

INJECT

Sumitomo (SHI) Demag – Magazine 03/2011

New machine function:

**Manufacturing reproducible
fill-critical parts**

New control version:

**More convenience and
functionality with NC5 plus**

Medical engineering:

**How SLG managed their
successful entry with the IntElect**

Energy efficiency:

**Why Johnson Electric converted
to all-electric**



Dear Reader,

The year 2011 has started on a very positive note: Fakuma in Germany went very well and for the first time we exhibited jointly with our parent company, Sumitomo Heavy Industries, at the IPF in Japan. Important contacts were made and strengthened at the two Cluster Days in Schwaig and Wiehe. Our Family Days in Schwaig and Wiehe made it clear to the members of our staff's families and work colleagues that we love working for our customers' success throughout the world.

We focused on the topic of production efficiency in all of our appearances at exhibitions. This is because it is too narrow to think just in terms of ever-present energy efficiency. Production efficiency is an all-embracing aspiration: it is derived from production performance, availability, energy efficiency and durability. We can help you actively increase the production efficiency of your injection moulding machine with a series of components. These include activeEcon energy consumption analysis, activeQ and activeQ+ mould protection functions, activeAdjust to optimise machine movements, the activeLock switchable non-return valve and activeCool&Clean filter or oil cooling design.



Read in this edition of INJECT how activeFlowBalance, a development from Japan, is now helping to improve mould filling in IntElect machines (page 4). A particular highlight of our injection moulding machines is the new NC5 plus, the control system for all our series, which has been further improved (page 6). It integrates the control tasks of the machine and peripherals even more than the NC5 to give complete process transparency and product quality. I hope this edition of INJECT will provide you with lots of interesting insights.

With best regards from Schwaig,

Dr. Tetsuya Okamura
CEO

Imprint

Publisher

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Bernd Tröger new Director of Marketing

As part of its strategy to focus on offering more sector-oriented products, Sumitomo (SHI) Demag has reorganised the contents of its marketing activities and has merged these with the areas of Product and Cluster Management as well as Business Development and Communication. Since 1 August 2011 overall responsibility for these tasks has been entrusted to Bernd Tröger

(39), Dipl.-Ing. (FH). The new Director of Marketing completed an apprenticeship as an industrial mechanic in the engineering business and then went on to study at the Nuremberg University of Applied Sciences. He became employed by the company in 1999 and was in charge of mechanical development from 2004 and then product management from 2010. ■



Bernd Tröger, new Director of Marketing

Reinhold Ganzer takes over as world-wide Director of Customer Services



Reinhold Ganzer is the new Director of world-wide Customer Services

Reinhold Ganzer, Dipl.-Ing. (FH), took over as the new Director of World-wide Customer Services at Sumitomo (SHI) Demag on 1 November 2011. The 47 year-old Reinhold therefore now has over-arching responsibility for servicing, spare parts, technical support and retrofit. Mr Ganzer is an experienced executive with extensive knowledge in the area of After-Sales, a key position in terms of Sumitomo (SHI) Demag's customer relations. He has already worked successfully in the company's customer services operations in Schwaig

for 20 years. As Reinhold Ganzer has also provided on-site world-wide customer care in the course of his entire career to date, he is fully acquainted with the needs of customers. The new Director of Customer Services reports directly to the General Manager, Business Unit Sales & After-Sales, Christian Renners. By handing over the task to Reinhold Ganzer, Christian Renners, who had headed up Customer Services himself until now, is aiming to strengthen what is already a continuously growing area even further. ■

Borscheid + Wenig receives a "Bavaria's Best 50" prize for medium-sized companies

With effect from this year, the plastics-processing company of Borscheid + Wenig GmbH from Diedorf is now also officially among the best companies in Bavaria. This summer the automobile supplier received the "Bavaria's Best 50" prize, which is awarded by the Bavarian Economics

Ministry. Distinctions were awarded to 50 Bavarian companies which have achieved above-average, as well as predominantly organic growth in staff and sales in the preceding five years and which are expected to continue to demonstrate further positive business growth. The selection criteria

also included being an owner-managed company registered in Bavaria and in which the entrepreneur holds at least 15 % of the shares. The prize, which was awarded for the tenth time this year, is intended to acknowledge the positive role of the entrepreneur and to place this at the centre of public awareness. "We are sharing this award with all our employees as well as with all partners", declared Carlo Wenig, spokesperson for the management of Borscheid + Wenig.



Borscheid + Wenig among the 50 best companies in Bavaria. CEO Carlo Wenig (2nd from right) and Authorised Officer Sven Borscheid (front left) accepted the award from Minister of State Martin Zeil (centre).

Borscheid + Wenig has been involved with plastic injection moulding since the mid-1980s and has successfully relied on just one machine manufacturer from the very start: Sumitomo (SHI) Demag. In the meantime, the plastics-processing company now has over 40 injection moulding machines with clamping forces of 350 to 15,000 kN. ■

Manufacturing reproducible fill-critical parts

activeFlowBalance simplifies processing and increases product quality

In order to simplify injection moulding processes, with a smooth transition from injection to hold pressure, Sumitomo (SHI) Demag now offers its activeFlowBalance machine function. This equalises differing pressure ratios within a cavity or between several cavities of a multi-cavity mould in a gentle manner at the end of the injection procedure. This now means that parts critical to filling, which up to now had to struggle against over-filling, the formation of burrs or burns and required complicated settings, can now be manufactured in a robust process.

Up to now, there have been two main ways for the fitter to react to the uneven or fluctuating balancing of cavities. Either injection is continued for as much time as is required to fill the very last cavity completely. This means, however, that pressure peaks form in the cavities which have already been filled, which can lead to the formation of burrs. In addition, the various pressure levels generate different conditions in the individual cavities, which can have various consequences, including residual stresses, deformation and varying mould shrinkage of the parts. The melt front speed in the lagging cavities also increases erratically as soon as the first cavity is filled. This often leads to ventilation problems, which can express themselves in burns or incompletely filled parts. An alternative is to switch to hold pressure immediately the volumetric filling of the first cavity has been achieved. To be sure, this procedure avoids the negative effects cited above, but it does, however, conceal the risk of the cavities being under-filled. In this regard as well, the differing pressure ratios lead to corresponding differences in the texture of the parts.

The new activeFlowBalance stops the space in front of the screw at the end of the injection procedure and retains the screw in a fixed position for a defined time before building up the hold pres-

sure. During this phase, the melt which has been compromised by the injection pressure relaxes. Partially filled cavities, in which a lower counter-pressure prevails than in the cavities which are already full, then fill more strongly because of this. The fill levels balance out in a natural way. The duration of the pressure balancing is a part of the hold pressure period and does not prolong the cycle.

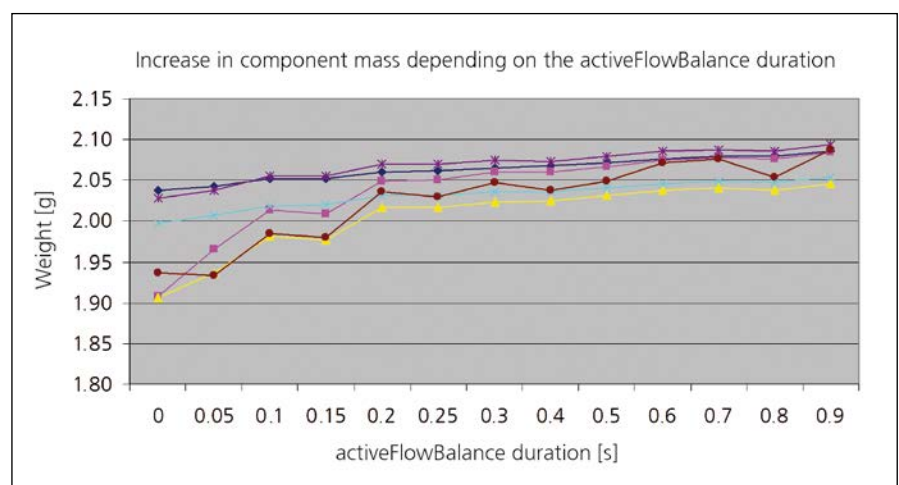
activeFlowBalance offers particular advantages when injection moulding with

- Multi-cavity moulds with balancing problems
- Moulds with unstable conditions in the hot runner
- Moulds with ventilation problems or of
- Parts with multi-point gates
- Parts with thin-wall areas at the end of the flowpath
- Parts which are very small in relation to the feed weight
- Parts from family moulds and tandem processes.

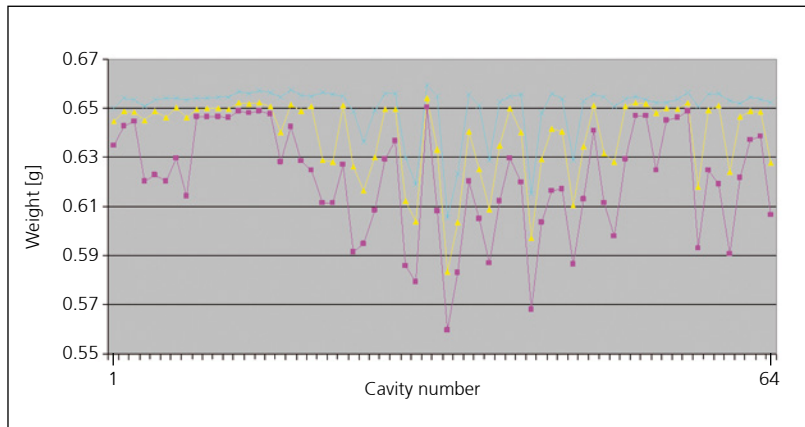
While it was difficult for the fitter to master such processes fully up to now, activeFlowBalance can be operated extreme-



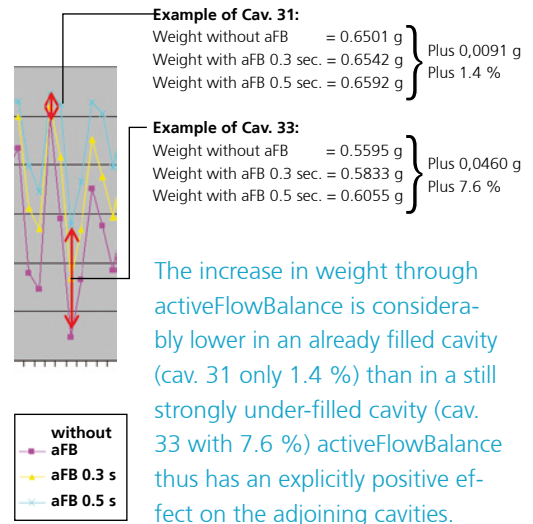
Three cavities are clearly under-filled at the change-over point (above), while after just 0.2 sec. of activeFlowBalance time (below), a balanced fill level with balanced melt pressure prevails in the cavities.



At the change-over point, the weight and therewith the filling in the individual cavities still greatly varies. With increasing activeFlowBalance time, the fluctuation range continually diminishes until an optimum (optimal activeFlowBalance time) has been achieved.



Fill study for a 64-cavity mould for a blade holder: The weights of the parts from all 64 cavities are markedly more even with activeFlowBalance.



ly easily. In addition to activating the function, just the change-over point and the standstill time of the screw need to be adapted. A ramp can also be used as an option to influence the braking speed of the screw.

The optimal process parameters are established on the basis of a fill study without hold pressure. The choice of the ramp depends on the component. The rule is: the shorter the injection time, the quicker the brake should usually be applied. The point in time is usually chosen in the case of multi-cavity moulds, at which the first cavity is volumetrically filled, even if lagging cavities are only partially filled. In order to establish the optimal duration of time for the balanc-

ing of pressure, the activeFlowBalance time is increased in small steps and the weights of the parts from the various cavities are compared. The weights approximate each other more and more as the duration of time increases. The optimal activeFlowBalance time has been achieved if no essential approximation of the weights can be observed any more. Experience has shown that this is the case as regards about 30 % of the injection time.

As the pressure reduction already acts as hold pressure during the activeFlowBalance time, the duration of this is to be factored into the hold pressure time. The pressure can also frequently be reduced during the remaining hold pressure time

in comparison with the standard process. The use of activeFlowBalance is currently possible with IntElect Smart all-electric injection moulding machines. The path-finding function, which represents a unique selling point of Sumitomo (SHI) Demag, can also be retrofitted to this machine series without any problem. It is based on the high precision activeDynamics drive technology: the reaction times of the system, its high dynamism and its capability of being reproduced exactly are crucial for regulating the activeFlowBalance function precisely. ■

Author

Thomas Brettnich, Dipl.-Ing. (FH)
 Director of Technological Development

Advantages of activeFlowBalance

- Avoidance of injection pressure peaks through active stopping of the movement of the screw before the end of the conventional injection process
- Balancing out of the pressure ratios in the part, causing fewer inner tensions and deformation
- More even features, better dimensional accuracy, lower weight tolerances and reduced deformation through more even pressure level in all cavities
- No burr formation through the elimination of injection pressure peaks
- No under-fillings: in conventional procedures, the change-over point and hold pressure have partially to be set very narrowly so as to avoid under-fillings. In this case, activeFlowBalance provides a "fill reserve"
- Potential for reducing the clamping force through lower maximum injection and mould internal pressure
- Better ventilation of the mould through more ventilation time due to lower flow front speeds
- Less mould wear and longer intervals between servicing for the mould
- Simple and clear operation: instead of complicated injection and hold pressure profiles, only two parameters need to be set
- No rebounding of the screw at the change-over point: no sudden pressure incursions and process fluctuations

NC5 plus provides more convenience and functionality

Expanded control version for new machines and as a retrofit option

Sumitomo (SHI) Demag's new NC5 control version is being launched in the first quarter of 2012. The NC5 control version, which is standard for all machine series and with its extensive range of functionalities, has been laid

of the user. Intuitive understanding has now been placed even more strongly at the forefront. At the same time, a series of new functionalities have been integrated. The result is a unique intuitive as well as consistent control version, which allows the user to access the entire performance range of their machine without having to undertake any extra training to achieve this. The new NC5 plus version is not only being introduced in all new machines from Sumitomo (SHI) Demag, but is also being offered as a retrofit option for existing machines with NC5 control.

right hand side of the screen. Five freely definable icons are available for this purpose, which enable these frequently used functions to be called up.

Two-click approach for rapid navigation

Beyond this, in order to guarantee quick navigation to all pages, Sumitomo (SHI) Demag has consistently followed a two-click strategy: the user can now access every page with a maximum of two clicks. A search function, which is easy for the user to apply, replaces previous special functions as well as laboriously calling up page lists and then having to scroll through them until the desired page has been found. This also means that the user is no longer compelled to have to note the numbers of pages. Primary and sub-groups are logically divided. The high consistency from the highest to the lowest level makes operating easier and accelerates all processes from the user's perspective.

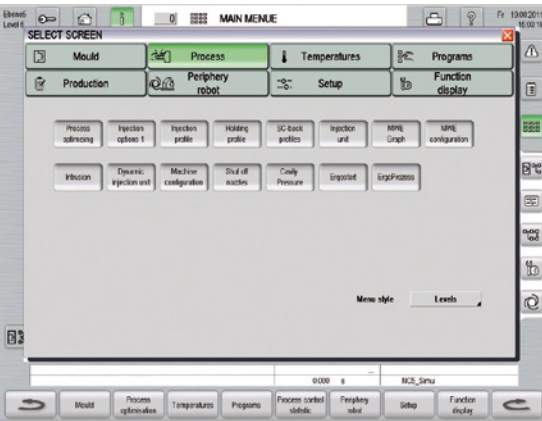
Soft- and Hot-keys for favourites

As before, the border bars positioned around the actual Touch Screen display contain various function buttons, the soft and hot keys. A new addition is the "activeKeys", which users can define as favourites. In this way, they can store up to five pages from the multiplicity of operating pages with which they work most frequently on an interface on the

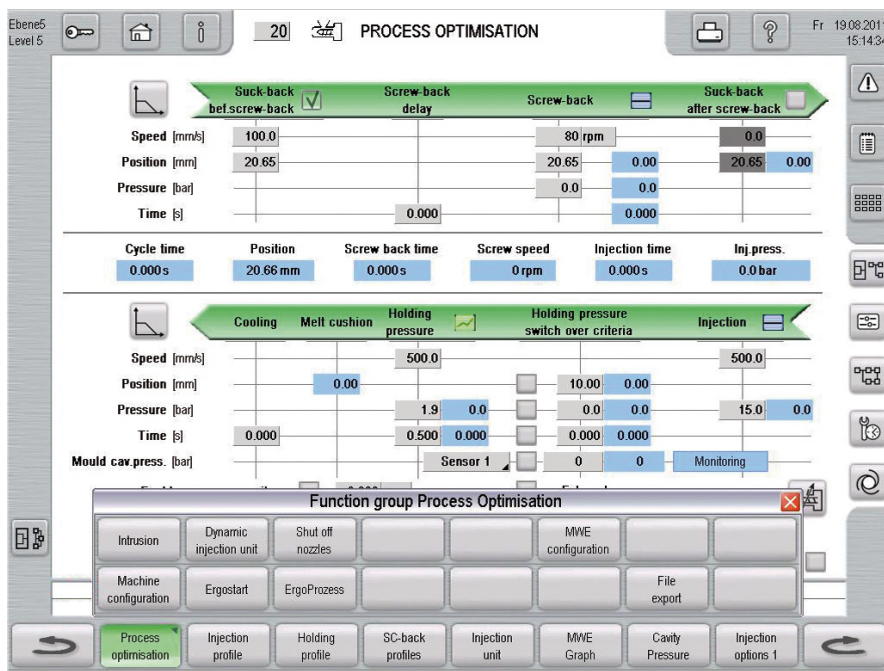
By consistently dividing all functions into primary and secondary groups, each page can be called up with a maximum of two clicks.

out even more clearly and supplemented with new functionalities for this. The strengthened visual guidance for the user with NC5 plus simplifies usage and simultaneously expands the variety of functions.

Controls play a decisive role as the communications interface between an injection moulding machine and the user: only it allows for access to the full range of performance of the machine, and therewith all the ways in which it can help maximise production efficiency. As a part of this, the user has to have lay-outs which are clear and easy to understand despite the comprehensive range of functions provided. Sumitomo (SHI) Demag has been able to implement these requirements even better in the new NC5 control version: NC5 plus represents a consistent further development of the tried and trusted previous NC5 version with considerably strengthened visual guidance



"activeKeys" can be defined as favourites in their own right by the user and allow frequently used functions to be called up quickly.



Softkeys located on the lower picture bar bundle access to all pages logically linked to this primary term: they likewise expand as softkeys.

Soft key structure completely revised

The soft key lay-out has also undergone a facelift and has been improved even further. As before, the soft keys situated on the lower picture bar guide the user through the stages of adjusting the machine. In the new NC5 plus version, however, the latter receives considerably increased support in this process. Bundled access is thus effected to all pages linked to a primary term. If the "process optimisation" soft key is thus selected, for example, then all the screen pages logically linked to this primary term likewise expand as a soft key within a complete function group. In addition to the parameters which are displayed on the primary page, such as speed, position, pressure, time and mould internal pressure, the functions linked to this automatically open in this way, such as injection unit dynamics, machine adjustment values, intruding, shut-off nozzles etc., which can be used to fine-tune adjustments.

This principle is just as advantageous and convenient when entering the mould setting. In this case, speed, position and force have to be entered for the closing and opening movements and locking

and unlocking positions must also be defined. All the components required for setting up the mould, such as extractors, cores, pneumatic valves, mould protection etc., appear directly in the soft key bar and can be called up directly.

New functionalities with NC5 plus

The new NC5 plus control version also provides the customer with more convenience in terms of data exchange. The processing, warning and machine data can all be exported from every screen page, i.e. printed, saved internally or onto a USB stick without having to change the page being displayed on the screen for this purpose.

A new feature of the NC5 plus version is also that the course of the current injection pressure determined by the route being followed is overlaid as a curve in the page displaying the injection profile. This allows the profile of the injection pressure limitation to be adjusted to match a reference cycle precisely. In addition, the transition of the injection pressure into the hold pressure is represented so as to facilitate this process being optimised.

The new version, however, does not just provide its users with more convenience, but, in addition, an extended range of functions depending on the equipment version of the injection moulding machine. The new functions of NC5 plus controls, for example, include activeAdjust and activeQ+ as well as activeEcon.

activeAdjust: individual adjustment options

Using a slider, the operator can increase or – if required – reduce the dynamics of the mould movement further to suit the individual application, without external help. The activeAdjust function is not just restricted hereby to the mould movement, but to every machine movement, such as that of the ejector movement as well as changing over from injection pressure to hold pressure. The injection moulding machine, which is designed to cover a wide range of applications ex-works, can also be adjusted for each individual case and thus in an optimal way for the product and the process in hand.

activeQ+: Mould protection also when opening

In contrast to the previous NC5 version, the active mould protection system has been developed further and also



New activeAdjust function: Using a slider, the operator can increase or – if required – decrease the dynamics of the mould movement further to suit the individual application.

now adopted for the mould opening sequence. The tried and tested activeQ function, which stops the mould closure movement in the event of unusually increased processing force being applied, is supplemented further by the new activeQ+ function, ensuring controlled opening of the mould. This prevents the mould from being damaged in the event that parts are snagged during opening.

activeEcon: Integrated energy measurement

Individualised opportunities for optimising performance are also available to users with regard to energy efficiency. This is where the likewise new activeEcon function comes into play: by using detailed measurements of energy consumption for heating and drives, targeted improvements can be made over all

The screenshot shows the 'ENERGY ORDER' screen in the activeEcon software. It displays a comparison between 'Last part', 'Current order', and 'Reference' values for various energy and cost metrics. The 'Current order' values are highlighted in blue.

	Last part	Current order	Reference
mean power consumption [kW]		142.2	72.8
energy required for current order [kWh]		438	630
production time [h]		3.08	8.65
cost of material [EUR /kg]	1.6000	1.5679	0.0081
price per kWh [EUR /kWh]	0.1200	0.1175	0.0006
machine hour rate [EUR /h]	18.7000	18.3255	0.2549
energy costs/kg [EUR]	0.0684	0.0722	0.0003
energy cost/part [EUR]	0.0001	0.0000	0.0000
production costs/part [EUR]	0.0026	0.0025	0.0000
total costs [EUR]		9.64	0.11

At the bottom of the screen, there are buttons for 'Process control statistic', 'Energy cycle', 'Energy order' (highlighted), and 'Energy-analysis'. Below these buttons, the 'Suck-back' value is shown as 0.000 and the order number as 80590012.

activeEcon offers not only integrated measurement and analysis of energy consumption, but also direct monitoring of production costs by taking into account material and electricity costs as well as the machine hourly rate.



cycle phases. A special feature of Sumitomo (SHI) Demag solutions is that the programme automatically calculates the effects on production costs. The energy values recorded per shot can thus be projected to cover a production order and factored into the unit costs or calculation for the order. As the user can also enter the material costs and machine hour rate in addition to electricity costs, current production costs can be monitored simply.

activeRemote: Integrated NC5 plus control centre

As with the previous version, external devices which have a touch screen can be very easily incorporated into the NC5

plus operating interface. Devices which can be easily integrated include robots for handling the moulding, production planning systems (PPS) or main computer systems, peripheral devices or systems for process regulation and quality assurance. The control surfaces of these peripheral

devices and partner systems are integrated into the NC5 control via Virtual Network Computing (VCN) and can be operated there just as easily as the control function itself. Corresponding solutions have recently been developed in conjunction with Wittmann Plastic Devices, Sepor Robotique, Wemo, T.I.G. Technical Information Systems, ONI Wärmestraße, Kistler Instruments and Priamus System Technologies. Preparations are already being made for further systems to be implemented in collaboration with partner companies. This means that Sumitomo (SHI) Demag's customers are highly flexible in working together with further partner organisations on technology and systems. ■

Author

Dr. Frank Balbach
Director of Control Development

Precision – the basis of zero-defect production

Cluster Meeting in the Wiehe Works addresses the topic of precision injection moulding

22/09/2011
Cluster Meeting
on Precision

On 22 September 2011, the works in Wiehe, Sumitomo (SHI) Demag's European centre of competence for electric injection moulding machines, provided the perfect setting for the Cluster Meeting dealing with "Precision". The event focused on current developments in increasing precision in injection moulding as well as the electric IntElect machine series from Sumitomo (SHI) Demag. Around 169 representatives of customer and partner companies with a particular interest in this question attended to listen to expert speakers and to see high-quality exhibits. All participants were offered in-depth knowledge of the subject. In addition to presentations by in-house staff, speakers from customers Tyco and Forteq provided inputs from the perspective of processors about their experiences regard-

ing the topic of zero-defect production. The observations about precision injection moulding provided by the Leipzig-based Plastics Centre as well as that by Prof. Michael Koch of the Ilmenau Technical University on future trends rounded off the varied programme of presentations. "Zero-defect production rests totally on precision", says Bernd Tröger, Director of Marketing, in explaining the background to the event and emphasises: "With our technologies, we are setting new benchmarks in the top end area of precision manufacturing." The visitors to Wiehe were certainly able to convince themselves of this on the basis of five exhibits covering the electric IntElect series with applications drawn from medical engineering as well as the automobile, electronics and consumer goods industries. As a highlight, Sumitomo (SHI) Demag presented a fully automated cell with an IntElect 100 for plug production,



The 160 representatives of customer and partner companies interested in learning more at the Cluster Meeting in Wiehe on "Precision" were provided with in-depth information.

including a quality checking sequence for implementing zero-defect production. The four further exhibits covered the topics of micro injection moulding, optics, flexible automation as well as clean-room production. ■

Packaging experts welcomed to Schwaig

Focus on efficient manufacturing of plastic packing materials

Cluster
Neue Werkstoffe

28/06/2011
Cluster Meeting
Packaging

Sumitomo (SHI) Demag hosted a meeting in Schwaig between the New Materials Cluster, organised as Bayern Innovativ GmbH, and the Franken e.V. Plastics Network for the third time on 28 June 2011.

Following the Cluster meetings dealing with "Processing chains and applications with IMD and IML" in 2010 and "Efficiency and precision for optical plastic components" two years before that, Sumitomo (SHI) Demag was able to present itself once again as a leading supplier of technology in the field of injection moulding at this year's meeting dealing with "Trends and technologies in packaging". Around 60 experts in packaging from German-speaking areas thus had practical live experience of the economical

production of plastic packaging materials in the Technical Centre. Jointly with partners in innovation in mould construction and automation, Sumitomo (SHI) Demag demonstrated efficient manufacturing solutions. Barrier technologies, in-mould labelling, thin-wall technology, increasing productivity and energy efficiency were amongst the key aspects covered. Two of the 250 g bowls decorated with IML in 4 sec., four thin-walled drinking beakers in 1.8 sec. or a 1.2 l. bucket in 2 sec. were just some of the examples demonstrated to show the performance capability of modern injection moulding systems. At the heart of these applications in each case was the hybrid driven El-Exis SP high-speed machine from Sumitomo (SHI) Demag.

"Our strength in the packaging market places us amongst the best in the sector",

said a convinced Christian Renners, General Manager, Business Unit Sales & After Sales at Sumitomo (SHI) Demag. He referred to the partner companies, which presented their know-how specific to types of packaging during the Cluster Meeting.

CEO Dr. Tetsuya Okamura also regards strong partnerships as the key to ensuring future on-going success in the packaging sector, in which Sumitomo (SHI) Demag earns more than a fifth of its turnover: "The demands of packaging producers are just as varied as the range of packaging materials. They can therefore only be met with innovative and specialised development partners in optimised manufacturing cells. Our role consists, in addition to optimising the injection moulding machine, particularly in uniting all components to form a high performance complete system." ■



Great interest in innovations from Sumitomo (SHI) Demag

Fakuma 2011 considerably exceeds the most optimistic targets

Sumitomo (SHI) Demag experienced positive outcomes from the Fakuma international plastics fair, which was staged in Friedrichshafen from 18 to 22 October 2011. It proved once again to be the fair organised by specialists for specialists and for decision-makers in a closely defined sector environment and therefore as the optimal environment for focused customer acquisition.

Sumitomo (SHI) Demag, with its numerous innovations, hit exactly the right note for the plastics processors attending. The new developments, produced to match customer requirements, covered current topics such as precision, increasing quality, energy saving and cycle time reduction and met with correspondingly great interest. The company was thus able to welcome an above-average high number of new enquirers and customers to its stand.

Many existing customers also visited the stand. In addition to technical innovations, what also plays a key role for them when making purchasing decisions is their trust in a tried and tested supplier. This is where Sumitomo (SHI) Demag gains the edge with its company size, its concentration on the key sectors of automobiles, medicine, electronics and packaging and, not least, its global perspective.

Alongside sophisticated exhibits from all three machine series – the fully electric IntElect, the hybrid EI-Exis SP as well as the hydraulic Systec – Sumitomo (SHI) Demag for the first time presented the new NC5 plus controller at Fakuma 2011, which offers users not only considerably greater convenience but also an increased range of functions (read the article about this on pages 6 to 8 as well).

As the highpoint, a fully automated cell for plug production, including a quality checking sequence for achieving zero-defect production, could also be seen. The high process consistency was proven on-site by inline statistical quality evaluation being carried out, including calculating the process capability index Cpk. The control of the linear robot SDR 22 from the company's own product portfolio used for removing parts is directly integrated into the new NC5 plus machine control.

In addition to the company's own presentations at the fair, a Systec multi multiple components machine was in use at the stand of partner company, Sepro Robotique GmbH. The version, with a clamping force of 2,100 kN, produced ashtray trims from a PC/ABS blend with a two-cavity mould from HBW-Gubesch. The highest requirements in terms of surface quality were met in the process. ■

First joint appearance at the IPF

Sumitomo (SHI) Demag made its first joint presentations with its parent company, Sumitomo Heavy Industries (SHI), at the International Plastics Fair (IPF) in Tokyo from 25 to 29 October 2011.

In addition to six exhibits from SHI, an El-Exis SP 250 from Sumitomo (SHI) Demag could also be viewed at the stand. The hybrid driven high-speed machine, with a clamping force of 2,500 kN, demonstrated its performance capability with a flip-top application.

The closures, weighing 8.25 g, were produced on a 16-cavity mould from Schöttli AG, Diessenhofen/ Switzerland. ■



Toru Shiina (l.), Manager, Application Department, and Hideki Yoshida (r.), Senior Engineer, Sumitomo Chiba Technology Center, Sumitomo Heavy Industries, in front of the El-Exis SP at the IPF stand of Sumitomo (SHI) Demag

Swiss Plastics

› Lucerne, Switzerland, 17.-19.01.2012

Interplastica

› Moscow, Russia, 24.-27.01.2012

Plastex 2012

› Cairo, Egypt, 27.02.-01.03.2012

NPE

› Orlando, USA, 01.-05.04.2012v

Plastshow

› Sao Paulo, Brazil, 10.-13.04.2012

Chinaplas

› Shanghai, China, 18.-21.04.2012

Plast

› Milan, Italy, 08.-12.05.2012

Sajam Tehnike Belgrade

› Belgrade, Serbia, 14.-18.05.2012

Chemexpo

› Budapest, Hungary, 15.-18.05.2012

PDM

› London, UK, 29.-30.05.2012

Plastpol

› Kielce, Poland, 29.05.-01.06.2012



Fair dates for 2012

It all depends on the dose...

SLG has successfully entered the medical engineering field with IntElect machines

The development and manufacture of innovative dosing systems for pharmaceutical products has been self-prescribed by the German company of SLG Pharma GmbH & Cp. KG of Bernau in the Black Forest. The subsidiary of SLG Kunststoff GmbH, only founded in 2009, regards itself, like its parent company, as a full service partner: the company undertakes all stages of the process, from the initial idea to the module being ready to be installed.

Acting according to the motto not coined by Paracelsus (1493-1541) of "It all depends on the dose", a specialised team focusing on customer-specific pharmaceutical products has come up with three clever systems – PickDose, TubeDose and DropDose – to produce the precise dosing of liquids, ointments, gels and drops. The dosing systems are classified according to medical law as medical

products in the "Im" class for dosing with a measurement function. The manufacturers of such products must be able to prove documented quality assurance controls are in place in accordance with the ISO standard. SLG Pharma has been accredited for this as well as certifications according to DIN ISO 13485 which is adhered to within the company in any case. The recently established company also, and not least, began operating a clean-room of the ISO Class 8 for manufacturing the plastic parts and installing them.

New product ideas through new business connections

Dieter Stockkamp, managing partner of SLG, had had the idea of establishing a presence in the market with his own products for some time. Specialists in pharmaceuticals and product ideas could be

recruited through new business connections. One outcome of the conversations was that the precise dosing of pharmaceuticals is an important topic in the pharmaceutical sector. End consumers are often uncertain due to the fact that small amounts in particular are often difficult to measure correctly. While, however, an under-dosage is unlikely to pose any major problems, over-dosages can have serious consequences. For obvious reasons, this can be especially critical when treating children.

The development of the PickDose dosing pipette emerged from the discussions as the first concrete project. Stockkamp proved his courage as an entrepreneur, invested consistently in the construction of a clean-room and entrusted the project to Markus Franck and Peter Moritz, two young engineers. The clean-room project was undertaken jointly with Schilling Engineering GmbH, based in Wutöschingen, Germany, a specialist in tailor-made clean-room environments. In parallel, SLG Pharma demonstrated the pipette to a potential customer – and was surprised by the positive response. The clean-room was not yet even finished, when the first orders had already been placed. In the meantime, SLG is also represented in the US market with its product.



PickDose is a pipette with six variably adjustable dosage volumes. The piston just needs to be turned to pre-set the amount of any preparation. The further procedure is comparable to an injection: draw out as far as possible so to draw in the set amount. During application, the piston travels to the syringe of the pipette so as to press the product completely out of the piston. The various dosage volumes are adjusted to match the specifications of the pharmaceutical customers.



Dieter Stockkamp (r.), SLG CEO, and Armin Rauch (l.), Sumitomo (SHI) Demag Sales, examine PickDose pipettes derived from clean-room production in Bernau.



Dieter Stockkamp wants to establish a market presence for SLG with self-developed products.

So as prevent costs from becoming vast, the new production was geared precisely to carrying out the pending tasks. Materials provision is thus undertaken centrally from outside the clean-room. PE and PP are processed there. Access to the material is effected in each case via a separate material and personnel sluice with sit-over. Six employees are qualified to work in the clean-room and are also trained separately once a year. In line with specifications, hairnets, special shoes and an appropriate protective suit have to be worn in this area. The clean-room environment is currently operated in accordance with ISO class 8, but can be increased to ISO class 7, if required.

The individual parts of the medical products are produced on two all-electric injection moulding machines from Sumitomo (SHI) Demag – an IntElect 100-340 and an IntElect 80-340. Being equipped with water-cooled direct drives, the machines are optimised for clean-room environments up to ISO class 7. In addition, they are provided with a nose facility with direct drive as well as direct ejectors. NC5 control, with its intuitive operating concept, is implemented as standard with all IntElect machines. Likewise provided as standard equipment is activeQ mould protection, which registers deviations of

the mould movement over the whole opening and closing path of the clamping unit. ActiveQ thus allows unrestricted operating speed in the mould protection area and, when required, stops the movement actively and thus more quickly than passive systems would.

Fully automatic depression, assembly and packaging

The further processing of the pipettes is undertaken fully automatically. A helical conveyor transports pistons and vials in the correct position into the machinery and inserts them into special workpiece carriers. The surfaces are then treated with plasma in preparation for the pad printing which follows. The pistons are then automatically inserted into the vials and packed.

While work was being carried out at full speed on the PickDose project, a further project with SLG developed positively as well: the manufacturing of filter cartridges for household water treatment. The containers, later filled by the customer with charcoal, were also to be produced in a clean environment – ISO class 9 being considered appropriate. As there was also space available, the EI-Exis 125-610 injection moulding machine intended for

this was likewise also placed in the clean-room. The customer was delighted at this fact and awarded the order to SLG.

An EI-Exis was specially chosen for the thin-walled cartridges, which were required in large quantities. The hybrid high-performance machine from Sumitomo (SHI) Demag is predestined for high speed products. Their hybrid drive design with energy recirculation during parallel operation means the machines require up to 40 % less energy than comparable high speed machines. This is made possible by the combination of electric and hydraulic drives, which allow extremely quick, harmonious and consistent movement cycles, with their decentralised, parallel running control circuits for clamping unit, injection unit and ancillary movements, which does not, however, see any decline in precision occurring.

The PP cartridges are produced on a 4-cavity hot runner mould by Zahoransky AG, Todtnau-Gschwend. What is particularly interesting is their bases with their small, square openings, through which the filtered water will later run. The edge length of the openings only amounts to 0.22mm – with a tolerance of 0.01mm. The EI-Exis was equipped with a side removal robot from Sepro Robotique,



In SLG's clean-room, two all-electric IntElect machines (at the front) and an El-Exis hybrid high performance machine of Sumitomo (SHI) Demag are now used for production purposes.

La Roche sur Yon/France, as well as a horizontal loader from the automation specialists, MAI from Küps. The removal time, by the way, amounts to just 1.4 sec.

SLG currently operates 35 injection moulding machines with clamping forces of 250 to 15,000 kN. A good 90 % of the machines are from Sumitomo (SHI) Demag. The majority of the machines is equipped with handling systems from Wittmann Kunststoffgeräte GmbH, Vienna/Austria. The Black Forest company specialises in the injection moulding of high-quality plastic parts and the assembly of complete modules. The shot weights vary between less than one gram to up to 10 kg. In addition to classic injection moulding, the company also provides special procedures such as gas injection moulding, decorating and film back injection moulding. All established processing and finishing work are also included in the service.

All established plastics are processed in Bernau via centralised provisioning – annually around 3,000 tons. SLG customers come from the most varied sectors, but especially, however, from the white goods, office furniture and chairs sectors.

SLG, however, also produces technical parts for the electronics and measurement engineering industry, machine manufacturing and the automobile industry. Among their most important customers are Liebherr, Vitra, Sedus Stoll, Ikea Europe and Siemens.

With 240 employees in total and a turnover of 40 million Euros, the medium-

sized enterprise in the southern Black Forest also counts as one of the largest employers in the region. The well developed assembly area particularly contributes to this as it alone employs around 60 to 80, primarily part-time, staff. A flexible working model also allows the predominantly female employees working there to combine family and work. While assembly work is undertaken



The filter cartridges for household water treatment are manufactured under clean-room conditions like the dosing pipettes.



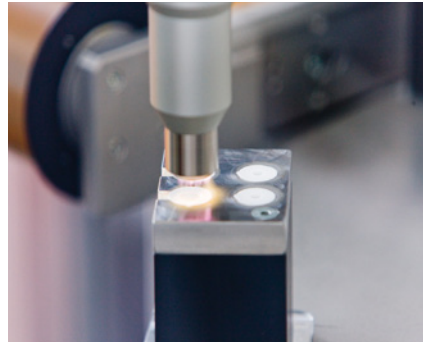
focused on requirements, the injection moulding shop runs round the clock on six working days with 120 employees.

Clean-room manufacturing creates new jobs

SLG has consistently created new jobs in the areas of clean-room manufacturing, sales and product development. The company has already been distinguished with the "Jobs Motor" prize because of this. In the competition with the same name, SLG was awarded third place in the category for companies with more than 200 employees.

The company currently has around 1,200 active moulds on site, the largest weighing a good 25 tons. Between eight and ten mould changes are carried out on an average production day. SLG undertakes its own mould construction so as to maintain and optimise forms on site. The Bernau-based company, however, has most of its moulds constructed by long-term partners based in Portugal. Between 50 and 60 projects come together each year in the process.

SLG regards itself as a full service provider for its customers. The company offers one-stop provision of all processing stages, from the initial idea through to the packaging and despatch of the manufactured products. In the engineering area alone, ten specialists are engaged in project planning and product development as well as further processes. The assembly department, which was enlarged in 2007 within the framework of the extensive expansion of the company, occupies a special position in this regard. The commitment and investments are paying off.



The entry into medical engineering also promises to bring great success as a part of this. The first plans for expansion measures have already been drawn up in the meantime – covering both the production area and also the machine park.

In addition to all this, the company has also attracted attention in another area: its newly established brand "Make Black Forest" won the sought-after "Plus X Award" in 2010 for the innovative load speaker design object, "Make One". The jury of what is the largest technology, sports and lifestyle contest in the world awarded it two rankings in the categories for innovation and operating convenience at the same time. In addition to the award for "Product of the year" from the pro-K Industrial Association for Plastic Semi-finished and Consumer Products e. V., there was also in 2011 the "Red Dot Design Award", which has been awarded for over 50 years by the North Rhine Westphalia Design Centre, one of the oldest and most respected design institutions in Europe.

The "Make One" is an all-in-one loud speaker with a 3600 sound experience and ambience light for in- and outdoor use. Its UV- and weather-proof, water-tight housing has a nano-surface to produce a dirt-repellent lotus leaf effect. A top range audio system with high and medium tones as well as two sub-woofers is installed in the interior. The three loud speaker surfaces of the tetrahedron-shaped housing can be controlled independently of each other. ■

Author

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The further processing of the pipettes is undertaken fully automatically. From l. to r.: plasma treatment of the surfaces as well as depression is effected after ejection from the mould. The pistons are then automatically inserted into the vials (below).



Family day in Schwaig: Great fun had by large and small

In action, entertainment for children and Japanese traditions

Where and how do partners or parents spend their cherished, long working days? Answers to this often asked question – and much more as well – were on offer at the Family Day held on 2 July 2011 at the Sumitomo (SHI) Demag works in Schwaig. Around 800 interested visitors took up the invitation.

As well as interesting tours of the works for large and small visitors, four injection moulding machines could be seen in action in the Application-technical Department. The apprentices introduced their trainers and revealed all that they had already learnt at Sumitomo (SHI) Demag in tours through the Training Workshop.

Our small visitors also had a lot of fun as well, though. They were able to frolic around in the bouncy castle and have themselves transformed into numerous types of animals or fantasy figures with a bit of colour through face-painting.

The Japanese paper fishing – which CEO Tetsuya Okamura had personally helped to prepare – enthralled not just the little visitors. Many grown-ups had a go at the game of skill. In line with another Japanese tradition, the visitors were able to express their wishes on coloured paper during the tanabata festival and hang these on a bamboo tree. In order to ensure all the wishes are met, the colourful little tree continued to be placed in Reception during the following days and thus helped to remind all employees of a very successful Family Day. ■



Visitors come in droves to the Wiehe works

The Sumitomo (SHI) Demag works in Wiehe experienced a veritable mass stampede when they opened their doors for the first time in eleven years to any visitors who were interested on 24 September 2011. “We are seen as a closed system. I want to change that”, is how Works Director Frank Stengel had explained the reasons for the day in the run-up to it. The impressive number of 1,800 visitors proves that this initiative succeeded.

Not only currently employed and former members of staff came on a pilgrimage to the works site. Numerous visitors wanting to learn more from Wiehe and its surroundings also came to be shown how 280 employees construct modern injection moulding machines, which are then exported throughout the world.

In order to channel the strong wave of visitors in the correct directions, there were regular tours through the production process. A particular highlight in these was an injection moulding machine which produced a little plastic case. A robot then finally packed a bag of gum-

my bears into the case, closed it up and a very popular souvenir of the visit was ready to be taken away. Creature comforts were also best catered for. Our little visitors also enormously enjoyed a slide, bungee run, painting street and face-painting. ■



There was enormous interest: 1,800 visitors came to the Open Day in the Wiehe works.

Vocational training and studying at the same time – a combination with many advantages

Sumitomo (SHI) Demag provides sandwich courses in Schwaig and Wiehe

What to do after A Levels? Take a vocational training course? Or rather study at university? Or perhaps do both, one after another? Hundreds of thousands of school-leavers ask themselves these questions every year. It is, however, possible to kill two birds with one stone. A dual course of studies allows you not only to complete a full vocational training course but also to acquire a Bachelor's degree from a University of Applied Sciences. With this modern training path, Sumitomo (SHI) Demag offers young people with an interest in technology new prospects for the future on both sites.

Due to the high proportion of the training which is practice-based, the course of dual studies provides young people with optimum preparation for their later professional careers. The much feared "praxis shock" after studying is thus avoided. In

addition, the dual course of studies conveys at every stage so-called key skills, such as the ability to work in a team, practical thinking, creative debating with colleagues, dealing with customers and organising work flows. These skills are crucial for successful professional practise in addition to exercising purely technical skills. The training provider also counters in a targeted way the problem of a lack of skilled labour by promoting talents and company loyalty at an early stage.

Sumitomo (SHI) Demag offers numerous opportunities for such courses of study in Schwaig and Wiehe. Interesting activities in manufacturing, construction and development then await successful course graduates. In Schwaig, it is possible to combine a vocational training course to become an industrial mechanic, electronics engineer or mechatronics engineer with a course of

studies in mechatronics or machine manufacturing at the Nuremberg University of Applied Sciences. The training here lasts for a total of 4.5 years. Two dual courses of studies are offered in Wiehe. One combines the profession of electronics engineer for operating technology with studies of electronic / information technology at the Leipzig University of Applied Sciences, while the other combines training to become an industrial mechanic and studies in machine manufacturing at the Mittweide University of Applied Sciences. Both dual courses of study cover a period of four years each. ■

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Dual courses of study combine theory and practice advantageously by combining vocational training and studying.

Low energy innovative engine parts production

Johnson Electric Switzerland AG is switching over to all-electric machines

Any company that is manufacturing for automobile producers must be able to detect demands in the market quickly and directly as well as future trends in auto manufacturing. One such company which focuses its production in the wake of the automobile sector is Johnson Electric Switzerland AG in the Swiss city of Murten. Their Automobile Products Group (APG) Department manufactures over two dozen different motors and drives for the most varied fields of application.

The main applications are above all drives for air conditioning systems – 10 to 15 motors are responsible for this in upper category cars alone – as well as headlight beam control and switches installed in electrical components for ignition locks. Other application fields include window regulators, ABS systems, fuel pumps or exterior mirrors. Johnson Electric is, according to its own figures, the current global market leader in the

area of positioning drives for air-conditioner flap movements. The company supplies products to various manufacturers, including Valeo, Behr, Delphi, Hella and Visteon.

Global thinking and local manufacturing chains

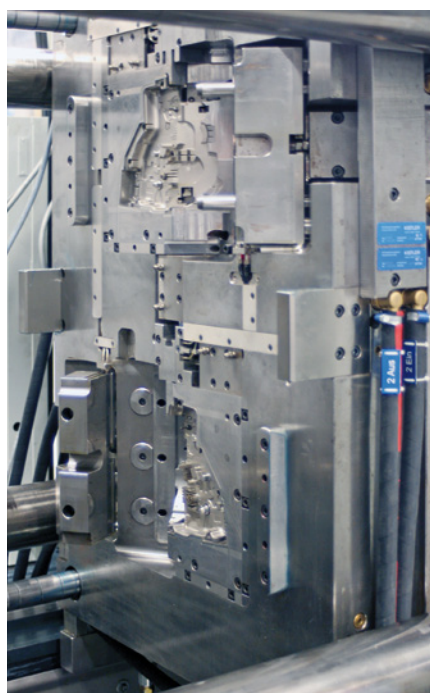
Components for electrical and electronic applications have been built in Murten since as far back as 1957, initially under the name SAIA and later as SAIA Burgess. In 2005, the company was taken over by the Chinese family-run firm, Johnson Electric, based in Hong Kong. Today, the group includes the following four branches: Automotive Products Group (APG), Industry Products Group (IPG), Johnson Medtech (JMT) and Components and Services (C&S). There are also three niche companies, namely the Parlex Corporation, Saia-Burgess Controls and Tonglin Precision Parts. Because of their product range, the APG and IPG

branches, among others, continue to be based in Murten.

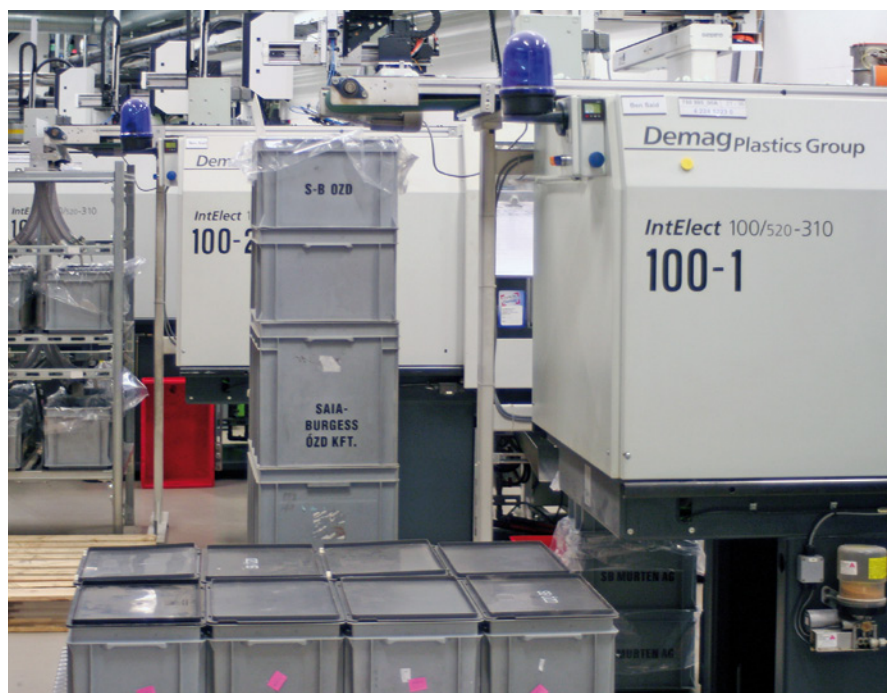
The group's philosophy includes working together globally on developments, while at the same time, however, supplying assembly plants locally and keeping transport distances short; after all, working economically is a key factor in the automotive sector. The plastic components produced in Murten are consequently used directly on-site for motor production. Furthermore, production at the Murten site is almost fully automated, including in the assembly facility.

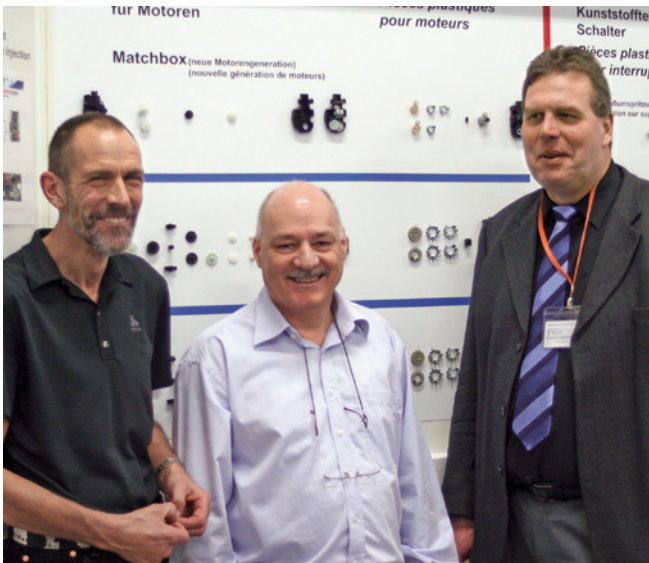
Johnson Electric Murten operates a complete production chain for plastic components on-site. An in-house toolmaking facility employing 34 people is responsible for almost all the moulds that are used in Murten, from manufacture through to maintenance. As Erwin Brügger, Director of the Components & Tooling Department, explains, moulds are usually only

Most tools, such as this one for a match-box housing, are produced in-house.



Whether gears or element carriers: most of the twelve IntElect machines produce fibreglass-reinforced products for small motors and drives.





Partners in plastics (from l. to r.): Peter Graf and Erwin Brügger receive support and advice on all aspects of Sumitomo (SHI) Demag injection moulding machine from Urs Kocher.



Erwin Brügger monitors various processing data with the help of a Saia PCD e-Web panel in the production hall, including the energy consumption of every individual injection moulding machine.

produced off-site if specialised items, such as large mould shells, are involved. "We have about 120 active moulds in total," says Brügger, "and we do more than just concentrate our expertise in-house as we produce them ourselves. We are also able to respond quickly and flexibly to new developments." Forty employees work in the injection moulding shop itself and operate 42 machines with clamping forces between 250 and 3,300 kN. The injection moulding shop earns between 25 and 20 million Euros annually with its products.

"We only make technical parts in the factory, and most of them are fibreglass-reinforced. We process materials with a fibre proportion of up to 60 %," explains the Head of Department during the tour. Almost all of the components for motor assembly – which also takes place in Murten – come from here: housings, gears, worm gears and other small parts. One quarter of the 40 injection moulding machines is made by Sumitomo (SHI) Demag – and the trend is rising. The evaluation of various machines was

commenced some years ago in Murten. As a result, they have come to concentrate on Sumitomo (SHI) Demag as their suppliers since 2005. Furthermore, the parent company in China has exclusively used these machines in its production for years – there are currently about 150 of them – and it only has good things to report. Parallel to this, Johnson Electric was advised by MAPAG Maschinen AG, Sumitomo (SHI) Demag's Swiss sales partner, has in the meantime supplied six IntElect injection moulding machines.

Energy consumption of all machines at a glance

The intention in Murten is to invest further in electric machines in future. This is not just due to the level of customer care they receive from MAPAG. "In the long run, energy savings are highly important for us," explains Brügger. "Recently, we started using a Saia PCD e-Web panel for building automation in order to monitor the energy consumption of all injection moulding machines and to provide us with concrete figures

in real time. It only takes a few clicks on the panel to call up the current figures for the last week of production. While the hydraulic 1,500 kN injection moulding machine used by us to produce a component for our matchbox motor series weighing 14 g with a 4+4 cavity stack mould consumes on average 516 kWh of energy, the IntElect 150-610 produces the same part with an average of 306 kWh. We can compare this very effectively, because we often produce the same product, with identically constructed moulds, on several different machines," explains Brügger. "This energy reduction results in savings of about 11,700 Swiss Francs annually for this product. Just taking this calculation on its own means that a new investment in an IntElect pays for itself after about five years." The top level electrical performance of the IntElect is in any case lower than that of the hydraulic machine, as Brügger also demonstrates, using another means of illustrating the point. This is important when selecting the rating of the mains connection, since a lower rating can be provided.

A further advantage of the IntElect injection moulding machines is said to be their precision, as emphasised by Peter Graf, production support for plastic parts production, so that components such as bearings can be accurately seated. "We carried out a production comparison using the same mould for a PA gear on both the IntElect and on a hydraulic machine," he explains. "After this, we checked three characteristic dimensions for all parts. Whereas on the electric machine, given a total part length of just under 17 mm, a maximum length difference of only 0.024 mm occurred, the difference in the case of the hydraulic machine was already twice as large."

Johnson Electric conducted tests with another gear, in which the switch to the IntElect produced a similarly marked increase in precision – as shown by the box plots produced in the comparative measurements. The characteristic parameters in this product are bearing diameter, length and tip circle diameter. The box corresponds to the area in which the middle 50 % of the data points lie, and the narrowing of this distribution range is generally more than half.

Cavity-specific placement integrated as quality flap

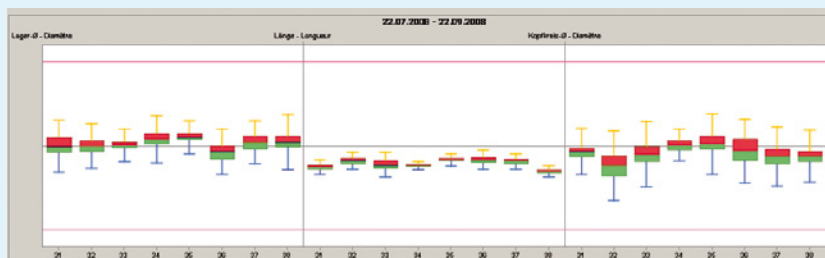
At present, two IntElect 100-310 machines are used in the production of gears, each with a 16-cavity mould. Cavity-specific placement by means of handling robots is integrated as a quality flap in the case of fully automated manufacturing. After each shot, the machine checks compliance and triggers placement in a separate scrap container in case of doubt – a very rare event, as Brügger emphasises. It is routine for a complete shot to be removed for microscopic inspection and dimensional checking every two hours.

The gear is a component for the matchbox motor and is installed in a housing made from fibreglass-reinforced polypropylene, and which ultimately forms part of a complete motor. The housings and covers are produced with a 4+4-cav-

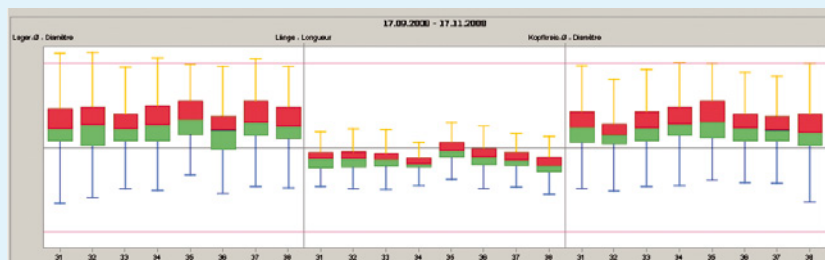


This gear serves as the starting point for the matchbox motor.

Machine: D100-1 (all-electric IntElect 100-310)



Machine: E125-3 (hydraulic machine with 1,250 kN clamping force)



The box plots from the dimension check on the gear for the matchbox motor the strong influence of precise, all-electric drive technology on the dimensional accuracy of the products.

ity stack mould on an IntElect 150-610. Each of the 14 gram components are made within about 19 seconds. "Here too, consistency of dimensions is a decisive factor for us", says Peter Graf.

IntElect machines for complex technical parts

Johnson Electric produces themselves the associated door lock shells for the application area of door locks, with their highly complex shapes. An Ergotech concept 330-1450 from Demag with 3,300 kN clamping force is used for this. The components are made of PBT and are produced in a 2-cavity mould with core pulls that form the left and right sides at the same time. In the subsequent appli-

cation, the door lock combines various electric motors and switches both for the opening mechanism at the push of a button and for opening by key.

Johnson Electric uses IntElect 210-1000 machines with 2,100 kN clamping force for producing what it calls an electrical component carrier. The PBT parts are made in a double mould and subsequently accommodate various electronic components. The carrier is designed in such a way as to allow the sensitive elements to be cast in resin, thereby protecting them against external influences.

All the injection moulding machines in production at Murten are also, by the way, supplied from a central materials

station. This distributes around 2,000 tons annually of material, predominantly technical and high-performance plastics such as PEEK, PA, PBT, POM or PC, as well as polyolefins such as PE and PP.

In direct contact with automobile manufacturers

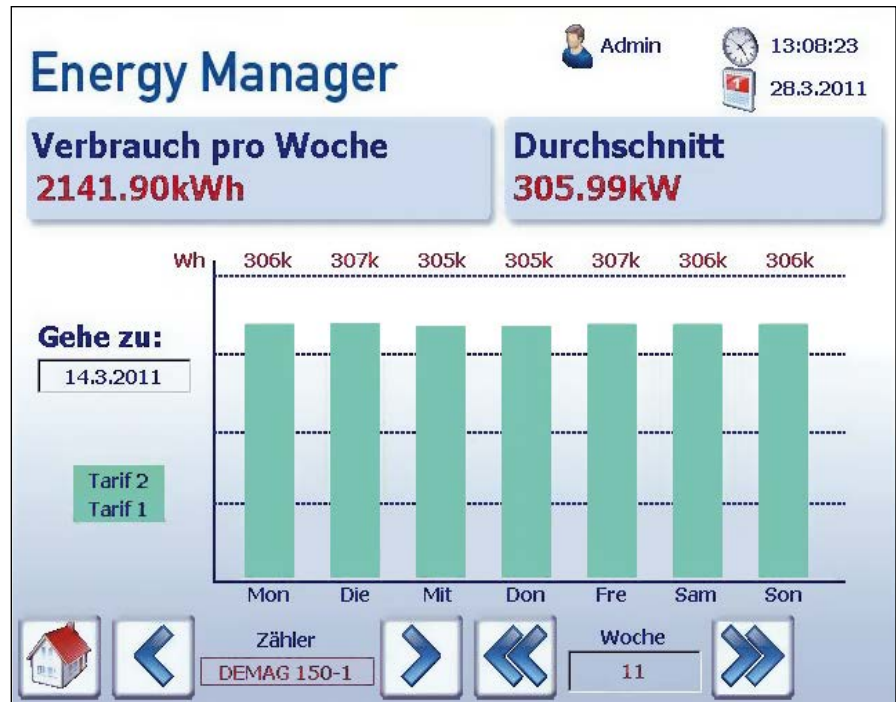
With its production concept, appropriate integration of products in the group, as well as its modern equipment, the Murten site is best equipped to meet the future too. This is no marginal task, because Johnson Electric is in direct contact with car makers, gets involved in current developments and develops the motors for the required applications. "The idea for the application is broken down into its individual components by our designers in the APG department, and translated into component geometry", explains Brügger. "This includes points such as the attachment method and the size, the question of how functions should be carried out and what is necessary for them, as well as the motors being defined and coordinated."

Involved in developing visions and developments right from the start

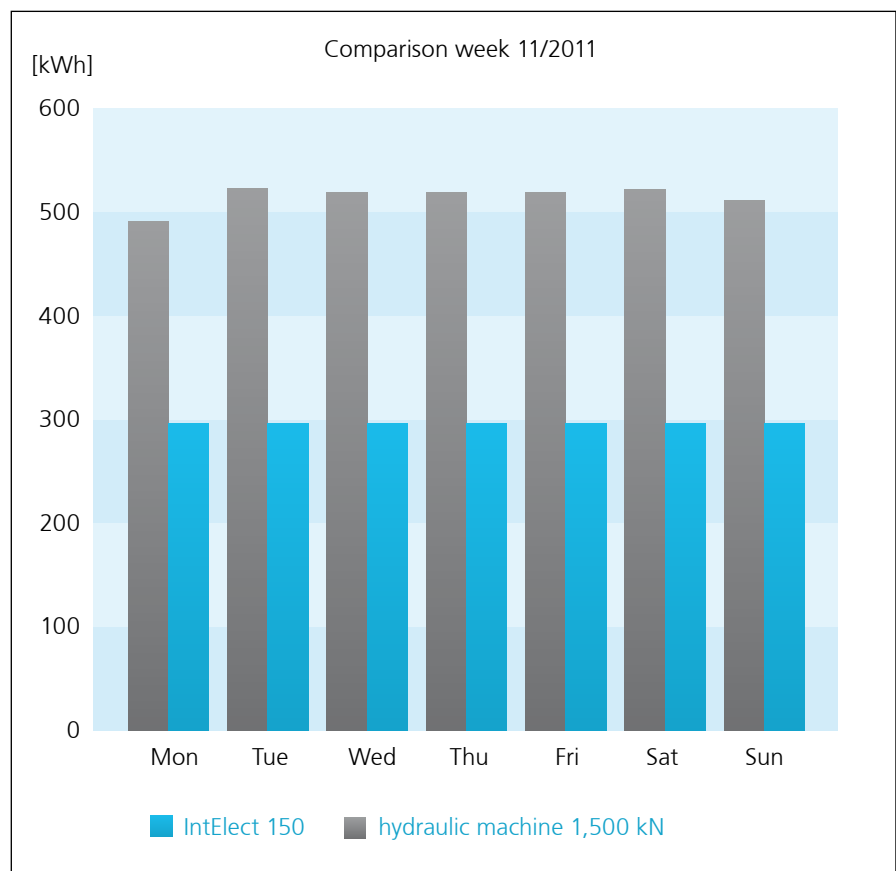
This means the company is generally involved in developments right from the word go: "There are already designs exploring the idea of cars without door handles. This requires a clever symbiosis between motors and sensors, including developing the electronics, so that the numerous systems in the car do not disrupt one another", the Head of Department goes on to say. He can also spot numerous ideas in terms of the technology. Many of these concern lowering fuel consumption. Therefore, changing over to all-electric machines certainly represents a logical step for an automobile supplier, if careful use of resources represents an important future issue for both parties. ■

Author

Dr. Bettina Schnerr-Laube
Freelance journalist



The current consumption values of the injection moulding machines at Johnson Electric can be checked at any time using the e-Web panel; here the energy consumption of an IntElect 150-610 is shown.



In direct comparison with an all-hydraulic 1,500 kN injection moulding machine, Johnson Electric established reduced energy consumption of approx. 40 % as regards the IntElect 150-610.

Top know-how and regional service for local and international customers

Tomasz Tybura and his team provide care for Sumitomo (SHI) Demag customers in Poland

Czestochowa – in German: Tschenstochau – is well known to many as a world – famous place of pilgrimage to the icon of the Black Madonna. The famous Polish big city in Silesia is also where Sumitomo (SHI) Demag's Polish subsidiary is based and is ideally located with regard to the important regions of Polish plastics processing: it is 220 km from Warsaw, 70 km from Katowice and 180 km from Breslau/Wroclaw.

Demag Plastics Group Sp. z o.o. Poland has a building in Czestochowa covering over 300 square metres. The integrated Technical Centre is equipped with a machine and an NC5 terminal for training purposes. It has its own training room for the delivery of training courses. The spare parts depot consistently keeps over more than 500 wear and tear and replacement parts available. The further 30,000 various replacement parts can be despatched from Sumitomo (SHI) Demag's central depot in Schwaig within one day by air freight or within a few working days otherwise on-site. The Polish team's on-line connection to the

SAP system ensures reliable information as regards availability and delivery times.

Tomasz Tybura, Dipl.-Ing., Managing Director of Sumitomo (SHI) Demag's subsidiary, line manages 13 employees. Sales and service are spread out close to customers throughout the whole of Poland, but all central tasks are focused



in Czestochowa. As Sales Engineers, Michal Ciazynski is based in Bydgoszcz and Jaroslaw Krauze in Czestochowa. The Sales Team is completed by agents Andrzej Zwierzynski in Warsaw and Martin Bajk in Wroclaw. Marek Polowczyk, Head of Service, coordinates the

service technicians from Czestochowa, who, in addition to the central office, are also based at service support points in Swidnica near Wroclaw and in Poznan. He is proud of the long years of experience and high level of competence of his team: his employees have already on average been providing customer support for nine years for Demag, Sumitomo and Sumitomo (SHI) Demag brand machines.

More than 1,000 injection moulding businesses have their head office throughout the whole of Poland, mostly in the metropolitan areas of Breslau/Cracow (Wroclaw-Krakow), Warsaw/Lodz (Warszawa-Lodz) and Poznan/Bydgoszcz (Poznan-Bydgoszcz). The market volume amounted in 2011 to around 450 injection moulding machines. Around 10 per cent of these were installed by Tomasz Tybura's team at Demag Plastics Group Sp. z o.o. Poland.

Tybura has been managing the branch since it was founded in 2004. Prior to that, he had already established and been managing since 1998 the Dematech re-

CEO Tomasz Tybura, Dipl.-Ing., has been managing the Sales and Service team in Poland for Sumitomo (SHI) Demag since 1998.

The in-house showroom enables presentations to be made and offers the opportunity for training to be delivered at the machine.



presentation of the then Demag Ergotech or Demag Plastics Group. Today he provides customer care for Sumitomo (SHI) Demag's large customer base in Poland. Sumitomo (SHI) Demag is represented in all application sectors amongst these – whether in the automobile, packaging, electrical and electronics industries, among the manufacturers of consumer goods (which are particularly strong and important in Poland) or in the small, but up-and-coming medical engineering sector. It is therefore no wonder that the proportion of all-electric IntElect machines in Poland amounts to almost 30 %. The customer bases consists in equal measure of international groups operating sites in Poland and of home-grown companies with traditional origins or which were newly established after

the political turn-around 20 years ago. Almost a third of the machines installed are operated by groups of companies operating internationally, such as Gillette,

Rosti, Phoenix Contact, Valeo or Huf. Important Polish customers include Plastic Form, Alpha, Politech and Capricorn.tech und Capricorn. ■



Head office of Sumitomo (SHI) Demag's Polish subsidiary in Czeszochowa

Sumitomo (SHI) Demag expands its world-wide sales and servicing network

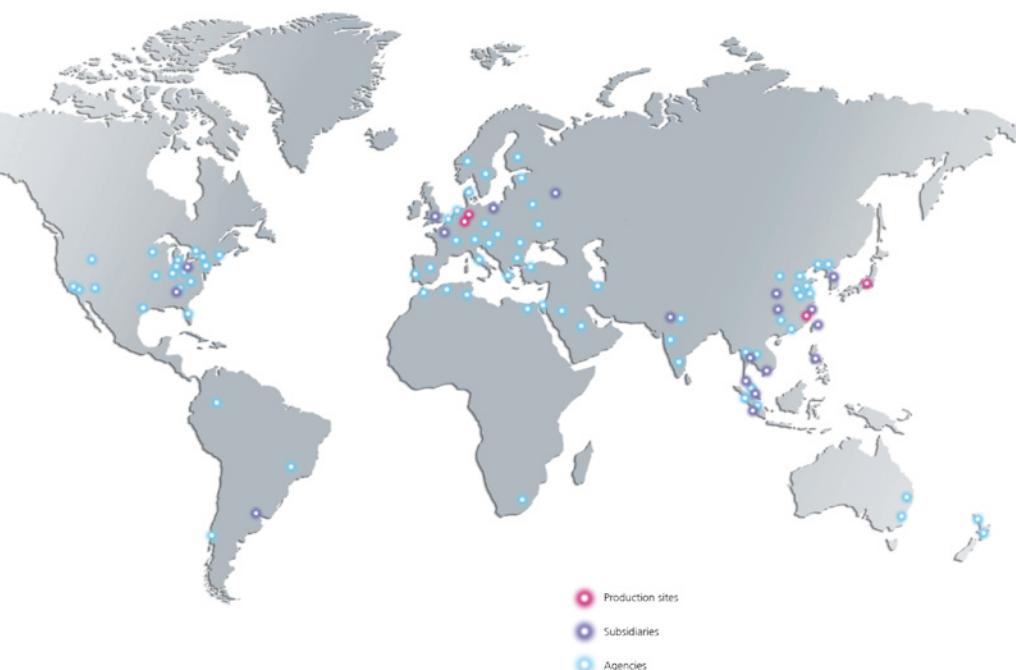
Sumitomo (SHI) Demag has now established a new subsidiary in India. SHI Plastics Machinery (India) PVT. Ltd. in Gurgaon south of New Delhi coordinates the activities of the three agencies in India. With Auxilinks Projects & Machinery in New Delhi providing customer care in the north and east of India, DMT

International in Thane near Mumbai for western India as well as Moulding Solution in Bangalore with responsibility for southern India, Sumitomo (SHI) Demag now has in place a tight network to provide customer care on the Indian sub-continent. The company now overall has subsidiaries in 17 countries.

In addition, the network grew with two new agencies in Argentina and Columbia joining it. Both are managed by Sumitomo (SHI) Demag do Brasil Comercio de Máquinas para Plásticos Ltda. with its head office in the Brazilian city of Barueri. The local contact person is Christoph Rieker.

The company has been represented in Israel since 2011 by Aslaf Industries Ltd. in Holon, headed by Michal Georlette, in Saudi Arabia by the Showrann Trading Co., based in Riyadh. The contact people here are Ihab Abdullah El Khouli and Tariq Arquob. This latest expansion of the sales and service network now mean that Sumitomo (SHI) Demag is now represented in more than 60 countries throughout the world. ■

All contact people in the world-wide Sumitomo (SHI) Demag sales network can be found at:
www.sumitomo-shi-demag.eu/contact





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"Your output is the key input for your competitive advantage"

Daniel Herold, Project Manager El-Exis SP, Sumitomo (SHI) Demag

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