

## Schuler Group

PURCHASES  
DIRECT-DRIVE WIND DRIVETRAINS



Finnish energy generator manufacturer The Switch has received an order from the Shuler Group for two direct-drive 3 MW drivetrains. The custom-built permanent magnet generators are optimized to work with 2.7 MW full-power converters (FPC). They are scheduled for delivery and testing in April 2011 and are expected to be connected to the grid in full operation by summer 2011.

According to Joachim Beyer of Shuler Group's board of management, the company is expanding its focus from the

automotive industry to the wind market. The Schuler Group aims to develop and supply large-scale wind power plants in Germany initially, and eventually other Central European and international markets.

According to Jürgen Millhoff, key account manager for The Switch, Hamburg office, "With the current shift to low-maintenance, gearless turbines in the wind power industry, The Switch was seen to be a good option for Schuler Group."

## Pacamor Kubar Bearings

WELCOMES BACK DWIGHT CALKINS

Dwight Calkins has returned to Pacamor Kubar Bearings (PKB) engineering department. After holding several positions at PKB, including QC engineer and operations manager, he rejoins the PKB team to help develop and launch several strategic new products for the American-owned and -operated ball bearing manufacturer.

"We're pleased to have Dwight back with us at PKB," says Ed Osta, executive vice president. "Dwight's experience and knowledge of bearing design and production processes will enable us to develop new products and expand our current product offering."

Calkins most recently served as a senior technology engineer for General Electric, in Schenectady, NY, which manufactures turbines and generators. When asked about returning to PKB, Calkins says, "I learned a great deal from GE and am very appreciative for the opportunity, but I missed the dynamic environment and camaraderie of the PKB team."



Dwight Calkins

## Maxon

COLLABORATES WITH NATIONAL INSTRUMENTS



**DARwin, a humanoid robot developed by the Robotics and Mechanisms Laboratory at the Virginia Tech University, is driven by motion control products from Maxon Precision Motors (courtesy of Maxon).**

A strategic collaboration between National Instruments (NI) and Maxon Precision Motors looks to highlight mutual areas of interest in the field of robotics.

In 2006, an informal relationship between the two companies began with the inclusion of NI *LabVIEW Vis* in Maxon's EPOS family of digital position and speed controllers. More recently, the companies worked together designing and developing ViNI, an all inclusive robotics platform NI engineers created. The ViNI is driven exclusively by Maxon motors, gearheads and encoders and NI CompactRIO embedded controls.

"NI and Maxon have worked together to integrate the high productivity of NI *LabVIEW* graphical software and the high-precision drive systems of Maxon Motors, so roboticists don't have to assume the integration workload," says Shelley Gretlein, senior group manager of *LabVIEW* Real-Time and Embedded at National Instruments. "Also, with the release of *LabVIEW* Robotics software, design engineers now can access native Maxon Motor interfaces ready-to-run on their next autonomous system."

Other robotic applications driven by Maxon motion control products include the Mars Rover, by Jet Propulsion  
**continued**

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# industry news

Laboratory, Da Vinci surgical robot by Intuitive Surgical and DARwin, a humanoid robot developed by RoMeLa, which is the Robotics and Mechanisms Laboratory at the Virginia Tech University.

Maxon and NI have several joint marketing efforts slated for 2010. Maxon will continue its focus on R&D efforts on electric motors, sensors and motion controllers while National Instruments will leverage its *LabVIEW* platform, NI *LabVIEW* NI SoftMotion Module and CompactRIO.

“It is an exciting time to be involved in the robotics industry. Over the years, Maxon has directed a significant portion of our engineering efforts toward the development of specialized products for robotic applications, and we are just beginning to realize the benefits of our investment,” says Kirk Barker, electronics product manager for Maxon. “We are pleased to be working with NI and their talented group of engineers.”

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## Gates

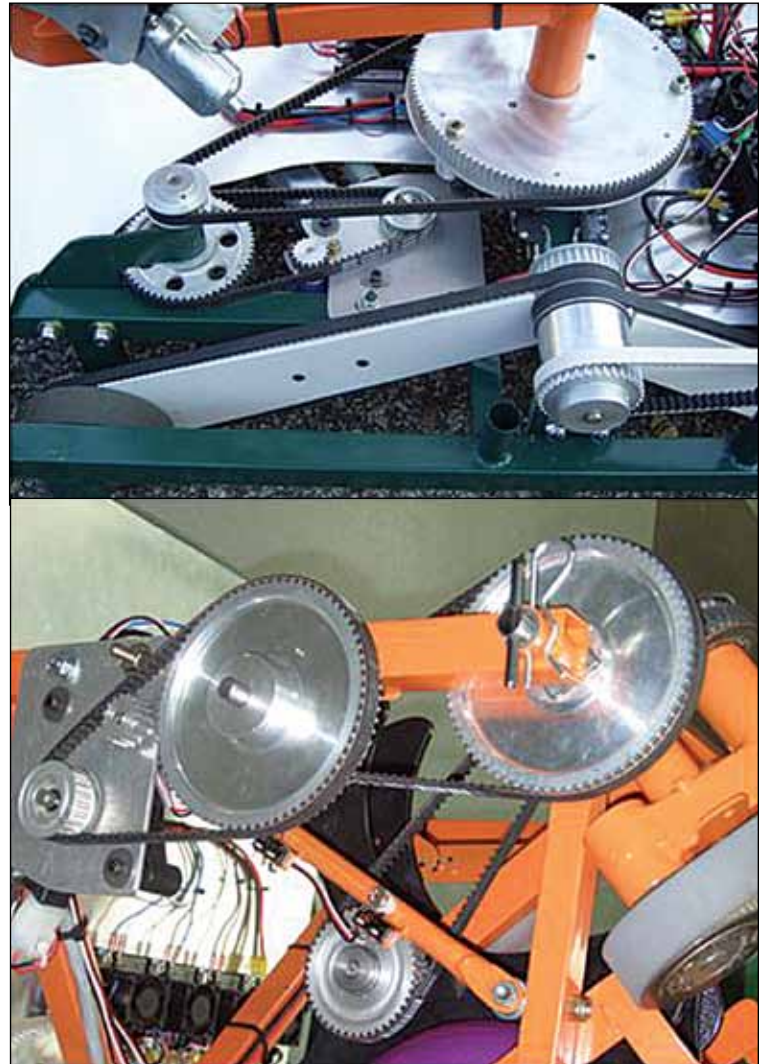
### SUPPLIES ROBOTICS COMPETITION

As a Diamond Supplier of the For Inspiration and Recognition of Science and Technology (FIRST) Robotics Competition (FRC), the power transmission unit of Gates Corporation invited student teams to select belt drives as part of the 2010 FRC Kit of Parts, which was distributed to more than 1,800 teams of high school students.

FIRST is a not-for-profit organization founded by inventor Dean Kamen to inspire young people’s interest and participation in science and technology.

“Gates Corporation’s participation as a Diamond Supplier furthers our goal to inspire energy and enthusiasm for science and technology,” says FIRST president, Paul R. Gudonis. “It clearly demonstrates their local and national commitment to play a leadership role in STEM education and workforce development by helping students gain the technology and life skills that will help them succeed in their future careers.”

More than 45,000 students from 12 countries will design and build robots to compete in regional events with winners advancing to the FIRST Championship in Atlanta, April 15–17. Participating students are eligible to apply for nearly \$12 million in scholarships offered by leading universities, colleges and companies, including Gates. More information about FIRST is available at [www.usfirst.org](http://www.usfirst.org).



Robots built for the FIRST student competition use belt drives supplied by Gates Corporation as a cleaner, quieter alternative to roller chains (courtesy of Gates Corporation).

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## Hydraulic Institute

### ANNOUNCES 2010 BOARD OF DIRECTORS AND OFFICERS

During the Hydraulic Institute’s (HI) 93rd Annual Meeting recently held on Marco Island, FL, the 2010 Board of Directors and Officers was announced. The new board will be mostly responsible for providing organizational oversight to the institute and guiding the direction of its strategic plan.

Dennis Ziegler, president and CEO of GIW Industries,



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Inc., was elected chairman of the board, after serving as president of HI in 2009. He received the President's Award at the meeting gala in recognition of his efforts and leadership.

Ken Napolitano, president of ITT Residential and Commercial Water, is taking Ziegler's place as HI president. Napolitano previously served HI as vice president, knowledge and education in 2009. In recognition of his service in this capacity, he received the Institute's Vice President's Award.

The new board members include three vice presidents: Dave McKinstry, vice president, IMO Pump, for technical affairs; Dean Douglas, president of Dover Pump Solutions Group, for member services; Jim Swetye, regional training manager of Grundfos Pumps USA, for knowledge and education.

Other board members include Sven Olsen, president of Leistriz Corporation; Mike Medaska, vice president of ARO Fluid Products; Rich Heppe, president of Industrial Motors and Systems, Emerson/U.S. Motors; Mike Sutter, vice president and general manager of Flowserve Flow Solutions Group; Chad Tuttle, COO Americas of CLUDEUNION; Dave Brockway, president of Intelliquip, LLC; Dave Roland, president of Pentair Engineered Flow Technologies; Tom Conroy, vice president and general manager of Chempump—A Division of Teikoku USA Inc.

## U.S. Air Force

### AWARDS CONTRACT FOR MAGNETIC REFRIGERATOR

Electron Energy Corporation (EEC), a producer of rare-earth magnets for critical applications, was recently awarded a \$100,000 Small Business Innovation Research (SBIR) contract from the U.S. Air Force Research Laboratory, of Dayton, OH, to develop a magnetic refrigerator. EEC is collaborating on the project with Astronautics Corporation of America, of Milwaukee, which develops magnetocaloric refrigeration systems.

High efficiency magnetic refrigeration systems will reduce aircraft heat signatures and improve the service life of electronic devices when able to operate at modestly lower temperatures. The systems can also be used to cool drilling instruments and data logging equipment typically used in environments where temperatures exceed 120 degrees Celsius. "Magnetic refrigeration will be a sustainable, attractive technology for cooling high power density rotating machines and electronic devices used in military and commercial applications," says

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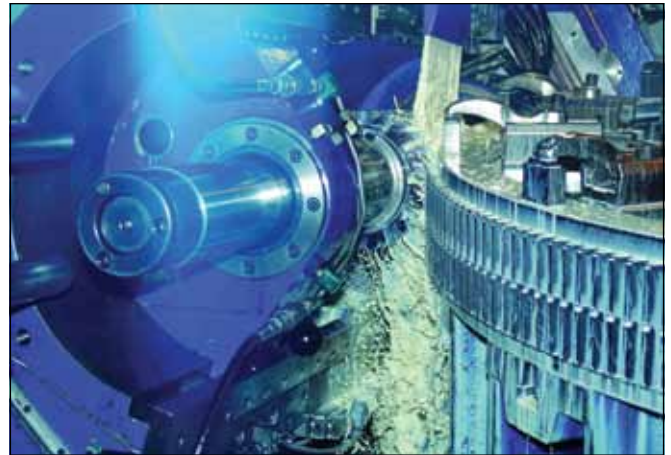
Michael H. Walmer, president of EEC.

The systems provide cooling in remote locations of aircraft and operate in any orientation, which is vital for aircraft engaged in inverted flight or sharp banking maneuvers. The technology will help the Air Force advance its Interdependent Vehicle Energy Technologies (INVENT) initiative. "Chillers that provide cooling for electronics and electronic components aboard U.S. Navy ships and military aircraft are good examples of a niche market for magnetic refrigeration systems," says Jinfang Liu, vice president of technology and engineering for EEC.

Phase I of the contract extended from March through December 2009. According to Peter Dent, EEC vice president of business development, the research will focus on developing high temperature magnetocaloric materials for compact, lightweight magnetic refrigerators that can provide hundreds of watts of cooling and operate in the 120–500 degrees Celsius range.

The magnetocaloric effect is a phenomenon in which a reversible change in the temperature of magnetic materials occurs in the magnetization/demagnetization process. By cycling magnetocaloric materials through hot and cold states and exchanging the heat through a fluid medium, the system generates an overall cooling effect, according to Dent. He notes that research during the past decade has resulted in discovery of materials with a giant magnetocaloric effect at room temperature, and research has demonstrated that magnetic refrigeration—i.e. using materials that exhibit the magnetocaloric effect—offers great potential improvement in energy efficiency of up to 60 percent of a Carnot cycle.

Liu is serving as the principal investigator for the project with Melania Marinescu leading the magnetocaloric material development at EEC. The research will also be supported by Steven Jacobs, Carl B. Zimm and Steve Russek of Astronautics Corporation of America.



when workpieces begin as a rolled ring.

Rotek complements its machining experience and knowledge with various customer-oriented business philosophies and techniques. Its Total Quality Management program and continuous improvement policy has earned ISO 9001 certification. Combined with its Aurora, OH facility and fully-integrated manufacturing capabilities, Rotek can provide several other services, including in-house heat treating, induction hardening, gear cutting and assembly.

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## Rotek

### LAUNCHES CONTRACT MACHINING SERVICES

Rotek Incorporated, a North American manufacturer of slewing bearings and seamless rolled rings, now offers contract machining services using advanced machining cells at its Florence, KY facility.

The multiple-machine cells feature pallet transfer systems and 120-magazine tool changers. They offer competitive solutions for larger workpieces produced in high-volume runs and for smaller, repetitive production runs. Rotek can machine irregular-shaped workpieces from supplied materials or provide seamless rolled rings to customer specifications

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## EPTDA

### FORMS STRATEGIC EUROPEAN ALLIANCE WITH DEUTSCHE MESSE

With a joint awareness that today's industrial marketplace is ever changing and develops innovations at a rapid pace, the European Power Transmission Distributors Association (EPTDA) and Deutsche Messe have formed a strategic European alliance.

EPTDA, the largest organization of distributors and manufacturers of power transmission and motion control products in Europe, representing almost 200 companies in the industry, recognizes the advantages Hannover Messe offers its members in bringing innovations and developments to a fast-paced, global audience. Hannover Messe, which takes place April 19–23 this year, features nine international trade fairs and 1,000 themed presentations and forums.

The Global Business and Markets foreign trade platform within Hannover Messe is an area where EPTDA members can foster international business contacts. This essentially serves as a matchmaking platform for EPTDA members as high-ranking economic delegations come to the Global



**The Global Business and Markets foreign trade platform within Hannover Messe offers an atmosphere for establishing and nurturing international business contacts, and it is an area EPTDA members can take advantage of with its European alliance with Deutsche Messe (courtesy Deutsche Messe).**

Business and Markets hall with the intention of visiting industrial professionals. This provides EPTDA members with opportunities to make new, high-level business contacts, find appropriate joint-venture partners and interact with other industry professionals at an international level.

“Forming such alliances as with the EPTDA is what the Hannover Messe is all about,” says Marco Siebert, director of international relations at Deutsche Messe. “Hannover Messe offers a truly unique platform for industrial professionals to conduct trade at an international level. We welcome the EPTDA to Hannover and look forward to further intensifying our alliance over the coming years. A great deal of synergies between our two entities has already been identified, and we look forward to bringing these advantages to both EPTDA

members and Hannover Messe participants.”

EPTDA views the alliance as a natural progression of its presence at the trade show with many opportunities for its members. “EPTDA and PTDA (our American sister organization) members have been partnering with Hannover Messe for many years now,” says Hans Hanegreefs, executive vice president of EPTDA. “This European strategic alliance is thus a natural evolution of our continued partnership and support to each other. It will help EPTDA to create more valuable and tangible benefits for its members and better streamline the efforts of EPTDA and Hannover Messe to advance the power transmission and motion control industry worldwide.”