

# HWAH WELD TIMES

Newsletter for friends and business partners of Harms & Wende GmbH & Co. KG, Hamburg (Germany)

## Editorial

One year has gone since the last Weld Times in 2011. We have experienced a hard but also very successful year where the number of delivered systems jumped to all time high. Many of these systems are localized outside Germany which means that Harms & Wende turned into an international oriented company with view on the globe. This is a temptation for us and striver everyday to be a bit better for you as our customers.

Growing our business was not only with respect of resistance welding but also with friction welding. Systems are now installed globally and used in various applications. Acceptance of our youngest technology makes us very proud. To meet the demands of you as our customers we established periodical meetings with our global and local partners to keep them updated as well as to get feedback from their markets.

I hope you will enjoy reading this issue and get news for you. When you have further questions, you are welcome to ask our global representatives or drop us a line.



Yours truly,  
Jörg Eggers

Jörg Eggers  
Export Manager  
joerg.eggers@harms-wende.de

## Global projects – large deliveries

### Germany – Export Champion of the world

Germany – World Champion of the world – This expression we often read in German local newspapers and is told to us by our politicians. Might be true or not, however, as matter of fact Harms & Wende changed into an export oriented company with no doubt. Hard work in-house or any place where we have our partners made this change possible. Orders for global installations are the proof that we are on the right track.



Actually we have a couple of hundred inverter systems with our leading edge inverter GeniusMFI going to Russia, China, Malaysia for Volkswagen and Skoda.

Hyundai and Kia are also ordering many systems as OEM for projects inside and overseas projects in their plant.

In the industrial sector we have received orders for our heavy duty inverters HWi2545 (3500 A max output current). The systems are used globally for heavy up-set weldings with currents up to 250 KA and long weld times. Also our new refill friction stir spot welding system enjoyed

a couple of orders. Expanding our partner knowledge and capability to make installations, trainings as well we on-site support is a key factor to receive these orders.

Customers ask us where we are and the answer is almost yes in any place. Local competence is the key to install systems in the global world.

Harms & Wende – localized in Hamburg – at home in the world.



## THANK YOU! HWH is customers champion 2012 – again

A great thank you to our customers and congratulations to the HWH crew!



On May 8<sup>th</sup> 2012 we were honored – again – as customer's champion. Four times in a sequence the result has been impro-

ved. Customers satisfaction has been raised as well! forum! Marktforschung and the German Society for Quality (DGQ) honored Germanys „Kundenchampions® 2012“ during a congress

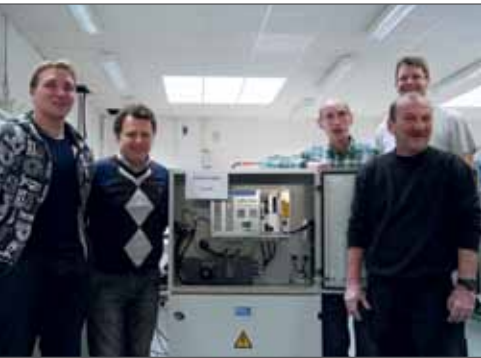
on May 8<sup>th</sup> 2012 in the Castle of the city of Mainz. The award was handed over by Prof. Dr. Gregor Daschmann,

*Continued on page 2 ...*

# Production jubilee – 150 000 units



One hundred fifty thousand – just a number?



This is only true on the first view. It is not only a milestone for our company, we also received your confidence 150 000 times – this is amazing and we gratefully say “Thank you very much” to all our customers. All these

units have left our factory the last 66 years and many more are actually in the pipeline and follow soon. The jubilee unit was a MFDC enclosure for a German automotive company.

It will be used in China to make Chinese customers smile. 150 000 times we put all our knowledge as hard- and software in our devices for your benefit. Regardless if it is a unit operating reliable since 30 years or our adaptive welding package IQR – they all do their respective job to achieve perfect quality.

Our knowledge bases on own research and – also very important – on the dialogue with our customers. Many ideas are born in daily practice – we make it happen for your benefit.

Many things have happened since 1946. At the beginning our house produced simple pedestal welders with analog safety relays and later on electric tubes. The technology continued and the next milestone became microprocessor operated timer modules, the robot control MPR and the automation system MPM and not to forget the MPS weld timer modules.

In the nineties we introduced MFDC technology to the market – the breaking new technology for resistance welding which became the industrial standard in resistance welding. Our adaptive welding package IQR introduced the thinking in processes and is completed with the process monitoring system PQS<sup>weld</sup>.

In 1998 we won the innovation price of the city of Hamburg for our high speed friction welding – the story of our mile stones can be continued but the space is limited.

**Please note**

**Fair EuroBLECH: HWH presentation in Hannover from October 23<sup>rd</sup> to 27<sup>th</sup> 2012**



Important fair attract attention long time in advance. The Euroblech will take place in October 2012 again after 2 years. Harms & Wende will do a new presentation. The Harms & Wende Group! This is for your advantage to get answers for all your

questions from resistance and friction welding processes via process quality management for laser, arc to stud welding processes. Additionally we present solutions for automatization and technical heating. Apart from new products you get consolidated

know-how from all these processes as well as cross-over the technologies. Technologies might be islands, we have the bridges between them. Come to Hannover and discuss with us your app and to find your tailor made solution!

**You find us in Hannover in booth E 82 in exhibition hall 13.**

See you!

Ralf Bothfeld  
ralf.bothfeld@harms-wende.de

## THANK YOU! HWH is customers champion 2012 – again

*Continued from page 1*

Institute for publishing of the Johannes Gutenberg-University and Dr. Wolfgang M. Kaerkes, Chairman of the German Society of Quality the award „Deutschlands Kundenchampion 2012“ to Mr. Uwe Siemßen, Technical Director of HWH, and Mr. Ralf Bothfeld, Managing Director.

Harms & Wende improved the result according to its customers and get position four in the group of medium sized companies.

You, our valued customers, confirm a good product range and high product quality. I would like to say thank you to all of you on behalf of the HWH people. This year's ranking will be a temptation to improve it even more. Everything is worth to be improved except one: You, our customers! This ranking could only be achieved by the highest internal value of HWH: Our employees. So a warm “Thank you very much” is sent from all our people.

Source: *forum! Marktforschung GmbH/Picture: Klaus Schilling*



Fritz Luidhardt  
fritz.luidhardt@hams-wende.de

# International deliveries

Extended export business requires following new strategies

German exports to the Russian Federation and Peoples Republic of China grows. This is what we can read in newspapers – and also for us. Each country has its technical specific rules and custom routines to bring systems in the country and later into operation.



Our order processing, production logistic and export depart-

ment co-ordinate the documents and get the required certificates through consulting companies.

Our consultants were of great help to get the GOST certificate for our Genius inverters and the Non CCC declaration (see image to the right) for the same product.

Accurate pre-checking of all required documents were made by our consultants in Hamburg


and Munich which made the certification process very fast. The Russian certificate is valid over a couple of years while the Chinese has to be prolonged every 6 months, but this is a formality only.

Export business was a growing sector in our company over the years. Today the majority of our products are shipped abroad – even if purchased by German companies. Our fastest



growing market is China. As we have published

the recent Weld Times continuous marketing, training of people made all this happen.

 The Chinese flag is very often visible in front of our building which shows the intense exchange between customers and us.

# Refill Friction Stir Spot Welding (RFSSW)

Welding aluminium accurately and consistently

(Based upon an article published in the *Welding Journal of the American Welding Society* in January 2012, by Nigel Scotchmer and Kevin Chan of Huys Industries; contact Joerg Eggers for the full article at [joerg.eggers@harms-wende.de](mailto:joerg.eggers@harms-wende.de))



An increasing desire to reduce our footprint on the planet is driving a world-wide effort to make all our vehicles lighter and stronger. One of the major initiatives to deal with these issues has been the decision to employ more aluminium and magnesium-rich alloys in our automobiles. Historically, resistance spot welding (RSW) has been the key method for

joining vehicles, and Harms & Wende has developed a reputation for leading the industry.

However, RSW, while being the joining process of choice for all types of steels, has significant quality problems when welding conductive metals like aluminium sheet in a high-volume, production environment. This problem becomes even more acute when stronger, aircraft-grade, 7000-series aluminium alloys, are chosen by automotive manufacturers seeking their superior performance characteristics. These concerns led Harms & Wende to turn to refill friction stir spot welding (RFSSW).

RFSSW is a unique joining process. A central pin and sleeve advance into the sheets being joined, which they then mechanically stir, and then retract, refilling the metal removed while

stirring, ensuring an almost-flat weld with no central hole on completion.

For welding aluminium alloys, this process has significant advantages over RSW. The troublesome, hard, oxide coating on aluminium becomes irrelevant; the ductility issues of the 7000 family of aluminium alloys is removed; dissimilar alloys and their adhesives are more easily joined; the metals are not melted, (creating a wrought microstructure with no solidification cracking, rather than a weld of a cast microstructure in RSW); strong, quality joints are created; easy integration with robots is achieved; and an easily efficient, repeatable process provides the quality that is sought.

RFSSW provides the flexibility, and the consistent quality, required in the high-volume, production environment for the coming lighter and

stronger vehicles employing aluminium and dissimilar alloys.

With kind permission of Mr. Nigel Scotchmer, Huys Industries Canada  
[nscotchmer@huysindustries.com](mailto:nscotchmer@huysindustries.com)



# Automotive & Industrial applications

## Genius – our top inverter product line

In the previous Weld time issues we have reported about our Genius models. Since the functionality of the system is pushed forward we give you an update.

### Genius consists of two product lines:

- **GeniusMFI**

for automotive production lines. This inverter has a very slim design to fit into more tiny automotive enclosures and is available as bus and manual version. GeniusMFI is available in air cooling.



- **GeniusHWI**

for industrial customers who require a variation in power and function. Grace to practical design the geometrical base shape of the inverters is identical and can easily be changed between inverters of different power classes.

Since welding can be heavy in industrial environments the inverters are available in air and water cooling.



Furthermore your existing HWI 28XX system can be converted to a GeniusHWI.

Since the inverters are used globally, we implemented a wide range of field bus system: like Interbus, Profibus, CC Link, Devicenet and Ethernet IP are common examples and match the requirements of our customers.

Grace to our international network the inverters are used e.g. by Volkswagen, Hyundai Motors, Kia Motors, Audi, Ford Motors, Tier suppliers and many industrial customers

## Need 250 KA weld current?

### High power inverters

Do you need 400 KA of current? This is not a big task for our heavy duty inverters HWI2545 in Master-Slave-Configuration paired with our high power transformers.

The inverters HWI2545 (3500 A max output current) and HWI2540 (3000 A max) have been designed for industrial customers with high demand on current or long weld times.

Regulation runs in constant current more up to 7 seconds, which is quite long time for spot and projection welds.

But also for up-set welds the inverters are very much suitable.

But in many cases one of our high power inverters replace a master-slave system. Instead of complex wiring with exactly the same secondary lengths, why not using just one inverter-transformer combination. This is much simpler. These inverters are globally in operation and make welds every day to customers satisfaction.



## DGQ-Award for HWH

### Quality is not only a word!



Dr. Wolfgang M. Kaerkes, chairman of the German Society for Quality (DGQ) and Mr. Kai-Uwe Behrends, head of the branch office North of the DG, handed end of March 2012 the

silver medal of honor for 25 years of membership to Harms & Wende. Mr. Klaus Petersen, HWH QM-Manager

and Ralf Bothfeld, HWH Managing Director proudly received the medal on behalf of the entire crew. During a general assembly of the HWH crew the activities and improvements of the company were honored. Since early days HWH put lots of effort on consequent quality assurance from development to production as well as the usage.

Products like the adaptive welding package IQR and the monitoring system PQS<sup>weld</sup> of our subsidiary HWH-QST

are miles stones for consequent quality management. For HWH quality is not just a word or the membership in the organisation. Quality must be lived every day. Every single day matters! Not only the organisation or the QM manual are important, feeling for responsibility and the willingness to take responsibility by every single member of the crew makes good quality! That the way of living the quality is on the right track, is proven and certified by the medal we received. Additionally

Klaus Petersen  
klaus.petersen@harms-wende.de



the award of the Customer Champion is another proof.

Everybody of the crew deserves the price and everybody is a valuable tesor for the company. This cannot be bought with money. Quality must be kept alive by the people! After the reception a small party took place to celebrate the medal.

# Seam welding in the network with flexible seam lengths – why not?

New profile function our Ratia73 IQ1 timer (AC technology) removes all barriers

The practice gives the best ideas for new functions. Triggered by one of our customers a



new seam welding application is now available. Your seam welding process is divided in up to ten current profiles.

Each profile can be an up-, downslope or constant current operation.

Our Ratia73 IQ1 waits for an external trigger to move on to the next profile. Changing the profile will not interrupt the current, unless otherwise requested by the user. Programming of the Ratia73 is made conveniently by our XPEGASUS software (from Version 2.0 or newer).

This function is very useful when seams with random

lengths have to be made. Say different products run over the same line and it is



not predictable what the next seam length will be.

Never has seam welding been simpler!

# Filius – our complete single station timer family

New timer generation for AC, MFDC and high frequency



Many of our customers know our well established timer family MPS 100/200/300 series. The new Filius weld timer series follows the same path – but totally new designed.

Filius is not only a times module for AC it can be connected via a simple CAN Bus cable to a 1000 Hz medium frequency and also high frequency (10 000 Hz) inverter. This implies that the operator operates the same hardware panel independent of the

technology – it cannot be simpler. This great flexibility opens many new paths in manual and automated productions – one timer – very little training requirement – very cost effective. Usage of simple to understand symbols and avoidance of language wherever possible makes Filius so versatile. Firmware updates via USB plug for future extension makes our new timer generation ready for the future.

Filius is a single station weld timer family with harmonic blue light graphic display avoiding complex language terms widely. Filius operates with symbols and is simply operated by a spinning wheel. Pressing the wheel confirms the selection – can't be easier. An integrated USB plus allows to store the weld schedules and transfer

	Filius Mono	Filius Multi
No. of schedules	8	32
Regulation	none	Standard: None Option Yes
Counter	Prewarning, Max spot	Prewarning, Max spot
USB plug	Program up/download Backup	Program up/download Backup
Impulsations	9	9
Languages	3*	3*
Schedule selec.	internal/external	internal/external

\*installed simultaneously

them to other Filius timers without necessity of reprogramming – keep it simple.

Filius is a single station weld timer generation, but it can be programmed on a PC as well. How this? Well this is easy. XFilius is the Windows based PC software where you can quickly edit weld schedules, read the log book on the USB stick and store the data

on your hard disk. When you have many Filius timers in operation, the administration is easy.

Counter, regulation and monitoring (options depending on version) make the family a modern and complete.

# Premium manufacturers use HWH – **Miele**

“Miele – forever better” – The globally recognized company slogan

No doubt, our customer Miele can be proud of its products. Perfect design and production result in long life equipment for the household – since generations. Miele promotes 20 years of life time – and – when you talk to your friends using Miele equipment – this is true. Or the other way around: Ask Miele customers, they are happy.

Harms & Wende proudly supplies Miele with various resistance welding products for different products. Dish washers, washing machines or dryers – all welded with technology from Hamburg. Frequent information interchange between the factories of Miele and Harms & Wende generate new ideas and functions. A trustful relation has been built over the years.



The new seam welding function described earlier in this Weld Times has been initiated by Miele and is being implemented in the factories. Miele

washing machines are kept together by weld spots from HWI2808 EVA inverter technology – thousands of machines every day.

Perfect welds are also needed for dish washers.

Since the body of the machine is welded with a circle shaped seam weld, perfect welding quality is very important. Missing a short moment of welding – and the body is not tight. Also here our inverters do their duty every day to make Miele’s customers smile.

Just these examples will give you a glimpse inside the everyday work at Miele.

We are proud to be part of the supply chain to Miele.

## Brief facts about Miele:

## “Quality German Appliances: Since 1899.”

Miele & Cie. was founded in 1899 by Carl Miele and Reinhard Zinkann. Since then it has always been a family-owned, family-run company now in its fourth generation. Since the founding days, Miele’s been guided by a mantra, a vision, to be „Immer Besser“.

Translated from German, these words mean „Always Better“ or „Forever Better“. We truly believe in spirit of

these words and in keeping with the patriarchs’ principle, Miele produces products that are of the highest standards in terms of quality materials and craftsmanship, durability and reliability.” (Source: Miele.de)

With kind permission of Miele public relation department.

## Sweden



Christer Blomberg  
christer.blomberg@bmsvets.se

### Elmia Welding & Joining Technology

As partner to Harms & Wende in Sweden, Svenska Bult & Motståndssvets AB participated in Elmia Welding & Joining Technology May 7<sup>th</sup>-11<sup>th</sup> 2012.

Main products that was viewed from Harms & Wende was Genius inverter with Xcommand and Filius weld timer. The Genius was connected to a stationary bench projection welding machine to weld nuts.

With focus on quality assurance, there was a special welding tool installed with a sink-in measuring sensor connected directly to the Genius.

#### Assuring error free nut welding by:

- detecting missing nuts
- eliminating upside-down nuts
- detecting wrong size nuts
- measuring weld set-down

There was a lot of interest in how easy it was to connect directly to Genius and to operate. The Filius weld timer was installed on a stationary spot welding machine showing how easy it is to operate.

This fair took place the very first time. Last winter the Swedish welding organization decided to build this fair.



# Korea



## Industrial fair Kofas in Changwon from May 22<sup>nd</sup> to 25<sup>th</sup> 2012

After a number of successful years and well established business in South Korea our partner MDT joined



the industrial fair KOFAS in Changwon for the first time. We have enjoyed



many visitors from industrial sub-suppliers to major key players in our booth. MDT is seeking to the industrial business after esta-

blishing Harms & Wende as brand in Korea. Some references are Hyundai-Kia group, Donghee Auto and others. This time the KOFAS fair took place



the 8<sup>th</sup> time. The city of Changwon is located about 30 west of Busan in the South of the country. It is well known as industrial area in Korea.

# From June 4<sup>th</sup> to 7<sup>th</sup> HWH at the 17<sup>th</sup> Welding & Cutting Beijing

7 years of activities in China – with success!



This year the Beijing Welding & Cutting took place at 17 time in Beijing. This fair alternates between Shanghai and Beijing. Our partner SNG has organized a perfect booth as all the years. Our highly motivated Chinese crew made the fair an event for our customers. Our booth became a platform for demonstrating our equipment as well as to share information. Our

top product GeniusMFI was in focus of the visitors for energy efficient joining. The second highlight was the Friction stir spot welding machine RPS 100. The system made a lot of welds and the crew had to answer many questions. As special highlight the new SmartACS weld timer module was presented. This timer has special-

ly been designed for the Chinese market. Functionality and design have been made in co-operation with our Chinese crew since last year. Now confirmed that it is well on the market suggests. The first major order has been received and a larger quantity will be installed in South China in late summer 2012.

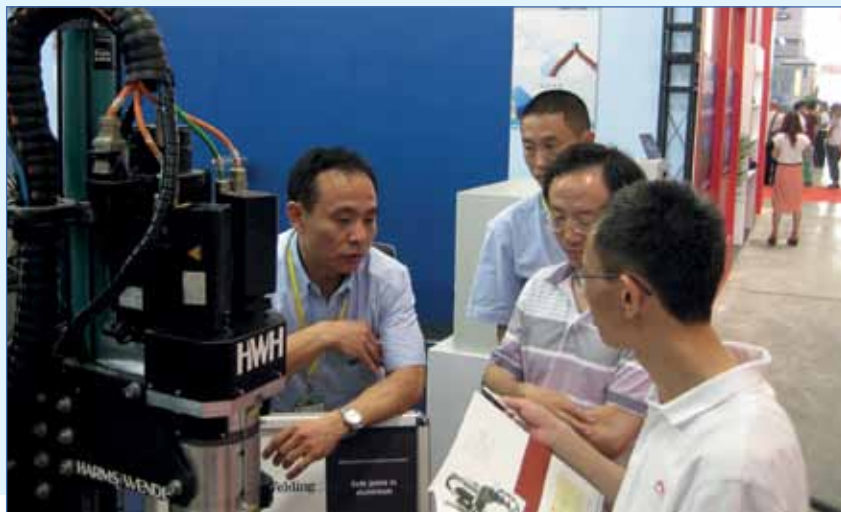
This year the head of sales Mr. Fritz Luidhardt and Mr. Jörg Eggers (head of export) joined the fair to support the crew. Since the co-operation runs since now 3 quarters of a decade we became in the meantime family and have a very trustful

relation – to the benefit of our customers. Our engagement in China is not only a short term item – its thought in the long run.

See you latest on the 18<sup>th</sup> Beijing Welding & Cutting 2013 in Shanghai the partner city of our home town Hamburg.

**To our partners:  
Thanks for all your support!**

After presenting the events from this year until summer 2012, the entire crew from Harms & Wende Hamburg would like to take the chance to thank our partners making the events possible.



# Local events

## Seoul Hi Festival



Events all over town

Seoul (서울특별시, Seoul Teug Byeoni Si), the heart of South Korea is the place where every year in late April/early Mai the Hi Seoul festival takes place. Visitors will enjoy open air music, theater and other events all over the city. It is an enjoyable time to see many people out on the streets celebrating together.

To get more information about the festival please visit <http://english.hiseoulfest.org>.

About Seoul: Seoul „Capital City“, from ancient Sillan „Seorabeol“ [5],



Source: Jörg Eggers

officially the Seoul Special City, is the capital and largest metropolis of South

Korea. A megacity with a population of over 10 million, it is the largest city

proper in the OECD developed world. [6] The Seoul National Capital Area is the world's second largest metropolitan area with over 25 million [7] inhabitants, which includes the surrounding Incheon metropolis and Gyeonggi province. Almost a quarter of South Koreans live in Seoul, half of South Koreans live in the metropolitan area, along with over 275,000 international residents. [8]

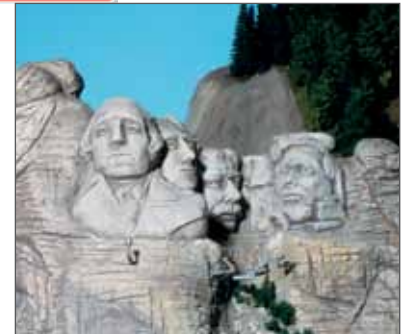
Source: Wikipedia.org, references please refer to Wikipedia page.

## Miniatur Wunderland

Have you been in Northern Sweden and USA on one afternoon?

Yes this is possible! The world largest miniature train is located in Hamburg! Come and make an enjoyable tour through the world of miniature trains. See the trains circulation, cars moving or enjoy a concert. This is just some steps apart when you are there. We recommend to book your tickets online to avoid long queues. Choose the time frame you plan to arrive and

follow the VIP entrance. After getting in book also the behind-the-scenes tour to see how the technique works. You will also see the end of the world. How this? – Make the tour. [www.miniatur-wunderland.de](http://www.miniatur-wunderland.de) Pictures: Miniatur-Wunderland



All articles by Jörg Eggers, except where indicated.  
Email: [joerg.eggerts@harms-wende.de](mailto:joerg.eggerts@harms-wende.de)

### Events 2012/2013

#### 2012

- Fair Aluminium, September 9<sup>th</sup> to 11<sup>th</sup> 2012, Düsseldorf (Germany)
- Fair EuroBLECH, October 23<sup>rd</sup> to 27<sup>th</sup> 2012, Hannover (Germany)

#### 2013

- Welding & Cutting, Sept. 16<sup>th</sup> to 21<sup>st</sup>, Essen (Germany)
- Beijing Welding & Cutting, Shanghai (China)

### Imprint

Issue 5

#### Publisher:

Harms & Wende GmbH & Co. KG  
Grossmoorkehre 9 · 21079 Hamburg (Germany)  
Tel.: +49 (40) / 76 69 04 - 0  
Fax: +49 (40) / 76 69 04 - 88  
[www.harms-wende.de](http://www.harms-wende.de)

#### Publishing Company:

Agentur v. Ruckteschell  
Manhagener Allee 100  
22926 Ahrensburg (Germany)  
Tel.: +49 (4102) / 707 30 - 0  
Fax: +49 (4102) / 707 30 - 16

### Your Harms & Wende partner