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### The challenging planet

Sauer-Danfoss systems rise to global demands for low emissions, high energy efficiency and clean, green electric power

Microcontroller

efficiency

Fan Drive Motor

hybrid Technolog

motor

H1 Bent Axis

intelligent mobile controls

SAUER-DANFOSS NEWS MAGAZINE

NOVEMBER 2008











### **Onwards and upwards**

Times change, people move on - and, at Sauer-Danfoss, the end of 2008 will complete a top management reshuffle within the global sales organization.

For the most part, the reorganization is a question of familiar faces taking on new roles. From leading our Asia Pacific sales organization, Stefan König is now preparing to take on full responsibility as Vice President Sales & Marketing Europe - taking over from Wolfgang Weisser, who will retire at year-end

Janfried Tirre has moved from a managerial position within the European key account organization to Asia to take over the position of Vice President Sales & Marketing Asia Pacific, left vacant by Stefan König.

It is with considerable nostalgia and gratitude that we say goodbye to Wolfgang Weisser, who joined the company more than 40 years ago as just the seventh employee recruited by the former Sauer organization. Through all these years, he has played a key role in our company's exciting voyage to the top of its field. Today, with our global presence, technological solutions, such as PLUS+1® and H1, and application expertise, for example, in relation to Tier 4, we have never been a stronger partner for our customers.

With these management moves we are shaping our organization in preparation for the next years' opportunities and challenges within our different markets. At the same time, we look forward to conveying the benefits of many years of experience to new geographical regions. Renewal and knowledge transfer in one fell swoop - we consider both to be core elements in maintaining our status as a market leader.

An experienced management team with the courage to take on each new challenge has always been at the heart of our business. Building on the knowledge of today, developing the technology of tomorrow, we take pride in our tradition for looking ahead.

Janfried Tirre
Director Sales & Marketing APAC Regione

### From Russia to



A wave of product launches is drawing attention to Rostselmash, one of the world's five largest harvester manufacturers. All the new generation machines are driven by Sauer-Danfoss hydraulics.

Russian Rostselmash looks east and west when designing harvesters for high-value performance. The expansive, rugged fields that characterize post-Soviet farming and the tough emission regulations that are spreading from the US, Europe and Japan require multiple considerations by a company intent on imprinting its name

on the global market.

Sauer-Danfoss is helping Rostselmash achieve its goals - supplying the steering units for all its machines and a high proportion of the hydrostatic transmissions. The company has already

increased its production eight-fold since 2000. That makes Rostselmash a significant market player throughout the Commonwealth of Independent States (CIS).

#### Latest release

Today Rostselmash works closely with Sauer-Danfoss on its machine designs, including its newly released ACROS 530 grain harvester. According to Oleg Shevchenko, maintenance supply director at Rostselmash, the relationship builds on a spirit of openness and trust.







"We have chosen Sauer-Danfoss not because it is a famous name, but because it delivers high volumes of the top quality products we need. This is very important for us, especially when starting series production of new models," he says.

The ACROS 530 replaces one of Rostselmash' most enduring best-sellers, the DON 1500B. Launched in 2007, this new generation harvester has Sauer-Danfoss Series 90 hydrostatic transmissions and OSPC steering units on board and sets a new standard in efficiency and operator comfort. A warm market welcome means Rostselmash plans to produce a large number of the machines this year.

A Western competitor

Another joint development project will reach its conclusion this autumn when Rostselmash commences serial production of the new RSM 181 grain rotor combine harvester. High power, low emission propulsion is provided by a Series 90 130ccm closed circuit axial piston pump and 100ccm motor. Driving the capacious threshing drum is a Series 90 100ccm pump and 75ccm motor, while

the work functions rely on a Series 45 38ccm open circuit

axial piston pump and triple

gear pump. The steering unit is a Sauer-Danfoss OSPD, a dual displacement solution for responsive, safe steering of the heaviest vehicles.

"The RSM 181 is built to meet the needs of Western markets, providing high performance with low service costs. Rostselmash has focused particularly on efficiency and operation in big Russian fields," comments Vladimir Medvedev, Rostselmash's chief project engineer.

Innovative drive

At the moment, the sky is the limit for Rostselmash, as it renews and expands its range of harvesting equipment. Serial production of the new RSM 1401 forage harvester - with a Sauer-Danfoss Series 90 hydrostatic transmission - is scheduled to begin next year. Satisfaction with Sauer-Danfoss' reliabil-

ity and efficiency is encouraging Rostselmash to

enter further collaborations. The innovative spirit that characterizes Rostselmash, particularly since the turn of the millennium, has brought the company a series of awards, both at home and abroad. In March this year, the company's grain harvesters were all recognized as being compliant with European Union safety regulations.

Close to a third of Rostselmash harvesters are now sold in Western markets. Performance is high, and, backed by Sauer-Danfoss' hydraulic solutions, the potential for ongoing innovation is broad.

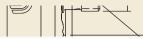
**Article 1**. For further information: TheCircuit@Sauer-Danfoss.com













# Power distribution



Sauer-Danfoss solutions take on one of the big challenges of the 21st century - the development of high performance machines that are low on emissions.

Two inescapable trends are currently stretching the innovative capabilities of companies supplying power distribution solutions for mobile machinery. From machine manufacturers and their customers, the demand for energy savings is loud and clear. From around the world, new emission standards continue to loom on the horizon - standards that will undoubtedly set the level for acceptable combustion engine emissions on global markets.

For power distribution solution providers like Sauer-Danfoss, there is really only one answer to both these trends. It lies in the development of smart solutions for efficient power management.

### The end of rpm dependence

Combined with the long-standing OEM focus on more performance for less fuel consumption, new North American Tier 4 and EPA 10 and the European Euro IV and Euro VI off and on highway emission standards - to be phased in from 2011 to 2013 - pose the most difficult challenge faced by

the fluid power industry. The resultant reduction in the net power output from combustion engines, compared with engines of the same size today, requires a change in overall vehicle architecture to ensure sufficient efficiency improvements to meet vehicle performance goals.

Combinations of intelligent hydraulic and electric components are the key. By this route, it is possible to disconnect the transmission and other functions from a required engine rpm. Power can then be allocated to each function as necessary, allowing the engine to run at the best speed for efficiency, noise and reduced emissions.

### **Advanced system communication**

Sauer-Danfoss PLUS+1™ technology has an important role to play in the new era of intelligent mobile controls. Comprising a full range of PLUS+1 Compliant components and powerful programming software, PLUS+1 makes designing integrated control systems for high-performing machines a piece of cake - relatively speaking, of course.

PLUS+1™ enables optimum power distribution in response to the demands of mobile machine operation. While traditional hydraulic and electric solutions have an independent system for each work, steering, cooling and propel function, an advanced, programmable PLUS+1 machine control system provides the vital link that ties all the functions together. Each function then has a direct line of communication to the control system, which it informs of its power requirements and the priority in relation to other machine functions.

This kind of networking between the sub-systems in a total power distribution system has long been commonplace in other parts of industry. Today, with increasingly stringent emission standards on the way, it is a growing expectation among manufacturers of mobile machinery. Here, the varying power distribution requirements of, for example, telehandlers, wheel loaders and combine harvesters, call for solutions that are strictly application-specific.

Accommodating the demands of the new emission standards is challenging. To meet the dead-line, the time has come to leave conventional approaches to power distribution behind and move on to the smarter solutions now available.

### The way to integrated solutions

Energy efficiency has always been a priority for Sauer-Danfoss in designing hydraulic components and solutions for the mobile machine industry. The advent of tough emission standards has brought this requirement into even sharper focus.

A main issue is the "cooling by demand" effect on the cooling systems that maintain optimum engine and hydraulic system temperatures. To satisfy the North American, Japanese, and European standards, combustion engines require high thermal efficiency, which means more combustion











# wises up



heat is lost and the net power available from the engine is reduced.

This has created a need for more sophisticated cooling solutions. In response, Sauer-Danfoss has developed SNM2Y and SNM3Y electro-hydraulic proportional fan drive motors that only go into action when required - improving efficiency and power management.

### Clean, green and electric

Increasing environmental consciousness has further stimulated a growing demand for clean, green power. Here, Sauer-Danfoss has developed a unique strength - the ability to integrate electric,

electronic and hydraulic components in complete systems. For electrically powered vehicles, robust AC motors provide the very best in controllability, maneuverability and efficiency. And, now, a brand new range of PLUS+1 inverters is setting a new standard for intelligent motor control, complete with flexible programming opportunities.

### **Intelligent components**

The Sauer-Danfoss H1 pump and PVG 100 valve series have also been designed in view of international emission standards. Within the H1 series. the hydrostatic pumps and bent axis motors represent an opportunity to maximize operating

efficiency by combining a lower pump input speed with a higher motor output speed.

The H1 range delivers high power density in a compact, flexible package. Offering higher output speeds, lower input speeds and a reduced total installed lifecycle cost, the pumps and motor target the needs of high and medium-power applications. All units are PLUS+1 Compliant.

The PVG 100 series of post-compensated, loadindependent directional control valves supplements H1 by catering to limited energy hydraulic systems - distributing flow proportionally to multiple machine functions according to variable load and pressure requirements.

### Global expertise, local support

Specialized Sauer-Danfoss engineering teams develop customized, energy-efficient systems for numerous applications. Within the agriculture, construction, forestry, material handling, road building and turf care markets, Sauer-Danfoss is an experienced player. Thorough testing ensures the technical reliability and economic feasibility of each new system prior to release.

On all markets, Sauer-Danfoss has built up specific expertise relevant to local needs - whether for the marine market of Asia or the oilfield services market of North America. This local know-how and customer contact are a vital aspect of the global Sauer-Danfoss organization, enabling crossborder sharing of knowledge and experience to the benefit of customers worldwide.

The corporate vision is to become the preferred global supplier and partner on chosen markets - providing customers with the highest value system solutions, achieving recognition as the most competent supplier, and becoming seen as the company that is easiest to do business with.



Article 2. For further information: TheCircuit@Sauer-Danfoss.com









# What you need, where you need it

Sauer-Danfoss has earned a reputation for raising standards – with an extensive range of valves, orbital motors, steering solutions, electric drives, gear pumps, hydrostatic transmissions, joysticks, graphical terminals and electronic controllers. The complete list of components is long. When Sauer-Danfoss puts them together in customized systems, they can satisfy virtually every hydraulic need of the mobile machine market.

### The Sauer-Danfoss portfolio

- · Electric drives
- Gear pumps and motors
- Fan drive motors
- Electronics modular PLUS+1 controllers, software and systems
- · Graphical displays and joysticks
- Orbital motors
- Hydrostatic transmissions piston pumps and motors, gearboxes
- · Steering components and systems
- Valves proportional, electrohydraulic, directional control in sectional and cartridge designs
- Hydraulic integrated circuits

### Manufacturing and engineering sites

- Caxias do Sul, Brazil
- · Shanghai, China
- · Odense, Denmark
- · Nordborg, Denmark
- · Kolding, Denmark
- · Kaiserslautern (Engineering), Germany
- · Swindon, UK
- · Neumünster, Germany
- · Pune, India
- · Bologna, Italy
- · Reggio Emilia, Italy
- · Cento, Italy
- · Osaka, Japan
- · Wroclaw, Poland
- Povazska Bystrica, Slovakia
- · Dubnica nad Vahom, Slovakia
- · Älmhult, Sweden
- · Livermore, US TSD joint-venture with Topcon
- · Ames, US
- Minneapolis, US
- Freeport, US
- · Lawrence, US
- · Sullivan, US Hydro Gear joint-venture with Agri-Fab
- Princeton, US Hydro Gear joint-venture with Agri-Fab Ames
- Easley, US
- · Hillsboro, US

Article 3. For further information: TheCircuit@Sauer-Danfoss.com

### **Customer opinion counts**

Sauer-Danfoss has conducted a customer perception survey in Europe to find out where the sales organization is doing well and what could be better.

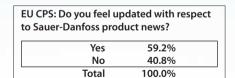
Competent, friendly and trustworthy - that's how Sauer-Danfoss is perceived by the 580 European customer contacts who participated in this year's customer perception survey. Sauer-Danfoss products are also high in quality and add value to the customers' own machines, say customers, who also choose the company for its top application expertise.

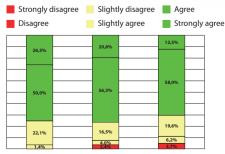
But, while relations are good, customers have

pinpointed a need for diverse improvements. One is better communication about new products and product areas. The new website and an increased product focus in The Circuit are among the first initiatives in response to this need.

In contrast with previous years, this survey was specially developed to evaluate customer perceptions of the European sales organization in relation to processes, customer contacts, system competences and image.

The aim is to repeat the survey every year so results can be compared and improvements measured. In addition to Europe, during 2009 the survey will be conducted in the Americas and Asia Pacific to obtain a global customer view.





Article 4. For further information: TheCircuit@Sauer-Danfoss.com













### **Custom-made closer to customers**

### Sauer-Danfoss invests in the North American need for aluminum open circuit products made in Europe.

A desire to become more responsive to OEM needs is driving the establishment of a new differentiation and distribution center for aluminum gear pumps and motors at the Sauer-Danfoss plant in Lawrence, Kansas, U.S.A.

The center will become fully operational during 2009, offering faster order fulfillment and enhanced customization opportunities.

An initial improvement in response time will emerge towards the end of 2008, when the Lawrence site will take over distribution of the aluminum group 1, 2 and 3 [A, B and C flange] gear pumps and motors. Produced at Sauer-

Danfoss plants in Italy and Slovakia, the components are currently distributed from the Sauer-Danfoss extended customer service facility in Ames Iowa

"The future lies in supplying our customers with more customized, differentiated products," says Rob Arndt, Product Portfolio Manager. "In North America, we want to offer our customers more flexibility by strengthening our ability to convert and modify components produced at our factories in Europe."

Production of cast iron gear pumps and motors is well established in Lawrence. Experts from Sauer-Danfoss in Europe are now transferring the necessary knowledge and expertise in the aluminum components to their U.S. colleagues.

Dave Loch, Product Team Leader responsible for



setting up the differentiation and distribution center, calls it a major undertaking with great long-term prospects.

"The center will bring us closer to customers and enable us to meet their specific application needs more quickly. For us at Sauer-Danfoss, it will also create opportunities to enter more market segments," he says.

Article 5. For further information:
TheCircuit@Sauer-Danfoss.com

### No. 1 in gear pumps and motors



Never has there been a better reason for choosing gear pumps and motors from Sauer-Danfoss. Superb quality and delivery performance are today giving OEMs the best value proposition on the market

The leading efficiency, durability and reliability of the product range meet all the latest OEM demands for high performance with reduced fuel consumption and noise emissions.

At the Sauer-Danfoss gear pump and motor factories in Italy, Slovakia and the U.S., defects per million have reached a record low of 847.

On top of this great operational performance, the open circuit teams are working to provide customers with instant technical and inquiry support.

The customer benefits speak for themselves. For

off-highway mobile equipment, Sauer-Danfoss gear pumps and motors are the clear choice.







The new PLUS+1™ Inverter MI06 is the first in a complete range designed to improve the efficiency and drive performance of AC motors.

### Convert to intelligent current

No emissions, less noise, no oil leaks and good driveability are among the benefits that are fuelling the growth of the market for battery-powered vehicles. Now Sauer-Danfoss has added more advantages. The first PLUS+1™ Inverter MI06 brings improved AC motor efficiency and precise, intelligent controls.

Control system development could not be easier. OEMs can rapidly configure the inverter to manage motor and vehicle functions using the drag-and-drop PLUS+1 GUIDE graphical programming tool. Used in combination with PLUS+1 Compliant AC motors, the inverter is prepared for rapid startup on installation. The need for fine-tuning is all but eliminated.

### **Best point performance**

Based on flux vector control, the inverter ensures the AC motor always runs at best point, no matter what the speed or load mode. In addition to minimizing power losses in the drive system, this secures smooth acceleration and superior maneuverability – not to mention improved machine productivity with more working hours per battery charge.

"AC motors gain the best characteristics and highest efficiency, where overheating is no longer a critical issue," says Joachim Hergt, Product Portfolio Manager. "The excellent overload capacity of the drive system allows vehicles to start up safely even with a full load."

#### Flexible control

OEMs have the option of using the PLUS+1 Inverter to supplement or even replace the master vehicle controller. On applications such as counterbalance forklift trucks, the intelligent inverter is a particularly cost-effective choice, fully accommodating the lifting, lowering, speed and safety control functions. For the more com-

plex control needs of, for example, warehouse reach trucks, the inverter takes over some of the control workload from the master vehicle controller. The result is even more responsive machine control and improved performance.

The inverter's comprehensive interface, with CAN port and multifunctional input/outputs, gives superb flexibility when configuring specific functions. That makes it ideally suited to traditional battery-powered vehicles, such as forklifts, aerial lifts and tow tractors, and newer arrivals on the battery-powered market – turf care vehicles and sweepers.

"Electric drive systems powered by batteries or other power sources create many opportunities to design cleaner machines with higher efficiency and driveability. Our PLUS+1 Inverter meets the needs of this developing market," Joachim Hergt explains.

### **Robust for long life**

Sealed with a breathable, waterproof membrane, the inverters can operate in tough working environments with a high dust and moisture content and temperatures ranging from -40°C to +50°C [-40°F to 122°F]. Copper-based IMS power electronics minimize thermal stress, helping to extend the inverter's operating life.

Along with high drive performance and efficiency, the PLUS+1 Inverter improves productivity and provides the best lifetime costs for end-users. Within the next year, Sauer-Danfoss plans to launch all six frame sizes that will make up the complete PLUS+1 Inverter range, catering for 2 to 30kW and 24 to 80V requirements.



**Article 7**. For further information: The Circuit @ Sauer-Danfoss.com



The first H1 bent axis motor has arrived, complementing the already successful H1 axial piston pump series designed for intelligent mobile machinery.

### H1 motors meet the machine

A complete H1 transmission system with optimized electric control has become a commercial possibility following the launch of the H1 110ccm bent axis motor - the first motor in the H1 hydrostatic family.

Eagerly awaited since the release of the H1 axial piston pumps, the H1 motor brings OEMs a range of improvements in terms of safety, flexibility and overall efficiency.

One particular response to market demand is the motor's zero degree capability, which gives improved safety and precision, including anti-slip and torque control. At the same time, it allows a seamless shift from four to two-wheel drive solutions, eliminating any sudden change in speed or even stop in the process.

### **Optimum power distribution**

Efficiency upgrades are noticeable in all areas, including starting torque and operating efficiencies associated with volumetric and mechanical losses. "This not only improves fuel economy, but also frees power for other vehicle functions, enhancing

operating performance and increasing productivity," says Hans-Peter Nissen, Product Portfolio Manager.

"In this way, the motor meets the Tier 4 and Euro IIIb emission standards, which require intelligent utilization of engine power."

### Simply intelligent

Supporting the move towards more intelligent mobile machinery, it speaks for itself that the H1 motor is fully PLUS+1™ Compliant for smooth integration with Sauer-Danfoss' flexible electronic control package. The same goes for the H1 range of axial piston variable displacement pumps, today including the 147/165ccm single and 45/53ccm integral tandem pumps and the 45/53ccm and 78ccm single pumps, with more soon to be released

The H1 motor's simple, compact design, including the shortest length of any bent axis motor available on the market today and at least one clean side, aids vehicle design flexibility and installation.

**Article 8**. For further information: The Circuit @ Sauer-Danfoss.com

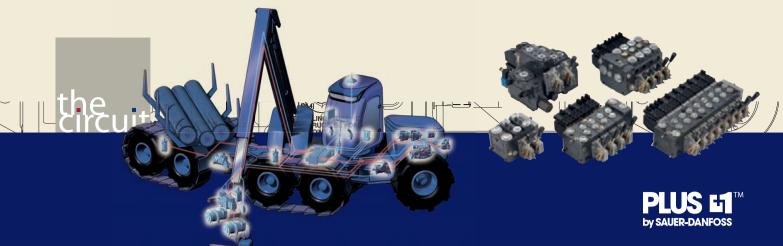
### China targets top service



High-level customer service is in focus in Asia-Pacific, where the first H1 pump training seminar has successfully taken place in Shanghai. The two-day seminar was attended by the Sauer-Danfoss China sales, technical support and service teams and included a mix of classroom and handson training.

As sales of the efficient, heavy-duty H1 pumps grow in the region, Sauer-Danfoss is committed to providing customers with strong after-sales service and support. The service training seminar was specifically developed to reach that goal.

**Article 9**. For further information: TheCircuit@Sauer-Danfoss.com



### A quick cut of the biomass market

Growing demand for power and heat generation based on biomass has created a new market for the forestry industry. With the support of Sauer-Danfoss, Bracke Forest of Sweden has developed a unique cutting head that makes biomass a truly profitable proposition.



It's only a few years since saplings cleared during forest thinning were left to rot on the forest floor. Today, with the rise of the biomass industry, the situation has changed. Waste trees have become a valuable resource.

"The market is growing as more power stations are being built," Klas-Håkan Ljungberg, marketing director at Bracke Forest, explains. "For our customers in the forestry business, it represents a new way of working. While forest thinning has traditionally been an expense, now much of the cost can be covered by selling the material as biomass."

### **Patented approach**

Bracke Forest has designed the C16.a to help foresters take the natural step that will enhance their profits. Dependent on a Sauer-Danfoss PVG 32 solution and PLUS+1™ microcontroller, the C16.a is a cutting head with a patented approach to felling.

"Competitor solutions use hydraulic scissors that often have difficulty slicing through hardwood, such as beech. We have developed a unique saw mechanism, using a cutting chain fitted to a circular saw blade. Using this technique, the head can cut all wood easily and twice as fast," says Klas-Håkan Ljungberg.

#### Flexible PVG

As on all Bracke Forest forestry equipment, the C16.a relies on a PVG 32 valve group for its work functions. Six sections control the circular saw, the grapple arms, which are capable of holding up to 10 trees at a time, the tilt function, head leveling system and rotator. Unlike previous cutting head models, the valve for the rotator is mounted in the head rather than the crane – a



strategy that reduces the need for connecting hoses. A Sauer-Danfoss SNM3 gear wheel motor drives the saw

For Klas-Håkan Ljungberg, the PVG 32 is a valve with plenty of good points.

"We have used PVG 32 valves for more than 15 years and, 10 years ago, decided to use them in all our products. Even when supplied as standard valves, we get a lot of functions with them. And, if we need anything special, they can be quickly adapted. We find them easy to handle, easy to mount and, due to their worldwide distribution, an advantage from a spare parts point of view."

#### **Responsive PLUS+1**

The combination of a PVG 32 solution with two PLUS+1™ microcontrollers is, though, a first for Bracke Forest. With one bolted onto the head



and the other in the cab of the forest harvester machine, the two communicate via CAN bus. A pressure sensor that registers the volume of trees held by the grapple arms is also part of the control network. A single command from the operator is sufficient for the cutting head to carry out several functions.

The robustness of the PLUS+1 microcontrollers towards tough working conditions and their flexibility have made an impression. Bracke Forest has accepted an invitation from Sauer-Danfoss to participate in PLUS+1 training so, in future, the company can program its own control systems.

Klas-Håkan Ljungberg is very happy with the support provided so far.

"Sauer-Danfoss is very good at training our personnel in the system, so we know how it works for service purposes. PLUS+1 works very well on our cutting head - and we are looking into other ways of using it," he says.

The market is also happy with the C16.a cutting head. Since its launch in early 2007, Bracke Forest has sold the C16.a on a number of European markets. The patented saw mechanism, low maintenance and high biomass production are widely appreciated. To the forestry business, the C16.a is a new dimension.

**Article 10**. For further information: The Circuit@Sauer-Danfoss.com



# Training meets a knowledge need

Strong interest in PLUS+1™ mobile machine control technology is raising demand for more advanced training. Sauer-Danfoss Germany has responded with a two-day seminar for software programmers.





Successful ongoing training in the basics of PLUS+1™ has created a need for more advanced training at Sauer-Danfoss in Germany. At a two-day seminar, 25 German and Swiss participants gained an opportunity to probe deeper into the opportunities PLUS+1 provides — and add to their skills in programming intelligent systems for mobile machine control.

"For the past two years, we have regularly conducted basic PLUS+1 training for customers, distribution partners, employees and university students. As time has past, we have recognized a growing need to deal with more advanced topics," explains Torsten Bloch, System Application Engineering Team Leader.

The seminar included a detailed look at CAN bus protocols and aimed to give an improved understanding of software project management, documentation and program design. After an introduction to each subject, the participants were keen to discuss and exchange experiences.

"We received a lot of suggestions, requests



for additional features, feedback and ideas for improvements regarding our PLUS+1 hardware and software," says Torsten Bloch.

The highly positive comments from participants left the organizing team at Sauer-Danfoss Germany in no doubt that the seminar was a success.

"OEMs appreciate the opportunity to customize Sauer-Danfoss standard software by adding their own graphical code," Torsten Bloch comments. "Seminars like this also contribute to our good customer relations."

Additional advanced seminars are now being planned.

**Article 11**. For further information: TheCircuit@Sauer-Danfoss.com









### Sauer-Danfoss backs university research

Sauer-Danfoss is one of 50 companies that have pledged financial support to the Engineering Research Center for Compact and Efficient Fluid Power (CCEFP) based at the University of Minnesota in the U.S.

Established in 2006, the CCEFP is committed to developing fluid power technology to reduce fuel consumption, energy use and pollution and create the next generation of automotive technology. Other main goals are to improve mobility for the elderly and ailing and develop advanced rescue robots.

Jeff Herrin, Director of Advanced Programs at Sauer-Danfoss, is the chairman of the CCEFP Industrial Advisory Board (IAB). Along with the other industry partners, Sauer-Danfoss contributes to IAB recommendations on research projects and resource allocation. The IAB also ensures strong

cooperation between industry and the university research teams.

"This is a great opportunity for the fluid power industry in general and Sauer-Danfoss in particular to further extend our research capabilities into next-generation hydraulic systems and components," Herrin states. "Our active participation in the center is critical to ensure we capture the benefits generated by this significant research investment." Sauer-Danfoss has made a five-year financial commitment to the CCEFP, which is jointly funded by the U.S. National Science Foundation, industry partners and participating U.S. universities.

In addition to the University of Minnesota, the participating universities are the University of Illinois at Urbana-Champaign, Georgia Institute of Technology in Atlanta, Purdue University of West Lafayette, Indiana University, and Vanderbilt University, Nashville, Tennessee.

Find more information at www.ccefp.org.



### Company opens in dynamic CIS

A new Sauer-Danfoss sales company is now in operation in Moscow to serve the rapidly growing mobile machine market of the Commonwealth of Independent States (CIS).

Sauer-Danfoss sales in the CIS doubled in 2007 and are expected to treble in 2008. With the opening of OOO Sauer-Danfoss, a competent team is now in place to serve this massive market dominated by large OEMs. Evgeniy Troitsky, formerly a member of the Danfoss team responsible for selling Sauer-Danfoss solutions in CIS, has been appointed General Manager and Country Sales Manager. The new company replaces a long-standing distributor agreement with Danfoss.

#### **UK facility boosts cooperation**

Elsewhere in the global Sauer-Danfoss organisation, the UK Sales & Marketing team has moved into new offices in Swindon, near London, which they now share with Integrated Control Solutions, part of the Software & Solutions Business Unit. A number of European Sales & Marketing colleagues are also located at the offices.

By bringing the sales and control software teams under one roof, the aim is to facilitate even closer cooperation on system development – to the benefit of customers.

The office building includes a vehicle workshop and electronic laboratory equipped for optimizing and testing hydraulic and electronic systems. In addition, conference rooms are available for customer training and presentations.

### **New Finnish office improves synergy**

Another move has taken place in Finland where the Sauer-Danfoss sales company has moved to a new location in Espoo, Finland's second largest city. The move brings the Finnish sales and administration staff closer together, improving communication, and generally gives all employees a more comfortable workplace.



Sauer-Danfoss, 6430 Nordborg, Denmark

lenielsen@sauer-danfoss.com www.simpatico.dk

Cath Mersh

Lavout: