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Information for customers and partners

Title

Transformers from Dresden for the global market

Investments

New machines for new products

Apprenticeships fair

Apprentices wanted now for 2009

Seeing the funny side

The number you have dialled is unavailable ...



Editorial



Dear readers,

with our front page report from Dresden we would like to introduce you to one of HEROSE's lesser known product areas; one with which we have been enjoying global success for years: our drainage and three-way cocks and gate valves for oil transformers.

If you read the rest of our current magazine, you will find two articles which deal with the future - with an investment of millions in our machine park and HEROSE's activities at an apprenticeships fair. Both have one thing in common: they are designed to assure the quality of our products in the future.

Enjoy your read!

Dirk M. Zschalich, Wilfried W. Zschalich
Managing partners

Transformers: The right portion of voltage for everyone

From the model railway to the theme park: without transformers to supply the necessary power, you can't run anything. One of the largest transformer manufacturers, with 19 factories throughout the world, is Siemens. One of those factories is in Dresden where HEROSE fittings and valves are also fitted. A report

A transformer is one of those technical devices with a function for which the layman hardly spares a second thought. But it's not surprising: The large versions are predominantly painted in mouse grey and hidden behind high fences - and the small ones are often not visible at first glance.

However, that which is so often inconspicuous is a highly complex piece of equipment without modern life is unthinkable. Electrical power grids, which would not work without transformers, are one example from everyday practice. Without them we wouldn't be able to transport power at all - from the source to the consumer. What for power production is a rather low voltage (e.g. for wind farms around 1000 volts) is first transformed to a transportation voltage of 380 kilovolts (kV) - and finally reduced; to the usual main voltage of 230 volts.



Fig. Siemens

A Siemens power transformer

A visit to Siemens in Dresden. Around 200 medium-power range transformers (from 10 000 KVA to 200 000 KVA) are produced in Dresden each year - these are exactly the devices which the power industry needs. Factory Manager Gerald Kotte, 52, gives us the tour of the site and the factory facilities. Reconstructions are underway in every corner - the sign of global demand.

continued on page 2

Kotte explains how a transformer is put together - for laymen and in brief: "A transformer, like those we produce, comprises seven large assembly groups.

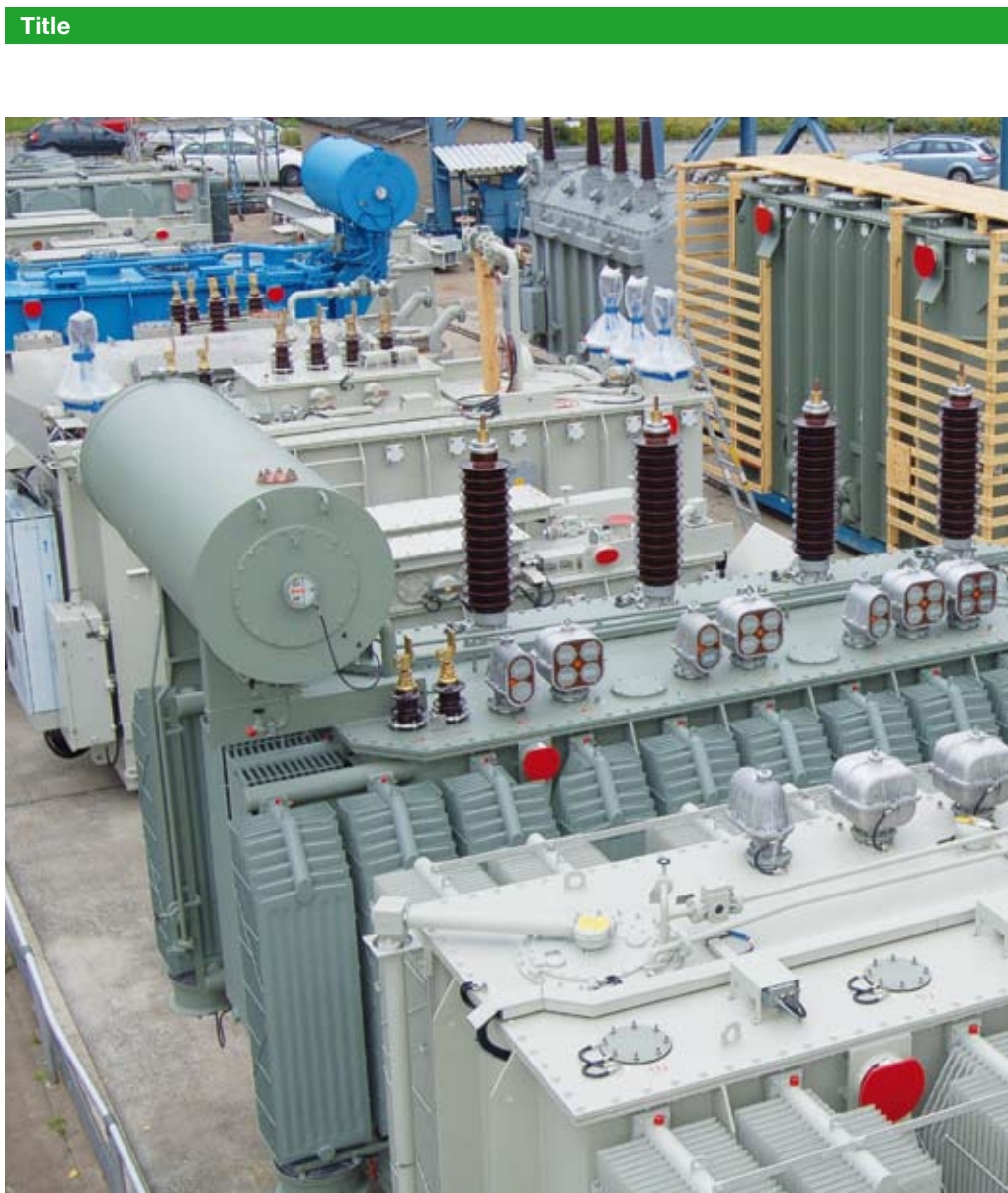


Factory Manager Gerald Kotte appreciates the quality of HEROSE fittings

The core with its laminated pressed steel frame, the windings with its winding frame and insulation parts, the tank and cooling system, open air leadthrough, the switch gears and finally the control and measuring instruments." The boss then points out that transformers only run with alternating voltage, that a transformer takes around two months to produce - and that up to 40 000 (!) litres of coolant oil are required between the coils of each transformer.

And this is where HEROSE come into the picture (see extra report on the right): Since Siemens' takeover of transformer company Koch & Sterzel (est. 1904) after the fall of the Berlin Wall, the fittings manufacturer from Bad Oldesloe has been one of the Dresden company's regular suppliers. "We produce various valves and cocks for this customer", says Volker Maass, Deputy Sales manager at HEROSE. Siemens has high quality demands. Factory Manager Kotte: "The fittings which we use have to be resistant to corrosion and temperature. It is also important that they are oil-tight and easy to operate and install. Our modern transformers have a service life of up to 50 years and have to work reliably in areas with extreme climatic conditions, therefore we also demand a high level of robustness."

There is no such thing as "off-the-peg" goods in the transformer business; every transformer is a special production. Why is the demand for Siemens products so high? Kotte: "Our transformers are known for their good quality and long service life, for effective cooling, low energy losses and low noise."



Every single transformer is tailor-made: View of the goods outward yard in Dresden

Siemens' "Power Transmission Division" operates 19 transformer factories in Europe, Asia and America from its head office in Nuremberg, and is the world's second largest manufacturer, after ABB. The Dresden factory employees around 250 people. 50 percent of orders come from Germany, 40 percent from the Arab

world. Gerald Kotte: "We have implemented a gigantic infrastructure there."

The graduate engineer forecasts a great future for his sector: "The demand for transformers will continue to increase." But nobody will be resting on his laurels; research continues to be in demand, especially with regard to environmental protection: "Trials for cooling systems, for example, which aim to replace mineral oil with vegetable or synthetic esters, are currently being carried out", says Kotte. "This is also important for all the offshore plants which will be installed in the North Sea and Baltic Sea over the next few years."



Particular care has to be taken when producing the windings of a transformer



How a transformer works

A transformer is a component for electrical engineering which transfers electrical energy between inductively coupled circuits with low loss. Transformer work with alternating voltage. Direct voltage cannot be directly transformed. The windings of a transformer are generally separated from each other galvanically and only magnetically coupled. In order to increase this coupling, the coils are usually arranged on a common iron or ferrite core - the transformer core. The alternating voltage on the primary winding can be increased or reduced on the secondary winding. The transformation of voltage is governed by the ratio of the number of turns on the windings. The input and output power are almost equal due to the high level of efficiency.

About oil in the transformer - and what HEROSE supplies to the transformer industry

A large quantity of oil is used between the coils and windings of a transformer as an insulation and cooling agent. In order to be able to inspect and control this oil, various valves and cocks are required. Siemens in Dresden are among those who procure these valves and cocks from HEROSE. Depending on the size and type of transformers, the oil may flow through several chambers. The chambers are connected by pipelines and can be shut off from each by using valves. Transformers are filled and emptied through slide valves at the top and bottom of the transformer. In order to prevent moisture from collecting on the inside of the transformer during the filling process, filling is performed in a vacuum. Moisture or condensation in the oil would cause a short circuit in the transformer. Transformers with multi-chamber systems are fitted with three-way valves or two-way cocks. The cocks are used to divert flow into a chamber on the transformer.

Unlike grey cast iron and cast steel fittings, HEROSE red brass fittings have the benefit of being resistant to both rust and temperatures as low as minus 60° C.

This is a breakdown of what HEROSE supplies to the transformer industry:

Delivery valve:

Type 03199 with nominal diameters DN15 and DN32, PN6.
Variants: Opening indicator, shut-off device

Gate valve:

Type 09420 with nominal diameters DN25 - 80, PN16 as per EN 12288, Flanges as per EN 1092-1

Type 09065 with nominal diameters DN25 - 80, PN16 as per EN 12288 with opening indicator, Flanges as per EN 1092-1

Type 09320 with nominal diameters DN50 - 150, PN16 as per EN 12288, Flanges as per EN 1092-1



Drain cock, three-way cock and gate valve for oil transformers

Type 50077 with nominal diameter DN25, PN 16 as per EN 12288 with smooth flange.

The gate valves are fitted with a maintenance-free packing gland and non-rising spindle. Variants with opening indicator and shut-off devices etc. are available.

Two-way cock:

Type 12170 with nominal diameters DN25 and DN80 as per DIN 42544-A with sealing cap and locking bolt, Flanges as per EN 1092-1

Three-way cock:

Type 14170 with nominal diameters DN25 and DN80 as per 42544-B and 42544-C with sealing cap and locking bolt, Flanges as per EN 1092-1

Connection pipe F:

Type 50000 with nominal diameters 22 and 40 as per DIN 42551-F

Oil drain R:

Type 50000 as per DIN 42548

All fittings for transformers can be used as standard and within a temperature range of -25° C to +115° C. The version with a bronze handwheel are also suitable for use at temperatures as low as -60° C.

Good apprentices wanted

HEROSE takes part in the major apprentices fair at Bad Oldesloe for the third time

The HEROSE stand in the Bad Oldesloe Stormarnhalle was very busy: Factory Manager Wolfgang Lenk and his team of apprentices took questions from school pupils at the Bad Oldesloe apprentices fair in mid September. HEROSE is currently providing nine apprentices with vocational training for careers as a Machining Mechanic or Industrial Business Management Assistant. Junior boss Dirk Zschalich who welcomed the large interest from the young people on the HEROSE stand: "Those starting out with us can be certain that, if they perform well, they will be taken on. We don't just provide apprenticeships out of a sense of responsibility to the community: we do it for our own good."



The HEROSE stand at the apprentices fair in Bad Oldesloe

The number you have dialled is not available ...

The telephone problems at HEROSE: A slightly different view

The situation is reminiscent of those days in a person's life when, despite the utmost care, you still get tooth ache. You don't appreciate just what life without pain is like until it really starts to hurt. It's a similar scenario when a company's telephone starts to show its little idiosyncrasies, as happened to us. For years we took it for granted that it was always fully functional - and now we thank God when the telephone works at all. No ifs and buts. And if we even manage a few days without any faults - than we at HEROSE throw a party! On the grass, right behind the new building.

And our IT man says that's the cause of the whole disaster. Because our old telephone system - God bless it - supposedly had too little capacity. So we decide to take a giant step forwards. Voice over IP was supposed to be the ultimate solution. All from one source, less maintenance and cheaper. And it would all have worked right from the start - had it not been for the technology - and Telekom! It was they who cut off our old lines too early back in May. As a result the old telephone system at HEROSE was completely dead for two days. Then the elation.



tion. To the joy of our customers, who we were suddenly no longer able to help - and of our sales staff who could no longer conduct any business. Don't we just love it

Okay. After two days the new lines were activated. But that turned out to be like root canal treatment, with the nerve still twitching here and there despite everything. Since then strange things have been happening with the telephones here. When we're speaking to customers on our mobiles from the production area, sometimes the customers can hear us

but suddenly we can't hear them. Great situation, huh! Hang up, phone the customer again ... but it's engaged because the customer is still on the phone to us! At least that's what he thinks ...

Another recent phenomenon is dialling an external number and suddenly having our own switchboard on the line. I mean, the lady there is lovely and you'd gladly speak to her several times a day - but at some point, enough is enough, isn't it! We at HEROSE don't give up hope though. Our IT man says that by the end of the year, when we've got the new software, everything will be back to working order. I'll keep you posted. But just in case, we've already ordered some drums you never know ...

Yours - thanking you for your understanding - Zschalich

External leak tightness: Type 06800 for the highest of demands

For applications which are subject to heightened demands for valves external leak tightness HEROSE includes its Type 06800 safety valve with its stainless steel bellows in the range.

The stainless steel bellows seal off the spring cavity hermetically from the safety valve's blow-out chamber. This achieves a higher level of external leak tightness with a guaranteed helium leak rate of 1×10^{-8} mbar l/s. On request, a helium leak test can be carried out on each individual safety valve and the actual leak rate confirmed in a test certificate.

The bellows also perform a function of counterpressure compensation. The compensation is achieved due to the identical dimensions of the effective area of the bellows and the sealing cone. The benefit of this procedure is that the counterpressure no longer has an influence on the set response pressure of the safety valve. This means the safety valve can function safely and stably with counterpressure of up to 35 % of the response pressure, i.e. counterpressure of up to 8 bar.

The bellows also compensate for fluctuating counterpressures whilst the plant is being operated and makes for stable performance.

The bellows safety valve is available with nominal diameters from 1/2" to 2". Nominal diameters of 3/4" and upwards are approved for vapours and gasses as well as for fluids.

This enables the user to use the safety valves regardless of the aggregate condition of the medium.

The possible response pressures for all nominal diameters are between 3.0 and 25.0 bar and threaded sleeve or journal connections can be provided.

According to the American API 527 standard safety valves must not leak at 90 % of response pressure.

Type 06800 safety valves, with their metallic seal and lapped sealing surfaces, are leak tight at 95 % of response pressure and thus clearly supersede the requirements of the standard.



Type 06800 safety valves with and without stainless steel bellows



Fig. Sartorius Stedim Systems GmbH

The BIOSTAT Cplus bioreactor

Application example:

Bio-fermenter

One of the companies which purchases the type 06800 safety valves is from the field of biotechnology where safety is a high priority: Sartorius Stedim Systems GmbH of Melsungen. The "BIOSTAT Cplus" is a product which features the highest possible leak tightness. It is a compact laboratory fermenter/bioreactor for microbial and cell culture applications with culture vessels. The system is ideal, for instance, for growth studies of yeasts, anaerobic or aerobic microorganisms. The BIOSTAT Cplus is in particular suited for use for studies in conditions comparable to those in a production fermenter. The BIOSTAT Cplus is operated using an intuitively operated touch screen panel. The open stainless steel frame provides the user of the system with full access and thus simplified maintenance and inspection options".

Atlas Copco, our new key-account customer

A new major customer for HEROSE! The company from Bad Oldesloe is now supplying the world's largest manufacturer of compressors, the Atlas Copco Group which has its main office in Stockholm.

Sales Manager Joachim Ehmke: "After a lot of effort, we are pleased to announce that we have been awarded the contract as safety supplied for Atlas

Copco's new GA compressor series" HEROSE supplies Atlas Copco with type 06217 valves. Atlas Copco is active in around 160 markets throughout the world and manufactures at almost 70 locations, the majority of which are in Belgium, the USA, Sweden, Brazil and Germany. The products and services include equipment for compressing air and gasses, generators and construction and mining equipment.



An Atlas Copco compressor

New machines for new products

HEROSE continues to invest in the future. Soon 13 CNC systems. Growth of over 10 % planned



13 tonnes of high-tech en route to the final production location

When the metal cutting machine was delivered and installed in Bad Oldesloe in mid September, both of HEROSE's bosses were of course there to witness it. This machine stands for the ongoing, continuous growth of the Holstein valve manufacturer. And it will not be the last one to be delivered by top Bielefeld manufacturer Gildemeister: two further systems will follow in the next few weeks. Wilfried Zschalich: "Whilst the machine which has been delivered is to replace an old system for machining fittings housings, we will be further expanding our machine park with the other two." By the end of the year there should be a total of 13 CNC machine producing at HEROSE.

With the two extra machines HEROSE is killing two birds with one stone. "On the one hand we are stabilising current production", says Wilfried Zschalich, "and at the same time we are expanding our product range". The new machine guarantee that one of HEROSE's philosophies can be upheld in the future. "Our machine park is organised so that another system can take over in case another fails", says Wilfried Zschalich. "That way the customer will always be able to rest

assured that the promised delivery dates will be met, as has always been the case in the past."

One of the new machines, with a spindle passage of 105 mm, will enable the production of parts for fittings of up to DN 150 mm.

"Machine utilisation is at 92.7 %"

The arrival of the new systems means the entire machine park will be from Gildemeister and have an average age of not even three years. HEROSE will also continue to work in three shifts in the future: from Sunday at 22 h to Friday at 22 h. An additional shift can be added on Saturday if necessary. Wilfried Zschalich: "Taking a target time of 487 hours per month, machine utilisation stands at 92.7 percent." Almost one million Euros have been invested in the three new machines.

Other figures also indicate a healthy economic situation. The number of employees has risen from an average of 167 in 2007 to the current figure of 192. Wilfried Zschalich: "We continue to look

forward to the future with optimism. As predicted, in 2008 we have added so far increased turnover by more than 10 % - a development which I predict will continue over the next few years, especially in the industrial gases sector."



It takes precision work



CNC programmer and Chairman of works committee Maik Tolzmann and Senior Partner Wilfried Zschalich

One of us: Kai Gruber



When he assumed responsibility for installation of special fittings at HEROSE in 2006, Kai Gruber was on his own. "There are now three of us - and we still hardly get the work done!", says the 34 year old family man, who is glad to be working in such a blossoming area of his company.

Before Kai Gruber came to HEROSE in 2002, he had qualified for two different careers: He was originally a mechanic for utility vehicles and then an engineer for oil and gas-fired furnaces. What exactly are special fittings, Mr. Gruber? "They are required for tank truck drives and filling modules, for example", says the Bad Oldesloe resident, who travels to work by scooter whatever the weather. The family man likes to spend his free time fishing. But it seems in future he will have less time on his hands. Kai Gruber: "My four year old son has just started playing football for the under-sevens. And I have to go to all the games with him of course."

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Agency for the Netherlands

He has come to know the HEROSE range of products inside out - and remains an enthusiast: Ron van der Weerd, 44, who has been representing HEROSE in the Netherlands for a good four years with his company ASE. In this time, he and his three colleagues have approximately doubled turnover. What is it that the Dutch customers appreciate about HEROSE? Van der Weerd: "The good products and the good customer care."

ASE B. V.

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Agency for Belgium

Erik Verschooren has been working for HEROSE for a good 20 years and is more or less "part of the furniture" for the Holstein fittings manufacturer.

Together with one other colleague, he runs business on the markets in Belgium and Luxembourg from his office near Antwerp. "Quality and punctual delivery" are for him the major benefits of HEROSE.

PICOTEC B. V.

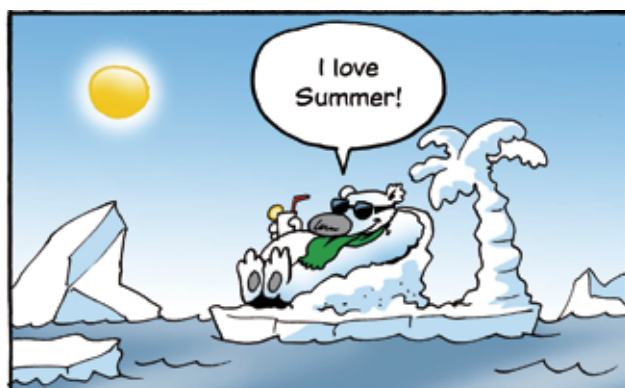
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Frans Meij, Riet Hendriks, Jeffrey Möllmann, Ron van der Weerd
(l. to r.)



Erik Verschooren and Helga Geets



News

● Major events put everything else in the shade: It has now been confirmed that HEROSE will be able to exhibit from a stand twice the size of previous ones at ACHEMA 2009 which will take place in Frankfurt/Main in May of the coming year. ACHEMA is considered the most important trade fair for the global fittings industry. ● In future HEROSE will also be able to sell cryogenic valves, industrial safety valves and transformer fittings in the Ukraine. The respective certification has now been issued. ● In work: the new HEROSE image film which provides an insight onto the production department and the quality demands of the renowned fittings manufacturer, for instance.

Fair calendar

Pumps + Valves

Antwerp, Belgium, 15 to 17.10.2008

IG CHINA 2008

Shanghai, China, 22 to 24.10.2008

Valve World

Maastricht, Netherlands
05 to 07.11.2008

Cryogen Expo

Moscow, Russia, 11 to 13.11.2008

WIN 1

Istanbul, Turkey, 05 to 08.02.2009

Congratulations

Celebrating 40 years of service:



Erwin Pfeifer
on 01.11.2008



Peter Beringer
on 11.11.2008

Mast head

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in January 2009



The HEROSE-Team at the Cyclclassics (from l. to r.): Detlef Sander, Volker Maass, Frank Rutzen, Stefan Arndt, Heinz Moormann, Heino Lüdke, Arne Ehrhardt, Kai Hasselmann

The HEROSE-Teams hold their own

Amateur athletes from Bad Oldesloe up with the pace at the "HSH Nordbank Run" and "Cyclclassics"

The green of the HEROSE-Team was once again there for all to see at two major Hamburg sporting events this summer: The amateur athletes from Bad Oldesloe made a great impression at both the HSH Nordbank Run at the beginning of June and the Cyclclassics in September, in both the running and the cycling. Like each and every one of the 28 000 runners who took part in this year's HSH Nordbank Run through the port city, the eleven representatives of HEROSE paid an entry fee of 5 Euros each to be donated to a good cause. In 2008 a total of 150,000 Euros was raised - a new record!

Not quite three months later and a HEROSE CRYO CYCLE team was taking part in its second Vattenfall Cyclclassics in Hamburg, with its 100 kilometre course. The team in green and white had been able to extend its numbers from three to eight riders. They overcame a large part of the course together but then one

or two riders had to concede defeat to Hamburg's "mountains".

Volker Maass: "I was pleased that we only had to cross the Köhlbrandbrücke at the end, and didn't have to climb the infamous Waseberg four times like the professionals have to."



The HEROSE-Team at the HSH Nordbank Run. Back row l. to r.: Olaf Schulenberg, Volker Maass, Reinhardt Piotrowski, Heino Lüdke, Sabine Helms, Michael Bentz
Middle row l. to r.: Manfred Kadner-Guth, Sabine Guth, Anja Kloas, Sören Thele
Front row: Gesa Johannsen

5 iPod Shuffles to win!

Up to how much oil are required to cool a transformer?

- A 40,000
- B 25,000
- C 10,000



Send the correct solution by fax or by mail

win@valves-community.com www.valves-community.com Fax: +49-4531/509120

The deadline for answers is 31st December 2008. No right of appeal.

Congratulations to the winners of the digital camera: **Maria-Theresia Bauer**, Wilhelm Scharzmüller, Austria, **Gilbert Engblom**, Getinge Skärhamn, Sweden, **Martin Ma**, Air Liquide Shanghai, China