

In the News: Linear Motion

The following article is a round-up of the latest linear motion product and industry news items featured at www.powertransmission.com and on social media.

ANCA Explores Hiring for the Factory of the Future

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In the factory of the future, technology will of course be key. Factories will integrate networked machines, sensors and advanced robotics IT systems into existing processes. They will thrive on data, real-time figures and unprecedented access to information to be more efficient, less wasteful and better connected. As your operations are transformed, you will need a workforce that knows how to take your business into the future time and time again. This means



already available—like the cloud, robotics and in-process measurement. This brings new skill requirements. Knowing how to use these tools to their full potential means having a team of critical thinkers. The FoF will require a workforce that's computer savvy and driven by problem solving. Staff will need to be analytical, knowing how to use data to continuously improve. Teams should incorporate good software development skills and programmable logic controls experience. You will need people who can network machines and those who are able to capitalize on the immense value of automation. With the speed of the tooling industry increasing, they will need to become their own innovation hub, constantly looking for

opportunities to grow and improve through technology.

How to hire for the factory of the future

People working in factories of the future will need to be more fluid. They will have to think cross-functionally and collaborate to make the most of their complementary skills. Much like a software programming team, these

workforces will need an agile mindset, be open to new approaches and ready to adapt to work better, harder, smarter. Finding and hiring these people will mean understanding what's involved in their different roles. You will likely find you need to fill a mix of existing and new positions, some of which you might not have come across before. Look for staff with a STEM—science, technology, engineering and mathematics—background—they are more and more likely to be university graduates. But their education should only be a starting point. Look for applicants who demonstrate lateral thinking and problem-solving skills, signals that they can put their technical background into practical use. Existing roles are evolving. Machinist skills such as operation monitoring, systems evaluation and quality control analysis can be applied to new systems. Tool and die makers can use their technology design and operations analysis background to build better processes and create new tools. New roles will also appear: robotics engineers, automation engineers, and roles that combine elements of both. Positions will also be created for people to bring new ideas into the business. Factories may start hiring senior IT staff such as a CTO or CIO. These tech leaders will become champions of innovation—sourcing, internally promoting and working to imple-



rethinking how you hire, and how you upskill existing staff. This doesn't have to mean starting from scratch. You may be well on your way to a great future workforce already.

The skills you need are changing

You may already be using technology to move forward. As factories shift to a future focus, they are adapting what's

ment the very best for the factory. In such a new field, having their authority on hand to assist with interviews can be a game-changer. Senior tech staff will have the right knowledge to spot candidates who can apply their expertise to your business. You may also be able to leverage specialized recruitment agencies that can make sure you're only interviewing people who can bring the right combination of technical nous and creativity.

When you've got the right team — nurture it

In the factory of the future the focus is shifting from working the production line to building a better one. Automation and robotics have changed the way the factory floor looks, and those changes will keep coming. Just as with technology, setting yourself up with the right people doesn't have to mean starting all over again. As long as you have clarity around where you're going and how, you will give yourself the best chance to identify potential in your existing workforce. Factor in training. Most businesses will need a training officer, not only to train staff on the existing production methods but to bring them on board with new operations. Support your people to work together. A collaborative, agile approach should apply across the whole business, from learning how to use existing equipment to working together to implement new products. A team of champions will work side-by-side to make sure every element of operation is adding value and working to its full capability. Engage your staff. Use your trainers and tech champions to communicate the vision and future of the factory. Motivate them to feel excited about the future by offering clarity and direction. With competition increasing, the most important thing in the factory of the future is to retain skilled people. The next generation is demonstrating more of these diverse, flexible skills, but increasing demand means there is a global skills shortage. Finding and keeping good staff will make your workforce more efficient and save on hiring and training costs. Giving staff members opportunities to

try out new tasks, upskill in their existing roles, undertake further education and create ownership of the factory's direction will all help to strengthen their loyalty to the business.

Give your team the tools to perform

Having the best brains in the business won't mean anything without the best tools. A team with great problem-solving skills can work together with machine manufactur-

ers to create custom systems for the best output. The combination of analytical minds and high-level engineering means a flexible, adaptable system with endless potential. Supported by internal champions, new products can be implemented with enthusiasm and real buy-in from your workforce. That means continuous improvement with a loyal team as your factory moves ever further into the future. (www.anca.com)

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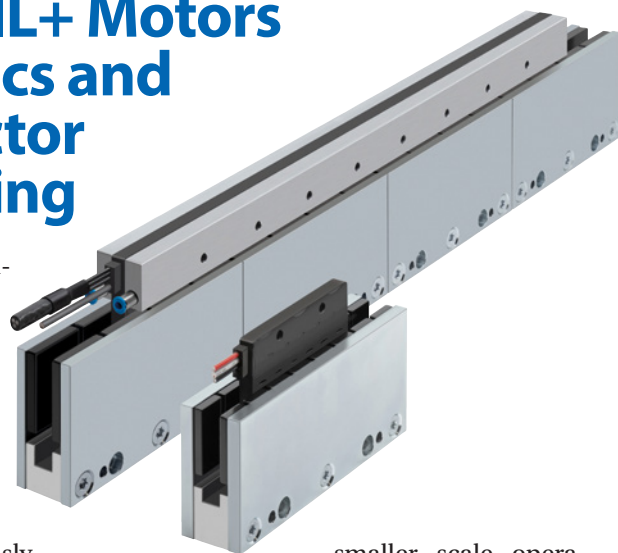
Etel Offers IL+ Motors for Electronics and Semiconductor Manufacturing

Etel, a direct drive motor manufacturer of the Heidenhain Group, now offers updated ironless linear motors optimized for electronics and semiconductor manufacturing. Called the IL+ product lines, these motors are offered in the same profile as Etel's previously established ironless linear motors but now specially re-designed to allow for increased performance to benefit these two industries.

Unique to the IL+, a change in material selection now allows the Etel ironless motors to operate up to 600 VDC and reach a temperature limit up to 130°C, as opposed to the previous market standard of 300VDC and 80°C. This allows an increase in overall speed along with a greater force operating range. Track sizes are available in increments of 128, 256, and 512 mm.

Compared to the previous models, the IL+ series offers up to 20 percent temperature reduction at the same working point, reducing thermal expansion in both the glider and Magway as well as lowering any reduction in precision. The improvement of the forced air-cooling option now available on all sizes also allows an increase in continuous force by a factor of two.

Along with a new improved cooling option and other updates, the Etel IL+ ironless linear motors are available in two size ranges: the ILF+ focuses on



smaller scale operations with a reduced size and length, while the ILM+ targets higher force operations with a greater variety of lengths. Both contribute to high precision and throughput during the electronics and semiconductor manufacturing processes.

The ILF+ ironless linear motors are small size motors perfectly suited for very high dynamic and low moving mass applications. In addition, the total absence of force ripple ensures perfect speed stability and makes ILF+ suited for scanning applications where speed control is a key specification.

The ILM+ ironless linear motors are a more powerful version of the ILF+ motors. The ILM+ series combine all advantages of ironless motors and provides high continuous force. This motor family is suited for the most demanding mid- to high-mass scanning applications where zero attraction forces and outstanding speed stability are required. The low mass per force ratio also makes ILM+ suited for very high dynamic applications. (www.heidenhain.us)

Intellidrives Expands Large Open Center Stage Series

The demand for a high accuracy, robust, open-frame stages is met with Intellidrives dual-axis, large aperture stages that address the unique needs of scanning microscopy, wafer and printed circuit board inspection, automated

assembly and wide range of specimens and samples scanning in many types of imaging techniques and applications.

Very precise fine positioning and control is easily achieved through the combination of a stable closed-loop



control system and an associated joystick option. In addition, the stages can be combined with the company's Z Stages to form an XYZ stage ideally suited for laser scanning microscopy.

These stages can be motorized with stepper motors and brush-less servo motors with encoders. Optional

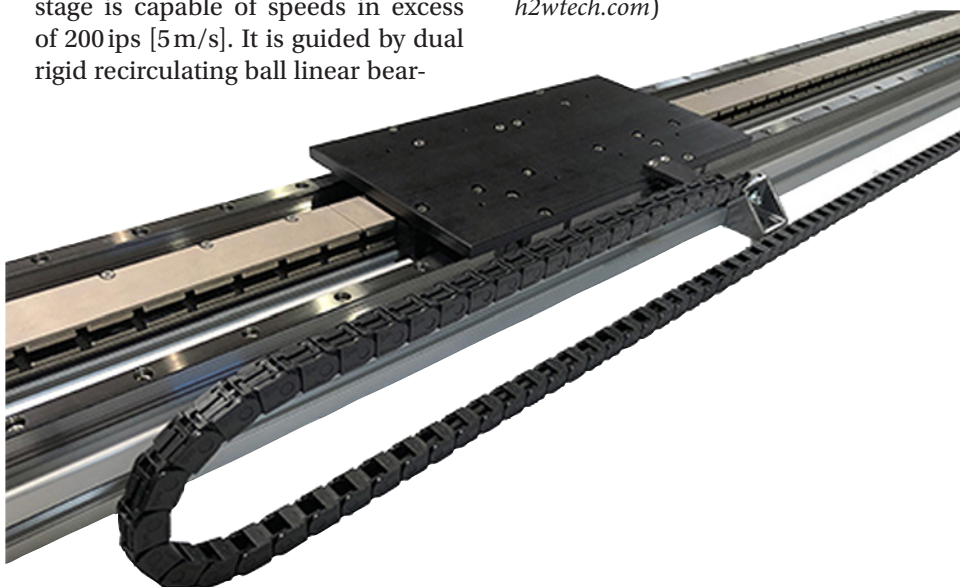
high-resolution, non-contact linear encoder is available. This non-contact encoder offers exceptional repeatability and stability over a range of operating conditions. Both digital and analog output versions are available with resolutions in sub-micron range.

(www.intellidrives.com)

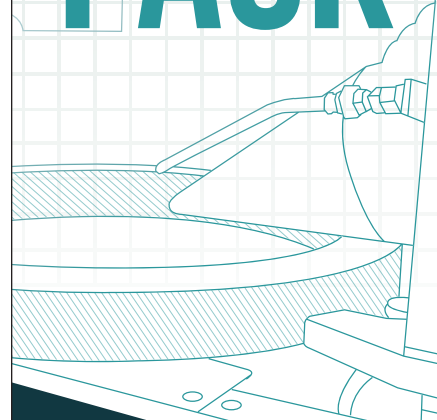
H2W Technologies Introduces Single-Piece Extrusion Stage

The DRS-206-05-012-01-EX dual rail positioning stage is ideal for applications that require long travel distances. It uses a cog-free brushless linear motor to generate a continuous force of 12.4lbs [55.6N] and a peak force of 37.4lbs [167N] with a total stroke length of 210 in. [5341 mm]. The non-contact 1.0-micron resolution encoder allows for precise positioning. The stage is capable of speeds in excess of 200 ips [5 m/s]. It is guided by dual rigid recirculating ball linear bear-

ings. The entire stage is assembled on a single piece of aluminum extrusion, thus reducing the overall weight of the system and easily allowing for long strokes and prevents the need for reassembly at the customer facility. There are also provisions that allow customer cables to be routed within the cable carrier. It has end-of-travel rubber bumper stops. (www.h2wtech.com)



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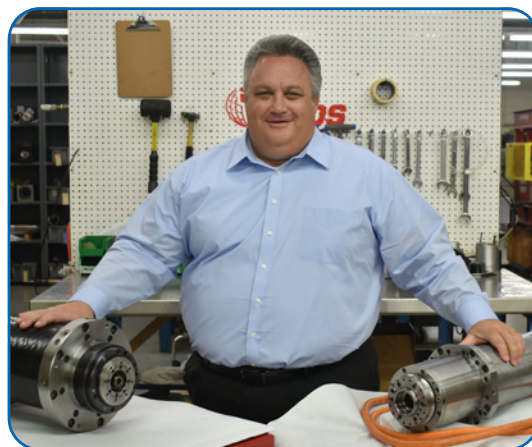
Precision Drive Systems Hires Midwest Regional Sales Manager

Precision Drive Systems (PDS), a global provider of precision motor spindle support and repair based near Charlotte in Bessemer City, NC, has announced that it has hired Tom Kessler as its Midwest Regional Sales Manager to support US metalworking manufacturers.

"We are happy to welcome Tom Kessler to PDS as our new Midwest Regional Sales Manager," said Allen Turk, CEO of PDS. "Prior to joining PDS, Tom dedicated 22 years to working in the industrial services industry. We look forward to adding Tom's extensive experience to the spindle repair services we offer." As Midwest Regional Sales Manager, Kessler will work out of southeast Michigan to serve PDS' metalworking customers throughout the region.

Kessler began his industrial career with Applied Industrial Technologies as a Service Center Manager and was then promoted to Linear Component Center Manager where he created the company's state-of-the-art linear-motion service

center in Detroit, Michigan. He was then hired by SKF to create their own linear-motion service center from scratch to establish a more competitive North American presence. Kessler spent a total of 17 years with SKF where he served in various roles including Program Manager, Product Specialist



and Territory Manager. Throughout his career, he has worked with both OEM and MRO distributors and end-users in a variety of industries. (expertspindlerepair.com)



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Igus Introduces Linear Robots for Cost-Effective Automation

Simple, precise, fast processes: these are the requirements of Cartesian robots. They are used for such things as pick-and-place applications, sorting systems and medical technology. Igus

has now developed a linear and room linear robot for large workspaces. The two new kinematics systems allow users to move up to five kilograms. Both linear robots are available directly from stock. They can also be customized to suit the customer application in question—no minimum order quantity.

To survive on the market, both large industrial players and small companies need automated solutions that will quickly pay for themselves. For years, Cartesian robots have



Bosch Rexroth Offers New Motion and Automation Software Tools

Nowadays, mechanical engineering is software development. The new *ctrlX Automation* platform is Bosch Rexroth's answer to this market requirement. It encompasses the latest engineering software technologies and all PLC and motion tasks. Software functions are combinable in any number of ways with ready-made, customized and customizable apps. These apps can be created in a variety of programming languages such as C++, script languages such as Python, or new graphical languages such as Blockly. This gives machine manufacturers new-found freedom.

This system offers users a choice: they decide whether to program in IEC 61131, PLCopen or G-Code, or in conventional high-level or Internet languages. This liberates machine manufacturers from dependency on the availability of PLC specialists and proprietary systems.

Configuration and commissioning of the automation components is completely web-based, eliminating the need to install software. Within minutes of switching the system on, the software is programmed. A completely virtual *ctrlX Automation* system environment is

available, enabling programming without hardware. System functionalities can be extended at any time via the user's own process functions, apps, and open source software. In total, *ctrlX Automation* cuts the engineering time and effort by 30 to 50%, which significantly reduces time to market for new machines.

More than 30 direct connection options and communication standards offer maximum networking flexibility for economical end-to-end connectivity from field level up to the cloud. *ctrlX Automation* is also equipped for future communication

standards such as TSN and 5G, making it the best system on the market in terms of networking capability. *ctrlX Automation* is based on a new generation of multicore processors which provide sufficient processing power for almost all automation tasks. These high-performance CPUs can be integrated into embedded PCs and industrial PCs or directly into drives. The all-new hardware and software module will cover all automation tasks—from simple control applications and IoT solutions to high-performance motion control. (www.boscrexroth.com) **PTE**



been a means of choice in automation technology. They allow users to complete their tasks quickly, easily and cost-effectively. All that is required is a little bit of programming effort. Igus' lubrication-free linear axes developed in several stages are now available. Depending on the application's requirements, two-axis linear or flat linear robots and three-axis room linear robots can be selected. At Motek, Igus introduced a new line robot and a new room linear robot with an enlarged workspace, which allows users to move even greater loads across an even larger area.

The two linear robots consist of pre-configured linear modules, aluminium linear axes, NEMA stepper motors and

encoders. The new line robot can transport loads of up to 50N in a workspace of 800×500 mm at a maximum speed of up to 1 m/s. "The investment risk of €2,100 for the line robot is manageable, so that our automated pick-and-place applications for assembly tasks pay for themselves in less than six months. This means that decision makers have a low level of risk," says Alexander Mühlens, head of automation technology at Igus. The new room linear robot is a good option for more complex tasks. It can transport loads of up to 50N in a workspace of 800×800×500 mm at a maximum speed of 0.5 m/s. Two ZLW toothed belt axes and one GRR gear rack axis ensures precise guidance and lubrication-free

operation.

The new linear robot solutions are used in pick and place, bin picking and sorting tasks. Most of these processes have been moved to the end of the production line. This was also true at FachPack 2019 in the showcase of SSI Schäfer, the intralogistics specialist. The new drylin room linear robot automated the provision of sensitive products using a transport box with a thermoform insert. The specially developed packaging and the use of a linear robot allowed various colored handles to be pre-sorted for the production of a household appliance. There are other linear robot use scenarios in microelectronics and automated testing. (www.igus.com)