



Integration well on track: The new, combined team at EFD Induction, Inc.

## Major expansion in North America

EFD Induction recently acquired the Induction Bonding Systems business of Robotron Corp. The acquisition—which brings to almost 50 the number of EFD Induction, Inc. employees—significantly strengthens our presence in the key North American market.

EFD Induction has acquired the Induction Bonding Systems portion of the former Robotron Corporation. The acquisition boosts EFD Induction's manufacturing capabilities in North America, and expands the local engineering and service support it offers North American customers.

For Tom Crocker, President of EFD Induction, Inc., the acquisition proves his company's "long-term commitment to the North American market and to our North American customers."

Adds Crocker: "It's a perfect match. The acquired business is a leader in accelerated structural adhesives-curing technology. EFD Induction, Inc. and

the other units within the EFD Induction Group are unmatched in their technical competence—and in finding new applications for induction heating."

The acquisition, which was finalized last November, isn't the only big news from EFD Induction, Inc. The company recently signed a long-term lease for a new 33,000 sq. ft. facility in Madison Heights, Michigan. This new facility will upon its completion in November be the base for all EFD Induction, Inc. personnel. The employees of the acquired business, now renamed EFD Induction Southfield, Inc., will also relocate to the new facility.

"It's easy," says Crocker, "when talking about

corporate acquisitions, to overlook the really important things. And one of the really important things in this case is that we acquired the skills and dedication of a remarkable group of people. The 37 people we hired from Robotron's Induction Bonding Systems really know their business. They know the technology, they know the market, and they know how to deliver the benefits of induction heating to their customers."

Until the move to Madison Heights, the acquired business will operate out of Southfield, Michigan. Tom Crocker heads the new company, and also continues as President of EFD Induction, Inc. based in Troy, Michigan.

For more information about the acquisition—or about any aspect of EFD Induction, Inc.—contact Tom Crocker at: [tlc@us.efdgroun.net](mailto:tlc@us.efdgroun.net)

## Ice cream—for best results just add induction brazing!

Italians are famous for their delicious ice cream. But ice cream with induction brazing? Alessandro Mariani of EFD Induction Italy provides a recipe that guarantees perfect results every time.

Everyone knows about ice cream. And since you're reading *hottopics*, chances are you also know about brazing using induction heating. But did you know that brazing with EFD Induction equipment is helping Italians enjoy home-made ice cream?

First, the background. Making ice cream at home with ice-cream machines is extremely popular in Italy. And competition for this market is intense, with ten brands of domestic ice-cream

machines available. Two sub-suppliers provide the brazing operations for all the country's ice-cream machine manufacturers.

Of course, with such competition, it is crucial that sub-suppliers ensure quality and keep down costs when brazing. And one sub-supplier has found out how to do just that—by using an EFD Induction MINAC 12 to braze the joints in the ice-cream machines' compressors!

The process is quick, easy and cost-effective. Throughput is increased because one coil is used to braze all the joints. Also, induction brazing means no flux! How's that for an easy way to make ice cream?



Good enough to eat. Induction heating brazed the joints in this ice-cream maker compressor.

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Read more about *hottopics* ... and win an induction heater for the home!

Welcome to the first issue of *hottopics*, the new-look successor to our 'Induction Heating Times' newsletter. But although our newsletter has undergone a complete revamp, some things have stayed the same.

Most importantly, *hottopics* continues to bring you examples of how EFD Induction products, people and services help industrial companies around the world boost productivity.

To mark the launch of our new newsletter, EFD Induction is holding a special draw. The top prize is an induction heater for the home. Now, all the features (speed, safety, lower costs, etc.) that make induction heating so popular in industry, can be transferred to your kitchen.

To enter the draw, just go to our web site ([www.efd-induction.com](http://www.efd-induction.com)) and register for a FREE subscription to *hottopics*. Good luck. And once again, welcome to *hottopics*. We hope you like it.

## Chief Executive talkline



EFD Induction has continued to move forward, despite somewhat uncertain market conditions. The integration of our North American operation is well on track. The new organization has considerably strengthened our position in the US, particularly as a partner for the automotive industry.

The integration of Robotron makes us a truly global supplier of induction heating solutions. Through our manufacturing operations in Europe, the US, India and China, EFD Induction now develops, supplies and services new applications in all major markets.

The many benefits of induction heating are now being introduced into more and more areas. For example, environmentally friendly induction heating is now being used to make environmentally friendly solar cell panels. And combined with laser, induction is opening up new, exciting applications in heating and welding. Induction heating not only opens up more application areas, it also significantly shortens lead times and boosts productivity.

EFD Induction is made up of many different nationalities, cultures and backgrounds. But one thing unites us all: a passion for induction heating—and the benefits this amazing technology provides. To see how you may benefit, just contact your nearest EFD Induction representative. We look forward to hearing from you.

*Roger Hjerth, CEO  
EFD Induction Group*

## Guest comment



The expansion of the European Union to include the Czech Republic, Slovakia, Hungary and Slovenia presents exciting business opportunities. And EFD Induction Austria is ideally located to do business in the new member states.

Not that the new markets are completely new to us. In fact, from our base in Austria we have over the past few years built up considerable relationships throughout Eastern Europe.

Of course, our location has helped. Austria has traditionally been the commercial and cultural meeting point between East and West. But we have also developed an unrivaled understanding of the technical challenges facing our customers in the East. EFD Induction Austria looks forward to showing them how induction technology can help them meet those challenges.

*Werner Herbst, Managing Director  
EFD Induction Austria*

## Vogue sets the fashion with EFD Induction

They adorn exclusive hotels. They feature in stylish homes. They hang out at posh gyms. No, we're not talking about pop stars. Instead, it's the range of heated towel rails, shower curtain rails, basin support stands and column radiators made by Vogue UK.

Facing growing demand for their products, Vogue had to figure out a way to speed up production ... without in any way compromising the high quality that is the bedrock of their success.

Says EFD Induction UK Sales Executive Paul Evans: "Our challenge was to provide Vogue with an alternative to gas and hand torches for brazing applications. Our solution was an EFD Induction MINAC 12/18 mobile converter."

The first converter was delivered together with a selection of coils designed to suit Vogue's components.

And the company is currently investigating the possibility of ordering an additional MINAC 12/18.

Continues Evans: "The order reflects the fact that MINAC delivers the promised benefits. The customer was able to increase production because, compared to gas torches, induction heating is quick and controllable. MINAC's software lets the operator install the desired heat pattern. Ramp-up times, power delivery, dwell times—they can all be pre-set. This, of course, means fast and accurate repeatability."

Precise heat delivery was another reason why Vogue chose MINAC. Says Evans: "MINAC provides 360° even heat distribution. Heat transference, a notorious problem with naked flames, is eliminated. Induction heating leaves the joints looking better. It reduces cleaning, too. MINAC was perfect for Vogue's applications."



*Vogue UK's Works Manager Barry Simmons (left) gets to grips with the EFD Induction Minac 12/18. Paul Evans is on the right.*

## Breakthrough in Russia

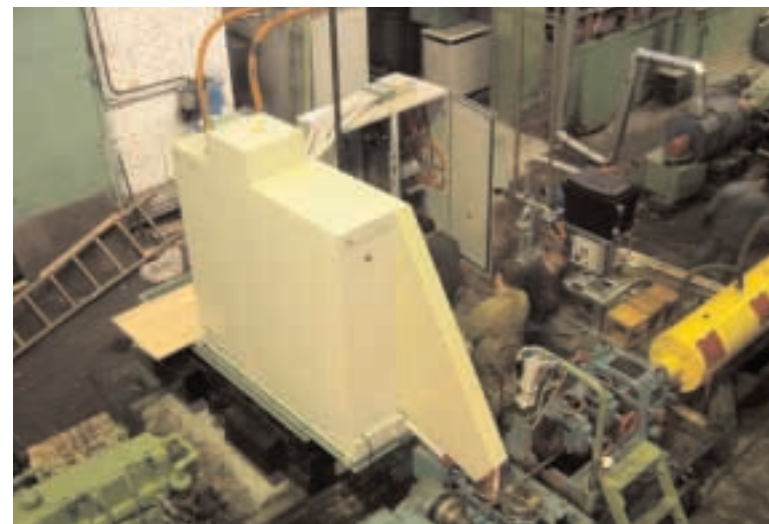
EFD Induction Russia made breakthrough in the Russian market last May when it sold and installed its first solid-state welder (an EFD Induction WELDAC G2 450 kW).

The welder was retrofitted at the Vyksa Steel Works in the Nizni Novgorod region 300 kilometers (186 miles) east of Moscow. The WELDAC replaced an oscillator-type welder.

EFD Induction Sales Representative Dmitri N. Esin helped install the new welder into the line. "Of course," says Esin, "it feels good to make a sale and successfully install equipment. But all of us on this project felt extra good because we're making a real contribution to modernizing a country's industry."

The WELDAC is already paying off for the Vyksa Steel Works. "Sure," says Esin. "Welding quality has improved dramatically, energy costs have decreased and uptime is improved."

Esin and his colleagues are especially proud of how quickly they managed to get the WELDAC into place and up and running. "The entire retrofit—from dismantling the old welder to regaining full production—was completed in less than three days ... and most of that time was consumed by paperwork."



*The new EFD Induction WELDAC G2 retrofitted into an existing line.*

## Machine #100 in Denmark

When EFD Induction last May delivered a 250 kW induction heating system to a customer in Denmark, nobody knew that company history was in the making. "It was," says EFD Induction area sales manager Thorleif Steinmoen, "only later that we realized this particular system was the one hundredth induction machine we'd sold in Denmark."

The machine—installed at the production plant of Mølbro A/S in Broby, west of Copenhagen—is being used to forge plowshares. Adds Allan K. Rasmussen, EFD Induction sales representative in Denmark: "The process went very well. The system was up and running within one day."

Mølbro opted for the EFD Induction solution only after making a detailed evaluation of all their options. Says Rasmussen: "They chose our machine because of its documented economic and technical benefits. Our after-sales service was another important factor behind their choice."

One technical feature that impressed Mølbro was built-in automatic impedance matching. This ensures exceptional heating times and power consumption levels. Feedback from Mølbro A/S shows that their new machine has slashed heating times by 25% compared to their previous forging equipment.



*Tim Christoffersen of Mølbro A/S flanked by EFD Induction area sales manager, Thorleif Steinmoen (left), and EFD Induction sales representative, Allan K. Rasmussen.*

# On a roll with Nokian Tyres

Nokian Tyres is not only the largest tyre manufacturer in the Nordic countries, it is also one of the most profitable tyre makers in the world. One reason behind the company's success has been its unrelenting search for intelligent production processes that maintain quality while simultaneously cutting costs.

A perfect example of this approach is the changeover to high-frequency induction heating equipment from EFD Induction for the pre-heating of wire.

The pre-heating of wire is a crucial part of the tyre-manufacturing process. It is, quite literally, the process that holds the tyre together. Obviously, the quality of the pre-heating process is key to ensuring a safe end-product. Each side of a tyre contains a steel-wire bead. It is this wire bead which holds the tyre onto the wheel. The wire bead of a passenger car tyre consists of a bronze-covered steel wire that is 0.9 mm in diameter. This wire is wound into a ring with up to 44 turns.

To ensure the desired adhesion between layers of wire, the steel wire is covered with a thin layer of rubber by means of extrusion before entering the winding process. However, to achieve maximal adhesion during the extruding stage, the wire must first be pre-heated to 90°C.

Previously, Nokian Tyres used a resistance heater to pre-heat the wire. But frequent downtime caused by the resistance heater's unreliability prompted Nokian Tyres to look for a smarter alternative. (The resistance heater also took up an unacceptably large floor area.)

After reviewing its options, Nokian

Tyres decided to move the wire production lines ... and to replace inefficient resistance heating with two EFD Induction HFP 5 high-frequency converters. Each converter has a maximum output power of 5 kW and a frequency range of 100–450 kHz.

The converters were installed in June 2002 on two winding production lines. Each line features 6 wires that are simultaneously pre-heated and extruded at a speed of 100 meters per minute.

Since installation the EFD Induction converters have been working continuously in three-shift production. To date, there have been no interruptions caused by the converters. And unscheduled downtime is zero.

*Nokian Tyres' Timo Välimaa (left), and Kari Skarp inspect their new EFD Induction equipment.*



## EFD Induction meets tough quality demands set by German automakers

Not just anybody can supply German automakers. You first have to prove you're as devoted to quality control as they are. And one way to prove it is to meet the tough quality control requirements set by the German Confederation of Automobile Industries (Verband Der Automobilindustrie, or VDA for short). Which is what EFD Induction Germany just did.

It's understandable that Roland Riechert, Managing Director of EFD Induction Germany, is proud. Because EFD Induction Germany earlier this year renewed its VDA certification. And to prove it, there's a copy of

the latest VDA certificate hanging on the wall of his office in Freiburg, Germany.

"Meeting the requirements necessary for VDA certification is a real achievement," says Riechert. "It's fur-

ther proof that our quality control procedures are truly world-class. After all, certification to VDA standard is now demanded by such quality-conscious automakers as the VW and Daimler-Chrysler groups."

The certificate awarded to EFD Induction Germany is the VDA 6.4, which applies to production equipment, including product design, for the automotive industry. The VDA 6.4 is divided into two parts.

The first part includes checklists and instructions to ensure high levels of management responsibility, internal quality auditing, staff training,

product security and strategic business planning.

The second part sets equally tough standards for contract control, marketing, product and process development, purchasing, product control, equipment calibration, corrective and/or preventive quality measures, etc.

*It's official!  
EFD Induction Germany meets the stringent quality requirements set by some of the world's most demanding automakers.*



## Giant induction furnace for space-age applications

When it comes to quality components and materials, nobody is more demanding than the aeronautics and space industry. So it was a justifiably proud EFD Induction France that recently delivered two 6-meter long, 2.5-meter wide induction furnaces to a major manufacturer of composite materials.

The pride comes not only from constructing these two marvels of modern technology. But also because the furnaces will be used to produce composite materials for such demanding uses as aircraft brake rotors and ther-

mal protective tiles for space vehicles.

For Jean-Pierre del Gobbo of EFD Induction France, the giant furnaces are another example of the specialist induction heating skills for which his company is famous.

"Indeed," agrees del Gobbo. "EFD Induction France has an international reputation for pushing the boundaries for induction heating technology. Our work in glass making, optical fibers and plasma are other examples of our specialist knowledge. As for these furnaces, they are being used in more and more challenging applications. That's because they can withstand critical chemical and thermal conditions."

The induction furnace is powered by an EFD Induction 1.5 MW, 2 kHz static frequency converter. The furnace can attain temperatures in excess

of 2,000°C in a graphite susceptor chamber under a vacuum or protective low-pressure atmosphere. The manufacturing cycle includes various processes, such as vapor infiltration (for densifying carbon structures) as well as high-temperature graphitization.

Says del Gobbo in conclusion: "Induction furnaces such as these are truly impressive to look at. But what's maybe more impressive is the fact that we handled every aspect of the furnaces' design, development and construction. They're a testament to the skills and ingenuity of our employees."



*Out-of-this-world technology. One of the two giant induction furnaces from EFD Induction France.*

# Tenth anniversary for EFD Induction in Spain and Portugal

Starting from scratch ten years ago, EFD Induction is now firmly established as a key supplier of induction heating solutions throughout the Iberian peninsula.

Area Manager Juan Miguel Escolar Gonzalez—who has been with EFD Induction in Spain since its launch in 1993—recalls how the decade has progressed: “When we first started, it was with mobile induction heaters. But we’ve since expanded to offer bonding and heat treatment solutions to Spain’s automotive industry.”

And it’s a significant industry. Spain’s automotive sector last year turned out 2,260,000 cars and more than 595,000 vans and trucks. Obviously, the potential for EFD Induction is significant.

“Certainly,” agrees Escolar. “Particularly when one considers the cost and quality benefits of induction heat-

ing. As we all know, automakers must constantly strive to reduce costs while at the same time maintaining high quality levels. It’s a tough challenge, but it’s one that can be met with our know-how, equipment and technical services.”

*Celebrating a decade in Spain and Portugal. Area Manager Juan Miguel Escolar Gonzalez (far left) with colleagues Marta Huete and Oscar Escolar Rodríguez.*



*Fine-tuned for success. An engineer at EFD Induction (Shanghai) works on an induction hardening machine.*

## Double-first in China

EFD Induction (Shanghai) achieved a spectacular result in deliveries and orders for the first quarter of 2003. The news is particularly welcome in light of the SARS outbreak, which some observers feared might dent demand for capital equipment.

Heading the good news is the sale and delivery of the first ever made-in-China EFD Induction vertical hardening machine.

“The sale,” says Managing Director Qin Song, “goes a long way towards establishing us as an induction heating force here in China. We now have the capability to make and deliver horizontal and vertical machines. The fruits of the breakthrough are already apparent, as we’re due to deliver

another two EFD Induction hardening machines before the end of the year.”

EFD Induction (Shanghai) also made its first sale in China’s tube and pipe market. “It’s quite an event for us,” comments Song, “as the sale involves a WELDAC 700 to the Shanghai Bao Steel Group, China’s biggest steel maker.” The WELDAC 700 is being manufactured by EFD Induction Norway, and is to be installed in a cold-bending line.

## A cool head keeps the heat on

Friday, May 16, was a regular day at the Carrier commercial air conditioning plant in Morrison, Tennessee. That is, until a component failure threatened to shut down production. For fabrication engineering manager, Phillip Hobbs, it looked like disaster might strike.

“You bet,” says Phillip. “We were facing every plant manager’s worst nightmare—shutting down assembly lines. And it wasn’t just one, but three lines that were in jeopardy.”

Fortunately, Jim Grden and his team from EFD Induction Southfield

were soon on the scene. Phillip Hobbs relates what happened: “Well, Jim Grden and his staff did a great job. Jim, in particular. He stuck around until very late while we diagnosed the problem and got replacement parts on their way to us. The parts arrived

noon Saturday and we were up and running later that day. This saved us an awful lot of money—and prevented us having unhappy customers.”

Following the incident Phillip sent an e-mail to EFD Induction, Inc. management praising Jim Grden and his colleagues for their “initiative and support of Customer Satisfaction.” Phillip also wrote: “I hope you have a good recognition process in place to reward someone like him ... people like Jim will take your company a long way on the road to success!”

Everyone at EFD Induction would like to thank Phillip Hobbs for his encouraging remarks. As well as for taking the time from his busy schedule to thank Jim and his colleagues. We really appreciate it. And finally, our own words of thanks to Jim. Well done. You’re an example to us all!

*Jim Grden of EFD Induction Southfield. His dedication to service won big praise from a valued customer.*



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