

EXPERT NEWS

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NEWS FROM NIBE ENERGY SYSTEMS IN MARKARYD, SWEDEN

MagiCAD – A FUTURE IN 3D

REAL ESTATE TEAM – SAVING YOUR TIME!

IN MEMORY OF THE WATER HEATER



CASE – ICELAND

NIBE International Sales has recently installed nine heat pumps at the Geysir and Gullfoss tourist centres via the Icelandic company Friorka.

"In 2017, even more people in many regions of the world will be able to enjoy a comfortable indoor climate."

KJELL EKERMO
BUSINESS AREA MANAGER FOR
NIBE CLIMATE SOLUTIONS



TANKS PAST AND TEAMS PRESENT

More than 60 years of producing tanks which are today made of copper, enamel and stainless steel. Hot water from millions of NIBE heaters is used by customers in numerous countries. Hot water for daily household needs and for heating our homes and larger properties. The secret of our success with heat pumps is our genuine knowledge of heating water. The Swedish model has been used in a number of foreign markets where acquisitions of water heater manufacturers have provided the basis for a later expansion in the fields of heat pumps and other products. NIBE and Kaukora in Finland, Høiax in Norway, Metrotherm and Vølund in Denmark, DZD in the Czech Republic and Biawar in Poland are fine examples of this. Most heat pumps contain a tank made of one of the three corrosion inhibitors. Hot water heating, alongside fresh air ventilation, is really what creating an energy-efficient, environmentally-friendly, comfortable indoor climate is all about. Incorporating intelligence into a water heater is a natural stage of development and the link to already established intelligence for heat pumps is obvious. You can read about NIBE Compact Smart Control on the next page.

WHEN I BEGAN WORKING AT NIBE at the end of the 1990s, Swedish and foreign visitors were welcomed to our Marketing Centre, shown around the factory and informed about new products. Evening dinner was always a memorable occasion,

with lots of delicious dishes, often prepared and served by Benny Torstensson, our HR and public relations manager. Benny would get his guitar out during and after the meal, and the mood would gradually rise to a crescendo, sometimes helped along with a drop of Swedish snaps. Gerteric often started singing and even today I can still hear Ålefeskarn's Waltz echoing off the walls of NIBE's own pub. Such tremendous memories from our customer visits. Today, we have a professional team to welcome guests to our Marketing Centre. The personal touch, a cheerful mood and a superb menu are still the main ingredients in ensuring a successful visit. The customer is at the centre and every single detail, from flags, training and information material to accommodation and more, is planned and managed by an outstanding team. Micke, Jennie, Elin and lots more employees are the backbone at NIBE Energy Systems which has paved the way for creating strong relationships with customers from many countries. These convivial gatherings outside the negotiating room have probably led to final handshakes on business acquisitions on one or two occasions.

WELCOME TO NIBE IN MARKARYD and you'll be pleased to know that Benny's guitar is still hanging on the wall of the pub and is taken down for a few songs now and then. The singer may be sporting a few more grey hairs, but the voice is as strong and vibrant as ever. We've also heard that our recently recruited international business developer,

Klas Dahlberg, has a lovely song voice too.

STRENGTHENING OUR PRESENCE in large property projects will offer us multiple opportunities across our businesses. We see huge potential and we've been gradually expanding our product range and our sales and support organisation over the years. Our real estate team is made up of highly competent and knowledgeable NIBE employees with many years of experience, and this team is at your disposal, ready to support and help you bring your projects to successful completion.

WE'D HARDLY GOT BACK from the summer break before it was time to put up the Christmas decorations and close the books at the end of yet another year. It was one of the most intense and eventful years in NIBE's own sphere of operations and in the global political arena. We don't mean to toot our own "Trumpet", but it has been a truly fantastic year for us. And possibly best of all is that we have a similarly amazing year to look forward to. In 2017, we aim to ensure that more people in many parts of the world enjoy a comfortable indoor climate, generated by efficiently-manufactured, superior-quality products that focus on the environment, sustainability and user economy.

THE ENTIRE NIBE TEAM at Markaryd thanks all readers of Expert News for productive and successful partnerships over the past year. We wish you all a wonderful Christmas and a prosperous 2017.

EXPERT NEWS

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IN MEMORY OF THE WATER HEATER

NIBE Compact Smart Control is the result of a long tradition and recent years of developments. This electric water heater meets the European standards, is rated in the highest energy efficiency class, slows down when you go on holiday and remembers when you usually take a shower.

NIBE's first water heater was produced in 1955, the same year that it became a legal requirement for all cowsheds to have a hot water supply to improve the standard of hygiene when handling milk churns. The Swedish Dairy Federation placed a large order as a result of this legislation and sales thereafter accelerated. In those days, the containers were not pressurized and were only available with copper to protect against corrosion. NIBE launched its classics, the NIBE COMPACT, NIBE ES and NIBE EV, at the end of the 60s. Sweeping changes were introduced in the manufacturing process in the 80s which saw the start of production of enamelled heaters. NIBE continued to produce copper heaters and, in the late 90s, added a third, stainless steel, corrosion inhibitor to its product range.

Mats Hellström is the Product Manager for water heaters at NIBE and asserts that a constant focus on developments and improvements is the reason for NIBE's success over the years.

"We have three corrosion inhibitors because we have identified the market's needs and are passionate about product development. For that reason, we are continuing to develop resource-efficient water heating products today. We are especially proud of NIBE Compact Smart Control," says Mats Hellström.

The smart water heater has a short pay-off time and is designed to deliver energy-efficient water heating, compliant with EU requirements for low energy consumption. The product's smart thermostat recognises a household's hot water consumption pattern and adjusts the heating period accordingly.

"It's a smart product. The thermostat learns when the family usually uses larger

quantities of hot water, which means that water isn't heated up unnecessarily. This minimises energy losses," Mats Hellström explains.

The heater can also be set to holiday mode, in which it maintains the lowest possible temperature without freezing. The product comes into the highest energy label class (40%) for electric water heaters. Compared with conventional technologies, it can provide savings of up to 9%. What's more, the product has been designed with simplified troubleshooting for installers.

"It's not surprising that most Swedish households choose NIBE when installing a water heater. We're at the cutting edge when it comes to development," Mats Hellström says in closing. ■





A THREE-DIMENSIONAL FUTURE

As technology continues to advance, workplace processes and tools in Swedish companies need to be developed. NIBE is going one step further when it comes to design and is focusing its attention on the Finnish design platform, MagiCAD, for 3D modelling of building projects.

The planning and design of systems for properties are two key elements in the preparation of a successful heat pump installation. MagiCAD is a software designed for the CAD programs Revit and AutoCAD with an emphasis on the construction industry. It is the preferred BIM platform (Building Information Modelling) in the Nordic countries and includes products from the engineering, electronics and HVAC industries, which fit nicely with NIBE.

LIBRARY OF OPPORTUNITIES

MagiCAD automatically gives access to MagiCloud – a multi-faceted library of hundreds of thousands of products in 3D format (designed for the HVAC industry). These files can be downloaded easily for use in local projects. The library currently contains over one million products for download from leading manufacturers. Each product and its technical data come straight from the respective manufacturer, which means direct access to relevant, real-life products.

A powerful search tool makes it easy to find the product you are looking for.

NIBE's products are being drawn up at the time of writing and will eventually be available in the MagiCloud library. The aim is to give as many designers, engineers and other project partners access to NIBE's products for use in projects across the globe. NIBE's products have never been modelled in 3D (BIM format/models) before and this will complement AMA texts and file types like dwg and pdf.

MOVING THEORY INTO PRACTICE

MagiCAD is an asset in any kind of project, but it's particularly suitable for buildings with multiple installations where seamless coordination is essential, for instance in major property projects. NIBE's extensive product portfolio, with the NIBE F1345 as its flagship, is clear evidence that the company has become an increasingly strong player in the real estate market over the years.

Jessica Mattsson, Project Manager for HVAC projects at WSP Sverige AB, has been

working with CAD systems for eleven years. Her experience of working with 3D has been consistently positive and she believes that MagiCAD offers numerous advantages:

"This library of 3D product models lets you check whether real-life components are suitable for an installation, which simplifies every stage of the project process. Peer reviews are performed as the drawings are developed, since all consultants are continuously updating and changing models. The files can also be exported to other visualisation software that can be used in the construction phase, which benefits the entire chain."

More recently, Jessica has been working on a number of larger HVAC projects for properties. She came into contact with NIBE a few years ago and has since worked with NIBE on several CAD and design projects. Jessica is certain that NIBE has made the right decision to add its products into the MagiCAD database because the future will be increasingly 3D. ■

Realistic view with 3D technology

An exciting project was launched during the year in collaboration between Xylem, NIBE and Sweco, concerning the cooling of Xylem's processing equipment in Emmaboda. Thanks to a highly efficient 3D design process, the project was a success.

XYLEM MANUFACTURES PUMPS for water and wastewater facilities and works with energy-efficient solutions. It is committed to reducing the use of fresh water in processes. Leif Rydell works at Xylem and is the originator of the project. He identified an opportunity for savings to be realised: cooling of curing equipment which uses some 25,000 m³ of fresh water a year. Leif's idea was to replace the fresh water with a cooling system that is fed from a heat pump. Two NIBE F1345-60kW units were chosen for the purpose. In terms of cost, they are the best installation option compared with a traditional heating and cooling pump. The heat pumps are now installed and are used as chillers that store the extracted heat in a borehole thermal energy storage system before it is used in the buildings.

Johan Haggren, a consultant at Sweco Systems AB in Kalmar, created a 3D model of the system to meet the requirements and wishes of Xylem. According to Johan, one of the biggest advantages of creating the project design in 3D form is that it allows a good overview of the working area. It simply provides an overall look and feel of the final result.

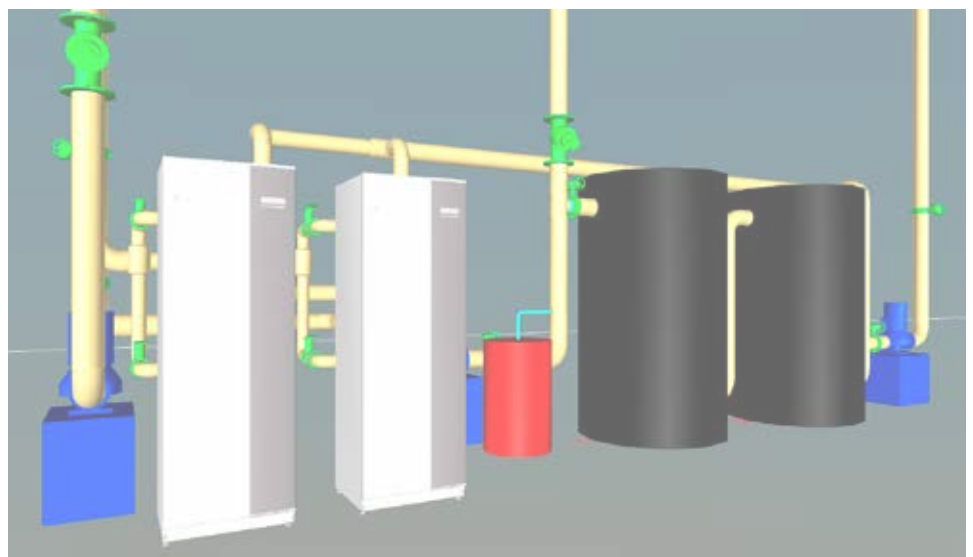
"It was particularly advantageous to design this project fully in 3D because we had a very limited amount of space to use. The drawing gave us a good overview of whether the installations would fit into the space and work in real life."

The project and installation was supported by NIBE's sales executive, Fredrik Snygg, with technical support from Mats Edvardsson at NIBE After Sales. Johan Haggren, who designed the project, is pleased with the teamwork between all the parties concerned:

"We've enjoyed an outstanding working relationship throughout the project. Most of the control features have been added during the design process, which NIBE has been involved in solving."

Johan hopes there will be opportunities to work on more projects with NIBE in the future. He predicts that, before long, the company will develop the ability to connect ground source heat pumps as heating and cooling pumps.

"The possibilities within that field are endless", Johan says in closing. ■





ICELANDIC STORY OF SUCCESS

Things are going well for Iceland right now. The country's success at the European Championship in 2016 gripped the world and its Viking football chant placed Iceland firmly on the map.

Things are also going well for NIBE International Sales, which has recently sold and installed nine heat pumps via Icelandic Friorka at the Geysir and Gullfoss tourist centres.

The island, which is famous for its volcanoes and hot springs, has natural heat in the ground and might therefore be presumed an unlikely market for heat pumps. However it's not as black and white as you might think... Most homes on Iceland are heated using district heating, taken directly from geothermal sources, but there are areas where the natural energy cannot be exploited. Sometimes the temperature is not high enough to be able to work directly for heating and hot water. This is where a heat pump is needed, but with a source of energy that's significantly hotter than the norm.

HOT SPRING A SOURCE OF HEAT

The Geysir hot spring area is Iceland's most popular tourist attraction with its central location and history stretching back

10,000 years. There is a house next to the geysir in which a NIBE F1245 is installed. It's serving as a guinea pig to find out whether waste water from the Great Geysir can also be used in a larger-scale project for a hotel that is being built nearby. Although it's a very ordinary heat pump installation, the circumstances are anything but ordinary.

The outdoor temperature varies during Iceland's "hot season" and affects the heat in the springs. The owners have therefore decided to install a heat pump to meet the needs of the facility. A loop placed in water at a temperature of 60-80°C extracts hot water which flows into a secondary pool where heat is taken straight to the heating system. Energy is then extracted from a third pool to the NIBE F1245.

A hotel is being built close to the Geysir hot spring area. A source of energy has not yet been decided on, but the extraction of much more from the hot springs is not allowed as it would have a negative impact on the geysir. However, it is hoped that a NIBE heat pump will also be installed here and that the hot springs can partly contribute as a source of heat. If the guinea pig NIBE F1245 produces favourable results, a similar solution could be suitable for the hotel should the hot springs not be hot enough to provide the building with heat and hot water all year round.

PRIME LOCATION IN GULLFOSS

A NIBE F1345 is currently being installed by the Gullfoss waterfall, another popular attraction on Iceland. The tourist resort nearby with its restaurant and hotel is expanding and will

"The power lines would never have handled heating with electricity"

– Svavar Njarðarsson,
Proprietor of the Gullfosskaffi restaurant



View over Gullfoss



need more heat pumps. The electrical system used today will be replaced by a ground source heat pump.

The business at Gullfoss is owned by two brothers, Jón and Svavar Njarðarsson. Gullfosskaffi is one of Iceland's largest restaurants, serving more than 200,000 meals each year. Svavar, the proprietor, believes it would have been impossible to extend the restaurant without a heat pump being installed.

"The power lines would never have handled heating with electricity," he tells us.

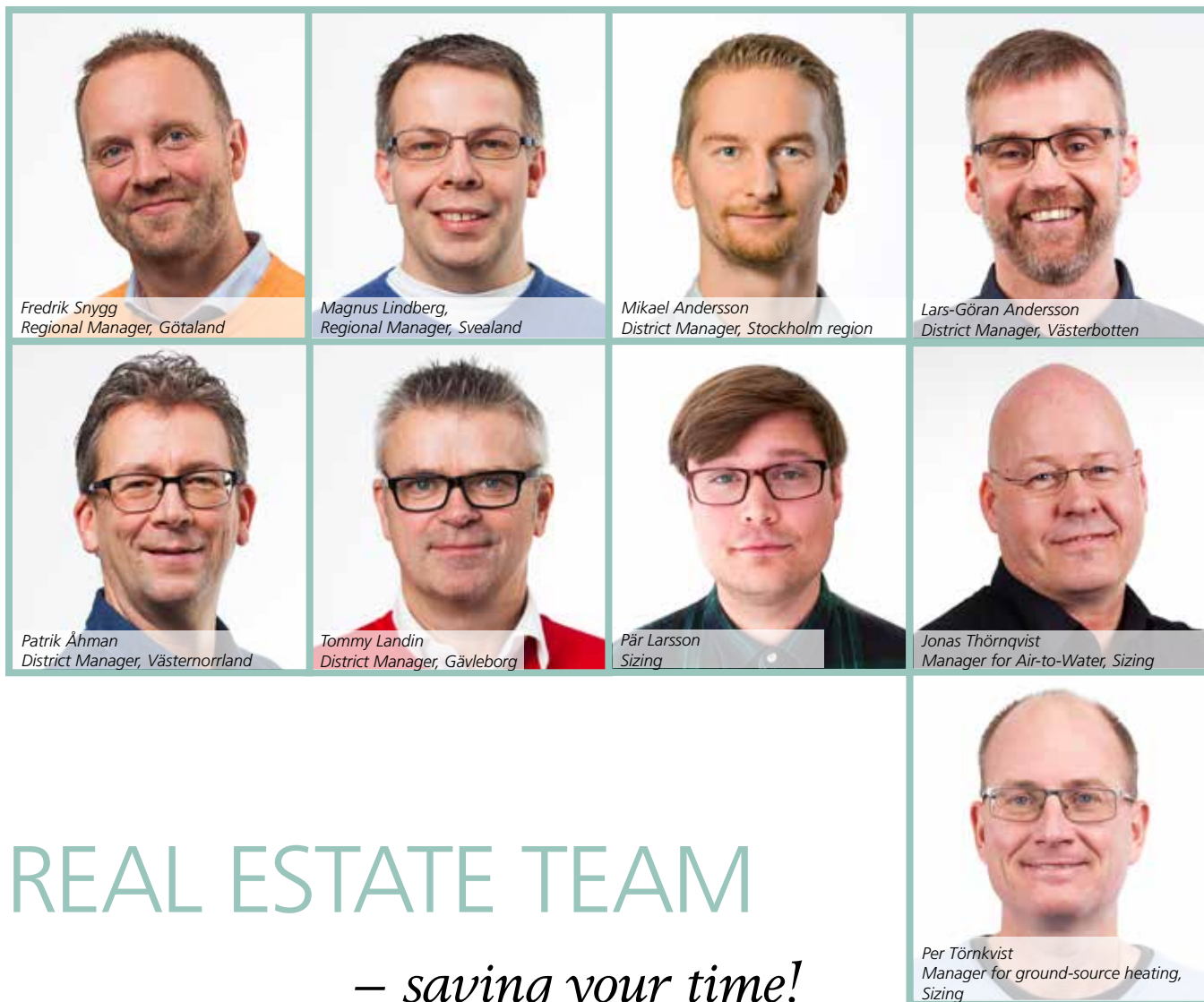
The restaurant, currently with a floor space of about 2,000 m², is heated by a NIBE F1345-60 and another one will possibly be installed in the future.

Hótel Gullfoss is about 1,300 m² in size and has a NIBE F1345-40 installed. Hot water is supplied by two 1,000-litre accumulator tanks. At the time of writing, there are plans to extend the hotel to twice its size, with the intention of then installing another NIBE heat pump. Three NIBE F1245-12s and one NIBE F1245-10 are also installed in smaller buildings adjacent to the hotel. There's also a NIBE ARIA heating a stable close by. All in all, there are seven NIBE pumps operating in the Gullfoss area, with potential for many more to be installed.

Since the partnership began in 2013, business for NIBE has developed favourably on Iceland and it sees opportunities for further growth in the years to come! ■



Homes on Iceland are mainly heated by district heating taken directly from geothermal sources.



REAL ESTATE TEAM

— *saving your time!*

NIBE's strong real estate team works hard to make everyday life as simple as possible for consultants and designers. The team provides support and ensures that digital tools are available on the website and in external programs. VIP Energy is a popular application used for calculating energy performance and the software provides instant calculations using NIBE's products.

"WE'VE ALWAYS BEEN A STRONG TEAM in the real estate side of the business, but we've not been very good at talking about it. You could say that we have hidden talents in the house," says Per Törnkvist, who is Product Manager for Ground Source Heating and an expert on sizing.

The team comprises nine competent and experienced members of staff who work with great dedication on system sizing

and properties. Six of them are out in the field visiting sites, while the others are stationed at the office in Markaryd. The team is also responsible for producing material to facilitate the design and planning phase.

"There are many useful tools available on our website, nibe.se. Information and material that we've produced and tailored for consultants and designers can be found under the "Proffs" tab and "Consultants"

heading," says Per Törnkvist.

AMA texts, BIM files, docking schedules, information about the Modbus control system and the new sizing software NIBE Dim, which replaces VP Dim, are some of the excellent tools that are available. There is also a range of sizing documents on nibe.se, for example for cooling outputs and possible combinations of plate heat exchangers. ■

Swap the digits around on 370



It is not always the wisest thing to quote the cheapest alternative when replacing an exhaust air heat pump. For buildings with a floor space of more than 150 m², it's advisable to provide an additional quote for a NIBE F730. Although the pump is more expensive to buy, it is more efficient and the consumer will save 5,000–7,000 kWh a year in many cases.

After more than 30 years as a standard product, the exhaust air heat pump has undergone a revival as a new product. Following an amendment of the construction regulations in 1982, the exhaust air heat pump became almost a sovereign ruler among heating systems in new-builds. The product has been developed to keep pace with the increasingly stringent construction regulations for energy consumption and installed output for homes heated by electricity. The NIBE F750 was launched in 2010. The heat output of the inverter-controlled exhaust air heat pump is three times higher with improved energy consumption.

When we look back at newly-produced small houses, we see a fully-developed replacement market. Since the first exhaust air heat pumps were installed back in 1982, some homes are replacing their heat pump not only for the first time, but for the second time too.

It's important to discuss the savings that the different products offer when providing a quote. Many homeowners have lived in their homes from the start and don't really know what saving the original product has given. The homeowner may be dis-

appointed in years to come if they simply replace their current unit with something similar or simpler. If we compare an older product with the F370 and the F730, there could be a huge difference. The F370 will normally yield extra savings of about 1,000 kWh per year, while a F730 can provide another 5-7,000 kWh in extra savings. The NIBE F730 is a more advanced version of the NIBE F750 and has a faster and more intelligent defrosting system. What's more, the NIBE F730 is popular on the replacement market because the installation process is quite simple. The pipes are in the "right place" from the start and, in terms of accessibility, are similar to the NIBE F370. Bear in mind that the extract air temperature is much lower with an F730, so you need to ensure that the condensation insulation is sealed properly.

"By presenting quotes for both the NIBE F370 and the NIBE F730, and providing information about annual savings and the overall price, including the tax rebate for home improvements, the consumer is then able to choose the best option for their needs," explains Richard Carlholmer, Product Manager for Exhaust Air Heat Pumps. ■



Invest in lower running costs

Today, a ground source heat pump can provide 80 % of the household's energy requirements, which was not considered to be possible 15 years ago. So there is great potential for making energy savings when replacing a ground source heat pump.

The NIBE F1255/F1155 are often obvious choices when it's time for a new ground source heat pump. The six inverter models are among our best-performance heat pumps and incorporate CB control to enable optimisation of the existing borehole. The inverter controlled compressor ensures that the borehole is not overloaded and protects against freezing.

Improved control of energy consumption and reduced electricity costs with the help of online features, such as NIBE Uplink and Smart Price Adaption, are further examples of the advantages that advances in technology bring when replacing units.

Per Törnkvist is Product Manager for Ground Source Heating at NIBE and he explains that there have been fantastic improvements in the performance of ground source heat pumps over the past 15 years. Boreholes were drilled to depths of 100 to 130 metres 15 years ago. Today, the recommended borehole depth for corresponding energy requirements is 140 to 180 metres. A deeper borehole, in combination with a more efficient inverter controlled heat pump, can bring further energy savings. In some replacement situations, it can therefore pay off to drill deeper.

To get as much value as possible from a replacement, you should also consider other circumstances that may have increased the energy needs of your home. For example, you may now have a heated garage, an extension, a pool or a larger family. Similarly, you can make energy savings by adding insulation and fitting new windows.

LOWER RUNNING COSTS WITH NEW GROUND SOURCE HEAT PUMP:

- Optimise energy use with an efficient inverter controlled ground source heat pump
- Deeper boreholes increase energy recovery
- User-friendly operation and control ensure a constant indoor climate with heat produced as needed
- The Smart Price Adaption service allows users to further reduce heating costs





Meeting place

2016

NIBE Energy Systems



Elin Hagnestam

Michael Pettersson

Jennie Ahlqvist



Thousands of people from all over the world visit NIBE's Marketing Centre in Markaryd each year. Our Visitor Coordinator Jennie, Training Manager Elin and Marketing Centre's Restaurant Manager Michael are usually the organising team.

Training courses are a regular feature of the Marketing Centre—for both Swedish and overseas professionals. They combine theoretical and practical learning and include a much appreciated tour of the factory.

Several other events are also held throughout the year. One of the most popular events was last spring's VIP conference, which rounded off with dinner and live entertainment from comedian Martin Svensson and the band Rydell & Quick.

NIBE Energy Systems thanks all our visitors and we look forward to welcoming you back again!

2,500
people

125
visits

70
training courses



Training courses in spring 2017

CHOOSE THE RIGHT COURSE!

NIBE conducts regular training courses in our respective product groups. These courses are primarily aimed at building services professionals in the HVAC sector, but some of them are interesting for other professional groups too.

Find out more and register at:
www.nibe.se/nibetraining



Mats Edvardsson

Training courses in spring 2017	Jan	Feb	Mar	April	May	June
Exhaust air heat pumps for houses		9 (S)	9 (T), 30 (S)		18 (T)	
Ground source heat pumps - domestic	25 (T)		7 (S), 22 (T)	26 (S)		
Ground source heat pumps - commercial		22		11		
Air-to-air heat pumps				25		
Air-to-water heat pumps - domestic	31 (T)		21 (S)		3 (T)	20 (S)
Sizing and planning of HP - commercial	24*	14				
Refrigerant technology in NIBE heat pumps			8		2	
Course in Cooling and Heat Pump Technology (5 days)			27-31			26-30
Product training - domestic*		15*			10*	
*Stockholm						
T = Technology, S = Service						

KLAS – NEW EXPORT MANAGER

Klas Dahlberg is not afraid of hitting the high notes or inviting a princess to dinner. We met Klas to talk about challenges and his new position as Export Manager at NIBE Climate Solutions.

Hello Klas, who are you?

"Hi! I'm NIBE's new Director of International Business Development. I'll be in charge of International Sales, I'm Board chairman and a Board member of several overseas subsidiaries and also a member of the business area's general Board. You could say that I grew up at Scania where I worked with numerous countries in various roles."



Exciting. Which of your visits to other countries were particularly special?

"The capital of Mongolia Ulan Bator was amazing, in Baghdad I was driven around in armoured cars and in Ghana I invited Crown Princess Viktoria to dinner."

Wow, you seem to be a real adventurer. Would you say that stretching your comfort zone is what drives you on?

"Yes, that's probably right. A few years ago I joined a choir for parents at my daughter's school even though I'd never sung before. It was scary, but fun! I've also registered to run the Stockholm Marathon in June. Although I'm starting to regret that now... My new role at NIBE is currently my greatest challenge."

What attracted you to NIBE?

"It's a company with products that make a difference and look to the future. It is extremely important to focus on sustainability and the development of more efficient products and services that promote sustainable consumption. I want to be part of that process."

What challenges do you anticipate in your new role?

"We have an exciting journey ahead of us as we work to achieve a common vision in the global marketplace. The challenges include working with the various brands and spreading NIBE's culture in newly-acquired businesses. We can't force ourselves upon others. The countries must be allowed to operate with their local knowledge but close and collaborative relationships need shared values in the long term. A real challenge!"

HARALD – NEW SIZING EXPERT

Harald Källstrand, our new colleague in the sales department, has a keen interest in technology and nature and a fondness for local enterprise. Harald will be assisting our customers in all aspects of sizing.

He established contact with NIBE while replacing a heat pump in his home. His interest in technology and the positive impression that NIBE made on Harald led him to applying for a job with the company.

"I like the technical and product-related challenges that NIBE's products present," Harald tells us.

Harald has an unusual background. More unusual than many others in the office. He spent nine years working in the armed forces in the armoured reconnaissance squadron and as an intelligence soldier in Kosovo and Afghanistan. Missing his wife and two children, he left the services and returned home. Harald now commutes every day from Västra Torup on the outskirts of Hässleholm.



NIBE WORLD WIDE

NIBE Energy Systems is the largest manufacturer of domestic heating products in the Nordic countries and a market leader in Northern Europe in the electric water heater and heat pump segments. The mission is to supply homes and buildings with products that provide domestic hot water and ensure a comfortable indoor climate.

The parent company NIBE Industrier AB (registered office in Markaryd, Sweden) has been quoted on the Stockholm Stock Exchange's O list since 1997.

The fact that we are now represented in over 40 markets across Europe is a huge opportunity in itself. If we then add our healthy profitability and the new product platform that we have introduced, we have never before enjoyed better conditions for continuing along our path of international commercial development.

The marketing message on all the international markets we work with has evolved from "A world of opportunities" to "Energy for life". This clearly indicates what we ourselves feel: that after many years of intensive development of our product offer and our geographical market expansion, we can supply a global market with sustainable

energy solutions for indoor climate comfort and thus safeguard the future environment.



www.nibe.eu