Perfect Packaging Solution

BIS –
All set to go under glass

Industry experience helps to refine a new product

NIS –
Three continents
Three months
NIS. Your solution for quality, ease of use and return on investment

Emhart Glass’ NIS gets your glass container production fit for tough times.

NIS does more with less.
More automation, more flexibility, more quality, more speed.
But at the same time less noise, less energy, less defects, and most important less container cost.
In difficult times, value is everything. So put your precious resources where they will generate most benefit.
NIS delivers the best possible ROI for your glass container manufacturing.

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Partnering for Perfect Packaging Solutions

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Welcome to the latest issue of Perfect Packaging Solution

As you may already know, 2012 is a very special year for us. It’s 100 years since pioneering glassmakers Bill Lorenz, William Honiss and Karl Peiler founded Hartford-Fairmont, the forerunner of today’s Emhart Glass.

Over those ten decades, everything has changed – from the way we work as a company to our international setup and the economic climate in which we work. But the essential container-forming process, remarkably, is still the same. And so is our dedication to helping you run a faster, more efficient and more accurate glassmaking operation, from the feeder to the stacker.

To celebrate our centenary, we’re writing a new history of our company, holding a series of social events and also hosting a very special conference on the future of glassmaking. We will be in touch with more details of all these projects soon.

Eight months ago, we welcomed a new face to Emhart Glass: Christer Hermansson, who joined us following the retirement of Bertil Bjugård. Christer holds a Master of Engineering degree in electronics and developed his impressive technical and managerial skills at Partner Tech Vellinge AB, ABB, Schindler and Sanmina. He has also worked in China and other Asian countries.

As VP L&M, Christer oversees the people and processes that bring you parts and machines, when and where you want them. I am confident that his dedication to improving performance will bring you many benefits in the months and years to come.

With best wishes for your success in 2012.

Martin Jetter

It’s certainly an exciting time to be part of the management team at Emhart Glass

I’m lucky to have joined the company just as we celebrate our centenary. It promises to be a wonderful year of celebration, and I’m sure lots of us – myself included – will learn many new things about our 100-year history.

However, our story is not over. In fact, several new chapters are just beginning. Our manufacturing capability in the Far East is growing and developing all the time, both at our operation in Johor Bahru, Malaysia, and through our joint venture with Sanjin in China. Additionally, both our Swedish manufacturing sites continue to consistently perform. We’re launching our new Hardglass process, which is very exciting, and we’re bringing smart new machine configurations like BIS to the market.

As we move forward on all these fronts, my role as VP L&M will be to make sure that everything comes together as it should for you, our customer. My first eight months as VP L&M have been an intense learning process, but already some themes for improvement are becoming clear. We know we can do more to deliver the results that you quite rightly demand, and we’re working on it – by setting new, more demanding targets and improving the way we measure our performance.

I look forward to working with you.

Christer Hermansson
As a result of customer requests, 2011 has seen the development and implementation of a new system that allows the reporting of quality issues directly into the Emhart Glass quality organisation. The system known as the ‘Quality Connections Portal’ can be accessed from the Emhart Glass home page www.emhartglass.com under ‘report a quality issue’. After an initial and very short one-time registration and confirmation process for security reasons, the system allows reports together with pictures, video or other relevant document attachments to be communicated. Additionally, the system allows the status of the complaint to be reviewed and commented on at anytime by both the individual entering the issue or by Emhart Glass representatives.

By request and after further security checks, the system also has the capability for a senior representative of an organisation to view the complete detail entered by a single plant or group of plants under their responsibility. For effective issue resolution and appropriate corrective action, it is known that as much specific data regarding the issue should be available as soon as possible. At Emhart Glass we believe that this step will facilitate quality issue communication improvements and we very much welcome customer feedback for further development of the system to improve customer satisfaction.
As you probably already know, we celebrate our 100th birthday this year. Hartford-Fairmont, the original predecessor of Emhart Glass, was founded in 1912, and even though our roots actually go back even further than that (particularly in Sweden), that’s the year we call our ‘birthday’.

In the beginning, our company was just a few engineers and entrepreneurs struggling to develop automatic glass-forming machinery. Within a few years, they developed the paddle-feeder and then the IS machine, which quickly became the industry standard and brought the firm great success. After World War II, we began acquiring other firms, leading to the creation of the Emhart Manufacturing Corporation, and expanding overseas with the acquisition of our plant in Sundsvall, Sweden and a new facility in Zurich, Switzerland (which later became our HQ). Beginning in the 1960s, we added branches in Germany, Italy, Singapore and the UK and developed our capability by acquiring Laclede Christy (refractories), Powers (inspection) and ICS Inex (inspection).

Over the decades, we introduced dozens of innovative solutions for glass-forming and inspection, including larger and better IS machines, AIS, NIS, Flexinspect and many more. Most recently, we built a new Research Center in Windsor, USA and a new plant in Malaysia, added an office in Moscow, and forged a joint venture with Sanjin in China.

To commemorate this very special date, we’ve developed a new logo. We’re working on a new history of the company and an accompanying video, so employees and customers alike can learn more about our fascinating story. We’re also planning a series of celebratory events around the world.

More details of our centenary celebrations will be announced very soon. We hope you will be able to join us!
A year in Sanjin

It has been twelve months since we first announced the joint venture between Emhart Glass and Sanjin. In that time, team members from both firms have been travelling back and forth between China and Emhart Glass’ various branches, holding meetings and attending training courses. The rapport that has emerged between the two firms is striking, with strong understanding on both sides and particular enthusiasm from staff at Sanjin. Things are going well!

At a ceremony on 20 July 2011, we set out four key aims for our operation:

> Improve the quality and reliability of our products through investments in Computer Numerical Control (CNC) machines and new processes.
> Enhance our after-sales service and production support to customers.
> Develop a new forming machine.
> Develop a new automatic inspection machine.

In this article, we would like to update you on our progress towards these four goals.

New machines and processes

Our medium-term plan is to replace all our manual machines with CNC units over the next three years. The first batch of 10 machines was ordered during 2011, delivered during March-April 2012 and all machines will be in operation by June 2012. Production planning is in progress and operators and programmers are being trained. A second batch of CNC machines was ordered during April 2012.
The assembly floor has been completely reorganized, with mechanisms, sections and machine-assembly areas clearly demarcated. New procedures and fixtures for assembly and testing mechanisms, sections and machines were implemented. The casting process and procedures are also being reviewed, and we should have an action plan established by Q2 2012.

Turning to the administrative side of our operation, we’re well into Phase 1 of our ERP (Enterprise Resource Planning) project, which involves modules focusing on sales, finance and inventory management. Hardware and software have been installed, staff training is in progress and we are conducting offline trials. We have started to use this software in March 2012; six months after that, Phase 2 will begin.

**After-sales and production support**

We have decided to set up a training center in Sanjin, serving both customers and internal staff. The new center will offer both standard and customized courses at classrooms kitted out with teaching aids and equipment for hands-on training. It will welcome its first students in May 2012.

Our joint venture promises to take Chinese customers’ production to a whole new level, but they will need our help to get the most from their new machines. That is why we’re enhancing our after-sales and production support. Our after-sales team is being restructured and renewed, with current engineers receiving special training and new positions filled.

We aim to introduce our newly enhanced after-sales service in tandem with our new forming and inspection machines, which are scheduled for Q3 2012. From then on, the service will be offered as standard to all our customers.

**New forming machine**

Our new CIS machines destined for the Chinese market have been designed for reliability, long life and high-speed production. The range will comprise feeders, IS machines, ware transfer, stackers and cross-conveyors; in terms of forming, they will be capable of the Blow/Blow, Press/Blow and NNPB processes. Alongside the equipment, we’ll be offering full documentation, training, installation, commissioning and production support.

The first eight-section 5-1/2” DG CIS machine is now being built, ready for delivery in June 2012 and operation by August 2012.

**New inspection machine**

We are developing a new, state-of-the-art rotary inspection machine, offering all the essential inspection functions. Our key aim is to enable Chinese customers to justify the switch from manual to automatic inspection.

The first prototype was built in USA and delivered to Sanjin during March 2012, where it will be re-engineered for local manufacture. The first Chinese-made machine will be ready by August 2012. Once we launch this rotary machine successfully, we will develop plans for locally manufactured camera-based inspection machines.

As you can see, we have a great deal to look forward to here in Sanjin. We hope to be able to report on more progress in a year’s time!
Glassforce sees a great future with AIS

Glassforce is Nigeria’s leading bottle manufacturer. Having been founded in 2002 to meet demand from breweries, the company has expanded over ten years to produce a wide range of bottles for a growing list of clients.

Recently, Glassforce took the decision to invest in a 10-section Triple Gob AIS machine from Emhart Glass, and production with the new machine is now in full swing. We spoke to Jean-Paul Donnard, the firm’s Deputy Managing Director, to hear his thoughts on AIS technology, the startup process and the production results so far.

Glassforce is the first producer in West Africa to use AIS. What were the reasons behind your decision?

Here at Glassforce, we have a single furnace serving two production lines, both of which were originally configured to produce a particular weight of bottle. When we moved to a lighter weight, we ended up with excess furnace capacity. So we decided to replace one of our machines with a new Triple Gob machine. I felt that the supplier of our existing machines had no real experience with Triple Gob. So I went to Emhart Glass, the only reliable supplier for Triple Gob in my opinion. We chose AIS because of its higher capacity – and it’s been around for 40 years, so we knew it was successful. I also visited friends in Greece and Bulgaria who have AIS machines – not only to see the machines, but to talk to everyone in the company, from managers to operators. I asked them one simple question: ‘If you were buying a new machine today, would you buy IS or AIS?’ Without exception, they all said ‘AIS’. I was convinced – I wasn’t buying a machine from them, so they had no reason to lie!

The startup of the new machine type with a new timing system and Triple Gob operation is quite a challenge. How did it go?

Everyone was a little nervous about the switch from two to three bottles, but in the end it went very well. We had excellent support from Emhart Glass, and we were lucky to enlist the help of a new production manager who had been working with the same timing system for around six months. Before we started, I asked friends in the industry about Triple Gob – was it really so scary to make the switch from Double Gob? One told me that his father had been working in the Italian glass industry when they switched from Single Gob to Double Gob. It was revolutionary – many people thought it was impossible! But of course, they’ve been running Double Gob for the last 40 years. Making changes like this is a matter of belief.

How long did it take the operators to get used to the new technology?

It didn’t take long at all. Of course, it helps that our production manager doesn’t sleep much – he’s on the factory floor around 20 hours a day!

How quickly did you reach the expected production efficiency?

Within two weeks, we were producing bottles on all 10 sections with an efficiency of around 90%. The machine is like a Swiss watch – even though it’s made in Sweden!

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Are you satisfied with the actual pack to melt rate when producing in Triple Gob?

Yes, because we are using the blow-and-blow process. We’re not working in narrow-neck press and blow. With that in mind, we are very satisfied.

Have you already noticed any advantages from the parallel mould opening and closing (MOC) offered by AIS?

Logically, we would expect the central cavity to cool more slowly than the two outside ones – simply because it’s between the two other cavities. On the AIS machine, we have the capability to control the cooling of each cavity on each section, which is very good. And parallel MOC delivers very homogeneous cooling of the container too.

How do you compare job changes between your previous machine and the AIS machine?

It’s a joke! You really can’t imagine how much happier our operators are with this machine in comparison with our other line. Glass to glass, we can now achieve a job change in about one and a half hours – that’s around two to three times quicker than the other machine. Now, you have to remember that we are running blow-and-blow. And also, we’re operating in Nigeria – we’re not Wiegand-Glas in Germany. Bearing those points in mind, we’re very happy with job changes being at least twice as fast. And so are our shareholders.

Do you see AIS as the future of glass forming equipment?

We’ll definitely be sticking with AIS in the future. In my view, if you’re in the market for a new machine, buying an AIS line is rather like buying a 1974 Citroën DS. AIS simply makes more sense. In terms of western Africa, we’re really talking about the long term in terms of AIS being taken up more widely. Nigeria is the biggest glass producer on the west coast, and there are no glass producers in Senegal, Ivory Coast, Togo, Ghana or Benin – only in Cameroon, where they bought an Emhart Glass machine two years ago. However, if anyone in Africa is thinking of buying an AIS machine, they’re very welcome to come and see ours.
BIS - All set to go under glass!

BIS is our latest highly advanced servo IS machine for flexible glassmaking, supporting frequent job changes and smaller quantities. The product of intensive and careful development work at Emhart Glass, BIS features the same parallel mold open/close as AIS but is fully servo-electrically controlled. It offers the capability to produce a huge range of glassware, and will be available in 8-, 10- and 12-section variants. BIS can be configured as DG 140mm (5½) and 95mm TG; a 70mm QG configuration will follow later.

BIS made its official debut at Glasstec 2010, when a single section was demonstrated. It was then further developed and improved for commercial launch at our Research Center in Windsor, USA (EGRC), where two BIS prototype sections have been running under glass since July 2011.

Customers recently visited the Research Center to check on progress, viewing the two sections running in 95mm triple-gob (see images), and were delighted with progress to date, both in terms of performance and the features available. All involved agreed that BIS shows great potential for medium-sized and small ware container production, where the huge flexibility and potential for jars and baby-food production is expected to make the technology a sure-fire winner.

Development enhancement cycles have been significantly accelerated by EGRC, where unique real testing under glass can be carried out without hampering commercial production.

Since the BIS prototype sections are under glass, the opportunities for improvements have been carefully analysed by the BIS team, and their findings and conclusions have been continuously integrated into the technology.
At the beginning of this year, Emhart Sweden started to manufacture and assemble the first of the two BIS 12-section machines on order. They are configured in DG 140mm with the capacity to switch to TG 95mm.

The smart compact design of BIS makes it a straightforward substitute for pneumatic IS machines producing smaller and mid-range glass containers. BIS and IS sections have the same 21” width, so the two machines share the same ‘footprint’.

After final tests and customer inspection have taken place at Emhart Sweden, the first BIS machines will be shipped, installed and commissioned at a greenfield plant. This will be an important milestone for success of the BIS, as it proves its ability to achieve a new level of process control and outperform pneumatic IS machines in terms of performance, flexibility, servo precision and repeatability.

**BIS will become commercially available at the beginning of 2013.**
The NIS articles from our Project Managers from Italy, South Africa and Russia prove that the full servo-electrical NIS machine has definitely become a major player in the IS machine market.

About 50 NIS machines are operating all over the world, and these confirm that it is no longer an “exotic” IS machine run mainly by glass container producers who love new technology. Customers are re-ordering NIS machines, a clear confirmation and proof of features and benefits increasing competitiveness advantages, like:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full servo electric IS machine</td>
<td>All kinematic profiles stored on the job file, pack, equipment life time, job change time, work out time</td>
</tr>
<tr>
<td>5” TG</td>
<td>Wine and spirit in Triple Gob (50% increase)</td>
</tr>
<tr>
<td>95 mm QG (Quad Gob)</td>
<td>Beer, soft drinks (33% increase)</td>
</tr>
<tr>
<td>Parallel blank and blow mold</td>
<td>Improved mold equipment life time</td>
</tr>
<tr>
<td>Reduced energy consumption</td>
<td>€ 40-80k/year (depends on cavity rate)</td>
</tr>
<tr>
<td>V-Baffle</td>
<td>No need for a Funnel</td>
</tr>
</tbody>
</table>

NIS – Flying High!

Leo Diehm  
(Director Product Management)
NIS users report production speeds on 0.75l wine containers exceeding their internal benchmark of the 6½ DG machines. Imagine the benefit of producing wine bottles in TG whilst others are still doing it in DG at the same or even lower cycle rates. There is no question that cost per container declines dramatically.

The NIS is a dual configuration machine 5”TG convertible to 95 mm QG, whose center distance is capable of adaptation to face expected market shifts over the machine’s life time. This gives an additional huge market advantage to be able to produce the required glass containers on an optimal machine center distance. For example, producing the 0.3 l beer or soft drink in Quad Gob and 0.75l wine in Triple Gob is raising today’s industry benchmark.

Today NIS must be considered as a serious option for any glass plant targeting higher volume production runs. To ignore the NIS business case in such a long term investment project would be a huge mistake.

Some conservative market players may avoid innovations and certain improvements, either from short-term strategic considerations or financing restrictions or the mistaken belief that it is “safer” to ignore progress. In nature, as in business, the fingerprints are similar. Failing to “move or innovate” is in fact unsafe. Many species on earth have proved this, by not surviving in the competition called evolution. Where would the world be today without innovation?

“Move or innovate”

“Move or innovate” also applies to glass container producers, and to the final customer choosing glass containers as the preferred packaging material. Just compare glass container production 50 years ago and today. Half a century ago most “plain” containers were produced on Single Gob IS machines. However rotating machines were still widely used. Double Gob production had been introduced about 60 years ago and as it made the transition from “exotic” to standard, it made life more and more complicated for the rotating machines until they faded away.

Over the past 100 years Emhart Glass has been proud to be the driver and enabler of success for the entire container glass industry. Our commitment to providing innovative solutions, and our belief in glass as a material are well demonstrated by our substantial investment in a dedicated Research Center. This aims to ensure continuing innovations and to be a key facilitator for a brilliant future of the glass container business over the next 100 years.
One of the key advantages of having excellent industry contacts is the ability to receive their feedback about our products. This allows us to develop new products to meet their needs.

To make best use of this resource, Emhart Glass has joined forces with strategic partners from the glass container industry to form a FleXinspect T Users’ Team that focuses on the development and stabilization of the FleXinspect T. The main objective of this team is to help us make this the most reliable, accurate, and revolutionary rotary inspection machine in the market. By concentrating on these goals, the team has been willing to challenge some of the most basic, yet fundamental, features of the machine. As a result, new concepts, methods and developments are being implemented that assist operators in the daily operation of the machine.

In yesterday’s glass factories, conventional production lines were equipped with no less than three types of inspection machines on multiple inspection legs. On job-change days, a team of technicians changed the line and started making the required modifications to the equipment to run the next product – a long process. So demanding was this task that many times these technicians were devoted to work on a single machine type.
Users of the FleXinspect T profit from a unique benefit in the cold end inspection area. The FleXinspect T, when fully equipped to be a total inspection machine, simplifies the production line layouts and reduces the number of machines to be job-changed from three types to one. The concept of having teams dedicated to setting up a single machine or machine type no longer applies to this new equation, resulting in greater flexibility of personnel.

Enrique Iturbe, Technical Director with the Vidrala group and his staff have been key players in developing the FleXinspect T, and have closely worked with Emhart Glass from the early concept stage to today’s released product. With their assistance, Emhart Glass has made (and continues to make) significant improvements to the machine. Today, we are delivering machines that have the ability to simplify and improve the cold end inspection lines in today’s flexible glass plants. We have also been able to reduce the number of inspection lines required, thus freeing up investment capital and expensive floor space.

By providing Emhart Glass with valuable input and insights to some of the challenges they are experiencing, the members of the FleXinspect T Users’ Team provide the level of focus and direction needed to improve the final product for everyone. As machine suppliers, we sometimes overlook simple requirements from the operating staff. This partnership has truly pointed out the benefits of what can be gained when you listen to the customer, the people who actually use the machine and rely on it to perform.

The good news

The good news is the pay-off from all of the effort that is put in after the long discussions and multiple meetings. The Vidrala group has recently ordered additional machines for some of their other glass plants.

"When we first considered the FleXinspect T machines, we were attracted by its modern inspection technology, and its reduced floor space and lower job-change setup times. We were aware that any new concept brings risks, but as a forward-looking company believing in technological advancement we were prepared to work with Emhart Glass to achieve our goals. We are happy to report that our confidence in this concept has been fully confirmed, and that we intend to install this equipment throughout our plants” (Enrique Iturbe).

Sales momentum is building as other FleXinspect T owners also start to order further machines for their factories. As we continue to work together and refine this product, everyone has the chance to benefit from the hard work and dedication of the FleXinspect Users’ Team.

Emhart Glass understands that the concept of an “all in one” total machine is so radical as to be initially challenging to some plants. But, when they look a little closer at the capabilities of today’s FleXinspect T, many start to ask themselves: “Could this be the machine for me?”

The FleXinspect T may indeed be the answer for those companies who need to re-equip to achieve higher production outputs and simply do not have the line space available for multiple inspection lines. It may also be the answer for companies that need to add inspection technologies that the older inspection machines do not support.

The simple attraction of the FleXinspect T is that fewer machines are needed, requiring less floor space, shorter overall setup times, fewer wear / spare parts, lower maintenance costs and smaller operating teams to perform job changes.

Emhart Glass believes the FleXinspect T is the answer. The good news is, many of our customers agree!
Emhart Glass announces the availability of the ProLab, the latest addition to its family of systems designed to help the glassmaker keep the forming process under control.

A quick look at the containers traveling in the cullet conveyer at the cold end of a glass container factory is usually a very good indication of the overall quality of the production. Unfortunately, a fair number of glass containers produced every day never reach the customers. Although the industry as a whole has made great progress towards zero defect production, in most cold ends the cullet conveyors are still getting plenty of use. Each one of those containers is not only a loss in term of revenue but also in the intrinsic cost of the energy used to produce it.

Over the last 15 years the focus of the industry has shifted from quality selection, with cold end inspection machines sorting the good from the bad, to quality improvement, with equipment putting information in the hands of the bottle maker at the hot end, where quality is made. This shift from an environment where quality is controlled to prevent packing defective containers, to a paradigm where quality is manufactured, has proved essential to increasing productivity and reducing production costs necessary for long term sustainability against alternative packaging solutions.

Anticipate the drift

Experience shows that continuous monitoring, trend analysis, and careful planning of corrective actions are the main ingredients of a stable process. A slow drift in production, if not corrected in due time, can affect the critical dimensional characteristics of a container. The challenge, of course, is to anticipate the drift and take corrective action before any defective containers are produced. Imagine being able to ‘predict’ when a piece of equipment is going to require maintenance.
The ProLab is the latest addition to the array of tools to keep the forming process under control and improve the quality of containers produced. The ProLab provides fast, accurate, semi-automated dimensional measurements of glass containers in the hot end, where the bottle maker can take immediate action. The ProLab is specifically designed to measure dimensions of the container including lean, internal bore, and glass thickness. This information traditionally comes from the cold end, so the effect is a significantly reduced feedback time to the hot end operator.

High-precision laser system

The ProLab is equipped with a high-precision laser system to perform all external dimensional measurements. In addition, a non-contact chromatic glass thickness device measures the wall thickness of the containers. The glass thickness sensor is mounted on a linear positioning slide which automatically moves the sensor to the correct distance from the glass surface for optimal measurement. Containers are manually placed on a high temperature resistant table with an elevator automatically lowering the container to different locations in front of the measuring devices. During 360 degree rotation of the container, the laser system and the glass thickness sensor continuously send information to the processing unit. From here the information is processed to calculate the absolute dimension for the corresponding location.

The ProLab uses proven technology to perform the measurements. Particular care was given during the design to ensure the machine can withstand the harsh hot end environment. It also became clear during the early phase of field tests that in order to be accepted by the hot end operators the machine had to be easy to use. Besides its high-precision measuring capabilities an important feature of the ProLab is the simplicity of its intuitive user interface. Live graphical representation of each measurement is displayed on the touch-screen monitor providing real-time feedback. When measurements fall outside pre-determined limits, icons change to red while measurements within specification show up in green. If the operator requires more information he simply touches an icon on the screen to automatically display a more detailed graph. Throughout the various screens the user can zoom into the data and pan around with ease. Although probably not necessary for normal operation this feature meets the requirements of today’s glass specialists.

Providing semi-automated dimensional and wall thickness measurements of containers in the hot end is a major breakthrough in keeping the glass making process under control and increasing productivity while reducing costs. The ProLab provides valuable product quality information where the bottle maker can take immediate action, thus significantly reducing the response time to possible anomalies. The ProLab brings the glass container industry one step closer to the ultimate goal of zero defects production necessary for long term sustainability.

Emhart Glass strives to provide the necessary tools for glass container manufacturers to improve their production through continuous process improvement. Long term experiments at its Research Center afford Emhart Glass the opportunity to always be at the forefront of innovation in supporting the glass container industry.
Accessories for IS Machines are the variable parts connecting the section mechanism with the mold parts which eventually form the glass container. Typically accessories are container-specific parts for the IS section like inserts, mold holders, baffle and blow head arms as well as plunger mechanisms, take out arms and tong holders. However using the term “accessories” in the wider sense, delivery components such as scoops, troughs and deflectors as well as orifice rings have to be also considered. The flexibility of an IS machine is highly associated with the possibility to use a wide variety of accessories within the given structure of the machine. Therefore the design, reliability and precision as well as the selections and availability of accessories all contribute to the overall performance of the entire production line.

The wide range of accessories available for IS machines can sometimes make it difficult to select the right parts, especially with the contradiction between keeping a simple standard and having a portfolio of specific solutions each perfectly fitting a certain setup. The impact of this selection is wide-ranging, and reaches from the investment in the parts, to maintenance aspects and job change times. In particular the development of the Quick Change accessories helped to dramatically improve job change times. Quick Change Baffle, Funnel and Blow Head Arms have now become a widely accepted standard in the industry, while Quick Change Neck Ring Holders still represent a relatively small part of the population.
The Technical Services group Customer Process Support is supporting customers with the right selection of accessories especially in the area of mold setups and cooling arrangements.

**Portfolio and Flexibility**

The application of different accessories determines to a significant part the flexibility of the IS Machine itself. Therefore Emhart Glass offers a wide range of accessories to support our entire machine portfolio and its individual application ranges. The result is the largest portfolio of accessories in the industry; however this also presents a challenge to meet the demanding lead time expectations of our customers. The most commonly used accessories are available from stock within the S-class program. Full sets of accessories for the entire machine are aimed to be available within 6-10 weeks. The remaining items in the portfolio are made to order, with lead times depending on specific circumstances. Sometimes special applications demand accessories which are not existing in our current portfolio, but these can be designed on specific customer request and supplied to the known Emhart Glass Quality. Provision of customer specific items is not limited to section accessories like inserts and various arms, but is also available for non-section accessories like scoops and troughs, as well as pusher fingers and other variables.

**Function and Performance**

The functionality of any part of the IS machine is seen as a given, and the same applies to accessories. This means that accessory design has also to be seen in the context of the entire system and has to fit it seamlessly. Only the original machine supplier (OEM) possesses the internal knowledge of both the machine itself and the accessories to fit it. In addition to the design know-how, manufacturing expertise is vital to supply high performance accessories.
Consol Glass is the largest container glass manufacturer in South Africa, operating 5 plants. The latest addition is the brand new plant in Nigel - a small gold mining town in the industrial East Rand area. To meet future demand Consol designed this greenfield factory to take advantage of the best available technology to satisfy future capacity demands and fulfil environmental requirements.

The NIS was selected as being the optimum machine to meet Consol’s production portfolio, especially the Savanna Premium Dry Cider bottle. In early September 2011, after 15 months of very intensive specification and construction work, the largest milestone was achieved, the highly successful start-up of Africa’s first NIS 10 Section TG machine.

After only one month of operation, the total efficiency (pack to melt) of the new NIS machine has clearly passed the 90% target. This great success depended on having the right technology, a clever plant layout and an efficient project team to carry out the installation.

To ensure a smooth start up, Consol obtained support from one of the world’s most experienced NIS glass makers, Nippon Taisin Bottle (NTB) from Japan, on the suggestion of Emhart Glass. This combined team, consisting of the most skilled people from Consol Glass, NTB and Emhart Glass worked together outstandingly well and successfully.

All these factors played a vital role in the success of this project. A big thank you to everyone involved who made this possible!

Already in 2012 Consol Glass will continue with the construction of the second furnace at Nigel. The excellent performance of the first NIS makes this a candidate machine for further expansion at Nigel, and for machine replacements at existing Consol plants.

When Consol Nigel plant is completed, total company glass production will have increased by 25%, or 220’000 tonnes. This additional capacity will elevate the total glass production to over one million tonnes per annum, representing more than 4 billion glass containers.
Consol Glass project highlights:

> Quality of the installation
> Smooth start-up
> Very successful cooperation with NTB
> Very good efficiency (pack to melt) achieved after 1 month start-up

Consol plants:
Wadeville
Bellville
Nigel
Clayville
Pretoria (speciality glass)

Consol markets:
Food
Beverage
Tableware
Pharmaceutical and Cosmetic
Have you ever heard of the Republic of Udmurtia? You should have, as it is one of the 21 constituent republics of the Russian Federation! The republic is known as the birthplace of Mikhail Kalashnikov (designer of the famous assault rifle) and of Olga Knipper (actress, and wife of author Anton Chekhov). It is also the location of the Glazov Distillery, well known all over the world, the owner of the Fakel glass plant.

The glass plant production is mainly focused on vodka bottles for the mother company - Glazov Distillery exports to Europe, USA, Australia and Japan.

Due to the increased production capacity and flexibility with the new NIS, Fakel also wants to grow in the juice bottles market, especially in the countries located at the southern border of Russia. To date production had been dependent on 3 rotating machines. Fakel realised that it was time to change in order to remain competitive in the globalised market: they have refurbished the plant and they have purchased the top machine from Emhart.

The project has been not easy. The customer had no experience with modular machines of any type, nor of the FlexIS controls: everything was new for them. To achieve success, close team work among Emhart offices (Moscow, Savona, Owensville and Cham) was necessary, combined with good interaction with Fakel. A key role was played by our Service group, who strongly supported the customer during the complete installation and start up of the machine.

Thanks to these efforts the machine began production at the end of August 2011, and after a few days was able to run at over 90% efficiency. This has impressed the customer in a most positive way, and during the official grand opening of the plant they already spoke of the second line to be installed.

Last but not least, do you known the name of the best vodka produced by Glazov? Kalashnikov, what else?
It finally happened! The very first NIS machine in Italy successfully started up under a brand new furnace in August 2011, at Vetreria Cooperativa Piegarese (VCP). VCP is located in Piegaro, a town situated in the Umbria region, 30 km southwest of the city of Perugia.

Piegaro is an ancient community with a centuries-long history related to glass production, whose beginnings date back to the thirteenth century. The VCP glass plant has been in operation since the late sixties, and in summer 2011 carried out a major furnace rebuild. During this work, part of the plant structure was re-built to receive a 10 Section 5” TG NIS machine (QG prepared).

The collaboration between Emhart Glass and VCP was established more than a decade ago, when Piegarese made its first investment in AIS machines that have been in operation ever since. The entire VCP Group was very open and technically prepared to manage the brand new machine in the best way, both in installing and operating it. During the installation phase Emhart supported VCP with supervision from a multinational team, composed of skilled Mechanical, Controls and Production Service Engineers from Italy, France, UK and Netherlands.

The production at Piegarese is highly varied and covers numerous type of containers for wine, juices, beers and food. It could be said that there are almost no limits to what they can produce, depending on market requirements.

On 20 August 2011 the machine started producing 400g 1litre olive oil square bottles in Triple Gob at 270 bpm. The start up was very successful, considering that the machine cold run had started only a couple of days earlier.

Piegarese’s feelings about this new machine are very positive, so we expect that they will take advantage of their experience to squeeze out all of the machine’s capabilities. Bottles are flowing nicely towards the lehr and as usual facts speaks more than a thousand words. In the heart of Italy a new heart is beating in the glass industry.

A Heart called NIS.
The perfect packaging

Nature knows how to make it: Packaging that preserves its contents without contamination. In our industrialized world the most natural man-made packaging material is glass. But glass containers need to be sealed in order to become glass packaging, and the materials used to close a glass jar are not necessarily glass.

The most common closure for glass jars are metal lids that are screwed on to make an airtight seal, thus preserving the contents after heat sterilization. The technical requirements such closures need to meet are rather demanding: they have to be heat resistant, they need to fit completely onto the glass jar’s rim making a perfect seal, and they should leave the foodstuff unaffected. In the past this job has been done by the plastics material PVC. However, this material is not a favourite with customers who are concerned about health and the environment. On the other hand, glass with its unique properties is perfect for exactly such consumers. How to overcome this gap?

In 2011 the German company Pano presented their innovative blue seal screw caps for glass jars. These closures are special because they sport a 100-fold reduced chemical migration compared to conventional PVC closures. They can be used for aqueous or oily foods and are suitable for sterilization under conventional conditions. And German food producer Feinkost Dittmann is convinced that this is what consumers want: by mid-2012 they will only sell foods in glass jars packaged with the PVC-free alternative. This new closure for glass jars is good news for health conscious consumers because they can avoid exposing themselves unnecessarily to synthetic chemicals.

Another up-and-coming innovation that will satisfy environmentally conscious customers is Hardglass where conventionally formed glass containers are strengthened by tempering and thus become significantly more durable. This
innovation is being developed by Emhart Glass and currently tested and optimized in a partnership with Vetropack. Hardglass promises lighter glass packaging that will not burst as easily if dropped – two aspects that will help improve the environmental friendliness of glass containers in the future. Together with the PVC-free closures this innovative glass packaging could be a winning combination and certainly very close to being “the perfect packaging”.

For more information:
PVC-free closure  
www.pvc-frei.info/

Hardglass  
www.vetropack.com/htm/presse_detail_3.htm?id=106

Info

The primary business of Emhart Glass is the supply of equipment for producing and inspecting glass containers, together with supporting products and services. However this does not mean that our interests are confined to this narrow area of the industry - we are influenced by the health of the container glass industry as a whole. For this reason, Emhart Glass supports initiatives from other organisations to promote glass as a healthy material, as their success can benefit all industry participants. In past issues of this magazine we have highlighted the "Friends of Glass" activities by FEVE - the European association for container glass. This issue introduces "Glass is Life?", the powerful campaign launched by O-I, the world’s largest glass container manufacturer. Emhart Glass also has a stake in the success of this promotion so we support our industry colleagues in their efforts to spread the good news about glass.
GLASS IS LIFE ™
O-I launches first-ever global campaign to champion glass

CEOs, brand managers, chefs and environmentalists join Glass Is Life™ to share their love for glass and encourage brands to choose glass

In June 2011, O-I, the world’s largest glass container manufacturer, announced the launch of Glass Is Life™. This groundbreaking marketing campaign is designed to showcase the unique qualities of glass packaging, and its unmatched ability to build successful food and beverage brands. O-I’s first ever global marketing campaign, Glass Is Life™ also highlights the inherent love consumers have for glass.

“O-I’s extensive research shows a strong demand for glass among consumers, but the marketplace does not adequately reflect this interest. We aim to influence the food and beverage industry’s packaging decisions by showing the power of glass,” said Al Stroucken, Chairman and CEO of O-I. “As the leading maker of the purest and most sustainable packaging, O-I is excited to spearhead a movement that demonstrates the unique attributes of glass packaging and brings brands back into glass.”

Voices for glass

Running across print, online and social media channels, Glass is Life™ is featuring in Europe, North America, Latin America and Asia Pacific simultaneously, in 12 countries and 7 languages. It profiles individuals around the world – CEOs, brand managers, chefs, environmentalists, designers and other opinion leaders – explaining in their own words why glass packaging is so important to them.

The initial voices for glass included:

- Sanpellegrino S.p.A. Chairman and CEO Stefano Agostini, who says glass showcases the quality of the S. Pellegrino brand.
- Environmentalist Celine Cousteau, granddaughter of Jacques Cousteau, who prefers glass because it is natural, healthy and sustainable.
- true fruits Co-Founder Nic Lecloux, who says glass demonstrates the quality and sophistication of his premium product.
- Award-winning Chef Geir Skeie, who likes glass because it doesn’t transfer any flavour to his ingredients or to the finished dish.
Consumers know glass is better

Based on years of extensive business and consumer research, O-I has discovered that taste, quality, health and sustainability are the glass attributes that resonate most strongly with consumers around the world. O-I is working closely with its customers to increase the availability of food and beverage products in glass.

In a European survey commissioned with 8,000 consumers by FEVE (the European Container Glass Federation) in 2010, 74% of consumers said they preferred glass and would “definitely” or “probably” recommend it to friends and family. Reflecting the value they have for glass’s inherent attributes, 65% of Europeans believe that glass is best at preserving taste and 63% say it’s safest for their health. Glass is also perceived as the least harmful material for the environment, offering the highest level of recycling and the lowest level of pollution.

“It’s clear that glass builds brands and is preferred by consumers, but with an increasing bombardment of confusing packaging messages, sometimes this true preference is forgotten. We felt that the time had come to put glass back into the conversation by enabling people with a passion for glass to speak for themselves,” says Jose Lorente, O-I Europe President.

New Voices for Glass

In September 2012, two new European participants were featured as part of the Glass is Life™ campaign: Zefferino and Maria Flora Monini, producers of Monini extra virgin olive oils; and designer Francesco Lucchese, who has designed artistic glass vases for well-known companies in Murano (Venice).

Zefferino Monini explains his company’s participation in the campaign: “Olives have very delicate flavours. My sister Maria Flora and I are committed to carrying on our family tradition by taking great care to preserve the balance and intensity of the taste. Glass preserves our olive oils perfectly so that the whole world can taste a little bit of Italy.”

As well as highlighting the role of glass in preserving the excellence of Italian food, the Glass is Life™ campaign also introduces the point of view of a well-known designer and true glass lover, Francesco Lucchese. Focusing on the versatility of glass, Lucchese says: “It is wonderful: the way it captures the light, the shapes you can create, the pleasant sensation when you touch it. There is something eternal about glass.”
Great Success

At the end of 2011, the campaign achieved great impact. Advertisements in trade magazines reached decision-makers in the food and beverage industry across four continents, while a digital campaign has targeted consumers, giving them the opportunity to join the conversation on glass and glass packaging.

In the first seven months of the campaign, 215,000 people visited the GlassIsLife.com microsite and enjoyed its rich content, and over 270,000 viewed the Glass is Life videos posted on YouTube (youtube.com/GlassIsLife). Consumers can also interact with the campaign on the Glass is Life Facebook page (www.facebook.com/GlassIsLife), which has collected over 16,000 fans; and on Twitter in English (@GlassIsLife), French(@GlassIsLife_FR), Italian(@GlassIsLife_IT) and Polish (@GlassIsLife_PL), where the number of fans continues to grow.

Due to this great success, O-I has decided to continue the campaign in 2012. For more information on the Glass Is Life™ campaign, please visit GlassIsLife.com.

1) This research includes individual surveys conducted and/or commissioned by O-I between October 2008 and April 2011
2) Survey conducted with InSites Consulting, with 8,000 consumers across 17 European countries, in December 2010