method

HIAB LOAD HANDLING MAGAZINE 1.2007 English

Keeping an eye on total vehicle costs

HIAB **IN FOCUS:** Service agreements – Design – Recycling scrap – Production

Solid industry know-how benefits the customer

The company must really know its customers' business to be able to offer superior load-handling services. It must be well versed in the development outlook for the sector, the kinds of requirements stipulated for the equipment in general, and the kinds of special challenges of each application.

A good load-handling partner achieves solid industry know-how through its mastery of all sub-areas, its decades of experience and global organisation, continuous development work, production competence, and, above all, the industry's best people in each country. Moreover, the best possible solutions can be created only through a continuous dialogue with customers.

Hiab's outstanding industry expertise is visible in many segments, among them, scrap, waste and recycling, building material supply, transport and local distribution, infrastructure and construction works, agriculture and forestry, municipalities and civil defence. The scrap metal segment is an excellent example of our outstanding industry expertise: We deliver solutions that meet the needs of that sector worldwide. You can read more about this topic in the article on pages 12–14 where we take a look at the collecting and transporting of scrap metal recycling material in Austria, Finland and Japan.

As Hiab employees, we are especially proud of the knowledge we have of our customers' business sectors. It is our job to make sure that our customers always have the most efficient solution available. Let us show you what we can do!

Taina Luoto
Communications Manager
Hiab Oy

Photos: Juha Roiniren

Behind the cover

A two-metre-high roller cage filled with letters and postcards weighs 200 kilos; the 600 ZEPRO RZNH 75-90 tail lifts are invaluable help for driver Peter de Nennie, who loads the Dutch TNT Post truck at the company's distribution centre in The Hague. Thanks to the service agreement signed with Hiab, the tail lifts are always ready to boost efficiency of mail deliveries. More about the collaboration between the Dutch TNT Post and Hiab on page 6.

Trade shows

Come and meet us at trade shows. For more information, please visit **www.hiab.com**.

METHOD – LOAD HANDLING MAGAZINE
is Hiab's customer magazine with a circulation of approx. 70,000.

The Hiab company's product brands are HIAB loader cranes, MULTILIFT demountables, LOGLIFT and JONSERED forestry and recycling cranes, ZEPRO, AMA, WALTCO and FOCOLIFT tail lifts, and MOFFETT and PRINCETON PIGGY BACK® truck-mounted forklifts.

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Driver Nils Berggren feels much freer now after having a MOFFETT M4 truck-mounted forklift.

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LISTEN, Act

The recipe for success for MOFFETT truck-mounted forklifts is amazingly simple: Listen to the needs of the customers and work systematically to meet those needs. "Listen, Act and Deliver" is the philosophy that has put Moffett in the "pole position" in the global truck-mounted forklift industry.

Hiab holds about 50 percent of the global markets for truck-mounted forklifts. North America, Germany, Holland and Great Britain are the traditional main market areas, but the concept of truck-mounted forklifts is gradually gaining acceptance also in other parts of the world. Knowing that market leadership in not self-evident, Moffett has a strong commitment to design technology innovations, safety and quality to further differentiate Moffett. Companies simply can't compete in the marketplace unless they are innovative and have knowledge of what the customer wants today and tomorrow. Products need to be designed and built to satisfy customers – not just to fill factories.

"In offering our customers load-handling solutions that challenge the conventional way of handling and delivering products, the customer's needs and how we can develop his business in the best possible way is always the starting point – ultimately, our philosophy to provide machines for applications, supported by our in-depth industry experience and knowledge, is very basic", says **Lennart Brelin**, Senior Vice President of the Truck-mounted forklifts product line.

In fact, knowing the customer's business and operating environment is the most important factor in marketing and product development.

"Knowledge of customers enables us to anticipate market trends and enables efficient development work. The key to success is the ability to accurately use the information that is available", Brelin emphasises.

Clear savings

Truck-mounted forklifts are used in distribution and load-handling applications such as Building Material Supply, Poultry, Brick & Block, Home Improvement, Turf, Agriculture and Beverage, to name a few.

"Our customers are clearly satisfied with the performance of the truck-mounted forklifts and the additional service the concept offers. Equipment sales are growing steadily in all applications and markets", Lennart Brelin notes.

"Without question, the biggest advantage of truck-mounted forklifts is the freedom of mobility they offer and the fact that they are not dependent on the consignees' unloading equipment. The ability to unload upon arrival at the consignee's site makes it possible to schedule deliveries more accurately. Making load-handling faster is a cost advantage for the equipment users – and the end result is clear savings."

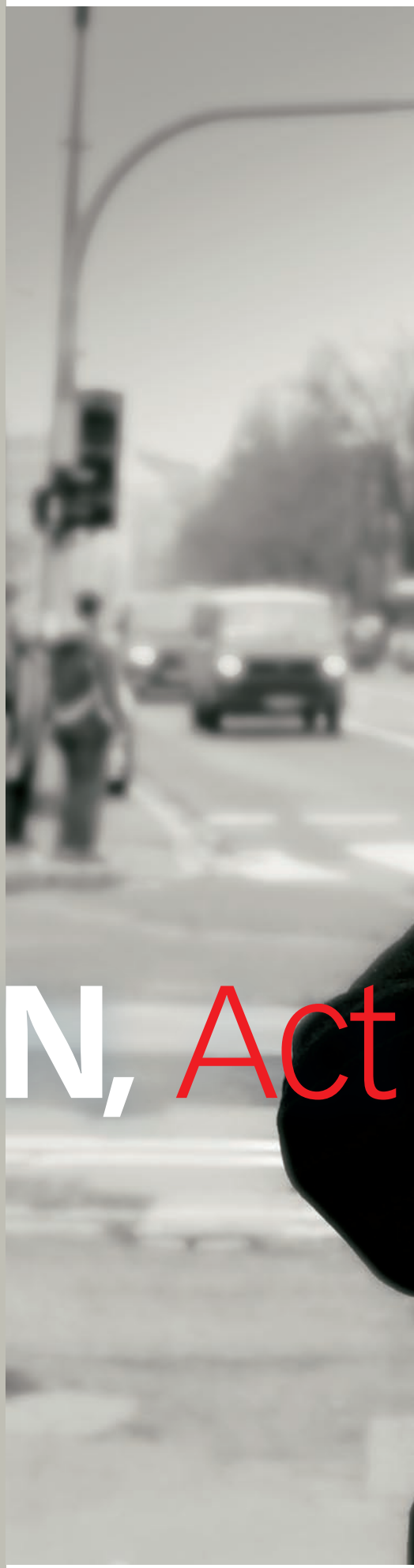
Close to customers

During the last 24 months, the MOFFETT range of truck-mounted forklifts has been rationalised and upgraded, and new products have been introduced. In addition, the Telemount concept machine has been acquired, resulting in a new machine line-up for 2007, highlighted by the introduction of the new M5 and MOFFETT Telemount in Q1 and the new M4 to be introduced in Q2.

"Performance, durability and cost of ownership continue to be the keys to customer satisfaction", notes Brelin, adding that Hiab will invest to further improve its service offering through its sales companies.

"Future market success will come by listening to customers and responding even faster to their needs. Anticipation, innovation and customer focus are the key ingredients in our recipe for success in the future: listen, act and deliver", Brelin concludes.

Text: Compositor/Kirsi Paloheimo
Photo: Krzysztof Pilat



and Deliver

"The key to success is the ability to accurately use the information that is available."

Service, *the Dutch way*

TNT Post, the mail division of the Dutch logistics company TNT, signed an agreement with Hiab on the servicing of its tail lifts – and found the best price for its load handling solutions.

The trademark orange colour of the logistics company TNT can be seen on the streets of more than 200 countries. In Holland, TNT has two divisions: Express delivery service takes all sizes of shipments to their destination, while Post collects and delivers letters, magazines and advertisements to recipients both domestically and internationally.

The Head Office of Holland's TNT Post is located in The Hague, the country's governing centre. The global company has 60,000 employees just in the Netherlands, most of them mail carriers. They use a total of 6,000 vehicles – bicycles, passenger cars, delivery vans and trucks, about a thousand of them equipped with ZEPRO's tail lifts, to assist them in their work.

Ron Rijswijk, the man in charge of the vehicle fleet, makes sure that the total vehicle costs are kept as low as possible.

"Competition in our sector is constantly intensifying: Other mail companies are entering Holland, and we are interested in expanding our operations to a growing number of countries. The keys to our success are customers, dedicated personnel and quality products. Quality is a priority for us in the equipment we use, from vehicles, sorting machines and uniforms, right down to the rubber bands used to bundle mail", Rijswijk says.

"We don't need tail lifts to deliver mail, but we do need them to deliver the mail efficiently."

Ron Rijswijk makes sure that TNT Post's total vehicle costs are kept as low as possible.

"In load handling solutions it is important that the equipment works and that servicing intervals and downtime are kept in check. A good brand is usually a guarantee of this. Otherwise, the total costs quickly start soaring", he continues.

TNT transports mail in roller containers that are two metres high and weigh 200 kilos when full. One delivery van can hold six containers.

"Along with reliability, we also require the tail lift to be light", Rijswijk says, explaining that the reason behind this is as practical as the tail lift itself: The weight of the vehicle must remain low enough for the mail carriers to be able to drive with a normal driving licence – the heavier the tail lift, the less payload, i.e. mail, the vehicle can carry.

What is the best price?

TNT Post has collaborated with Zepro for so many years that no one can right away remember when the partnership began.

"But I do remember that we used to just purchase the lifts and we did our own repairs if they malfunctioned. At the beginning of 2003 we signed a servicing agreement with Hiab covering the scheduled maintenance of the 600 ZEPRO RZNH 75-90 model tail lifts we have", Rijswijk says.

All the greasing points of TNT Post's tail lifts are greased twice a year and the following are inspected:

- Functionality of the entire equipment
- Electricity
- Welds and bolt mountings
- Oil level
- Protective hoses and cylinders
- Capacity and pressure

Once a year, the tail lifts are also subject to:

- Hydraulic oil change
- Inspection of carbon brushes, power supply, and moisture content of control unit

Thanks to the agreement, TNT Post's tail lifts are even more reliable and down time has decreased.

"We have to rent fewer vehicles to cover the ones being repaired, and repair costs have also dropped as a result of preventive maintenance. This is what we call total cost management!" Rijswijk stresses.

"Sure it would be cheaper to have a tail lift without a servicing agreement, but you have to look at the big picture. You have to think about the best price in terms of the overall picture", he specifies.

The servicing agreement means that Hiab thoroughly services TNT Post's tail lifts twice a year. TNT has a total of 243 sites in Holland and Hiab's service trucks drive to the tail lift that is scheduled for servicing.

Repairs are not part of the servicing agreement, but TNT Post also has a good arrangement with Hiab should a problem arise. If a tail lift doesn't function properly, a TNT employee can call the headquarters of Hiab's Dutch sales company in Meppel and a service engineer from the nearest repair shop will be dispatched to the site.

"This is one-stop-shopping for us", Ron Rijswijk sums up the collaboration.

Mondays and mid-days

On average, three or four TNT Post tail lifts are serviced per day, but the most always fall on Mondays. Again, a practical explanation:

"Only seven per cent of our mail is from individuals, and companies usually want their letters to reach their destination by Friday at the latest. The beginning of the week is typically slower", Rijswijk says.

Noon is the best time for servicing, because TNT collects and delivers mail twice a day – the vehicles are on the road in the mornings and afternoons and the distribution centres are empty.

"Our pace of work requires some arrangements from Hiab", Rijswijk says.

Flexibility, he says, is also what will give TNT Post a competitive advantage in the future. After all, the company can get the mail to its destination even during the same day at a specific time and to a specific location.

Would the job get done without tail lifts?

"We don't need tail lifts to deliver mail", Rijswijk assures, "but we do need them to deliver the mail efficiently."

Text: Compositor/Tiia Teronen
Photos: Juha Roininen

Des

– More than just icing on the cake

Today's trucks are not the rough clunkers they used to be. They are well-designed driving machines, and load handling equipment is not taking a back seat.

"Working good, looking good" could be Hiab's motto when designing new load handling equipment models and the controls for them. Equipment design is increasingly relying on the professional expertise of industrial designers for equipment that complements the lines of the truck and is comfortable and easy to use.

"If your home's decor has been carefully thought-out, a cardboard box in the middle of the room would surely be an eyesore", Multilift's Design Manager **Esa Mylläri** identifies the design challenge of load handling equipment and other superstructures for trucks.

The fact is that load handling equipment and their controls do not always match the contours of aerodynamically designed vehicles or ergonomically designed cabs.

Hiab's different product lines took on the design challenge already years ago, and many results are already visible.

Designers get to the heart of the problem

As a concept, design might sound sophisticated, and what does it have to do with loading or unloading goods? After all, load handling equipment definitely doesn't need some high-brow designer to get the job done; equipment with a more unrefined look can also do the job.

Design is still associated with the embellishment

Laws of nature dictate fundamental design of forestry cranes

For Loglift Jonsered's Technical Director **Kalevi Sjöholm,** the old wisdom holds true in the design of load machine parts:

"When talking about structural fatigue, a structure designed in accordance with the strength theory is also beautiful."

Loglift Jonsered doesn't base the design of its forestry and recycling cranes solely on the laws of nature, the product line has a long tradition of design. The roots go back to the industrial company Fiskars, known for its high-end design. Sjöholm points out that co-operation with industrial designers and machine designers has been used more in product development since the 1990s in order to make the equipment durable, good-looking and easy to use and service.

"The contribution of the designers depends on the project. In bigger projects, an industrial designer is involved from the very beginning; an example is the development of the LOGLIFT cut-to-length series of cranes in early 2000. That's when ED-design was involved mostly in designing the visible parts, like the boom and the post", Sjöholm says.

Cranes with cabs are becoming increasingly common – for example, 90 per cent of the forestry cranes delivered to Sweden are equipped with a cab – and the focus is on their ergonomics. The aim is also to make the high seats more comfortable and more ergonomically proportioned.

"You can always make things better; an ergonomically perfect cab hasn't been made yet", Sjöholm says, and envisions that load handling equipment designs will evolve over time.

"What looked good ten years ago might not look so great today."

One thing is certain: Looks and design fads will not compromise the fatigue resistance of the equipment.

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of a finished product, with aesthetics – the designer's touch is kind of like the icing on the cake. What's more, some people think that a beautiful exterior is used to mask an inferior or poorly functioning interior. However, decorative tape is a separate issue, notes industrial designer **Matti Makkonen**.

Makkonen is a veteran in the sector and is currently the Design Director of the industrial design specialised ED-design. Over the course of his career, he has had to explain time and time again what an industrial designer can contribute to product development.

"Industrial designers have a rather broad work field: They must map out customer wishes and expectations, delve into the product end-user's world, communicate with experts from different sectors, such as electronics or maybe the properties of injection ►

"If you set out to make a product, someone must design it, and it will always take on some shape and form."

A smart controller for a smart hooklift

A few years ago when the design work was launched for the new Multilift XR Power range hooklifts and its control unit in particular, industrial designers were called in from the very beginning to support the solid engineering expertise. The XR Power range uses the revolutionary Programmable Logic Control (PLC). A smart control system was paired up with a pioneering controller.

"When an engineer is given the task to design a control unit, the end result is likely to be a box-shaped container – functional, but awkward to use. When a designer is added to the design team, the first thing that happens is the edges get rounded off", jokes Multilift's Design Manager **Esa Mylläri**.

All joking aside, Mylläri is very pleased that the ED-design agency was involved in the design work of the XR Power range control unit very early on. The design partner was thoroughly immersed in the project and became familiar with the daily work of the users; the end result was a success.

And, yes, the edges of the controller were rounded off. Its shape is more reminiscent of a TV remote controller than a traditional controller built in the standard box. And the controller has been designed to support the wrist correctly, thus minimising the risk of repetitive stress injuries.

The narrow device fits between the driver's seat and the door of the cab and doesn't interfere with driving.

"Operating a demountable from inside the cab is definitely the safest way to go because the truck tends to move when the demountable body is pulled onto it. That's why the controller is permanently mounted into the cab. In loader cranes, the exact opposite is the case: The radio control offers increased safety and performance", Mylläri says.

In addition to the ergonomic and in-cab controller, the collaboration with the design agency also covered the equipment's structure. Steel castings were streamlined, the valve cover was reshaped, hydraulic pipes and hoses were reorganised, and the sheet metal protectors were replaced with plastic ones. Plus, totally new protective covers were added to prevent dirt from accumulating and to help keep the equipment clean and to improve the look of the equipment.

"In fact, our collaboration with ED-design went deeper than we originally planned", Mylläri admits.

M8 with human proportions

Moffett started with a clean slate when setting out to create a successor for the high-volume M7 Truck Mounted Forklift (TMFL). The result: the M8 series in which everything old has been totally re-engineered. Above all, product development and design have been guided by ease of operation, ergonomics, safety, durability and appearance.

According to Moffett's Engineering Director **Kevin Turnbull**, other MOFFETT models are now continuing on the trail blazed by the M8. From now on, all MOFFETT truck-mounted forklifts developed in Ireland and Holland will apply the M8's design, style and ergonomic attributes; the first of these new models will be the new M5 and M4.

The M8 product family and the new design being applied throughout the new product line is an excellent example of how design is used in TMFL. The company's own engineering know-how has been supplemented with the industrial styling expertise of the UK-based Form Foundry.

The cab of the M8 is different from that of the M7, improved operator comfort have guided the design of the cab and the placement of the various components. Driver leg room has increased by over half, and the width alone has increased by over 20 centimetres. The pedals have been placed symmetrically and at an enhanced angle, and the steering wheel angle and position have been improved relative to the seat. The valve control levers have been repositioned to zones of comfort, and the new dash location is in the line of sight and within zones of comfort. The ergonomic operator seat is positioned for easier entry and exit. "These changes have been made by talking to the operators and dealers within our product councils and then by using a rating system to find the best layouts, The result is a truck mounted forklift with excellent ergonomics that is very user friendly" said Kevin Turnbull.

In addition to enhanced ergonomics, the operational safety, ease of service and durability have been improved. All of these changes add up to the new benchmark for truck mounted forklifts.

XSDrive users can

The design aspect has been included in the development of HIAB loader cranes for a long time: Not only must the product function flawlessly, it must also convey a modern and professional image.

Since the early 1990s, product development has been assisted and coached by the Swedish Creator AB, a company specialising in product development, design and testing. Through the years, Creator has participated in the development of entire crane structures and in the refinement of details. The latest joint project was the XSDrive remote control unit, which was launched eighteen months ago to replace the HiDrive control unit.

Creator's industrial designers helped come up with a controller solution that customers have described as ergonomic, reliable, durable and logical. Controlling the loader cranes is easy even with thick gloves on.

According to **Allan Salåker**, Managing Director with Creator, design is successful when it is

"It just isn't feasible to make a cosmetics package from platinium, no matter how much you would like to."

trust their instincts

► moulded parts; they must be knowledgeable about materials and manufacturing techniques and have a sense of what everything costs. It just isn't feasible to make a cosmetics package from platinum, no matter how much you would like to", Makkonen lists, and adds:

"Without all this fundamental knowledge and expertise, you can't be innovative either."

He believes that actual design work starts with understanding exactly what problem the customer and the product user have. The rest is creative problem-solving and, frequently, one compromise after another. Even though creating free art is far from industrial design, at their best products are visual masterpieces.

Makkonen doesn't even try to come up with a universal definition of what design is or is not.

"If you set out to make a product, someone must design it, and it will always take on some shape and form."

He points out that many tools, like the hammer, have evolved to what they are today over the course of thousands of years. In the same way, the basic form of a knuckle boom crane's boom structure emerged from the laws of physics. You can't point to a single designer.

Design comes into the picture when the focus is on how to make the lines of a basic loader crane more aerodynamic and match the design of a truck, or how to make a crane's control unit more durable in varying weather conditions and how it could be used more easily while wearing gloves.

Usability can't be measured

For Makkonen, ergonomics, i.e. products proportioned to human proportions, are a matter of course. During his career, Makkonen has designed tractors, laboratory pipettes and even the world's first mobile phone. ED-design also helped design the first MULTILIFT XR Power range hooklift, XR 21, and its control unit early on, back when the controller was just in the idea stage.

Usability can't be measured with metric system variables, Makkonen points out. For design to be successful, the designer must understand the user's daily work.

"For example, the usability aspect of the demountable controller starts already before the driver steps into the cab, because typically the controller unit is permanently mounted between the door and the driver's seat. It must not be in the way when the driver enters or exits the truck, and, of course, it must not interfere with driving."

Most important, however, is that it is easy to control the actual equipment with the controller.

"If you buy a piece of equipment that costs tens of thousands of euros, you obviously have to be able to control it properly." ■

Text: Compositor/Auli Packalén
Illustration: Topi Saari
Photos: Hiab, Christopher Bailey

something you don't even think about.

"Good design is where the design is more or less self-evident, i.e. it doesn't need any explanation. It melts into the product in a way that is natural together with the requirement for ergonomics, intuition and harmony", Salåker says.

Along with ergonomics and durability, it is precisely intuition – the fact that the user doesn't have to constantly think about what he is doing – that guided the development of the XSDrive. The control unit's graphics and displays are clear, and the levers and push-buttons are sized just right.

"The controller is often used in harsh conditions. Even then it must be durable and enable the crane to be used efficiently", describes Salåker, who worked as the project manager when the Hiab XS concept was being created at the turn of the millennium.

According to Salåker, testing plays a key role in the design and development of a new product. Typically, designers first sketch out what the product might look like. Based on the initial sketches, ergonomic issues and other factors affecting the use are also focused on.

Mechanical and electronics issues are next, or they might be included during the first phase. Then comes testing, refining, and more testing and refining until the product is finalised.

"Then the parts are ordered, and a couple of months later the product is ready to be launched", Salåker describes the ideal situation.

Scrap metal is a valuable load

The use of systems designed for handling and transporting scrap metal is increasing around the world as the rate of scrap metal recycling picks up speed.

Scrap metal is a desirable commodity in the global markets. Just a decade or so ago, no one would have believed that scrap metal also has value; back then, you had to pay to dispose of the material at recycling stations or landfills.

Things have definitely changed. The demand for scrap metal has exploded; it is one of the most desired recycled raw materials on the global markets. With demand for scrap metal already surpassing supply, it is a commodity worth watching. Recycled metals already make up almost half (over 400 million tonnes) of the 1,000-million-tonne annual metal production in the world today.

Scrap metal is transported from its point of origin to a recycling station, where it is collected by recycling trucks and taken to shredding plants. The processed scrap metal is then transported for use by industry.

Recycling scrap metal is an environmentally friendly activity. Using recycled metal saves raw materials and energy; specifically, the production process of primary metal (quarrying, melting and concentrating) consumes much more energy. Making steel from scrap metal takes about one quarter of the energy of the production of primary steel.

Recycling becomes more efficient when the separation of metals at the end of the product's life cycle is taken into consideration already at the product design phase. Depending on the composition and compounds of the metal, the product's different parts can be combined in anticipation of recycling.

International collaboration forums for recycling, the OECD's Working Group on Waste Prevention and Recycling and the global Basel Convention provide the framework for the prevention of waste generation and for the coordination of recycling. These frameworks cover all waste and recycling. The European Union has its own waste and recycling targets that are part of the EU waste policy.

The right equipment in the right place

The more demand there is for scrap metal, the more investments also needed in the equipment used to collect and transport it.

Country-specific road transport legislation dictates the maximum length of the articulated trucks transporting scrap metal as well as the maximum weight of the load. Consequently, the solutions permitted in different countries vary quite a lot.

The most obvious differences in demountable designs are in the grab bar height, tunnel height, rail width and the length of the demountable itself.

Usually, demountables or a combination of a demountable and a truck-mounted loader crane are used in the collection and transportation of scrap metal. A loader crane or recycling crane equipped with a grapple is usually the solution used when collecting scrap metal from the ground.

Demountable systems enable efficient and versatile transporting operations because the trucks can transport several different demountables and their loads between the load and unload sites.

Operating safety is also important in collecting and transporting work. When production technology makes the equipment simple and easy to use, it is virtually impossible to use the equipment incorrectly.

Austria. The combination of the MULTILIFT LHZ hooklift and JONSERED 2640Z recycling crane is the most commonly used combination in Austria.

One thing that Austria, Japan and Finland have in common when it comes to recycling and transporting scrap metal is the origin of most of the scrap metal: industry. The differences are in the equipment used to collect and transport the scrap metal and the transport distances.

Short transport distances in Austria

Combinations that have both a demountable and a loader crane are typically used to collect and transport scrap metal in Austria. Scrap metal is generated mainly by industry and construction sites.

Of the MULTILIFT demountables, the most commonly used are the LHZ 260 hooklifts combined with JONSERED grapple-equipped recycling cranes.

With a 14- to 25-tonne lifting capacity, MULTILIFT LHZ hooklifts are designed for heavy-duty work. The hooklifts are powerful and the long horizontal movement of the hook makes them efficient and productive.

The total maximum weight for vehicles, 40 tonnes, is fine for collecting and transporting scrap metal in Austria because the loads are small and the transport distances short. Drivers can drive frequently and efficiently between the load and unload sites.

Even the maximum vehicle length of just under 19 metres (18.75 m) is sufficient for the load sizes and transport distances.

MULTILIFT demountables are the market leader in the Austrian markets where comprehensive maintenance services support the operators' business.

Japan's growing markets

In Japan scrap metal is primarily generated at production plant and demolition sites where loads of scrap metal are collected and transported to metal shredding plants. Even though scrap metal is used on the domestic markets, the share being exported is on the rise.

Japan. The versatile LOGLIFT crane and MULTILIFT hooklift combination with a 10-tonne capacity can be used to collect and transport different kinds of waste loads.

About 9,000 trucks transport 55,000,000 tonnes of scrap metal annually. About 3000 of them have collection and transport equipment that includes a HIAB loader crane or a LOGLIFT and/or JONSERED recycling crane and/or a MULTILIFT demountable.

The trend in equipment used for collecting scrap metal is moving from just a crane to a demountable, which collects the container boxes or the small boxes at the collection sites. Namely, the generated scrap is pooled in these boxes at production plants or demolition sites and is collected with a MULTILIFT. In some cases, a MULTILIFT alone is used for this collection; in other cases, it is used in combination with a HIAB or LOGLIFT or JONSERED crane.

Also the use of a MULTILIFT demountable ▸

Finland. Roadnet Oy's fleet of ten trucks with hooklifts drive about 200,000 kilometres annually per truck, transporting, among other things, scrap metal. About 60,000 tonnes of these loads are scrap metal for recycling. Kuusakoski Oy is one of the delivery sites for scrap metal. Loads often come in early in the morning. The latest innovation in the market is the Optiload weighing system, which weighs the body and the load in advance. This makes it easy for the driver to see the total weight of the load. The equipment can be used also to optimise the weight distribution of the combination vehicle.

► alone is becoming more popular because it makes it possible to use the trucks also for tasks other than scrap metal collecting and transporting.

There are several HIAB loader crane, LOGLIFT and JONSERED recycling crane and MULTILIFT demountable models in use; the most popular demountables have a lifting capacity in the 8-10 tonne range. The more robust equipment with a capacity of 25 tonnes is used alongside the smaller models. The MULTILIFT LHS 320-70 equipment is also used. The newest market entrant is the MULTILIFT XR7J hooklift.

Thanks to the MULTILIFT LHS hooklift's low lifting angle, optimised tipping angle and low operating radius, the equipment can be used for many different transport jobs. LHT hooklifts feature tilting horizontal movement, otherwise the characteristics are the same as LHS hooklifts, which feature sliding horizontal movement. The movement mechanisms affect the operating geometry and facilitate operations at the loading and unloading sites.

Cost efficient load-handling in Finland

Scrap metal recycling is very well organised in Finland. Local scrap metal businesses collect various scrap metals into demountables, which are then transported to shredding plants or taken directly to steel factories. The same demountables are also used to transport the raw material processed at the shredding plants to industry for use.

Over one million tonnes of recycled scrap metal is transported in Finland every year. The amount reflects the need for collection and transport equipment in the recycling business and the fact that the markets are growing. The LHS 260 and LHS 320 and the LHZ 260 and LHZ 320 are the most frequently used equipment in scrap metal recycling in Finland.

LHS and LHZ hooklifts are both ideal for trailer use and therefore increase efficiency especially when transport distances are long. The long horizontal movement of the LHZ hooklifts makes it possible to move a demountable onto a special railroad car.

A demountable system is the most commonly used method in Finland for collecting and transporting scrap metal. The 25-metre maximum length of articulated trucks enables the transporting of also big loads because the maximum weight allowed is among the heaviest in Europe: 60 tonnes.

Also geographically, the low-grade, long routes are well-suited for long articulated vehicles. Because of the long distances in Finland, the routes are planned so that there is cargo also for the return trip. ■

Text: Compositor/Kirsi Paloheimo
Photos: Jyrki Vesa, Hiab

What is scrap metal?

Waste metal is generated in the production of metal, in the use of metals in the production of various products, and in the disposal of products made from metal.

Waste metal is divided based on its origin into scrap iron and scrap steel, which includes scrap metal from household appliances, junk cars, and the junk machines and equipment from industry, commerce and agriculture, and into other waste metals, which includes municipal waste and aluminium, copper, nickel and zinc waste.

Waste metal is recycled and used either as the primary raw material in metal production or as a secondary raw material. Recycled metal is called secondary metal and the metal coming directly from mines is called primary metal.

The recovery, collection, storage and reuse of recycled metal is a process that functions well. In the countries that lead in the sector, already over 90 percent of the products removed from use can be used as raw material in the steel industry. And today 80 percent of the world's total copper production is recycled.

Job-site powerhouse

Plegt-Vos builds roads and houses, HIAB cranes provide the muscle.

Holland, 60 years ago: A local carpenter establishes a one-man business and begins building houses. The business is later continued by his three oldest sons, who also lend their name to the company – Plegt brothers, Gebroeders Plegt.

Holland, 2007: Plegt-Vos construction company, part of the Vos Group, has 650 employees and the divisions responsible for construction equipment, wood elements and the construction of prefabricated houses are headed by **Guus Plegt** – a nephew of the carpenter who launched the operations back in the 1940s.

”These days we build anything that architects draw: schools, office buildings, prefabricated houses, roads…”, Guus Plegt says.

”Our customers range from a family wanting a new home to the Dutch government needing help to build a road – and anybody in between”, he continues.

Plegt-Vos has construction operations throughout Holland, and five percent of all projects are carried out in Germany. Competition in the sector is tough, but Guus Plegt believes that good employees and quality equipment will keep the order flow steady.

An ideal crane

The quality equipment he’s referring to includes seven trucks; five of them are equipped with HIAB loader cranes. The biggest trucks feature HIAB 800 XS cranes and also MULTILIFT CLF 260 demountables to boost loading efficiency.

”We have a factory in Langeveen, near the German border. It is a small village but our factory building is something else: it has 9,000 square metres. The wooden frames that we fabricate there are 2.8 metres wide and 6 metres long and the roof parts are 3.5 x 10 metres – and skylight windows are already installed when the transport from the factory to the construction site begins. The trucks transport the prefabricated housing wood elements carefully to the construction site and the HIAB 800 XS lifts the elements into place”, Plegt says.

When purchasing a crane, reliability is a high priority for Guus Plegt. And reliability also includes good after sales. Second on his wish list is a light-weight frame and big lifting capacity.

”I bought my first HIAB in 1979, and since then I have selected some other brand only once. Co-operation with Hiab is smooth and maintenance services are easy. We may not buy a crane every year, but the Hiab people in Meppel know us and remember our needs”, Plegt reflects and doesn’t hide his satisfaction:

”I bought the first big truck equipped with a HIAB 800 XS in 2002. Three years later when I was about to buy another, I didn’t have to think about it too long – it was an easy decision and made in a matter of ten minutes. I just asked our driver what he would change about the crane we had purchased first. When he answered, ’Nothing’, the decision was clear.” ■

Text: Compositor/Tiia Teronen
Photos: Guus Plegt

The ma of a tail lift

Manufacturing ZEPRO tail lifts requires careful craftsmanship and precision robots, but quality control is always done by humans.

ZEPRO tail lifts are manufactured in Bispgården in northern Sweden. The factory has 266 people working in the different phases of the production process. Robots perform half of the phases in the tail lift manufacturing process, the rest is done manually. The quality control at the factory is always performed by humans – not robots.

The factory has been expanded several times to accommodate advancements in production.

”The latest major renovation was to change the layout and improve the material flows in the 2800-square-metre assembly hall”, says Plant Manager **Anders Eklöf**, who promises that customers will always get a quality product that has the right colour and features for their truck. ■

Text: Heli Hartikainen
Photos: Fredrik Herrlander

1. Steel plates, which are the basic raw material for tail lifts, are trucked into Bispgården. They are stored in the warehouse, where a computer-piloted laser cutting machine retrieves a steel plate that is precisely the right thickness and cuts it into the specified shape. The suction cups of the laser cutting machine can hold a steel plate weighting as much as 320 kilos. The laser cutting machine cuts pieces of the steel plate to specifications, and then the Liftmaster robot stacks the pieces into piles for later transporting.

king

3. The laser welding robot welds the components of one support frame together in about twenty minutes. The quality of the weld performed by the robot is consistent and very durable. But robots can't function without people. Working in the welding department is **Bo-Gunnar Flodin**; he supervises the robot's operations and inspects the quality of the robot's work. Quality control is an integral part of the work of the welding machine supervisors.

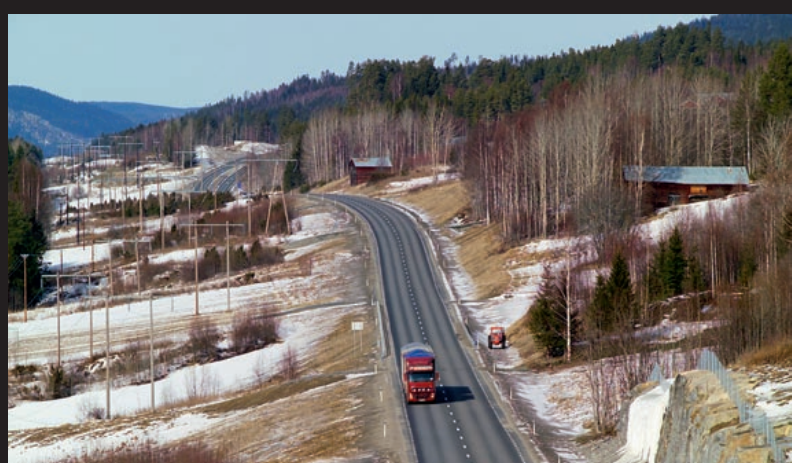
2. Flat steel plates are bent into shape and form the heart of the tail lift, i.e. the support frame. The Trumpf bending machine acquired in summer 2006 is the newest machine investment at the Zepro plant. It has a press force of 85 tonnes. The previously used machine has a press force of 30 tonnes, so the new bending machine offers a significant improvement in production efficiency. Working at the bending machine is **Micke Jonsson**, a Zepro employee for nearly a year.

4. After assembly, the components of the tail lift are moved to the 128-metre-long surface treatment line. The purpose of the surface treatment line's different work phases is provide corrosion protection for the tail lift parts to withstand rust, scratches and climate changes. After cleaning, the tail lift components are dried in a 130°C oven; then their surface is steel-grit blasted. The components then receive a zinc-manganese treatment, which provides a final protection for the surface. The tail lifts are powder coated. The powder is hardened onto the product surface at a high temperature. The entire surface treatment phase takes 5-6 hours. **Stefan Sandberg** uses a grit blaster on the pipe frames.

5. The assembly hall has five custom built assembly lines for different products. At the assembly phase, the outsourced cylinders, the electronic circuit card with wire harness and power unit are attached to the tail lift frame.

6. On the packaging line, the finished tail lift is put on a pallet. **Tero Kalliomäki** and **Tommy Söderberg** make sure that customers get what they ordered.

7. Tail lifts are transported from Bispgården by truck to customers. The entire production process, from laser cutting the steel plates to assembly, takes about three weeks.



A TAIL LIFT THAT LASTS AS LONG AS THE TRUCK

Tail lifts are designed to assist in goods delivery and to lift loads weighing hundreds of kilos, reliably and tirelessly.

The vehicle unit of Sweden Post, Poståkeriet Sverige AB, has a fleet of 2,300 vehicles and nearly 3,000 drivers. The man in charge of vehicle purchases, Christian Lugn, says that delivery reliability, aftermarketing and smooth-flowing maintenance services are a priority when purchasing tail lifts.

"Sweden Post has used ZEPRO tail lifts since the 1970s. We used to order through a sales company, but these days we order tail lift-equipped vehicles directly from the bodybuilder."

On longer delivery routes Sweden Post also uses trailers equipped with tail lifts.

"Sweden Post's vehicles transport packages, letters, bigger bundles of mail and roller cages. I could count on one hand the Sweden Post vehicles that don't have a tail lift", Lugn says.

Specialkarosser AB (SKAB) is a bodybuilder that equips Sweden Post's vehicles and works in close cooperation with Zepro. SKAB's Managing Director Lars-Erik Karlsson says that the collaboration is smooth.

"We have used ZEPRO tail lifts for as long as they have existed. Naturally, it is an advantage in terms of ease of delivery that the factory is located in Sweden", Karlsson admits.

"Most important for us is quality and the right price."

Installing a tail lift to a truck takes 4-10 hours, depending on the model. SKAB assembles 800 tail lift-equipped trucks per year. The company delivers the finished trucks to truck dealers and directly to the bigger customers, like Sweden Post, Carlsberg brewery and Pågen bakery.

Crane operator Mandla Mongwene

The construction companies in South Africa don't have to hunt for customers: The construction of new shopping centres and housing developments is keeping the builders working at full capacity, while the building materials sector is reaping the benefits of the flourishing construction segment.

In Sabie, in the north-eastern part of the country, sawmills are producing lumber as fast as the raw wood can be harvested and transported. Even though there is a high concentration of the wood refining industry in the area, there is enough work for everyone at the moment, and the construction industry demand is keeping the product prices at a good level.

One of the sawmills in the area is the Spitzkop Sawmills. The raw materials of the family-owned business are typically sourced from within a 100-kilometre range of the forest-dense Sabie area. However, the commercial forests of South Africa are more like tree farms where Eucalyptus and pine is grown in meticulous rows and quickly reaches harvest maturity – about 10 years for Eucalyptus and 30 for pine.

In 2004, a total of 33 million cubic metres of wood was felled in South Africa, where trees are harvested almost entirely by hand. Trunks are felled and cut into shorter logs with chainsaws and then ▸

From tree farms to shopping centres

The construction boom in South Africa is keeping Spitzkop Sawmills busy and the company's logging trucks on the road.

► transported to the roadside with four-wheel-drive farm tractors equipped with trailers. The crane is mounted on the drawbar of the trailer.

On steeper slopes skidders are used to pull bigger trees, and on the steepest slopes cable winches are needed, just like in the Alpine countries.

One crane loads many trucks

Spitzkop Sawmills has about 350 people working in timber transportation and at the sawmill, where it produces all sizes of boards and planks for the construction industry. The sawmill's annual output is about 70,000 cubic metres.

The six company-owned trucks transport the pine logs used as raw material. Rather than each truck having its own forestry crane, there is one crane to load several trucks. Spitzkop Sawmills has replaced its older log loading cranes with LOGLIFT's 82 S forestry crane.

Loglift's dealer and partner, 600SA, had its Nelspruit regional site deliver and install the new forestry crane. Spitzkop Sawmills has been doing business with 600SA for over 20 years. The owner and the managing director of the sawmill, **Servaas Nieuwoudt**, says, that they have been satisfied with their LOGLIFT crane and with its price/quality ratio as well as with the service they've received.

The LOGLIFT 82 S and 96 S models are among the most common crane models used on logging trucks in South Africa.

"When a lot of timber is loaded from a single felling site where the driving distances are long and not all the trucks are equipped with a crane, the best log loader is an independent loader, like the robust F 111 F 71. In South Africa, dozens of them have been installed on the chassis of 2-axle trucks with a pair of flap down legs", says **Jukka Vanhanen**, Loglift Jonsered Oy Ab's Marketing Manager, Southern Europe and Africa. ■

Text: Compositor/Auli Packalén
Photos: Jukka Vanhanen

The forklift is driven by all three wheels and is just unbelievable at getting along on all types of surfaces. "It has really surprised me," says Nils Berggren.

ls gained a profitable tool

Nils Berggren's workdays were much less intensive and stressful last year. Thanks to a MOFFETT M4 truck-mounted forklift, his work became simpler and freer.

Tväråns Transport's truck-trailer rig rolls between Älvsbyhus and southern Sweden every week with a load of between two and three houses. Älvsbyhus is a nearly 50-year-old home-builder in northern Sweden that has delivered 26,000 single-family homes and has gained recognition through achieving the highest quality rating in the industry. The average distance for each trip is about 1,200 kilometres. After a MOFFETT M4 truck-mounted forklift was added to the rig in February, much of the work has been simplified.

Drivers **Nils Berggren** and his brother share the job of driving this truck rig. Earlier, they were forced to contract help to unload and at times transport the load the last stretch to complete the job. The load comprises long roof trusses, loose timber, gable board, gutters and building elements for a garage. The actual house is delivered separately in large sections that are unloaded with a special crane.

"I often arrive at the building site on a Sunday, so that all the pieces will be on hand when the carpenters start work on Monday. To contract people and machinery for unloading on weekends is not particularly cheap, so that a lot of the profit is lost because of this", relates Nils Berggren.

With your own truck-mounted forklift, that money stays in the company.

"But the greatest gain is that you are much freer now. Previously, there was a lot of stress to arrive on time to meet up with the help that was booked. Now, the trip can take the time needed."

"Does it do the job?"

Nils Berggren admits that he was a bit skeptical about whether the MOFFETT that was purchased could actually do the job. The ground to drive on at a building site is seldom ideal.

"But the forklift was a positive surprise. It is very skilled at getting around. And the customers are satisfied, because now they always get the material delivered right up to the house foundation."

Previously, we were forced to hire another truck and to contract extra help for reloading.

In certain situations, it is totally impossible to drive up to some areas with the 24-metre truck-trailer rig. Then the forklift comes in handy again.

"I can reload from the trailer so that the material to be delivered is placed in the truck, hang the forklift on the truck and unhook the trailer. Previously, we were forced to hire another truck and to contract extra help for reloading. The truck-mounted forklift has changed the job a lot."

Everything possible is transported on the return trip. Certain days the truck is filled with fuel pellets, on other days with general cargo.

"If the return cargo for a customer is bulk goods, I drop the forklift off in Gävle and pick it up the next time I pass by. But if it's batch goods, I take the forklift along so that I can use it for distribution", says Nils Berggren.

"Super," says the owner

The owner of Tväråns Transport AB, **Gunnar Westerlund**, who has driven "heavy, long and wide" trailers throughout Sweden, is fully satisfied with his investment.

"The forklift is just unbelievable. It is fast and moreover very handy since it can be driven sideways. Previously, we often had to transport roof trusses hanging in a strap on a tractor, with people walking alongside the load to guide it. Now we drive sideways all the way, swing the forklift around and the lift the trusses directly up on the house. In addition, it is super when delivering pellets in bulk sacks", he says.

And, it can be driven nearly everywhere.

"It got stuck once, but that time the entire road collapsed and there was a 1.5-ton garage element on the fork. But all we had to do was pull it up with the truck and drive on." ■

Text and photos: Ulf C. Nilsson

Between two continents

In the middle of the North Atlantic, it pays to have good self-respect and enough reliable partners.

Did you know that Icelanders ranked second in the 2005 UN Human Development Index? They are also rated the fifth most-productive country on Earth.

Iceland, an island with just 300,000 inhabitants, is shifting from its heavy reliance on the fishing industry to more service-based industries, such as tourism, biotechnology and financial services.

Iceland is located in between Europe and North America and is highly dependent on both imports and exports. A full range of cargo handling facilities are available in Iceland, not just for export and import but also for ensuring the efficient handling of goods for through-shipment.

The need for practical and productive solutions in a harsh climate is probably why Icelandic business favours quality load-handling solutions – and why they tend to put HIAB loader cranes at the top of their shopping lists. The annual total isn't large compared with other markets – Hiab sees annual sales of 20–25 units in a market that is beginning to face some competition from other manufacturers – but then again, considering the small number of inhabitants, Iceland is quite an active market per capita. The company has had a presence on the island since 1968, and commands around 40% of the loader crane business; almost all of the units go to owner-operators.

A land of large cranes

Most Hiab products in Iceland are sold through three main truck dealerships. The largest of these is the Reykjavik-based Hekla HF, a main dealer for Scania trucks, Caterpillar and Goodyear tyres. Founded in 1933 as a clothing manufacturer, the company today specialises in the sales and servicing of motor vehicles and machinery (it is also a main dealer for Volkswagen Audi Group and Mitsubishi cars). The company employs around 200 people and accounts for more than half of all HIAB loader crane sales in the country.

Nearly all sales of HIAB cranes will involve the company's larger units, reckons **Bjarni Arnason**, Sales Manager for commercial vehicles at Hekla, and all of them will feature Hiab remote controls systems.

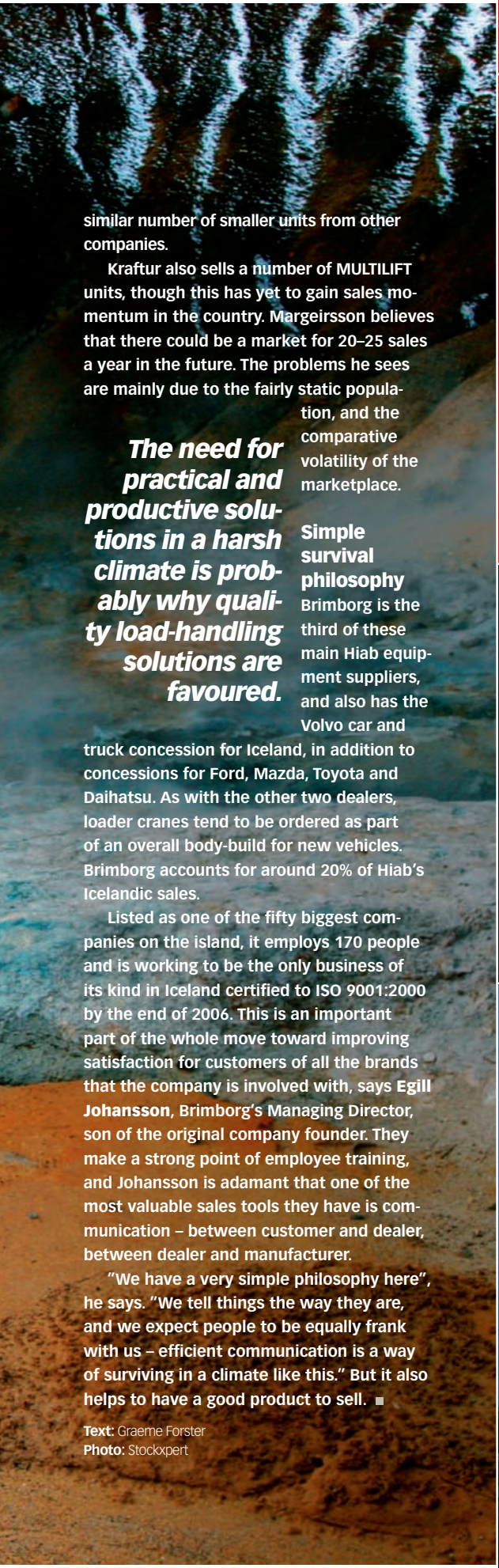
"This is one of Hiab's biggest selling points in this market", Arnason says. "What this market really appreciates is a large crane that's easy to control – the design of the 91 Valve in particular is probably better than any competitive system available today. And a HIAB crane is compact and easy to mount on the vehicle."

Demanding Icelanders

Gunnar Margeirsson, Sales Manager at Kraftur HF, Iceland's MAN dealership, probably understands customers' needs a little better than most. Having previously worked with Scania, he also worked as a truck driver before that.

"Customers here are both very experienced and demanding, and they have a clear idea of what they want", he says.

Kraftur has a staff of around thirty people working today at its Reykjavik base. It has come a long way since 1966, when Erlingur Helgason first founded the company, selling a few trucks a year. Now it sells six to eight trucks a month, with around 6–7 vehicles being fitted with HIAB loader cranes, and a



similar number of smaller units from other companies.

Kraftur also sells a number of MULTILIFT units, though this has yet to gain sales momentum in the country. Margeirsson believes that there could be a market for 20–25 sales a year in the future. The problems he sees are mainly due to the fairly static population, and the comparative volatility of the marketplace.

The need for practical and productive solutions in a harsh climate is probably why quality load-handling solutions are favoured.

Simple survival philosophy

Brimborg is the third of these main Hiab equipment suppliers, and also has the Volvo car and truck concession for Iceland, in addition to concessions for Ford, Mazda, Toyota and Daihatsu. As with the other two dealers, loader cranes tend to be ordered as part of an overall body-build for new vehicles. Brimborg accounts for around 20% of Hiab's Icelandic sales.

Listed as one of the fifty biggest companies on the island, it employs 170 people and is working to be the only business of its kind in Iceland certified to ISO 9001:2000 by the end of 2006. This is an important part of the whole move toward improving satisfaction for customers of all the brands that the company is involved with, says **Egill Johansson**, Brimborg's Managing Director, son of the original company founder. They make a strong point of employee training, and Johansson is adamant that one of the most valuable sales tools they have is communication – between customer and dealer, between dealer and manufacturer.

"We have a very simple philosophy here", he says. "We tell things the way they are, and we expect people to be equally frank with us – efficient communication is a way of surviving in a climate like this." But it also helps to have a good product to sell. ■

Text: Graeme Forster
Photo: Stockxpert

News

Hiab signed significant service contract

Hiab has signed a significant service contract for load handling equipment. The contract covers the service of Hiab loader cranes and demountables on 548 Scania trucks used by the Dutch Army. The 13-year contract is worth approximately EUR 30 million. The order value will be booked evenly over the length of the contract. Hiab has also agreed to take care of damage repair including spare parts supply for the duration of the contract.

Hiab received in 2004 an order to deliver 548 demountable systems and 145 loader cranes for the trucks delivered to the Dutch Army. The service contract now signed with Scania covers the servicing of this equipment. The servicing will be done at Hiab workshops close to army depots as well as through a mobile service setup.

Multilift developed an integrated hooklift together with Sisu

Hiab's demountables product line Multilift has developed with Sisu Auto a hooklift for the Lithuanian Armed Forces. The order consists of 22 hooklifts, which will be delivered during 2007-2009.

In the integrated solution the truck's frame is part of the hooklift; normally, a hooklift is installed on top of the frame. This eliminates the need for a subframe, because the frame of the truck can be used as the mounting platform. Also the electrical wiring and hydraulic hoses, for example, are partially ready in the vehicle structures.

"The advantage of an integrated hooklift compared to an ordinary one is that it enables a better weight-to-load ratio and faster installation. Additionally, a lower structural height is achieved with the integrated hooklift; that is a significant advantage in terms of the total height of the combination", says **Jari Laitervo**, VP, R & D Demountables, from Multilift Oy.

Previously, Multilift has also produced integrations to varying degrees, e.g. in cooperation with Scania for the Dutch Armed Forces and with Sisu Auto for the Finnish Defence Forces.

"One of the benefits with this solution is also the fact that the experiences gained from this project can be used also other cooperation partners in the future", Laitervo notes.

New Hiab Centre in Finland

At the beginning of 2007, a new Hiab Centre was opened next to the Multilift factory in Raisio, Finland. The centre offers customers one-stop-shopping for HIAB loader cranes, MULTILIFT demountables, MOFFETT truck-mounted forklifts and FOCOLIFT tail lifts, as well as comprehensive installation, maintenance and spare part services.

The centre also imports and provides technical support for Sunfab pumps and hydraulic motors, and manufactures multi-deck bodies and aluminium bodies for special use.

The completion of the new centre significantly improves Hiab's installation capacity in Finland, and the wait time for installation service is shorter than before.

The inauguration of the new centre was celebrated in mid-February.

Night owls on the rails

Night-time building and servicing of Spain's railways ensures that the daily train traffic runs smoothly. Every year, passengers travel over 20 billion kilometres on the Spanish railway network.

The Spanish railway network extends all the way to Costa Verde in northern Spain. With tourists flocking to Costa Verde from spring to autumn, it is important for the region to have functioning train transportation. Safety, speed and staying on schedule are crucial in train travel, so the traffic must flow smoothly and railway maintenance must be conducted efficiently without any interruptions in service.

The number of trains on the railways peaks during the day, so most of the rail construction and maintenance is done at night when there is less traffic.

Spanish Talleres Alegria S.A. specialises in the construction and maintenance of fixed rail elements (rails and sleepers) on railways and subways and in the servicing of mobile rail equipment (railway carriages and engines). The company was established in 1900; it operates nationally throughout Spain and, when needed, also outside its national borders, even as far as Latin America and Asia.

In its construction and maintenance work, the company uses a VEL 400 go-devil, a self-powered railroad servicing car, equipped with a HIAB XS 122 E4 HiPro loader crane.

The lifting capacity, in their fleet of cranes, varies from almost 9 to 30 tonne-meters, capacity that is definitely a must when lifting heavy rails and sleepers.

The crane's powerful lights make it possible to work in the darkness of night.

Frontrunner in technology and know-how

Talleres Alegria S.A. is an expert in its sector and the components and equipment of the go-devil represent the latest technology, so it is possible to stay on schedule with construction and maintenance work.

The HIAB loader crane was chosen for the VEL 400 go-devil for its reliability. The crane's technical quality has met expectations, and maintenance services are conducted promptly in Spain and elsewhere in the world.

The loader crane also works well with the go-devil's other equipment – a fact that has also increased operational and cost efficiency. ■

Text: Compositor/Kirsi Paloheimo
Photos: Topi Saari, Talleres Alegria

VEL 400 go-devil, a self-powered railroad servicing car, equipped with a HIAB XS 122 E4 HiPro loader crane.