfer it. All the companies are involved in this and do so with great enthusiasm. We hope to further expand this concept with guest lecturers from our customers, suppliers and institutions.

Dr. Ir. C.P. Heijwegen
President Hittech Group BV

Hittech Gieterij Nunspeet invests in the future

Hittech Gieterij Nunspeet (HGN) specialises in the production of small and medium-sized series of aluminium sand castings in the higher segment of complex parts. These components can be found in the medical, semiconductor and railway industry as well as the oil and gas industry.

In past years, parent company Hittech Group has enabled HGN to substantially invest in the various departments, with the focus on higher quality and productivity, but also on increasing the complexity of the castings.

The core sand department is equipped with a computerised core sand preparation, the casting division has a fully automated sand control system and for the final processing we can make use of two Elnio annealing furnaces and a robotic grinder. It goes without saying that the measuring chamber/laboratory has the latest equipment available.

Melting department

Currently, the moulding boxes are filled manually in the melting department where a number of boxes can be filled by the pouring pan. In order to increase the repeatability of this process HGN decided, after an extensive study, to invest in two pouring robots. First an internal renovation will take place where the current ovens will be installed in a line. The pouring robots will collect the material from the oven and pour it into the moulds. A specially developed ladle will collect the aluminium from under the oxide layer, ensuring that the castings are made of the purest material possible.

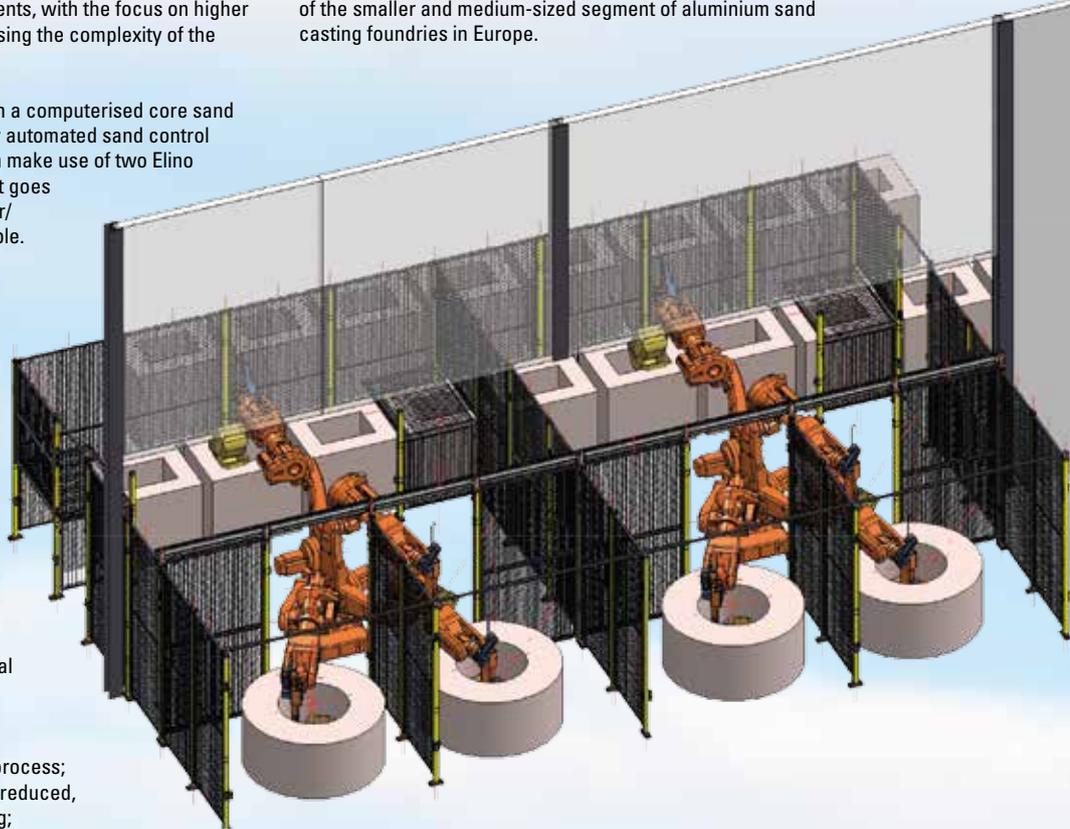
The system has the following advantages:

- A very high repeatability of the casting process;
- The content of aluminium oxides will be reduced, resulting in a better quality of the casting;

- An efficiency increase for the melting department;
- And, last but not least, obvious labour and environmentally sound improvements.

The automated casting process will be operational at HGN by mid-2018.

Through this investment, HGN will once again be among the top echelon of the smaller and medium-sized segment of aluminium sand casting foundries in Europe.



Optimisation of the assembly of optics at Hittech Prontor



One of the most important markets for Hittech Prontor is the mechanical assembly of optical modules. Optical components (lenses, prisms, etc.) with a worth of more than three million Euro's are glued and assembled each year.

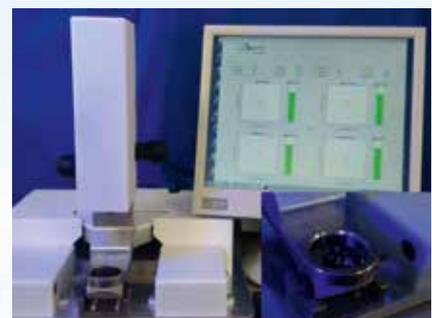
Hittech Prontor has many years of experience in gluing optics on mechanically processed components and, subsequently, accurately adjusting these components. Of technological importance is the correct positioning of the mechanical parts, enabling precision gluing and accurate adjustment.

However, to investigate and understand the dependencies of the tolerances between optics and mechanics even better, a project team was established consisting of optic designers from Hittech Prontor and Hittech Multin. The optic designers from Hittech Multin in particular are able to analyse the optic systems and calculate the possibilities for optimisation. In cooperation they managed to find several options for improvement in the assembly process and to implement these in practice. For example, the adjustment and alignment tools were replaced by modern laser technology (see photograph). An advantage of this technology is a much faster and simpler handling.

Another project was the optimisation of the cleaning stages in the assembly process.

The large renovation and complete modernisation of the optics assembly area which was needed for this improvement are finalised in August.

With this improvement the filter technology of the air supply results in a cleanroom with which the cleaning steps will be minimised and a higher process stability can be achieved.



Masters in knowledge improvement

The successful development and production of high-tech products is characterised by employees having a superior knowledge of their discipline and the process in question. Knowledge that is continuously subject to change. Masters in Improvement, therefore, refers to training, the knowledge transfer between employees and to adequately secure any existing knowledge. Hence the following two initiatives.

Hittech University

This year, the Hittech University 'opened its doors' for the first time in recent months. Key to the Hittech Group is the knowledge transfer by and for colleagues, product technology and an in-depth knowledge of materials used. Based on these themes a programme was set up consisting of six lectures. On the one hand technical subjects are covered: RSP technology for the design and manufacture of RSP aluminium alloys, precision machining, casting in respect of the aluminium casting process, complemented with tips and tricks for the designer, and Value Engineering in respect of cost reduction during production and product development. And on the other hand attention is paid to the organisational side of the stated themes: Production and product development in work preparation, Project Management of development and new product introduction projects, Production Management and Statistic Production Analysis. The latter will be done in close collaboration with one of our biggest customers as we like to involve our business partners in this knowledge development.

Knowledge is only fully understood and learned when actively applied. Afterwards, all students are sent off to convert what was



Employees from Hittech Wemac who successfully concluded their training programme.

learned into a number of improvements of products or processes in their own working environment, be it individually or in small groups.

Hittech Wemac Training Programme

In order to lift all production branches to the same high level, additional schooling takes place on a regular basis giving everyone access to the same knowledge. This knowledge and experience will be posted on SharePoint in an organised manner.

Each year, employees from Malaysia visit a manufacturing site in the Netherlands for additional schooling in various subjects. Recently, this took place at Hittech Bihca in Winterswijk, on the subject of machining. Detailed attention was paid to subjects such as cutting speeds for the various materials, clamping methodologies, milling strategies, the life time of the different materials, milling tools, etc. The added advantage of such a visit is that it encourages team spirit and cooperation within Hittech.

Hittech customer Aspect Imaging introduces WristView™



Aspect Imaging has introduced its new WristView™ - point-of-care hand and wrist MRI system at RSNA 2016, Chicago.

The FDA cleared and CE approved WristView™ MRI system is a dedicated hand and wrist MRI system which cuts out the claustrophobic feelings associated with conventional full-body MRI systems.

Hittech Group has supported Aspect Imaging in the development and production of the patient positioning system of the WristView.

In collaboration with Aspect Imaging and Industrial Designer Frog, the patient positioning system was engineered to meet all requirements for ease of use, FDA and CE requirements, but also to meet the demands for manufacturability.

Hittech is looking forward to the continuation of our collaboration with Aspect Imaging to make the WristView™ product a great success.

INVESTMENTS

Hittech Bihca does not turn around

As the demand for complex turned parts has strongly risen among a number of Hittech customers, investments were made in this respect at several Hittech companies. Hittech Bihca has acquired an Okuma Genos L300 MY-e.

This investment again proves that corporate social responsibility is paramount at Hittech and that it played a big role in selecting the right machine. The "e" at the end of the product description indicates that the machine is equipped with various energy-saving options. The NC unit, for instance, saves 57% of the required energy compared to the previous generation, and the drive units 12%. In short, efficiency and accuracy do go hand in hand.

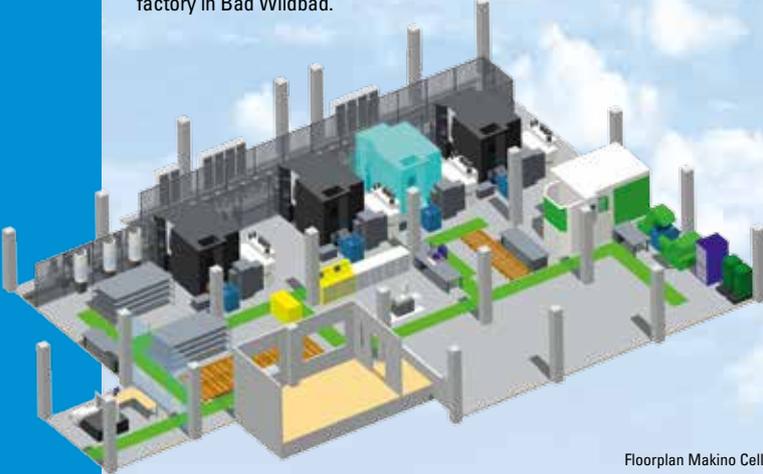


INVESTMENTS AT HITTECH PRONTOR Makino Milling Machining Centre

An additional investment has expanded the Makino machine cell from three to four machines. Due to the many orders and machine load, additional capacity was necessary.

These four machines can make use of more than 400 CNC programmes. For those working in shifts (from Sunday 10:00pm to Saturday 2:00pm), it is now possible to simultaneously produce 4 milling parts for different end products, flexibly and in parallel, in one single step, without the need for any final processing. The machine is fitted with a pallet track system with parts. The allocation of the pallets is driven and optimised by a control system. In order to produce the full range of products, the machine contains nearly 1,000 tools. The series size of the orders varies from 10 to 200 pieces.

This investment is a great step forward in the further development of the factory in Bad Wildbad.



Floorplan Makino Cell

Index Turning-milling Machine Centre

Within the context of the investments, the purchase of the Index Turning-milling Machine Centre can be considered a highlight. Manufacturing highly complex turning-milling parts, in combination with smaller dimensions and shorter changeover times, forms part of the daily course of business. This machine technology can also execute basic single piece production without involving any preparation or final processing. Lead times have been limited to a minimum.

This machine is fitted with the latest control technologies. The automation interfaces (robotics/material supply systems) have already been programmed in the machine.

The Index machine is operating on a three shift system.

The acquisition and expansion of this machine technology does not only increase the capacity, it also meets other demands for the cheaper manufacture of highly complex turning parts.



hitech group *Masters in Improvement*

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Visit of the Malaysian Ambassador to Hittech Group

His Excellence Dato' Ahmad Nazri Yusof, Ambassador of Malaysia in the Netherlands, took the opportunity to visit Hittech Group BV on the 20th of March 2017. He was joined by a delegation of counselors of various ministries, including MIDA, the Malaysian Investment Development Authority. The objective of the visit was to study about the potential of collaborations and new investment projects in Malaysia. Hittech Group has two subsidiary companies in Malaysia namely Hittech Assembly Malaysia Sdn.Bhd. in Kuala Lumpur, and Hittech Wemac Sdn.Bhd. in Penang. With the visit the already valued relationship has been strengthened. We are looking forward to expanding our Malaysian operations even further.



Hittech Group Update

Hans-Joachim Hermann Managing Director Hittech Prontor



I would like to introduce myself. I am Hans-Joachim Hermann, 57 years young, I am married and have one daughter. I will be working in the capacity of Managing Director of Hittech Prontor per 1 November 2017. I obtained my Master's Degree in electrical engineering at the University of Munich and an MBA at the Munich Business School. I acquired my many years of experience in hi-tech businesses in various market leading enterprises.

Here I was mostly responsible for the production companies in Germany and abroad, but also for the collaboration between the international teams. My strengths are achieving an increase of the turnover and the optimisation of operational processes. The very impressive strengths and the great potential of Hittech Prontor, particularly within the Hittech Group, have made me very enthusiastic to use my knowledge and experience for the benefit of this company and this group. I'm looking forward to a great working relationship with all of you. My hobbies are skiing, hiking and travelling.

Reinder Uuldriks Operations Manager Hittech MPP



My name is Reinder Uuldriks. Together with my wife Tineke I have one son. We live in Rotterdam. I will fill the role of Operations Manager of Hittech MPP per 1 September 2017.

I have a background in instrument manufacturing and started working for TNO in 1988, holding a number of positions within a time frame of 27 years. I started at TNO Defence as an instrument manufacturer working with CNC milling machines, among other things. In 1993, I became the team leader of two workshops that I eventually managed to combine into one shop site. In 2002, I transferred to what was then called TNO Technical Physics Services. Here I was also team leader of an instrument manufacturing department. It was the aerospace projects, the pinnacle of precision mechanics and optical manufacturing, that mostly motivated this transfer. In 2007, I became Research Manager of multiple instrument manufacturing departments and optical manufacturing at a number of TNO locations such as Eindhoven, Delft, Rijswijk and The Hague. Before my transfer to Hittech, I finally worked as Process Engineer at Thyssenkrupp where they manufacture stair lifts. Here I learned a lot in the fields of production, logistics and application of my Green Belt knowledge in relation to Lean Six Sigma.

My hobbies are training and coaching of a football team, pastoral work for the elderly, DIY in the house and garden, travelling and photography.