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22 Mins *with*
Mr Soeren Montag
Managing Director
Asean, HARTING

Top 12 Revolutionary IoT Trends for 2021

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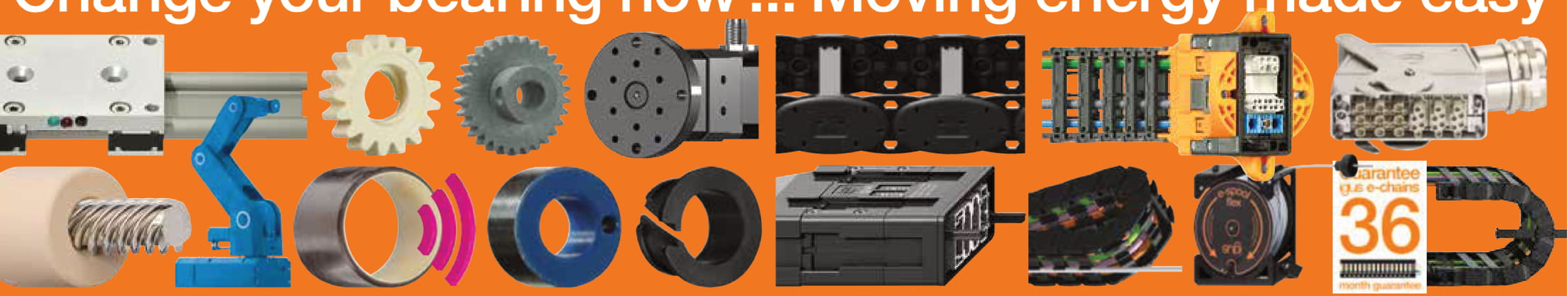
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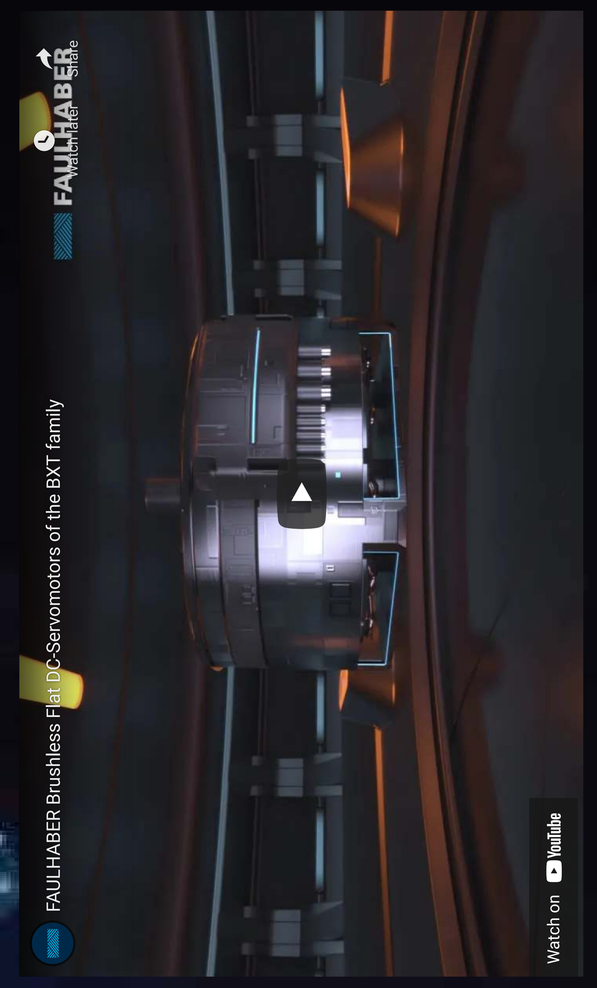
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Dearest Friends and Readers Ho Ho Ho

This issue wraps up the tumultuous year of 2020, my team of Elves at the Industrial Guide Asia are working hard to bring you the latest, interesting news, great opportunity in the Tender and Industrial Competition sections so you can tap on and expand your business.

This issue you are going to read more about Manufacturing, Robotics and Vision System, we narrow down the most exciting technologies and news for you. Also do check out the new website , update daily at;

http://iiga.news
(***Daily Industrial Updates, Rudolph and Vixen has been working hard on it day and night)***

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(3 Ways - Buying, Selling and Promoting with Marketing Affiliate Program , Sell on the Spot or Leave a request for Quotation , this is never miss an Opportunity !)

Each and everyone of you have been good this year. I have decided to boost your sales further throughout 2021. Register your free E-Shop now and start selling. Don't forget to make friends and be open to learn from each other. We shall end this trying year with kindness, gratefulness and togetherness.

We wish you a Merry Christmas! A Happy and Healthy New Year!

See you again soon next February and keep your sharing coming up for *Renewable Energy & Factory Automation now at hola@iiga.news*

See you this Christmas!

Santa Claus

PS, Remember to be a good Boss this year. And don't forget the milk and cookies on Christmas Eve and some Bonus for sharing

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22 Mins with

Mr Soeren Montag Managing Director-Asean from HARTING



Mr Soeren Montag

Managing Director ASEAN & ANZ, HARTING

1. Please share some interesting challenges Harting has solve during this pandemic?

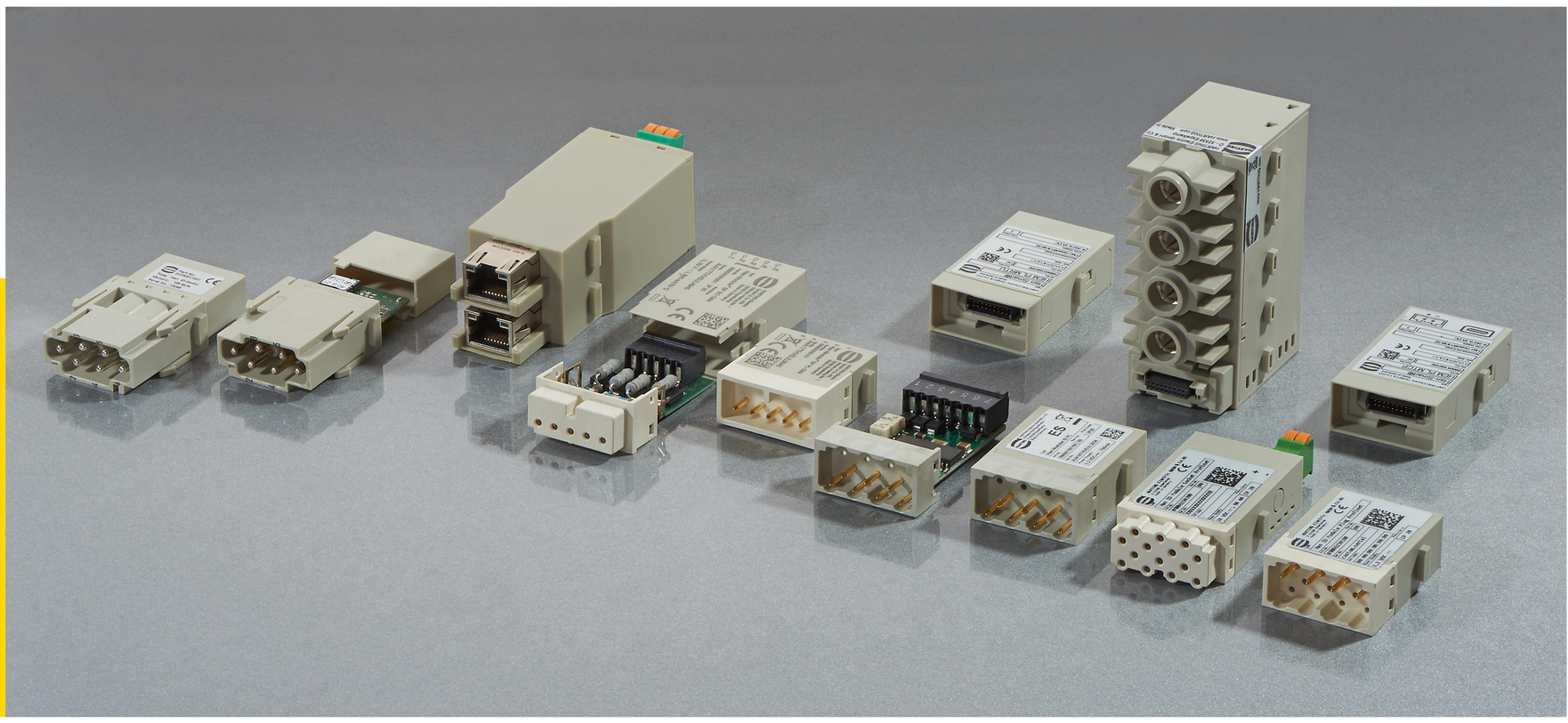
Manufacturing and supply chain wise we had little to none disruption in our organization which helped us to ensure timely deliveries to all our customers around the globe. A challenge to some extend was the all-over sudden limitations in meeting up personally with our customers. Here our previous started internal digital transformation efforts turned out to be extremely helpful and proved to be efficient and working in many respects. Besides running digital meetings via MS Teams & Zoom for instance, our new Han® Configurator is a great digital tool for our customers to design their own required Han® connector, generate required documentation including 3D drawings, store the configuration and use data for ordering online. By signing up to our digital business platform myHARTING our customers receive assistance in many ways that help to ease their day-to-day tasks and collaboration with HARTING. These digital tools simplify our customers work by providing everything needed from HARTING in one place that can be accessed anytime, anywhere. And there is more to come!

2. Have this pandemic speed up the process of industrial transformation?

We were already in a digital transformation before, but the pandemic has accelerated this development and is to some extend certainly a huge catalyst for digitalisation and transformation. With more employees and customers working remotely, running webinars and using digital formats for trade fairs etc. suddenly the importance of digital infrastructure is obvious. For quite a long time, digitalisation and the Internet of Things were just vague terms, but are now coming more and more into focus. Infrastructure and networks are undergoing a major transition. At the field level of automation, analogue systems are replaced by digital ones reacting on the trend and requirement of generating larger data volumes.

3. Harting is covering many industries, which industry is the fastest and adaptable to the this i4.0 transformation?

We cannot really say there is one particular industry that develops towards and adapts 4.0 transformation and technology faster. In the end every Industry is working towards the convergence and adaption of key digital industrial technologies. Whether in machinery,



robotics, automation, transportation or energy, just to name some of our key target markets, our customers are busy with topics like cloud computing, data analytics, AI, additive manufacturing etc. And we are supporting our customers design and engineering projects with the right connectivity solution for their projects

4. What is your take for improvement for the current automotive manufacturing in Asia?

Of course the Covid-19 crisis has caused a global slowdown in new car sales and therefore a slowdown in car manufacturing in Asia as anywhere else in the word. These activities are beginning to re-open and improving in the respective countries be it China or Thailand. But it is not only the pandemic situation that impacts the automotive manufacturing, it is also the gradual shift towards electric vehicles (EV) production and different parts needed for EV cars that impacts the auto parts makers.

5. How has robotics change the scene of automotive manufacturing, now that artificial intelligence is also injected in many automobiles.

Artificial intelligence is not only changing the cars on the road, but the factories that build them. Since many years robotic applications have changed manufacturing because robots are able to perform a task repetitively, flawlessly and tirelessly and of course are helping to reduce operational costs. The new manufacturing robots are more productive, use less energy to work and therefore making them more efficient and effective. Artificial intelligence is one of the new keys to success in the automotive industry from enabling autonomous vehicles to transforming design and manufacturing processes. Meaning robotic applications utilizing machine sensor data to optimize capabilities. The technology reduces unplanned downtime, increases asset life and operational efficiency, and enhances equipment effectiveness

6. Electric cars and hydrogen cars both run on apparently clean fuels, which one do you think is more sustainable and greener?

Hydrogen cars don't emit CO2 during the driving journey, but are they more sustainable and greener? Make a long story short – at this stage there are pros and cons for both. Fact is that currently electric cars are more accessible vehicles – in regards to the types of cars and the charging infrastructure available. They include more efficient processes compared to

hydrogen-powered cars and if their lithium batteries are re-used, they are liking to stay a more sustainable solution. Time will tell.

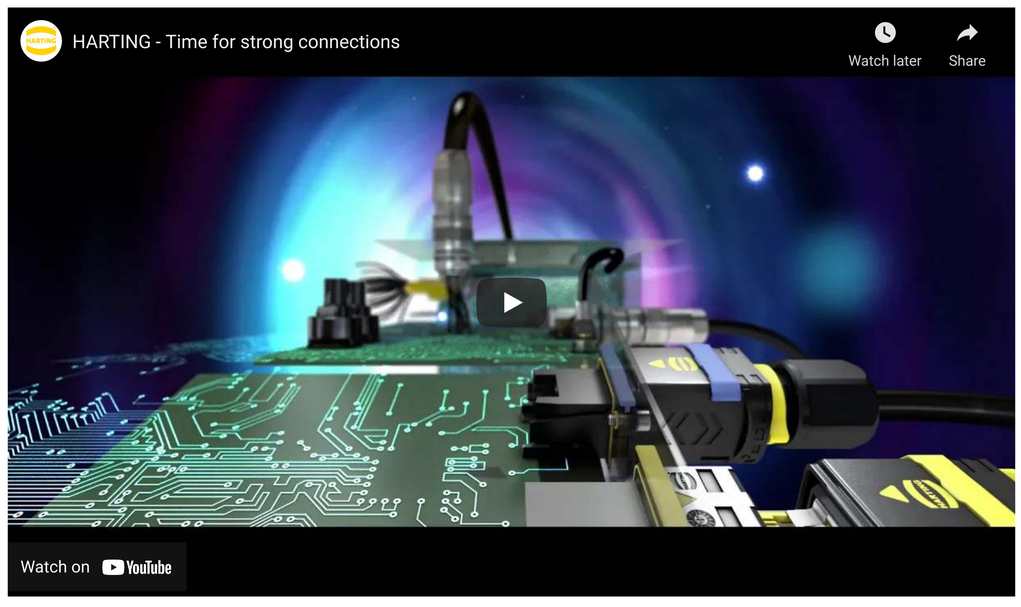
7. Miniaturisation is one of the keys in Harting invention, which industry so far has the most demand for this?

Industrial equipment including Machines, Automation devices and plant engineering equipment are becoming more compact and complex, as they evolve towards integrated industry. This trend towards miniaturization at all levels must be implemented in the connectors, components and solutions, in terms of dimension, design, weight, use, usability and handling. In the connectivity industry, data is being used to connect machines to produce data that can be used to create powerful insights that will drive smarter, faster and better business decisions. Miniaturization means to do more with less space required. So HARTING enables this for instance by providing connectivity solution that required less space for integration or connectors that allow the combination of multiple connection types into one connector. The adaption in the industries is a gradual one.

8. What is the new normal for your operation this year?

The new normal includes more remote work and digital collaboration internally and externally. In addition the HARTING Technology Group initiated various preventive measures in order to ensure the continued supply of customers as well as to protect its employees. This includes for instance the setup of a pandemic team, back-up teams were formed in order to secure key areas, discontinuation of major events, travel, internal/external meetings and strict behavioural and hygienic rules and regulations for all members of staff. Increased disinfection measures in the entire buildings and premises of the HARTING Technology Group. All manufacturing, warehousing and delivery functions are secured by way of spatial and temporal separation, in addition to a multitude of hygienic measures. In this context, our HARTING System subsidiary has developed disinfection dispensers and mask dispensers and installed them area-wide throughout the company. We offer our employees COVID19 testing free of charge





Robots Will Transform Retail Operations in 2021... Here's Why & How

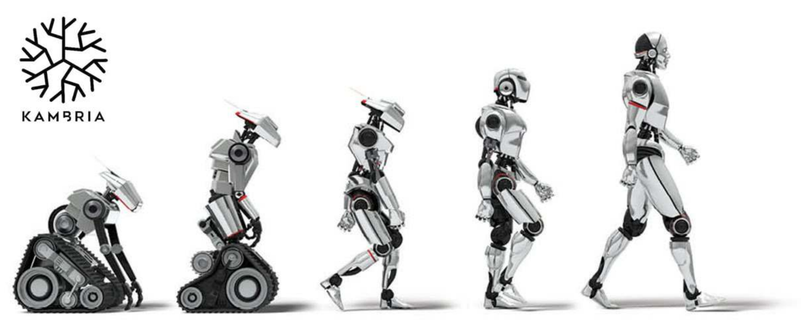
Prior to the Covid pandemic, robotics deployments in retail environments were growing steadily, proving their efficacy, generating 'value' and delivering solid ROI in the process. Covid has acted as an accelerant, so much so that in 2021 robotics technologies will transform the retail sector.



Heading into 2020, brick-and-mortar retailers found themselves struggling with a number of serious challenges, including intense ecommerce pressure, rising costs, and loss of productivity, to name but a few. Fast forward a year, and those challenges have become more acute (and numerous) thanks to the emergence of the COVID-19 global pandemic.

The health crisis quickly brought the value of automation and robotics sharply into focus, and forced retail operations executives who had previously discounted or pushed off investing in the emerging technology to reconsider. With the pandemic surging and shopping patterns quickly evolving, interest in retail robotics is growing. Below are some predictions for how autonomous mobile robots (AMRs) will continue to shape the retail landscape in 2021 and beyond.

1 Robots Evolve From Novel to Necessary



As recently as two years ago, robotic scrubbers, vacuums, and other self-driving machines that operate in high-traffic public locations such as retail environments were considered a novelty — interesting, but not essential. This view changed with the pandemic, which acted as an accelerate for mobile robot deployments. As systems proliferated, and ROI and other operation data became more widely available, it was demonstrated that robotics provide many benefits to retailers of all sizes, becoming indispensable to regular store operations.

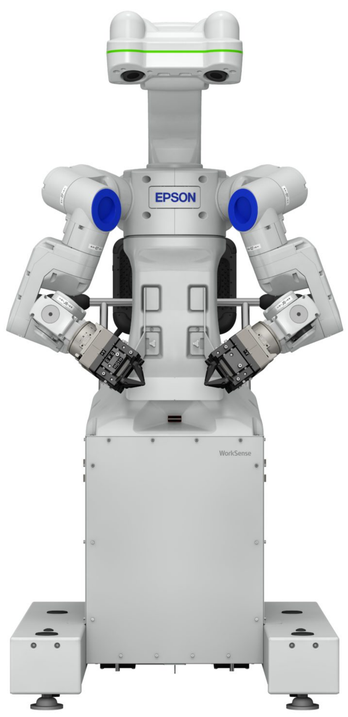
As cleaning workloads increased exponentially with the onset of the Covid pandemic, regional chains including Schnucks and Giant Eagle, along with big box retailers like Walmart, quickly increased their usage of autonomous scrubbers to support workers and enhance efficiency.

2 Robotic Data Verifies and Improves Operational Performance

One of the key (and often hidden) benefits of autonomous robots is the ability to get near real-time usage data through email reporting and cloud-based user portals. For example, cleaning robots provide detailed metrics on KPIs such as store areas covered, number of routes run, and percentage of autonomous usage, as well as visual heat maps of areas cleaned and much more. This data is difficult to glean via traditional, manual methods, and it allows operations and facilities managers to verify and optimize daily cleaning performance, as well as better manage corporate compliance goals. In 2021, we can expect to see managers and daily operators using robotic data to improve their operations and show clear "proof of work" metrics.

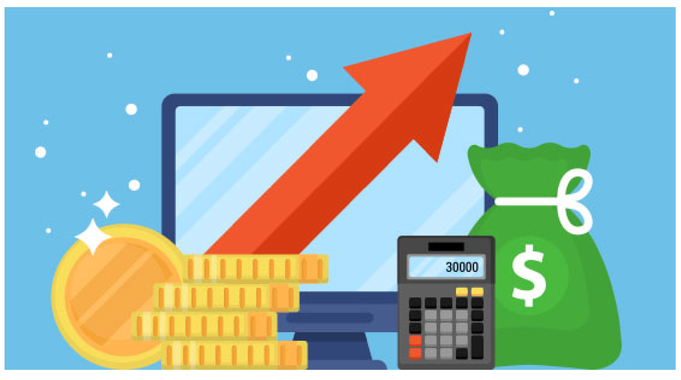
3 Dual-function Robots Lead to New Efficiencies

In addition to recording usage data, next-generation in-store robots will evolve to also capture environmental data that can be turned into actionable insights for improving operational performance. Early adopters such as Sam's Club are already conducting retail shelf analytics pilots that integrate an innovative data-scanning accessory into existing robotic floor scrubbers. Instead of using two separate robots to clean and analyze inventory, one robot with both capabilities can improve in-store shopping experiences with less disruption and at lower cost. The introduction of dual purpose data-collecting robots for various applications supports a broader trend toward the digital transformation of physical stores.



4 Robotics Value and ROI Expands Beyond Cost Savings

Autonomous robots deliver great cost savings, but their benefits go far beyond just dollars and cents. By taking care of dull, repetitive tasks, robots deliver additional hours of productivity that enable workers to focus on other important tasks, such as spending more time with customers.



Robots also help to enhance brand value as they are a strong visual reminder of a company's commitment to operational sophistication and general innovation. As more retailers become aware of the long-term advantages of robotic adoption, we can expect to see the retail industry adopt a new approach to evaluating innovative technologies using a more holistic definition of ROI.

5 In-store Robots = Good Retail Experiences

Self-driving robots may have received quizzical looks from shoppers in the past, but today they receive fewer second glances. National retail chains have ramped up use of robotic scrubbers during the pandemic and are increasingly deploying them during the daytime. In fact, daytime usage of robotic scrubbers at US retailers jumped by 133% during the first three quarters of the year compared to last year, according to Brain Corp's internal data. Increased usage and public visibility are translating into increased consumer comfort around robots, which in turn empowers retailers to expand investment in robotic applications.

Until recently, autonomous robots were mostly confined to tightly controlled warehouse and manufacturing settings where they could be closely monitored by engineers. But autonomous solutions must be accessible for non-technical users in order to be viable in commercial public settings such as retail and grocery stores.

6 Retail Stores Become Multi-robot Environments



Cleaning robots are by far the most popular type of robotic application within retail, but autonomous solutions for in-store delivery and retail shelf analytics are gaining steam. According to ABI Research, total annual shipments of AMRs will reach more than 2.5 million by 2030 across multiple industry verticals, including retail. This is great for productivity but raises an issue: how to manage siloed robotic applications from different manufacturers. Retailers will likely begin to evaluate a platform-based approach (such as the one offered by Brain Corp) that can manage multiple retail robotics applications from various equipment manufacturers. A unified, cloud-connected approach will make it easier for retailers to manage robotic fleets by providing centralized data hosting and reporting, built-in safety protocols, connected user experiences, and automatic software upgrades.

7 Robots Become Increasingly Intuitive and Easier to Use

Until recently, autonomous robots were mostly confined to tightly controlled warehouse and manufacturing settings where they could be closely monitored by engineers. But autonomous solutions must be accessible for non-technical users i n order to be viable in commercial public settings such as retail and grocery stores. Robots used in retail environments must include intuitive user interfaces, graphical reporting, and easy deployment instructions, or employees will consider them too difficult to use and revert back to traditional methods. Simplified user experiences with retail and other verticals will become a baseline requirement for all public-facing commercial robots.



8 Robots Redefine ‘Cleanliness’, a Key Pillar of Brand Value

Until the pandemic, cleaning was considered something to be done on the “third shift” — late at night after the store had closed. That changed with the onset of the pandemic, as fearful shoppers have reduced their regular trips and begun shopping online. In one study conducted by C+R Research, which surveyed over 2,000 consumers about their grocery shopping habits and experience in the wake of the Covid-19 pandemic, 60% of shoppers said they feared going shopping because of the pandemic.

Enhanced robotic support for e-commerce fulfillment centers and an expansion of robotic ecosystems to include things like low-level customer support are other likely trends for the coming year. 2020 has been a watershed year for robotics due to a once-in-a-generation health crisis. Within a span of a few months, robots became essential to the success of retail outlets and familiar sights in many major shopping locations. We expect that trend to accelerate into the new year and well beyond.

Top 12 Revolutionary IoT Trends for 2021



With the emerging technological wonders, the Internet of Things (IoT) has been the most hyped technology for the future. There is no doubt in the fact that IoT is now a powerful tool for businesses to improve their processes, boost earnings and reduce the overheads as it has now integrated with artificial intelligence and data analytics software. You can now catch the smartest technologies anywhere, be it smart appliances, phones, security systems, or cars.

Building a milieu of convergence, IoT with its impressive features has captured the whole market. According to Statista, the projection of worldwide spending on the Internet of Things has been hopped from 646 billion US dollars to 1100 billion US dollars from 2018 to 2023 respectively. The latest IoT trends include real-time tracking and identification of objects as well as people, various physical phenomena, and automated launch of preprogrammed events. Read on to know upcoming revolutionary IoT trends for 2021 and ahead.

1. The Amalgamation of Big Data
2. Adoption of Edge and Cloud Computing
3. Machine Learning for Data Security
4. Integration of IoT in Manufacturing
5. Data Analytics
6. Adoption of IoT by The Healthcare Industry
7. Emerging Smart Cities Through IoT Implementation
8. IoT Will Trend in Application Development
9. Improvement in Customer Service
10. IoT Trends to Power the Smart Stores
11. Voice-Based IoT Devices
12. Trending Towards Green IoT



Gerald Vogt Becomes New CEO of Stäubli Group



Stäubli, a global leader in industrial and mechatronic solutions, is starting the new year with a new Chief Executive Officer. Gerald Vogt, previously responsible for the global business of the Robotics Division, will take over as CEO from retiring Rolf Strebel on January 1, 2021.

With Gerald Vogt, an experienced manager from within the company's own ranks will take over the management of the diversified and growing family-owned company. The 50-year-old Franco-German engineer and business economist has been responsible for the global Robotics business as Group Division Manager since mid-2016 and is already a member of the Group Management.

When he joined Stäubli almost 20 years ago, Gerald Vogt initially moved from the development and production site in Faverges, France, to the US for several years. As Division Manager he significantly expanded business for Stäubli Robotics North America. Afterwards he returned to Faverges as Head of Development before taking over responsibility for the German business as Head of Stäubli Robotics in Bayreuth.

To ensure a smooth transition and prepare for his future tasks as CEO, the Stäubli Board of Directors nominated Gerald Vogt as the designated successor to Rolf Strebel at the beginning of 2020. Since then, Gerald Vogt has accompanied the current CEO and is responsible for the introduction and implementation of the new business strategy for Stäubli until 2030.

"We are delighted to have found in Gerald Vogt a forward-looking manager with an extensive international experience and a clear entrepreneurial spirit who is already very well connected within the Group. He has our full confidence to further advance the business of the entire Stäubli Group worldwide," said Yves Serra, Chairman of the Board of Directors.



Christophe Coulongeat will assume the global responsibility for the Robotics Division on January 1, 2021. The French manager has been Deputy Division Manager since 2018 and previously gathered extensive experience in the packaging and automation industry in France, Austria, the United Arab Emirates and Switzerland.

With this succession in management, Stäubli is setting the course to consistently pursue its growth and further expand its market position worldwide, especially in North America and Asia.

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Colruyt Group is The First in Europe to Test A 44-Ton Hydrogen Truck Built by VDL



Colruyt Group was the first in Europe to start a test of a 44-ton “heavy duty” fully electric truck with hydrogen “range extender”. This truck was developed by VDL Groep in Eindhoven, and the test is part of the European Interreg demonstration project Hydrogen Region 2.0, which is coordinated by WaterstofNet.

While driving, the truck's batteries are recharged with the electricity generated by the hydrogen fuel cell.

In addition to being sustainable through the use of green energy and hydrogen, this vehicle has the additional advantage that it can travel longer distances than other electric trucks - an important asset for freight transport.

Colruyt Group and VDL Groep are both partners of the Interreg Hydrogen Region 2.0 project , which aims to build up knowledge and experience with large-scale hydrogen applications, including in logistics. By broadly sharing the experience gained, Hydrogen Region 2.0 wants to inspire other large logistics centers to also start using hydrogen vehicles.

Within the Hydrogen Region (since 2004), various other hydrogen projects have already been realized at Colruyt Group, which itself has already invested 6 million euros in hydrogen initiatives.

Just think of the green hydrogen filling station at the Dassenveld site. In addition, a number of hydrogen forklift trucks drive around the distribution center. In October 2018, the group opened the first green public hydrogen filling station: the DATS 24 station in the Zinkstraat in Halle thus became the first fully integrated station in Europe with a range of all possible fuels. The investments are in line with the Flemish hydrogen vision.



How the Industrial IoT Can Enhance the Value of Mobile Air Compressors



Mobile air compressors are a key piece of equipment for workers in a variety of industries. Mobile air compressors allow these workers to perform critical tasks like product finishing, cutting, and welding at locations where installing a stationary air compressor would be impossible.

This utility is driving the growth of the mobile air compressor market. Research firm Global Market Insights forecasts that the portable air compressor market will grow at a compound annual growth rate of 4.3% over the next few years to $8 billion in 2026.

Yet, while engineering advancements have made mobile air compressors more useful over the years, their core functionality has not changed. This lack of innovation has made it difficult for OEMs to differentiate mobile air compressors, keeping the average price for these machines low.

The emergence of the IIoT has the potential to change this status quo. Using the IIoT, OEMs can extract data from mobile air compressors and transmit it wirelessly to the cloud, where they and their customers can monitor, analyze, and act upon this data to improve business outcomes.

Using the IIoT, OEMs now have the ability to build and deploy IIoT applications that make their compressors more energy efficient, easier and less expensive to maintain, and harder to be stolen. By using the IIoT to enhance the value of their products with these and other new features, OEMs will not only be able to increase prices for this equipment but also offer customers new pay-as-you-go options and other services that create new long-term revenue streams.

- **Improving Mobile Air Compressors' Energy Efficiency**
- **Reducing Maintenance Costs and Equipment Downtime**
- **Stopping Air Compressor Theft**
- **New Edge-to-Cloud Solutions Simplify the IIoT for OEMs**



Alida Promotes Jason Baldree to Chief Customer Officer, Welcomes New SVP of Professional Services & Customer Success

Alida's long-time Head of Customer Success elevated to the C-Suite while Tony Chung joins to lead Professional Services for the company



Alida (formerly Vision Critical), creator of the world's first Customer Experience Management (CXM) and insights platform, today announced the promotion of Jason Baldree to Chief Customer Officer and the appointment of Tony Chung as Sr. Vice President of Professional Services and Customer Success.

Baldree joined Alida in 2018 with over 20 years of experience leading customer success and operations teams, where he developed a deep expertise in driving customer value with a focus on empathy to ensure optimal business outcomes for customers. Prior to Alida, Baldree led the customer success and consulting services teams at BMC Software, CA Technologies and Protiviti. As Alida's Chief Customer Officer, Baldree will lead the global customer success organization, customer support and services businesses.

"Jason has made enormous contributions to Alida during his tenure. He embodies our values and always leads with empathy by putting the customer at the center of our business. He focuses on making decisions with our customers, not for them - Alida's ultimate goal. Through his leadership, his teams have consistently attained above 90% customer satisfaction ratings (CSAT); an extraordinary feat," said Ross Wainwright, CEO of Alida. "Equally, I'm thrilled to welcome Tony to Alida. As we focus on driving enterprise value, he brings global software expertise that will support our customers to close the feedback loop with CXM."

As Alida's new Sr. Vice President of Professional Services & Customer Success, Tony Chung will lead the company's consulting services and value realization programs, including the Alida JumpStart Program, to accelerate time to value for customers.

Chung joins Alida with a 16-year track record at SAP Concur, where he built global Professional Services units and led their evolution to cloud services, key in exponentially growing company revenue and customer value realization. In his most recent role, Chung led the Global Services' strategy to integrate systems, processes and offerings across SAP cloud business units. Through his tenure, Chung has led and developed teams of implementation consultants, services professionals, and support engineers providing 24/7 product support to customers across APAC, EMEA and North America.

Dassault Systèmes Unveils "Water for Life" to Enable Industry to Consume Smarter and Protect the World's Most Precious Resource



Dassault Systèmes today unveiled "Water for Life," the next act in its "The Only Progress is Human" campaign to increase awareness of societal and environmental challenges and inspire the use of virtual worlds to drive sustainable innovations. "Water for Life" combines the themes of water and consumption to explore the challenge of how industry can consume smarter and protect the world's most precious resource, which is threatened by overconsumption. The campaign is part of the company's commitment to support the United Nations Sustainable Development Goals, and in particular SDG 6 to "ensure availability and sustainable management of water and sanitation for all."

Through "Water for Life," Dassault Systèmes will help its customers address this challenge from three angles: measure and optimize, innovate and create, and educate. First, it will drive the 3DEXPERIENCE platform as an accelerator for measuring and optimizing the water footprint of businesses by providing customers with integrated industry solutions that deliver data on the water consumption associated with the experience they are creating and the impacts of various design options. In the future, AI-generated recommendations will guide them toward the creation of new and more sustainable products, services and experiences.

Dassault Systèmes will also support the idea of a water handprint through its 3DEXPERIENCE Lab. This will be achieved by using collective intelligence to accelerate disruptive innovations such as EEL Energy that transform processes in industries needing to reduce their water consumption, as well as by reinforcing this engagement with a partnership of incubators worldwide such as OceanHub Africa.

Water is vital to life, yet overconsumption of water to produce the goods and services the world uses every day jeopardizes its availability. Already, more than 40% of the world's population is affected by water scarcity. In line with its Sustainable Development Goals, the UN declared a Water Action Decade from 2018-2028 focused on the sustainable development and integrated management of water. "Water for Life" aligns with this movement as well as the company's recent commitment to the Science Based Targets initiative, and its role as Official Supporter of the TCFD (Taskforce for Climate-related Financial Disclosures).



New CEO For CNH Industrial

CNH Industrial announced the appointment of Scott W Wine as chief executive officer, effective January 4, 2021.

Wine joins CNH Industrial from Polaris, where he was, since 2008, chief executive officer and chairman and CEO since 2013.

Polaris is a US-based manufacturer of powersport equipment such as snowmobiles and all-terrain vehicles, as well as commercial, military, electric vehicles, and boats.

He has considerable international experience across a variety of industries, having held executive positions with United Technologies Corporation, Danaher Corp and Allied Signal Corp, which became Honeywell International, after a 1999 merger.

He also brings extensive expertise in mergers and acquisitions in the US, Europe and Asia.

“The Board is delighted at the appointment of Scott Wine, given his broad industrial experience and strategic expertise,” said Suzanne Heywood, chair and acting CEO, CNH Industrial, “Scott is committed to delivering the strategy that the company outlined at its Capital Markets Day in 2019, including the plan to spin-off its on-highway activities.”



SAP and Microsoft Partner to Run Supply Chain and Industry 4.0 in the Cloud



SAP and Microsoft announced today an expanded partnership to enable customers to design and operate intelligent digital supply chain and Industry 4.0 solutions in the cloud and at the edge.

The partnership, which includes a collaborative approach to standards, consortia, and open source will shape the future of supply chain and manufacturing

SAP Digital Supply Chain and Industry 4.0 Solutions Run on Microsoft Azure

As a result of this partnership, organizations will be able to use a comprehensive set of SAP Digital Supply Chain solutions on Microsoft Azure, including SAP solutions for digital manufacturing, SAP Intelligent Asset Management solutions, SAP Integrated Business Planning, and SAP Logistics Business Network.

SAP will use Microsoft Azure to run these solutions in a software-as-a-service (SaaS) model that can help reduce the customer's need to manage the software and underlying infrastructure while accelerating time to value of supply chain applications. Customers will be able to scale globally by leveraging Azure which offers enterprise-grade compute, storage, and network services to support mission-critical performance and business continuity to run SAP Digital Supply Chain solutions.

SAP Manufacturing Suite, SAP Intelligent Asset Management, supply chain networks solutions from SAP, and the SAP Internet of Things (SAP IoT) solution are already available on Microsoft Azure in Europe and the United States today.

SAP and Microsoft Collaborating to Bring Business Processes to the Edge

When managing a global, distributed supply chain and manufacturing environment, companies face challenges with constrained bandwidth, latency, and massive volumes of data that can adversely affect execution and quality scenarios. Here, the solution lies in edge computing.

SAP and Microsoft are also collaborating to make SAP solutions available on Microsoft Azure Stack Edge, starting with SAP Digital Manufacturing Cloud. This helps manufacturers process data locally across machines and control systems to address latency or connectivity restraints.

Customers are empowered to choose what business process to run in the cloud or at the edge based on business need; they can deploy specific business processes and relevant business data to specific edge nodes using SAP Edge Services. According to IDC research, "70% of IoT deployments by 2023 will include edge-based decision-making to support organizations' operational and strategic agendas." The report also states that by "2023, 70% of enterprises will run varying levels of data processing at the IoT edge. In tandem, organizations will spend over $16 billion on IoT edge infrastructure in that time."



Companies Will Provide Reference Architecture as Guidance to Their Customers

The partnership in supply chain and manufacturing will be further enhanced with reference architectures to provide customers guidance on deploying SAP Digital Supply Chain on Azure and the integration of SAP and Microsoft products and services, building on previously developed architecture blueprints.

SAP and Microsoft Shape the Future of Industry 4.0 with Open Standards

With software development and standards, the benefits of aligned reference architectures and common semantics are obvious. Adopting industrial standards and creating shared asset models in industrial IT are as significant to digital supply chain as a dictionary is to literacy. Business partners who wish to succeed in this space need to endorse open standards, open consortia, and open source.

As part of this partnership, SAP and Microsoft will work together to drive compatibility and interoperability across industrial machines, software, and services as members of consortia like the Open Manufacturing Platform and the Open Industry 4.0 Alliance – to aid in the accelerated path to value of supply chain and Industry 4.0-related solutions based on open standards.

Companies that want to learn more about this exciting partnership and the benefits it brings should contact their SAP account team for further details.



WEG Improves CHESF Substations´ Equipment



Brazilian state-owned utility CHESF, based in the Northeast of the country, acquired from WEG a set of high quality and advanced technology products for the disconnection of electrical circuits to replace and improve the equipment of Paulo Afonso and Luiz Gonzaga substations, located in the state of Pernambuco.

The 10 horizontal 500kV semi-pantograph disconnectors are intended to provide the disconnection of the utility's 500kV power lines. This equipment is manufactured with highly selected materials available on the market and supported by continuous research and development of new products and technologies.

Disconnector is an essential piece of equipment applied to electric power transmission grid to ensure safety of people working on the high voltage network and provide a visible and reliable isolation distance from the equipment.

WEG offers competitive solutions for different needs, meeting different technical requirements for disconnectors ranging from 15 kV to 550 kV. Additionally, the company is the only national manufacturer to perform certification tests in laboratories suitable for disconnectors up to 145 kV and 40 kA. WEG provides the market with a cost-effective and customized solutions, suitable for each substation layout, even within a limited space.

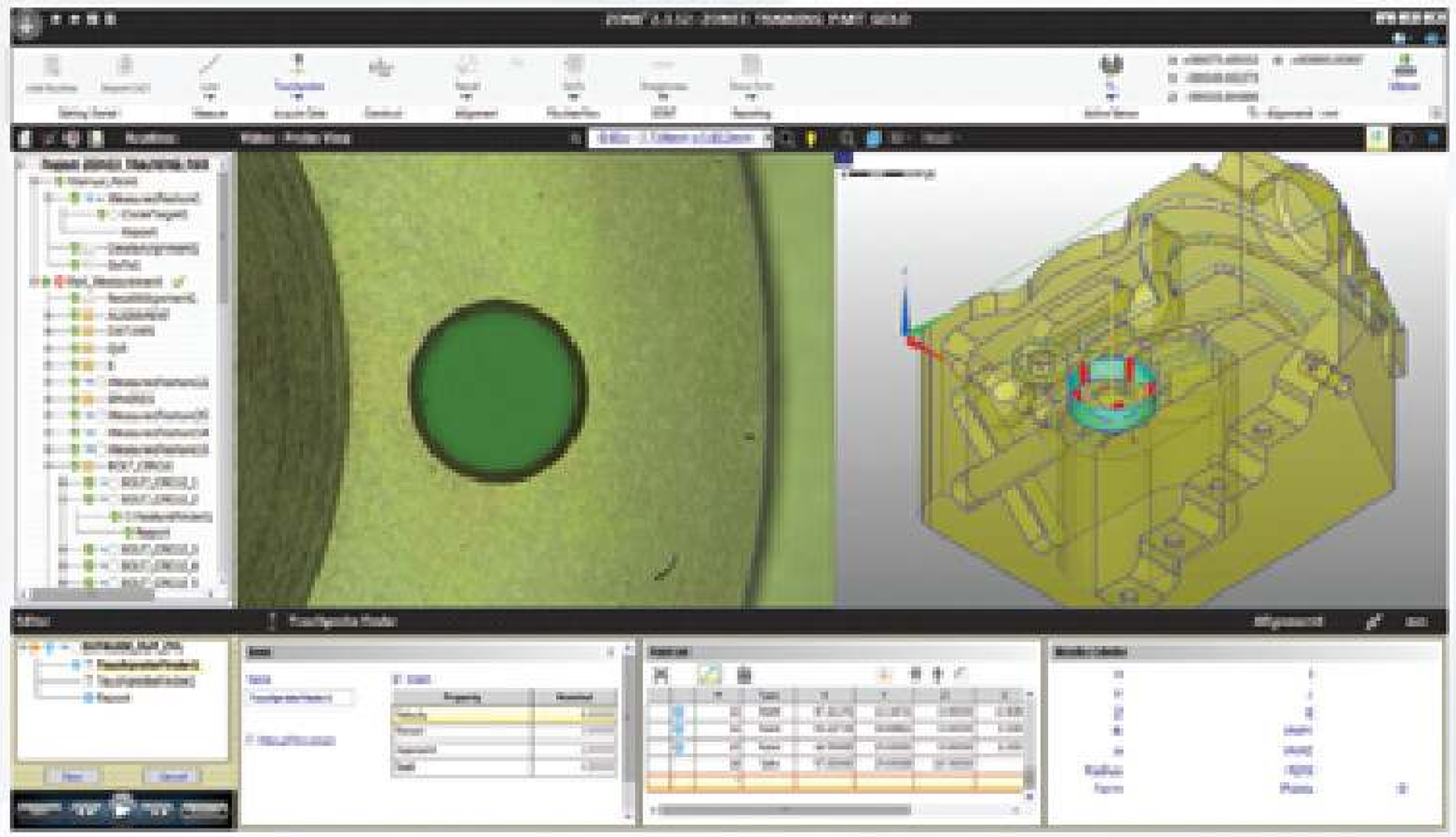
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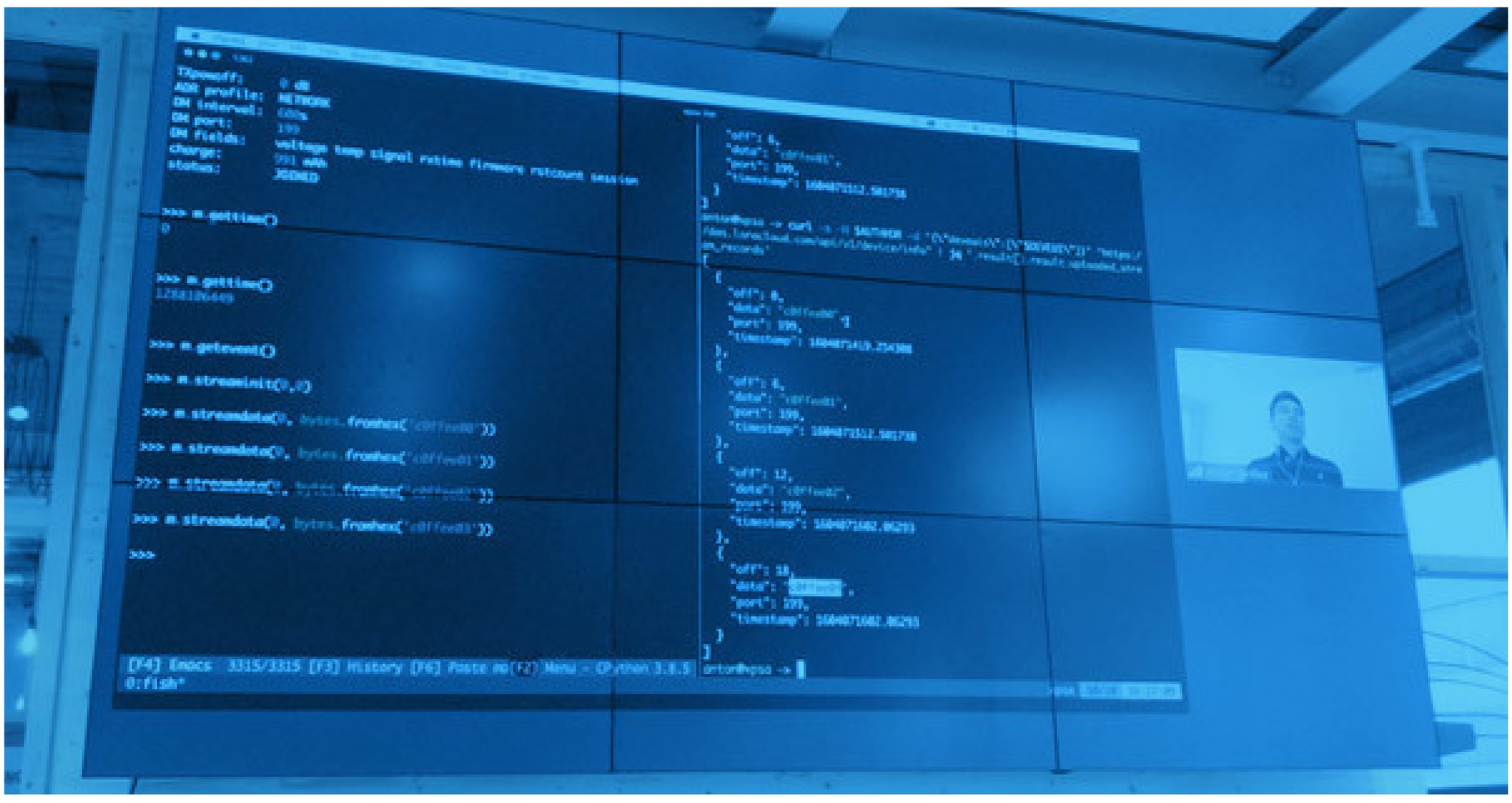
ZONE3 Metrology Software represents a totally new way of working with multisensor measurement systems. Its interface clearly displays relationships between parts, sensors, datum alignments, and machine tooling. ZONE3 uses CAD models and other innovative features to automatically and effortlessly generate measurement routines.

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Hackathon for a Better City

The third edition of the makezurich.ch Hackathon For A Better City, an event that brought together the local maker community and the city administration, took place between 23-31 October in Zurich, Switzerland. The event—which, due to COVID-19 restrictions was held in a hybrid modality: both virtual and in-person—attracted roughly 100 participants working on 17 projects across seven different challenges.

The challenges ranged from smart home and smart city solutions to industrial applications. Anton Beitler, from Semtech's engineering team in Rapperswil, delivered a technical presentation about simplifying the development of Internet of Things (IoT) solutions using a modem for networks based on the LoRaWAN® protocol and LoRa Cloud™. In this session, Beitler presented an end-to-end example demonstrating the capabilities of the modem and Semtech's LoRa Cloud services.



Semtech was part of the event as a Gold sponsor, and participants used Semtech's modem, which leverages the LoRaWAN protocol, to implement their solutions.

According to Gonzalo Casas, organizer of makezurich.ch, one of the metrics for assessing the success of the event was how happy and satisfied participants were at the end of the hackathon with the work they did during the week. He said that this year they were very happy. Participants found the modem both useful and easy to use. In addition, they used an Arduino library developed by one member of the community during the event to interact with the modem. Finally, Casas mentioned that the Canton of Zurich is starting a project (page in German) to measure CO2 in schools using LoRaWAN; the goals of the project is to ensure that the ventilation conditions are optimal, and to reduce the risk of COVID-19 infections.

It is very exciting to see how appealing LoRaWAN is to makers and developers, and how versatile the technology is for providing solutions across a wide spectrum of applications.



Sierra Wireless Octave Wins 'IoT Innovation of the Year' Award in 2020 Mobile Breakthrough Award Program

Sierra Wireless, the leading IoT solutions provider that combines devices, network services and software to unlock value in the connected economy, today announced that its Octave™ solution has been selected as winner of the “IoT Innovation of the Year” award in the fourth annual Mobile Breakthrough Awards program conducted by Mobile Breakthrough, a leading independent market intelligence organization that recognizes the top companies, technologies and products in the global wireless and mobile market today.

Sierra Wireless’ Octave is an all-in-one edge-to-cloud solution for Industrial IoT (IIoT) that enables businesses to accelerate their data-driven digital transformation. Octave is built on 25 years of Sierra Wireless IoT experience to deliver a new way for OEMs and industrial companies to access machine data in the cloud. By providing simple Cloud APIs to securely extract, orchestrate and act on data from remote assets, Octave eliminates the complex integration between hardware, firmware and cloud software, allowing businesses to get IoT applications up and running within days, instead of months.

“Octave eliminates the complexities of implementing and scaling IoT solutions, allowing industrial companies to cost-effectively access the benefits of IoT without the risks,” said Olivier Pauzet, Vice President, Product & IoT Solutions, Sierra Wireless. “With Octave, customers can focus on building their business rather than reinventing technical infrastructure, dramatically reducing costs and development time for OEMs, system integrators and enterprises. We are proud to receive this 2020 Mobile Breakthrough Award and look forward to continued success in helping organizations reduce their time to revenue, as well as development, management, and maintenance costs.”

The mission of the annual Mobile Breakthrough Awards is to honor excellence and recognize the innovation, hard work and success in a range of mobile and wireless technology categories, including Cloud Computing, Mobile Management, Wireless and Broadband, Mobile Analytics, IoT and Smart City and many more. All nominations were evaluated by an independent panel of experts within the wireless industry.

With its unique distributed data orchestration capabilities and security features, Octave abstracts away the complexity involved in integrating IoT into existing company infrastructure, empowering businesses to easily and quickly develop IoT applications, collect IoT application data and analyze this data for actionable insights. By building edge-to-cloud connectivity into products, companies can collect data about how equipment is being used, allowing them to maximize performance and uptime, reduce maintenance costs and offer transformational equipment-as-a-service and consumption-based services.

With interfaces to all major cloud service providers, Octave turns the Industrial IoT into a set of simple cloud APIs that companies can merge with their existing IT systems.

Stationary Fuel Cell: Bosch Plans to Start Full-Scale Production in 2024



When it comes to stationary fuel cells, Bosch is stepping up a gear. In 2024, the supplier of technology and services intends to start full-scale production of distributed power stations based on solid oxide fuel-cell technology – hence the agreement to intensify its alliance with Ceres Power. Following a successful prototype construction phase, the two companies now want to press ahead, initially with the pre-commercialization process for stationary fuel cells.

For SOFC systems, Bosch is aiming for an annual production capacity of some 200 megawatts. This is enough to supply around 400,000 people with electricity in their homes. Bosch is planning to produce the stationary fuel-cell systems at its manufacturing sites in Bamberg, Wernau, and Homburg, as well as its development sites in Stuttgart-Feuerbach and Renningen – and will invest hundreds of millions of euros by 2024. This means Bosch is positioning itself clearly as a systems supplier for stationary fuel cells with its own value creation in the cell and stack segment. One intended application of SOFC technology is in small, distributed, connectivity-enabled power stations, which can then be used in cities, factories, trade and commerce, data centers, and electric vehicle charging infrastructure. Bosch estimates that the market for decentralized power generation will reach a volume of 20 billion euros by 2030. A total of more than 250 Bosch associates are now working in this promising new field – 150 more than a year ago. “We see the highly efficient solid oxide fuel cell as an essential element of a sustainable energy supply. To bring it about, we are pooling Bosch expertise from across several divisions,” says Dr. Christian Fischer, the Bosch board of management member responsible for the Energy and Building Technology business sector. “With stationary fuel-cell systems, Bosch is establishing a new business field in which development, manufacturing, sales, and service come from a single source,” Fischer continued. “Together with our partner Ceres Power, we are now taking the next important step toward full-scale production.”

2021 Global Economic Outlook: The Next Phase of The V

Morgan Stanley projects strong global GDP growth of 6.4% for 2021—led first by emerging markets, followed by reopening economies in the U.S. and Europe—in a macro outlook that diverges from the consensus.

Rising COVID-19 case numbers in the U.S. and Europe make it difficult right now to envision a return to normal. Yet, even as the pandemic drags on, the global economy has proven remarkably resilient.

Following a steep decline in early 2020, the world economy rode a rebound that began in May and remains on track to surpass prepandemic GDP levels by the end of this year—setting the stage for strong post-recovery growth in 2021.

In their 2021 outlook, the economics team at Morgan Stanley Research says the V-shaped recovery that the team forecast in their 2020 midyear outlook is now entering a new self-sustaining phase and is on track to deliver 6.4% GDP growth in the coming year.

“This projection stands in stark contrast to the consensus, which forecasts 5.4% global growth and worries that the pandemic will have a bigger impact on private-sector risk appetite and, hence, global growth," says Chetan Ahya, Morgan Stanley's Chief Economist. “We maintain that consumers have driven the recovery, and investment growth—a reflection of the private corporate sector's risk tolerance and a key feature of any self-sustaining recovery—is bouncing back as well."

Morgan Stanley Real GDP Growth Forecasts

	2020E	2021E		2022E	
	MS	MS	Consensus	MS	Consensus
GLOBAL	**-3.5**	**6.4**	**5.4**	**4.4**	**3.7**
DEVELOPED MARKETS	**-5.4**	**5.1**	**4.2**	**3.9**	**2.7**
United States	-3.5	5.9	3.8	4.1	3.0
Euro Area	-7.2	5.0	5.2	3.9	2.8
Japan	-5.2	2.4	2.5	2.4	1.5
UK	-11.4	5.3	5.5	5.5	3.0
EMERGING MARKETS	**-2.0**	**7.4**	**6.3**	**4.7**	**4.5**
China	2.3	9.0	8.0	5.4	5.4
India	-5.7	9.8	8.3	6.0	5.6
Brazil	-4.0	4.3	3.5	2.7	2.5
Russia	-4.0	3.4	3.0	3.2	2.3

Three key factors will characterize the next stage of the V-shaped recovery, says Ahya: **synchronized global growth, an emerging-market rebound and the return of inflation**. Against this macro outlook, Morgan Stanley strategists urge investors to trust the recovery and overweight equities and credit vs. government bonds and cash

(The Source: www.morganstanley.com)



Alstom's New Automatic MP14 Metro Enters Commercial Service on The Line 14 Extension in Paris and Its Region



Alstom's automatic MP14 metros have entered commercial service on the extension of Line 14 to the station Mairie de Saint-Ouen. The extension was inaugurated today by Jean Castex, Prime Minister, Barbara Pompili, Minister of Ecological Transition, Jean-Baptiste Djebarri, Minister Delegate to the Minister of Ecological Transition in charge of Transport, Valérie Pécresse, President of the Île-de-France Regional Council and Île-de-France Mobilités and Catherine Guillouard, CEO of the RATP group, and in the presence of Henri Poupart Lafarge, CEO of Alstom. The MP14 metro now serves the whole of line 14, from Olympiades to Mairie de Saint-Ouen, next to which many companies are located, including the Île-de-France Regional Council and the global headquarters of the Alstom group.

“We are particularly proud to see the MP14 metros entering commercial service as far as the station Mairie de Saint-Ouen. These metros, which we designed and manufactured at eight Alstom sites in France, now serve the head office of the Alstom group. The arrival of the MP14 metros will directly improve the daily lives of tens of thousands of people, including the 3,000 employees of the Alstom group based in Saint-Ouen. This site is the group's global headquarters and the biggest centre of railway expertise in Europe,” declared Henri Poupart-Lafarge, Chairman and CEO of Alstom.

MP14, commissioned on Line 14 and financed by Île-de-France Mobilités and operated by RATP, is an automated, rubber-tyred metro made up of eight cars. This state-of-the-art train is designed to improve passenger experience while reconciling performance, energy efficiency and ease of maintenance in order to keep costs down throughout its lifecycle.

MP14 offers unprecedented levels of comfort and safety thanks to its interior layout and seats designed like an alcove to create both conviviality and privacy. Vast reception areas offer accessibility to all passengers, with dedicated areas and boomerang-shaped seats to improve the fluidity of passenger flows and capacity of the trains. MP14 also has LED lighting efficiently distributed throughout the metro to provide a sense of security through consistent luminosity. The handrails and steadying points are compliant with standards and enhance comfort inside the train. Warm and cool ventilation controls the ambient temperature, whatever the season. MP14 also offers comprehensive video protection and dynamic passenger information on board. The design of the new metro is underlined by signature lighting on the front end of the train.

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New Helicopter Contract for Stavanger



Equinor has awarded CHC Helikopter Service AS a contract for personnel transportation from Stavanger airport, Sola.

The contract will run from 1 July 2021 for a fixed period of three years and includes three yearly options. The total value of the contract with options is estimated at NOK 1 billion.

The contract covers crew change services with two Sikorsky S-92 helicopters, with a possibility to increase with one additional helicopter.

In connection with this procurement, Equinor and Vår Energi have entered into a cooperation agreement and will share capacity on one of the helicopters.

“We have good experience of cooperation with Vår Energi on joint procurement of helicopter services. The cooperation contributes to efficient use of helicopter capacity and increases flexibility for both companies. It also allows for better long-term planning from the service provider”, says Peggy Krantz-Underland, Equinor’s chief procurement officer.

For Equinor, the helicopters will be used in connection with crew change services in the southern part of the North Sea, serving the fields Johan Sverdrup, Gina Krog, Sleipner, Grane, Gudrun, Heimdal and Draupner, as well as drilling rigs in the area.



Retrofit for Industry 4.0: Making Existing Machines Fit for The Future

Companies often cannot benefit from Industry 4.0 applications because the existing machines do not provide the required data. The VDMA guideline supports manufacturing companies and suppliers in making existing machines fit for Industry 4.0.



In order to be able to be successful tomorrow in the age of digitization, machine and plant manufacturers have to get fit. Preferably as quickly as possible and at the lowest possible cost. But there are often machines in the production halls that are not brand new and therefore not networked with one another. The existing machines must be integrated into the industrial Internet of Things, a digital retrofit must make the existing machines "futurefit".

Orientation with a step model and checklist

The aim of the guideline is to offer potential users and providers of Industry 4.0 retrofit solutions a systematic introduction to the topic and to convey the basics of the topic. The guideline gives an overview of the possibilities and implementation forms of a retrofit for Industry 4.0 on an existing machine with the step model. In the step model, the various degrees of expression of Industry 4.0 retrofits are presented in order to offer a clear orientation about the implementation forms:

Furthermore, an exemplary technical infrastructure is presented and explained in the guideline in order to show, regardless of manufacturer, how sensors can be connected and the possibilities with which the data generated can be transmitted, stored and used.



Practical examples of Industry 4.0 retrofits

One focus of the guideline is the various application examples for the implementation of an Industry 4.0 retrofit. For this purpose, the procedure is illustrated using theoretical and practical implementations of Industry 4.0 retrofits in large and small companies. The examples show implementations from the point of view of production, plant engineering and the Industry 4.0 retrofit solution provider. In addition, the basics are presented using the example of an Industry 4.0 retrofit on a drill press from Fraunhofer IOSB-INA.

Advance Canvas Industries Pte Ltd

Fabric bellows provide maximum protection in rugged industrial environments and prevent foreign particles from entering the hydraulic or pneumatic systems of the precision equipment inside.



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Robots in The Factory of The Future: Opportunities and Challenges for Cable Manufacturers

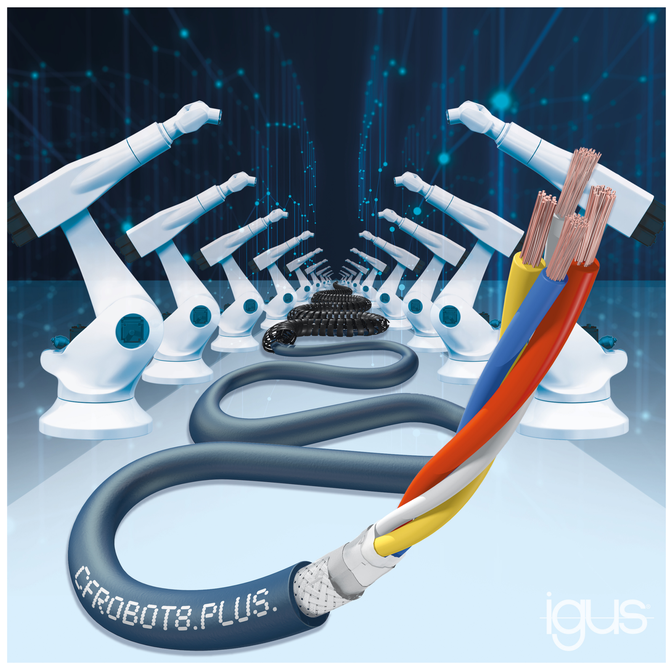
Today, manufacturing is hardly conceivable without industrial robots and their areas of use are increasing continuously. But due to the permanent three-dimensional movements in the automated factory, the cables that supply the robot are subjected to extreme levels of stress. A special challenge for manufacturers of cables and connecting components.



The International Federation of Robotics (IFR) predicts that by 2020 more than 1.7 million industrial robots will be working in factories worldwide. A huge worldwide market for robot manufacturers. To ensure that robots are supplied with data and energy without any interruption, it is worth taking a look at the cables that have to "go along with" the 3D movement of robots, which are on the move continuously. Robot cables for applications where the cables are subjected to torsional stress have to be constructed and manufactured in a completely different way to cables for linear motion. They must be as compact and as closely braided as possible and have an outer jacket extruded at high pressure. The reason that this is important is because this special "hardness" enables the cable to follow the motion pattern of the energy chain.

Robot cables, in contrast, need force-compensating elements, loose braiding elements, different slip planes and completely different shield concepts in order to ensure they continue to function correctly even after several million movements involving torsional stress. This is because the cables used in robot technology have to repeatedly change the directions in which they move. For example, the diameter of the braid structure can actually change with torsion angle. Cable specialist igus incorporates damping elements and torsional-force absorbing felt into the core groups, which are specially designed for use in applications involving continuous changes in torsional stress, in order to offset the forces acting on the cores.

The requirements for the shielded cable types are especially high. In order to ensure that the forces acting on the shield wires are not too large, the motion plastics specialist places gliding elements above and below the shields. These elements ensure that the shield can move freely in relation to the overall braiding as well as the outer jacket.



The shield structure is designed for force redistribution and has damping elements in the direction of that force redistribution. This "soft" mode of construction gives the entire cable the necessary freedom of movement, reduces tensile and compressive forces, and preventing shutdown of a machine due to a premature conductor breakage.

Optimum protection for robot cables with the energy chain

On the basis of know-how gained over more than 50-years of experience in this area, the jacket materials have been optimally matched to the plastic of the triflex R robot energy chain, reducing abrasion and wear to a minimum. The triflex R TRCF is a closed energy tube based on the three-chamber principle: all three chambers of the TRCF can be opened and closed independently of each other. The supply hose is placed in one of the three chambers of the energy tube and is therefore protected against deformation. This makes the energy supply process reliable whatever the axial position of the robot is. The main feature that ensures reliable and operationally safe guidance of robot cables and hoses is compliance with the minimum bending radii. If the latter are not adhered to, there is a risk of cost-intensive plant failures. The technical design of the igus triflex R ensures that the prescribed minimum bending radius is adhered to whatever may be the working position of the robot - a circumferential outer stop prevents bending below the minimum bending radius. Moreover, the modular design of the igus triflex R ensures that a torsion angle of approx. +-10° per chain link is not exceeded. This has the advantage that the torsional stress on the cables is distributed along their whole length and not only at one end, which is the case with other systems. The defined minimum bending radius of the triflex R robot energy supply system guarantees process reliability especially in robot applications with supply hoses as well as in the case of flow punch bolting. This is because a kink in the supply hose interrupts the power supplied to the screws on the tool and the process is disrupted.

Tests offer plannable reliability and, at the same time, reduce costs



igus has been repeatedly setting new standards for more than 25 years with its range of "chainflex" moving cables in the areas of automation and robot technology. It is regarded in the industry as a leading company for special cables, available from stock, for continuous motion in applications involving energy chains and torsional stress. igus has a 3,800 m2 test laboratory, the world's largest lab for dynamic cables. Here, igus twists the chainflex CFROBOT cables millions of times while continuously measuring core resistance in different test set-ups. The undoubtedly greatest challenge in the tests is that it is difficult to reproduce every conceivable application that involves torsion over the service life of the product. Whereas the service life limits can be dependably predicted in the case of linear travel in energy chains due to fixed parameters and known ambient-influences, robot applications are usually much more complex. In particular, the sequence of movements per se is often not completely clear during the planning phase. For the cable supplier, it is therefore of prime importance to test, test and test again. All the results of the tests are recorded in a database at igus.



Predictive Maintenance: Industry 4.0 gets trouble-free motion

The "smart plastics" from igus provide a glimpse into the near future of robotic cables. Under the name isense, igus carries sensors of various kinds that detect the condition of igus components such as cables or energy chains. They measure among other things the wear during the operation and alert the user early enough to plan repair or replacement. By networking with the icom communication module, the data is transmitted to an intelligent system. The module can be connected to all igus specific sensors. Once the measured values from a sensor have been transferred to the icom module, they have to be "interpreted", i.e. understood in order to generate instructions from the same. So far, this has been possible via the connection to the igus cloud. Due to the increasing importance of IT security, however, many companies are increasingly relying on the development of their own SCADA systems, which is why igus has now advanced its data concentrator into icom.plus. With the new module, the customer can integrate the data in the way that best suits their equipment. With the online connection of the icom.plus, a continuous matching of the service life statement with the igus cloud takes place in order to enable maximum system runtimes with minimal failure risk. The data in the cloud draws on the 10 billion test cycles of energy chains and cables performed in the company's own 3,800 square metre test laboratory, and thanks to machine learning and AI, igus can provide precise information on the durability of the solutions used and inform the user about a necessary replacement beforehand.

Cytiva Brings Digital to Life in Life Sciences

Better use of digital technologies and automation helps biomanufacturing companies realize economies of scale with flexibility, efficiency and confidence.



Cytiva customers undertake life-saving activities ranging from fundamental biological research to developing innovative vaccines, biologic drugs, and novel cell and gene therapies.
Cytiva's job is to supply the tools and services they need to work better, faster and safer, leading to better patient outcomes. More than 7,000 associates across 40 sites support the company's vision of improving access to life-changing therapies that transform human health.
As part of its digital transformation and Industry 4.0 initiative, Cytiva wanted to create a connected digital enterprise to help improve internal operations and decrease time-to-market for end customers.

Enabling the helpers

Enormous amounts of time and money go into developing new pharmaceutical and medical products, and there's a small window before each new product's patent expires. Reducing time from inception to market is enormous because it allows the product to capture market share longer.

"Now more than ever as an industry, we must get smaller, faster and more cost-effective in the way we manufacture drugs, vaccines and therapeutics," said Kevin Seaver, executive general manager, automation and digital at Cytiva. "By automating processes and analyzing data, we can rethink every step of drug manufacturing and realize economies of scale with flexibility, efficiency and confidence."

Streamlining the deployment of systems, reducing islands of automation, and decreasing the time spent on gathering and cleaning data all can help biomanufacturing players accelerate their time to market.

Integration and automation across the value chain

The Cytiva Figurate automation platform includes control and communication capabilities that turn data insights into productive outcomes for both upstream and downstream process efficiency gains.

To develop and put its Figurate platform in place, Cytiva adopted the Rockwell Automation PlantPAx® system and used its own Unicorn software to automate its bioprocess equipment. Data is made available through MES applications and can be integrated to include electronic batch records, scheduling and more.

The platform is designed to dramatically streamline deployment of systems for end customers. There are options for Rockwell Automation systems and others, depending on the end-user's specific needs. Standardized digital libraries – such as product code that's been tested, documented and validated – also can create more efficient process development all the way through manufacturing and automation.

Leveraging the power of analytics and data

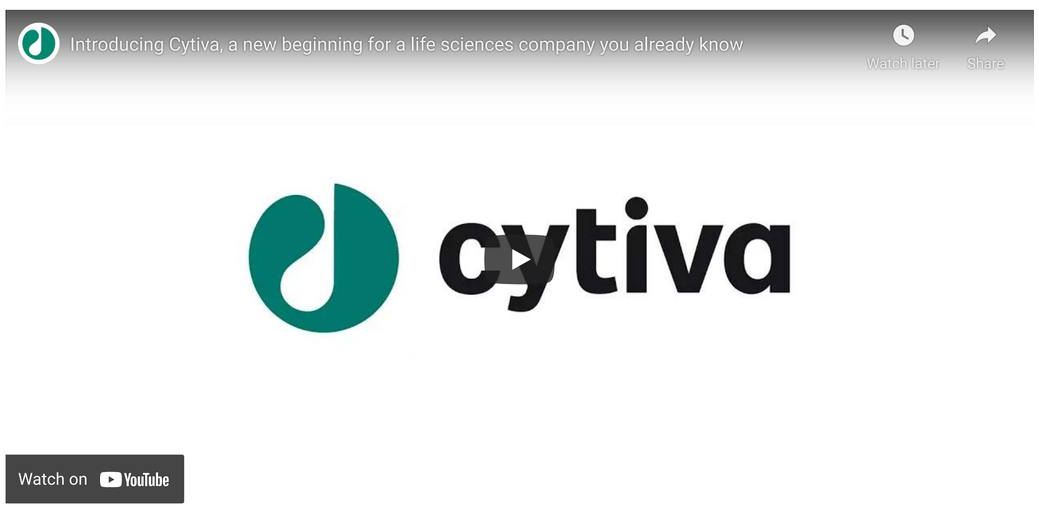
Within The Connected Enterprise, customers have all the documentation they need electronically and can release it to manufacturing immediately. Additionally, Figurate can bring process data up to the cloud where it can be combined with additional operational data. Using advanced analytics, these valuable insights can be used to improve operations and can then be fed back down to the system to optimize processes.

Cytiva's automation lab and a room called The Sandbox house servers with different types of applications that are being developed and tested. This testing environment allows Cytiva to prove everything out before it goes to customers. If customers have questions or problems they can bring them in and test them, creating a collaborative environment.

Delivering pre-tested solutions

Cytiva's FlexFactory lines, featuring Figurate, include media and buffer preparation, cell culture production, harvesting, purification, viral clearance, sterile filtration and bulk formulation processes. All of these can be combined in modular KUBio clean-room shipping containers and delivered to biomanufacturing customers, essentially ready-to-go.

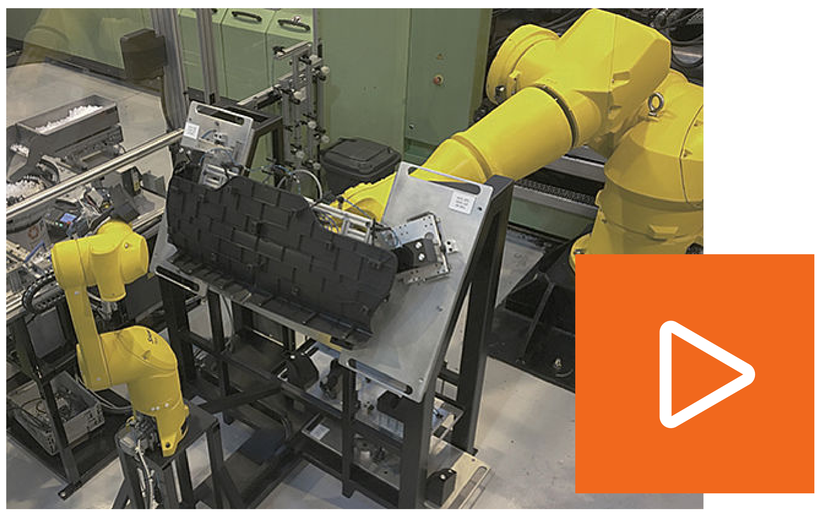
Additional benefits beyond speeding up time-to-market include 10-20 percent increases in production throughput, availability and production employee efficiency, as well as 5-30 percent decreases in energy use, scrap material, batch release time, maintenance and downtime investigations.



Robot and Injection Molding Machine Working in Harmony

Full component processing alongside the injection molding cell

Automotive supplier WHS Plastics has invested heavily in the automation of its injection molding cells, some of which incorporate two robots. The multinational company integrates sequential steps handled by high-performance Stäubli robots directly into its production cells.

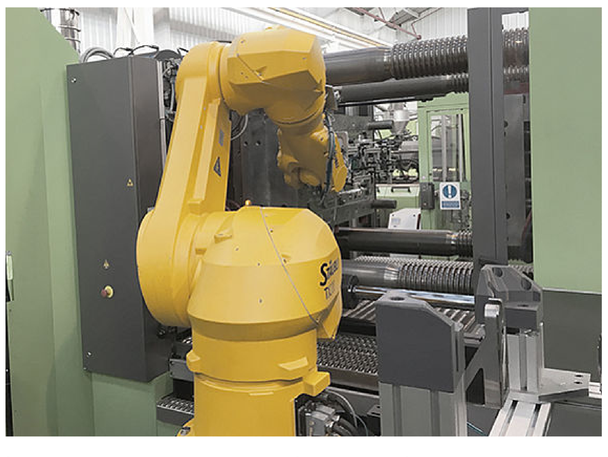


Based in Sutton Coldfield, UK, WHS Plastics is a well-known supplier to the domestic vehicle manufacturing industry. The company, which has around 1,000 employees and also serves customers outside the automotive sector, operates more than 75 plastic injection molding machines producing ready-to-install components and modules.

WHS Plastics success can be attributed to a very high degree of automation. The in-house systems designers have set out not only to automate the process for removing parts from the mold but also to integrate downstream tasks directly into the injection molding cells.

Robots working alongside injection molding machines

For this purpose, around 50 Stäubli robots have been installed alongside the injection molding machines. In a current project, two different TX series robots are used in a single cell. The injection molding machine presses a large-format vehicle tailgate panel. The first robot – a substantial Stäubli TX200 – removes the injection-molded part from the mold and positions it on an assembly rig while continuing to hold in place.



Meanwhile, the second robot – a smaller Stäubli TX60 – picks up the first of several fasteners which arrive on vibratory conveyors and are dropped onto a separation station. The TX60 then affixes multiple clips of different design to the tailgate, by means of which the inner trim will subsequently be attached. During this process, the TX200 retains a firm grip on the component. Meanwhile, the next tailgate panel is being pressed in the injection molding machine.

When the highly dynamic TX60 has completed its task and affixed all the clips, its larger “colleague” removes the panel from the clamping device and places it on an output conveyor which transports the preassembled module to the next processing station.

CUSTOMER USAGE

In injection molding applications, the Stäubli robots impress with their high dynamics, precision and reliability. With the solutions implemented, the company has saved time and space while ensuring a high level of quality, because the robot provides fatigue-free, reproducible performance, allowing quality assurance also to be integrated into the cells. A further advantage is that a largely finished or at least preassembled component is produced in a compact space.

Omron Helps Danish Manufacturer Automate Materials Transport Needs With Flexible Mobile Robot Fleet



VOLA, a Danish manufacturer of kitchen and bath faucets and taps, recently expanded its Horsens, Denmark plant by 5,500 square meters. This additional space houses a new warehouse, product delivery area and assembly hall. VOLA has over 50 years of experience in its industry and is considered one of the leading manufacturers of high-quality, modern-style taps in Danish design. The primary reason for its expansion was to meet market demands for high product variance.

VOLA is a very old company, having been founded almost one and a half centuries ago in 1873 and its factory is “very strict andvery minimalistic,” according to Chief Operating Officer Peder Nygaard. All taps are produced in the Danish town of Horsens, and the company wishes to keep it this way. For this reason, VOLA is continuously trying to improve its efficiency and lead time. To do so, the company sought a new manufacturing line to deliver higher speed and throughput.

VOLA chose to work with Omron because there are very few robot manufacturers that can handle the sort of advanced fleet management that Omron is capable of. The company was unable to find anything similar in the entirety of Northern Europe.

The need

VOLA’s old production line had a large proportion of manual tasks, both in assembly and materials transport processes. In order to be able to react to different demands in the market and make a high-end, high-quality product, the company wanted to keep most of its manual assembly processes, but it saw an excellent opportunity to improve speed and throughput by automating materials transport.

VOLA decided to replace manual transportation with round-the-clock automated transportation performed by mobile robots.

The technology

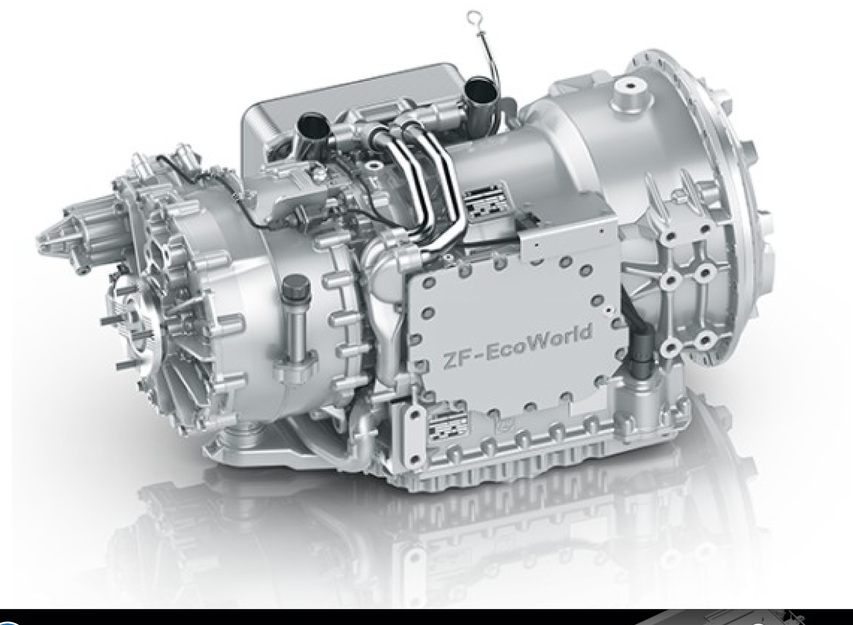
Using Omron’s LD Series mobile robots as a foundation, VOLA implemented a flexible manufacturing application for its faucet products that operates around the clock. A fleet of nine LD-90 mobile robots is tasked with transporting components and finished items back and forth between storage and the assembly department.

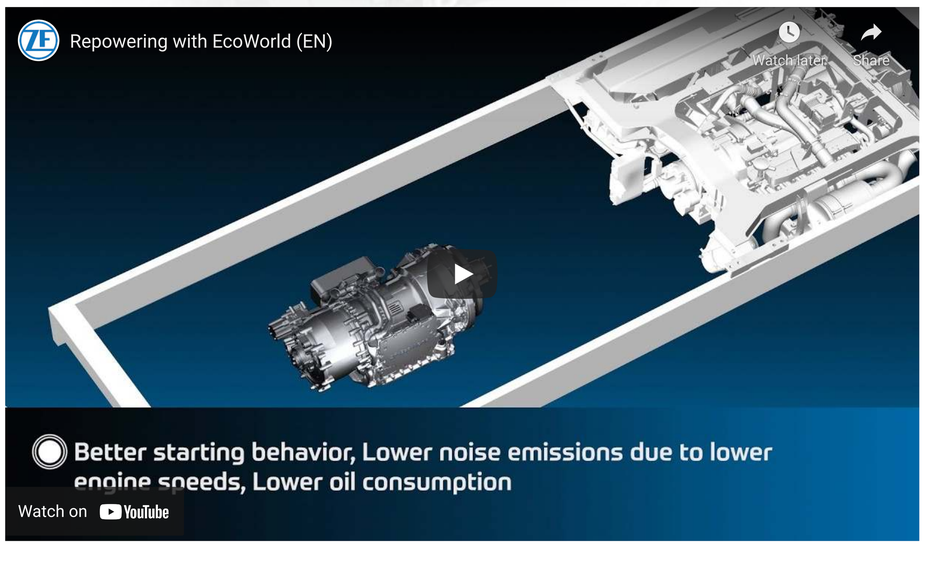
The robots take empty totes out to the assembly area, where workers scan them to see what’s going to be produced. After assemble the parts, mobile robots pick up the finished goods in totes and transport them back into the warehouse.

The outcome

The main advantage of VOLA’s mobile robot solution is that it enables changes to the factory layout whenever necessary, as opposed to using a conveyor system. The company has achieved a new level of factory flexibility that wasn’t possible before, and it can fulfill existing and new customer demands much more quickly. This has been a key contributor to its annual growth.

EcoWorld @ ZF





Six speeds with integrated reversing function

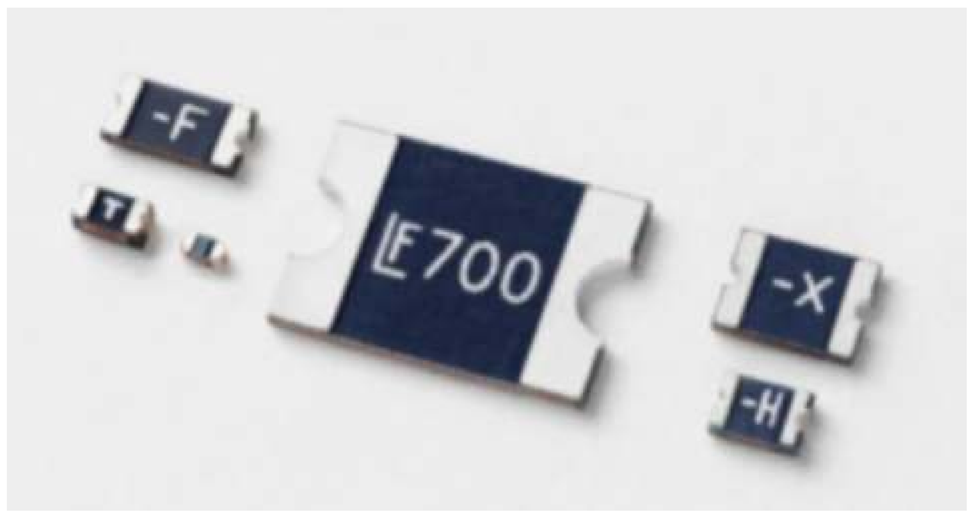
ZF's most recent development, the six-speed powershift transmission ZF EcoWorld, features an integrated reversing function and is used in DMUs (Diesel Multiple Units). It enables an unrestricted towing and sailing function which can save an additional five percent in fuel depending on the route, engine type and load condition. The transmission achieves maximum efficiency and is equipped with a powerful torque converter.

Advantages

- Reversing gear integrated directly in the transmission
- New wheelset transmission allows a variety of applications
- Repowering the powerpack extends the vehicle's service life and reduces operating costs
- Ready for hybrid applications in rail vehicles

Littelfuse Expands PolySwitch Low Rho SMD Series Adding 23 New Ratings to the Existing Product Portfolio

Ideal for consumer electronics, mobile, wearable, and portable battery applications



Littelfuse, Inc. (NASDAQ: LFUS), a global manufacturer of leading technologies in circuit protection, power control and sensing, today announced an additional 23 new ratings in the PolySwitch® Low Rho SMD series of PPTC devices. The new ratings are available with a lower resistance of 1mOhm, hold currents from 0.75 A to 9.0 A, a maximum voltage from 6.0 V to 24 V all in surface mountable sizes from 0402 to 2920. These additions make the Low Rho SMD series the broadest PPTC portfolio currently available on the market.

The PolySwitch Low Rho SMD Resettable PPTCs provide robust overcurrent protection for electronics applications where ultra-low internal resistance, ultra-low voltage drop and automatic resettable protection are desired.

MURR ELEKTRONIK

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Email : alvin@pan-m.com.sg



ELECTRONICS IN THE CONTROL CABINET



INTERFACES



CONNECTION TECHNOLOY



I/O SYSTEMS

LUTZE
SYSTEMATIC TECHNOLOGY



murrplastik

MICROSCAN3 Family of Safety Laser Scanners Now Offering Ethercat Variants



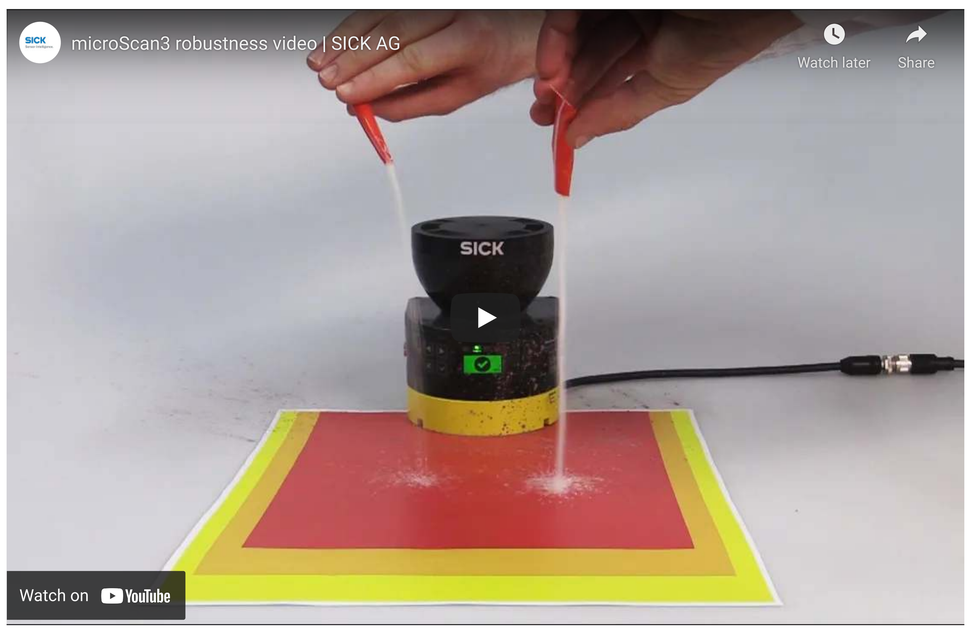
SICK's microScan3 family of safety laser scanners is now offering Fail Safe over EtherCAT (FSoE) integration. This is the world's first safety laser scanner with this capability.

Originally launching in 2016, the microScan3 is an extremely intelligent and durable safety laser scanner that enhances machine availability and productivity due to its safeHDDM scanning technology. It provides flexibility for safe automation processes with simultaneous protective fields, contour detection fields, and detailed data output. In addition, the microScan3 offers a 9-meter protective field range with a scanning angle of 275°.

In total, the microScan3 offers safe integration into numerous control systems, including EtherNet/IP™ CIP Safety™, PROFINET PROFIsafe, I/O, and now, EtherCAT® FSoE.

With this integration, users gain a single communication system for both control and safety data. This gives the ability to flexibly modify and expand the safety system architecture while also simplifying safety applications.



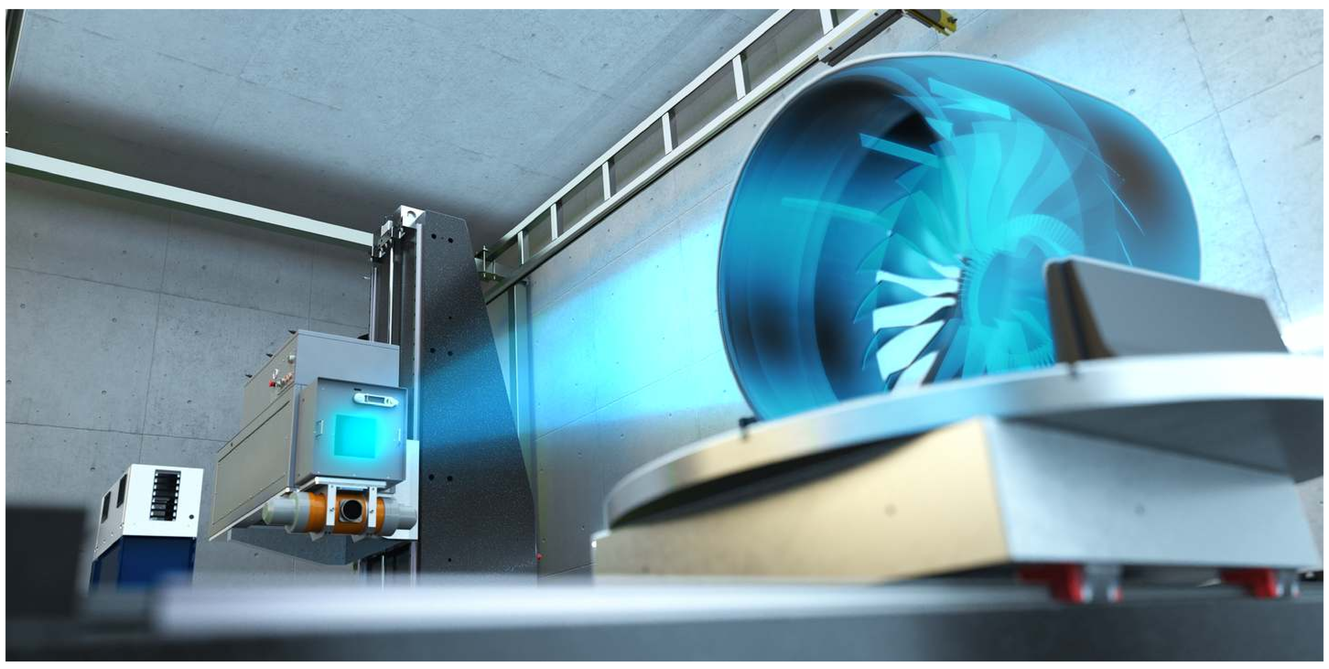




Waygate Technologies Launches Industry's Fastest High Energy CT Scanner for Large Industrial Components

• Phoenix Power|scan HE, a 9 mega electron volts (MeV) high-energy Computed Tomography (CT) scanner, leverages cutting-edge technology to scan large, complex parts and assemblies with unmatched speed, precision, and ease of use

• The technology enables faster and more precise inspections of large components than ever before.



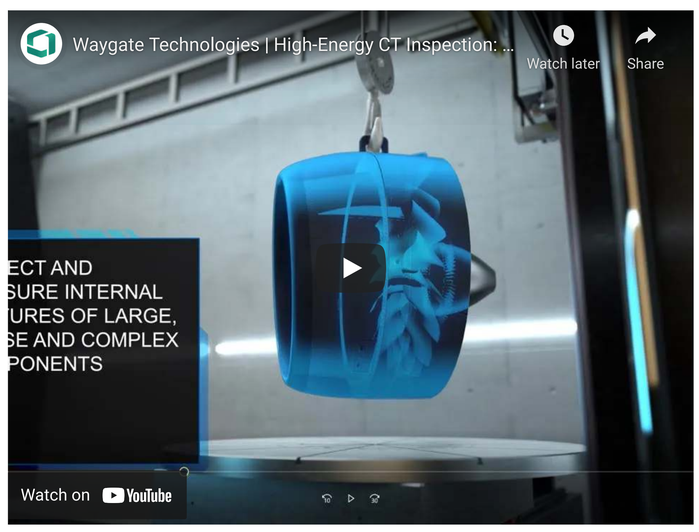
Waygate Technologies, a Baker Hughes business and a world leader in industrial inspection solutions, has announced the launch of its first high-energy Computed Tomography (CT) system, the Phoenix Power|scan HE.

With nine mega electron volts (MeV), the Phoenix Power|scan HE packs 20 times more punch in penetration energy compared to the standard of 450 kiloelectron volts (keV). It can scan and measure internal features of critical, high-density components and assemblies. The parts can be up to two meters in diameter and height and up to 1000 kg in weight. For easy handling and loading, the Phoenix Power|scan HE comes with an integrated crane.

In dual-detector configuration, a Linear Diode Array (LDA) and Digital Detector Array (DDA) detect defects including porosity, foreign material, lack of fusion, positive metals, and trapped powder. The high-energy system also precisely measures internal dimensions of large parts. Additionally, Waygate Technologies has equipped the CT scanner with the company's unique, patented scatter|correct technology, which delivers high-resolution and impeccable image quality at up to 75% faster scan times, due to fast cone beam scanning at unmatched image quality.

The combination of high penetration energy and image quality makes the Phoenix Power|scan HE the industry's first high-energy CT scanner that enables inspection of large, dense parts at higher speeds suitable for higher throughput demands in manufacturing environments.

The Phoenix Power|scan HE is installed in the Waygate Technologies Customer Solutions Center (CSC) in Cincinnati, Ohio, U.S. and is now available for pay-per-scan CT inspection services. Additional systems are planned to be installed at Waygate Technologies CSCs in other regions. The company also offers installing Phoenix Power|scan HE systems on-site at customer facilities.



Kensington Debuts its Most Compact Full-featured Thunderbolt™ 3 Laptop Docking Station



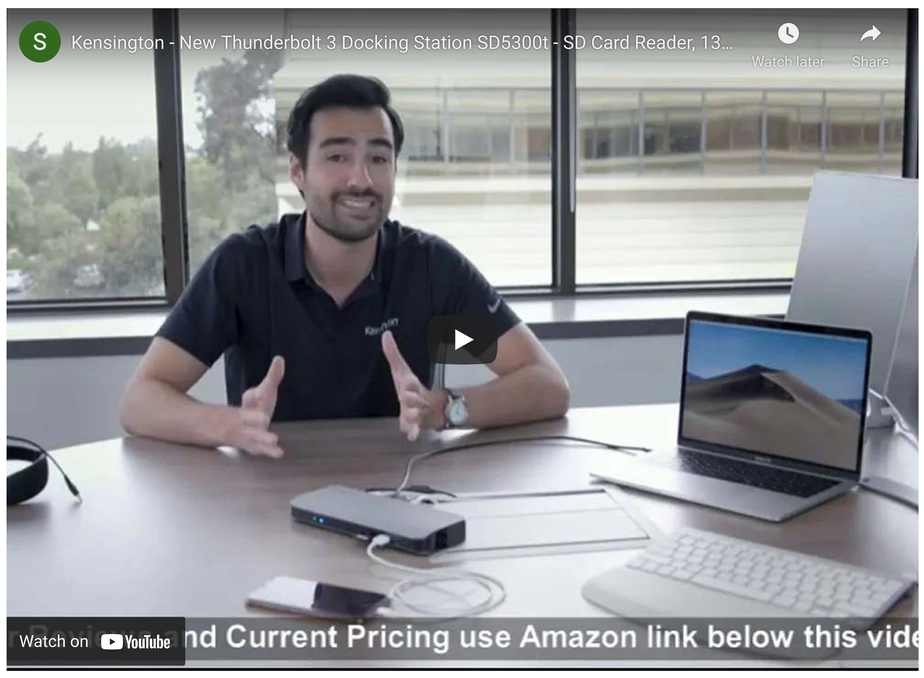
New ultra-compact Thunderbolt 3 and USB-C laptop docking station offer true universal compatibility in Kensington's smallest form factor yet.

Kensington®, the worldwide leader of desktop computing and mobility solutions for IT, business, and home office professionals and The Professionals' Choice, announced its most compact, full-featured Thunderbolt™ 3 docking station is available now on Amazon.com. With Kensington's smallest form factor yet, the SD2500T Thunderbolt™ 3 and USB-C Dual 4K Hybrid Nano Dock with 60W PD - Win/Mac is the ideal laptop docking station for a productive workplace.

The universally compatible, Intel-certified SD2500T Thunderbolt™ 3 and USB-C Dual 4K Hybrid Nano Dock with 60W PD - Win/Mac (K36400NA) is the perfect plug-and-play solution for laptops featuring a Thunderbolt 3 port or USB-C port running macOS or Windows. Designed to create the ultimate Thunderbolt 3 docking station experience with the flexibility to also excel as a USB-C docking station, this laptop docking station is the ideal choice for users looking for a MacBook Pro docking station, Dell docking station, Lenovo docking station, HP docking station, or docking station for other laptops with a Thunderbolt 3 port or a USB-C port.

Users can take advantage of their laptop's Thunderbolt 3 port to transfer up to 40Gbps of data, video, and audio (10Gbps for USBC Gen2 laptops and 5Gbps for USB-C Gen1 laptops) using the included Thunderbolt 3 cable. Extend visual productivity with the crisp resolution, contrast, and color depth of Ultra HD (Single 8K 30Hz or Dual 4K 60Hz) via two DisplayPort v1.4 ports for Thunderbolt™ 3 laptops and USB-C laptops with DisplayPort Alt Mode.

The ultra-compact laptop docking station creates a productive desktop setup with one USB-C Gen2 port (up to 10Gbps with 5V/1.5A charging), three USB-A ports [2 Gen2 @ 10Gbps on the front (one with 5V/1.5A charging) and one Gen1 @ 5Gbps port on the rear of the dock supporting 5V/0.9A], UHS II SD 4.0 card readers for ultra-fast SD and Micro SD transfer speeds, Gigabit Ethernet port, and audio combo jack. Quickly charge any Thunderbolt™ 3 or USB-C laptop with 60W Power Delivery.



New Micro Plate Heat Exchangers Give Danfoss "Comprehensive Portfolio" for Chillers and Heat Pumps

Danfoss has extended its highly efficient range of Micro Plate heat exchangers—enabling more manufacturers of chillers and heat pumps to benefit from its efficient Z-design technology and address refrigerant and design changes.

Each new model is designed to solve a particular system design challenge:

• **The new, R32-optimized range** complements existing multi-refrigerant heat exchangers for R410A, R452B, and R454B, widening chiller manufacturers' options when reducing GWP.
• **New single and dual-circuit versions** are available to complete the existing range for chillers. The portfolio can now cover the entire range of light commercial and commercial chiller ranges.
• **HDW44 is perfect for sanitary water heating**, with a double-wall and a built-in interspace preventing water contamination in the event of a refrigerant leak.
• **The Suction Gas Heat Exchanger (SGHX)** can enhance efficiency in heat pump condensers and evaporators, counteracting the impact of high-glide refrigerant blends like R455A and R454C.



The whole portfolio for heat pumps is qualified for flammable refrigerants including propane, making their refrigerant charge-reducing properties especially valuable.

Like all Danfoss Micro Plate Heat Exchangers (MPHEs), the new ranges are built around the proven Z-design concept, which since 2016 has helped OEMs worldwide to improve efficiency, minimize weight, and reduce the refrigerant charge, thanks to its high heat transfer coefficient.
All the heat exchangers can be customized, matching the number of plates and connection sizes to the individual system requirements—and combined with Danfoss expansion valves, they can all achieve stable outlet superheat also below 3K.
Danfoss is today the only supplier that can offer such a comprehensive MPHE and Micro Channel Heat Exchangers (MCHE) portfolio combined with comprehensive compressors, valves, line components, and technical assistance for OEMs.

Olivier Pelletier, Danfoss Head of Business Development for BPHE, explains: "These new products underline our strong ambition to be manufacturers' go-to choice for heat exchangers in chillers and heat pumps alike and demonstrates intensification of our R&D investment.

ACS Introduces IDMsm Intelligent Drive Module High-Performance Multi-Axis EtherCat® DS402 Drive for OEM Machine Builders

ACS launches the first in a new line of high-performance Intelligent Drive Module products.

The IDMsm is a 2- or 4-axis EtherCAT® DS402 universal servo drive featuring unique control algorithms and processing technologies that enhance the performance of high-precision motion stages. Certified as EtherCAT Conformance Tested®, the IDMsm provides up to 5A continuous and 10A peak per axis with 12-48 VDC drive supply.

“We’re excited to offer our unique servo control and motion-to-process synchronization capabilities, backed by more than 35 years of high-performance motion control expertise, for demanding applications that utilize any brand of EtherCAT-based controller,” says Jason Goerges, ACS Motion Control General Manager North America and Global VP of Marketing. “High-tech capital equipment manufacturers have a wide range of EtherCAT servo and stepper drive offerings to choose from. When OEM machines must outpace the competition in throughput, accuracy and time to market for sophisticated features, the IDMsm is the drive to win,” Goerges added.



Product Highlights:

- Powerful tuning and performance analysis software tools for stage performance optimization
- Advanced servo control algorithms for gantries and other multi-axis stage configurations
- Intuitive ACSPL+ real time programming with up to 4 simultaneous threads for maximum application flexibility
- Standard DS402/CiA402 CoE EtherCAT interface provides connectivity to any EtherCAT master controller
- Flexibility to interface with multiple motor types for best technology fit on each axis: brushless, brush, voice coil or stepper
- Integral Safe Torque Off (STO), SS1 functional safety capabilities
- Certified EtherCAT Conformance Tested®

Big Wheels Keep on Learnin': Einride's AI Trucks Advance Capabilities with NVIDIA DRIVE AGX Orin



Electric, cab-less trucks to streamline shipping operations worldwide.

Swedish startup Einride has rejigged the big rig for highways around the world.

The autonomous truck maker launched the next generation of its cab-less autonomous truck, known as the Pod, with new, advanced functionality and pricing. The AI vehicles, which will be commercially available worldwide, will be powered by the latest in high-performance, energy-efficient compute — NVIDIA DRIVE AGX Orin.

These scalable self-driving haulers will begin to hit the road in 2023, with a variety of models available to customers around the world.

Autonomous trucks are always learning, taking in vast amounts of data to navigate the unpredictability of the real world, from highways to crowded ports. This rapid processing requires centralized, high-performance AI compute.

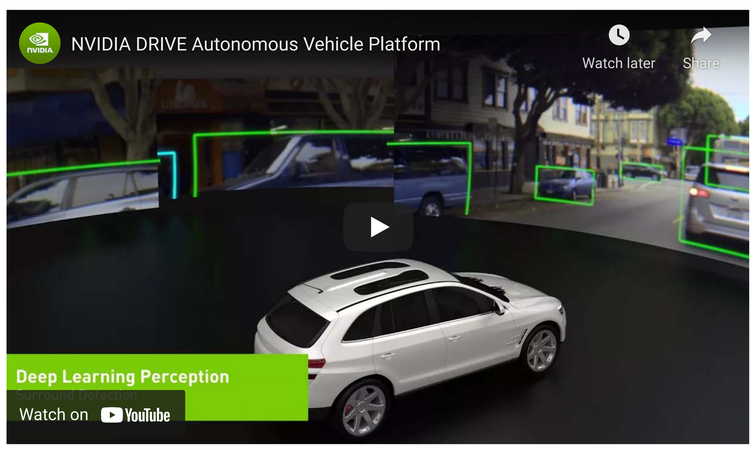
With the power of AI, these vehicles can easily rise to the demands of the trucking industry. The vehicles can operate 24 hours a day, improving delivery times. And, with increased efficiency, they can slash the annual cost of logistics in the U.S. by 45 percent, according to experts at McKinsey.

Einride's autonomous pods and trucks are built for every type of route. They can automate short, routine trips like the loading and unloading of containers on cargo ships and managing port operations, as well as autonomously drive on the highway, dramatically streamlining the shipping and logistics.

Trucking Ahead with Orin

The Einride Pod is able to achieve its scalability and autonomous functionality by leveraging the next generation in AI compute.

NVIDIA Orin is a system-on-a-chip born out of the data center, consisting of 17 billion transistors and the result of four years of R&D investment. It achieves 200 TOPS — nearly 7x the performance of the previous generation SoC Xavier — and is designed to handle the large number of applications and deep neural networks that run simultaneously in autonomous trucks, while achieving systematic safety standards such as ISO 26262 ASIL-D.



These next-generation electric, self-driving freight transport vehicles built on NVIDIA DRIVE are primed to safely increase productivity, improve utilization, reduce emissions and decrease the world's dependence on fossil fuels.

Basler Cameras for Android Applications

Basler now offers the pylon software for its ace, ace 2, dart, and pulse cameras for Android systems, enabling developers to explore new mobile applications with professional computer vision cameras. The Android operating system, which has established itself in the mobile device market, has so far received little support in the computer vision market. Many developers therefore resorted to common web cameras for mobile applications, which, however, cannot withstand industrial requirements. Compared to webcams, Basler cameras with pylon for Android offer excellent image quality and stability as well as extensive camera control options. Furthermore, customers can choose from a wide range of sensors.



THK
● LM Guide
● Lead Ball Screw
● LM Guide Actuator
● Super FA
● Actuator
Linear Motion Systems

COOL MUSCLE 2
Integrated AC Servo System
Special Features
● Motor
● Encoder
● Driver
● Controller
● PLC
MUSCLE CORPORATION
Integrated Vector Drive Servo System

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Direct Motor Drive Ball Screws
Miniature Ball Screws
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Instrumentation Gears
Flexible Shaft Couplings

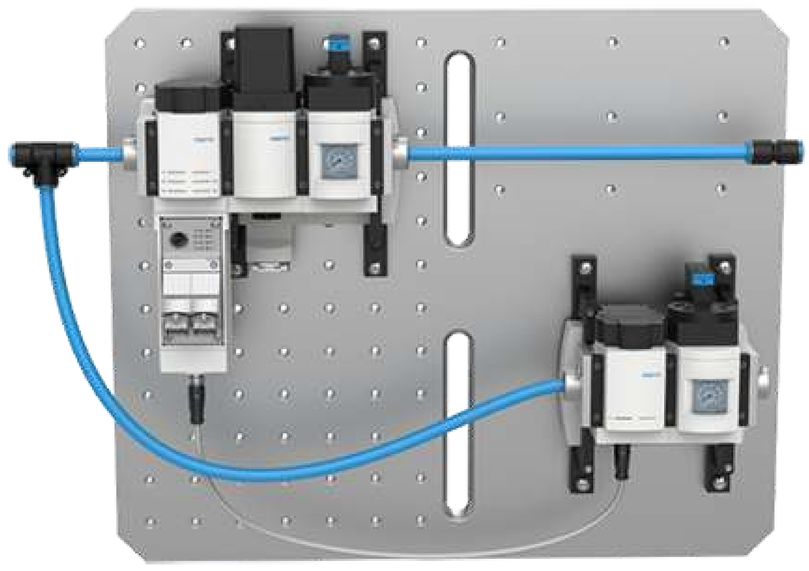
Motion Control Chips
Programmable Pulse Generators Supporting the Control of Stepping Motors and Servomotors
Linear-type Stepper Motor
NPM

YAMAHA Robots
YAMAHA

Distributed Control with PAC - Motionnet® & EtherCAT®

Kingservo AC Servo System

Festo Adds Two New Solutions to Its Compressed Air Energy Saving Platform



The new C2M provides soft start capabilities, while the D2M offers a non-fieldbus economy option.

Festo has expanded its intelligent pneumatic energy savings platform beyond the MSE6-E2M (E2M) with two new modules – the MSE6-C2M (C2M) and the MSE6-D2M (D2M). These modules can pay for themselves in less than a year with the energy savings accrued. The platform provides actionable information that supports quality production.

The modules in this platform automatically shut off the air supply to a machine when in standby mode, thus reducing energy consumption. They monitor system pressure and flow information in real time and enable faster response to compressed air leaks. These units flow up to 5,000 liters of compressed air per minute; program easily; connect to Festo MS series air preparation units, including the MS6-SV safety valve; and are suitable for new as well as existing machines.

The new C2M is an intelligent combination of a proportional pressure regulator, on/off valve, sensors, and fieldbus communication. It monitors the flow rate and, when production is not taking place, it automatically shuts off after a defined idle time. At the same time, the module prevents the system pressure from falling below a defined standby pressure level. The lower pressure level saves energy without completely depressurizing the system, which is essential for soft start and safety functionality.

The proportional pressure regulator also allows the user to define normal operating pressure. This feature means there is always control over the operating pressure and an adjustment point is eliminated on the machine, helping with tamper-proofing and with automating changeovers.

The C2M can be fully integrated into the machine network via PROFINET and also through the Festo CPX platform, which is compatible, as is the E2M, with major fieldbus protocols, including Ethernet/IP and EtherCAT.

Similar to the C2M, the D2M intelligent module monitors the compressed air supply and automatically shuts off the compressed air during breaks in production. Unlike the C2M, the D2M completely depressurizes the system. The D2M also provides leakage detection and process data acquisition for condition monitoring, as do the other energy saving modules.

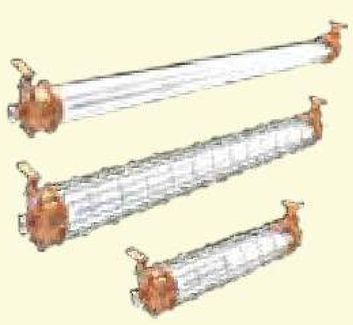
Information from the C2M, D2M, and E2M give operations personnel comparative data over an extended period. Information on flow rate, air consumption, and pressure are continuously available. Data can help personnel determine historical trends on consumption, the amount of air consumed per product batch, and pressure and flow at the time of a malfunction or bad batch of product.



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CORE EXPERTISE : MARINE SERVICES, OFFSHORE/MARINE CABLE(ALL RANGE), AIR COMPRESSOR SYSTEM (FULL RANGE)

CORE SERVICES : OFFSHORE / ONSHORE MARINE SERVICES, ELECTRICAL ENGINEERING SERVICES (PNEUMATICS,HYDRAULIC,COMPRESSOR SYSTEM)

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Rockwell Automation Expands Kinetix 5100 Servo Drive and TLP Motor Pairing to 480V



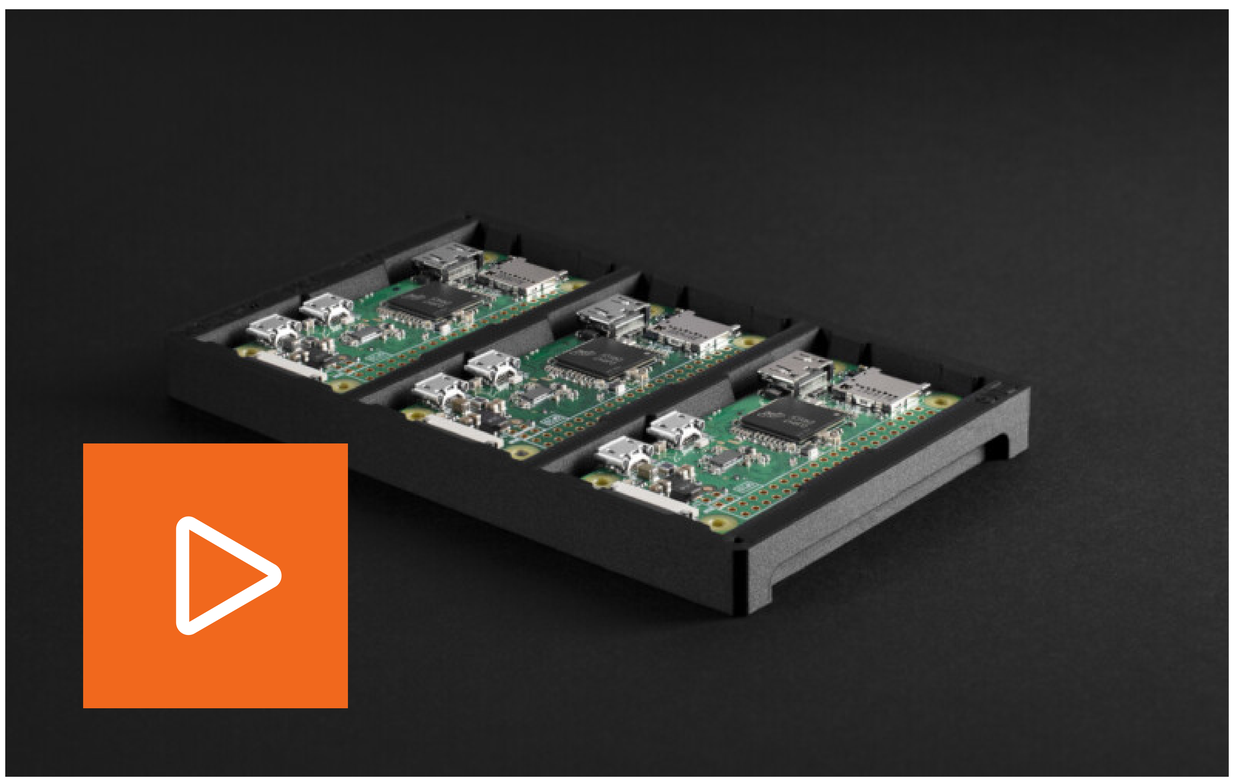
The Rockwell Automation Kinetix 5100 servo drive and Kinetix TLP servo motor stand-alone motion solution is now available in 480V for use in a wider range of OEM applications for packaging, converting, print and web, machine and assembly, and life sciences.

The Kinetix 5100 servo system meets growing consumer demand for more product variety by providing a market-competitive motion-control offering for flexible, stand-alone machines. Using the Kinetix 5100 servo drive, OEMs can create a motorized or automated system that can help speed up changeovers.

Additionally, with built-in safe torque off, users can remove motor torque without removing power from an entire machine. This allows a machine to restart faster after it has reached a safe state. Dual-port EtherNet/IP also supports device-level ring (DLR) topologies.

Markforged Launches Onyx ESD for the Electronics Manufacturing Industry

The new, high-strength 3D printing material enables electronics manufacturers to improve business responsiveness by producing high-quality ESD-safe parts on demand



Markforged, creator of the world's largest metal and carbon fiber industrial 3D printing platform, the Digital Forge, today announced the launch of Onyx ESD, a new high-strength composite material for the electronics manufacturing industry. The release of Onyx ESD comes amid growing demand for 3D printing materials that are not only safe for electronics manufacturing, but also produce high-quality and high-strength parts.

This year, many industries have leveraged additive manufacturing to withstand unforeseen supply chain disruptions due to COVID-19. Use of this technology for the production of electronics, however, has been limited due to a unique set of barriers. Electronics manufacturers must use materials that meet electrostatic discharge (ESD) safety requirements to avoid damaging a product or critical component during production. Previously available additive manufacturing materials have been considered low quality -- having inconsistent ESD-safe properties, inadequate dimensional accuracy, poor surface finish, or low strength. As a result, adoption of 3D printing technology by electronics manufacturers has been limited.

Now, with the launch of Onyx ESD, electronics manufacturers can unleash the power of additive manufacturing. This material is a high-performance static-dissipative version of Markforged's flagship composite base material Onyx, a micro carbon fiber-filled nylon that yields accurate parts with impeccable surface finish. Onyx ESD was developed to achieve an extremely tight surface resistance range to consistently meet strict ESD-safe requirements. The material can be reinforced with continuous carbon fiber, creating the strongest 3D printed composite parts available to the electronics manufacturing industry. When printing with Onyx ESD, electronics manufacturers can safely produce strong, accurate tools and fixtures ready for the manufacturing floor, as well as high-quality customer-ready parts.

Onyx ESD has allowed Columbia Elektronik, a Swedish electronics testing equipment manufacturer, to use Markforged's Digital Forge to seamlessly produce complex, ESD-safe testing fixtures. With Markforged, Columbia Elektronik has been able to reduce costs and free up their machinists to focus on other projects while parts are printing.

TPS4000-48 Power Supply Accepts Three-Phase Input





TDK Corporation has announced the addition of a 48V, 83.3A 4kW output power supply to TDK-Lambda's TPS series. The TPS4000-48 operates from an industrial three-phase input. It can automatically run from 400, 440, or 480Vac nominal delta or WYE inputs, without wiring changes or the need for large, costly step-down transformers.

This industrial grade power supply is suited for use in a vast number of applications including test and measurement equipment, semiconductor fabrication, additive manufacturing, printers, laser cutting and RF power amplifiers.

The TPS4000 series has, as standard, output voltage and current programming, AC fail, DC good and dropped phase warning signals, configurable remote on / off, 12V 0.3A standby voltage and a PMBus interface. Using this interface allows the remote monitoring of the output voltage and current, internal temperature, status signals and fan speed.

The PMBus can also program the output voltage, over current limit and the remote on/off. The output voltage is adjustable from 38.4 - 58V and the current limit point by 70 to 105% using front panel potentiometers or an analogue zero to 5Vdc voltage. To facilitate the easy parallel operation of up to eight units, for redundant or higher power requirements, an internal ORing FET is included.

Excluding the output busbars, the unit measures 107x84.4x335mm, making it suitable for 2U high racking systems. The TPS4000 has a low weight of just 4kg and a typical efficiency of 92%. The TPS can start up at -40°C, operate at full load in ambient temperatures of -10 to +50°C, and deliver 55% load at 70°C.

The variable speed, temperature-controlled cooling fan reduces acoustic noise and the ingress of contaminants. The power supply has 3kVac input to output, 2kVac input to ground and 500Vdc output to ground isolation.

The three-year warranty TPS is safety certified to IEC/EN/UL 62368-1 and is CE marked to the Low Voltage, EMC and RoHS Directives. The TPS4000 also complies with EN55032-A EMI, SEMI F47-0706, IEC 61000-3-2, IEC 61000-4 and is designed to meet the MIL-STD-461F/G CS101, CS114 (Army Ground), CS115, CS116 immunity standard.

Miller Releases New Wireless Interface Control for Engine Drives



Miller Electric Mfg. LLC, a leading worldwide manufacturer of Miller® brand arc welding equipment, has announced the release of Wireless Interface Control as an option on Trailblazer® and Big Blue® welder/generators. Wireless Interface Control provides full control of the machine in the palm of the operator's hand, so they can work hassle-free. "When operators have total control over their machine from where they work, they can improve productivity and reduce downtime. It also extends time between fill ups and maintenance intervals and eliminates the need to climb into the truck to make adjustments," says Jake Zwayer, product manager, engine drives, Miller. "Wireless Interface Control helps operators redefine where they work and elevate their performance."



With Wireless Interface Control, operators can remotely adjust amperage and voltage, customize welding programs, turn the welder/generator on and off, select processes and fine-tune the welding arc to tailor arc responsiveness to better handle changing joint conditions. Benefits and capabilities of the technology include:

- **Remote process and parameter changes:** Wireless Interface Control provides full front panel access from wherever operators are working on the jobsite, so they don't have to go back to the welder/generator to turn it on or off, change welding processes or adjust parameters.
- **Programmable weld settings:** Multiprocess joints and parameter changes between weld passes require setup time for optimal welding conditions. With Wireless Interface Control, operators can save up to four different weld programs and easily select any program with the push of a button — saving time and effort and adding consistency to setup between welds.
- **Fuel savings:** It's time-consuming for operators to walk back to their welder/generator to turn it off when they are working far from the machine. Often, the machine ends up running all day and fuel is wasted in the process. With Wireless Interface Control, users can instantly turn their machines off when needed, saving fuel, time and money.
- **Lower maintenance costs:** The longer a machine runs, the more maintenance it needs. The ability to easily turn the welder/generator off reduces unnecessary engine hours and maintenance costs.
- **Jobsite safety:** Remote access to the front panel eliminates the need to walk back to or climb into the truck to access the machine's front panel, reducing the risk of encountering jobsite hazards.



Littelfuse Launches DC Disconnect Switch Product Line

Littelfuse, Inc. a global manufacturer of leading technologies in circuit protection, power control and sensing, today announced the introduction of its DC Disconnect Switch product line. The Littelfuse LS6 (available in 1000 and 500 V) and the LS6R (available in 1500 V) series are energy-efficient, compact disconnect switches that quickly break or resume the flow of current safely. Offered in both 250 and 400 amperage ratings, these switches prevent shock hazards when isolating circuits or repairing systems.

“The LS6 and LS6R DC disconnect switches have a streamlined design to eliminate the need for external bridging links or jumpers to lower heat dissipation,” said Craig Greeson, Littelfuse Industrial Business Unit Product Manager. “This increases energy efficiency as well as decreases installation and maintenance time for applications in photovoltaic and energy storage systems, oil and gas, railway, and uninterrupted power systems.”

The LS6R offers a patented operation system that minimizes damage caused by arcs upon disconnection to increase product reliability and longevity.

Key benefits of both the LS6 and LS6R series of DC disconnect switches include:



- A high-level disconnection insulation to provide a barrier to stop conduction when switch is in off position for added safety
- Self-cleaning blade contacts that eliminate performance degradation (from increased electrical resistance over time) to ensure consistent behavior across the product’s lifespan
- An internally-located “sandwich-type” 2-contact symmetrical design to mitigate the electromagnetic force of repulsion to offer enhanced functionality in short-circuit conditions
- Meeting UL 98B, UL 94, and IEC 60947-3 standards

PININFARINA 90+1 DESIGN CONTEST

Design has the ability to innovate continuously while enhancing the lives of people, and provide a response to a new future. Pininfarina has been doing exactly this for 9 decades and will continue to make it our mission. We would like to celebrate our anniversary with a unique initiative that will involve a community of creative young people. An international contest open to students attending a selected range of design and architecture schools and universities around the world in line with the global presence of Pininfarina.

Topics

- Smart Spaces
- Smart Individual Mobility
- Smart Social Mobility

Prizes

The winner of each category, selected from a list of finalists, will be awarded a 6-month Internship at Pininfarina's design studios in **Torino**, **Miami** and **Shanghai**, depending on the type of project.

For more information https://designcontest.pininfarina.com/

2021 Skyscraper Competition

eVolo Magazine is pleased to invite architects, students, engineers, designers, and artists from around the globe to take part in the 2021 Skyscraper Competition. Established in 2006, the annual Skyscraper Competition is one of the world's most prestigious awards for high-rise architecture. It recognizes outstanding ideas that redefine skyscraper design through the implementation of novel technologies, materials, programs, aesthetics, and spatial organizations; along with studies on globalization, flexibility, adaptability, and the digital revolution. It is a forum that examines the relationship between the skyscraper and the natural world, the skyscraper and the community, and the skyscraper and the city.

SCHEDULE

- July 15, 2020 – Competition announcement and registration opens.
- November 17, 2020 – Early registration deadline
- January 26, 2021 – Late registration deadline
- February 9, 2021 – Project submission deadline (23:59 hours US Eastern Time)
- April 27, 2021 – Winners' announcement

AWARDS

- **1st place** – $5000 USD
- **2nd place** – $2000 USD
- **3rd place** – $1000 USD

For more information http://www.evolo.us/registration-2021-skyscraper-competition/



Red Dot Award: Product Design 2021

The 2021 Red Dot Award: Product Design will open for submissions on October 12. Designers and companies from all over the world are invited to enter their best products in 50 categories as diverse as medical technology, watches, or packaging.

This year, packaging as well as suitable materials and machines will be admitted to the competition for the first time. The jurors will place special emphasis on the functionality of the solutions when assessing entries in this product group.

The deadline for submissions is January 22, with a late deadline of February 19, 2021.

For more information
https://www.dexigner.com/news/33340



GIX Innovation Competition 2021



Studies have demonstrated the need to significantly increase the world's food production by 2050. However, there is a limited amount of additional arable land, and water levels have also been receding. Although technology could help, the adoption rate of new technological solutions is slow due to factors including cost, maintenance, and limited power and internet connectivity.

Data, coupled with the farmer's knowledge and intuition about his or her farm, can help increase farm productivity, and also help reduce costs. However, getting data from the farm is extremely difficult since there is often no power in the field, or Internet access at the farms.

The Global Innovation Exchange invites submissions for the following challenge as part of the 2021 competition, sponsored by Microsoft FarmBeats. Compete for over $7,000 in prizes!

For more information https://gixnetwork.org/outreach-programs/innovation-competition/

MIFF Furniture Design Competition

The MIFF Furniture Design Competition (MIFF FDC) celebrates the creative spirit of design and to uncover young talent to support Malaysia's thriving furniture industry. Organised each year since 2010 in conjunction with Malaysian International Furniture Fair (MIFF), it offers the best platform to emerging designers to showcase their innovative ideas before a global audience of furniture manufacturers, wholesalers and retailers, industry influencers and industry media.

Theme

The impact of global pandemic has transformed our daily lives in the long run. Social distancing give significant shifts of consumer behaviour can be seen nowadays. It has redefined the way we work, spend leisure time and socialising where most of it done at the comfort of our home.

For more information
https://2021.miff.com.my/highlights/miff-fdc/



WorldSkills Competition 2021





WorldSkills Competitions measure excellence, celebrate Champions, and encourage hundreds of thousands of young people to turn their passions into a profession. Competitor begin their development at local, regional and national competitions, before representing their country and region at the international level.

WorldSkills Competitions are held over two years and are a unique opportunity for countries and regions to benchmark their vocational education and training systems.

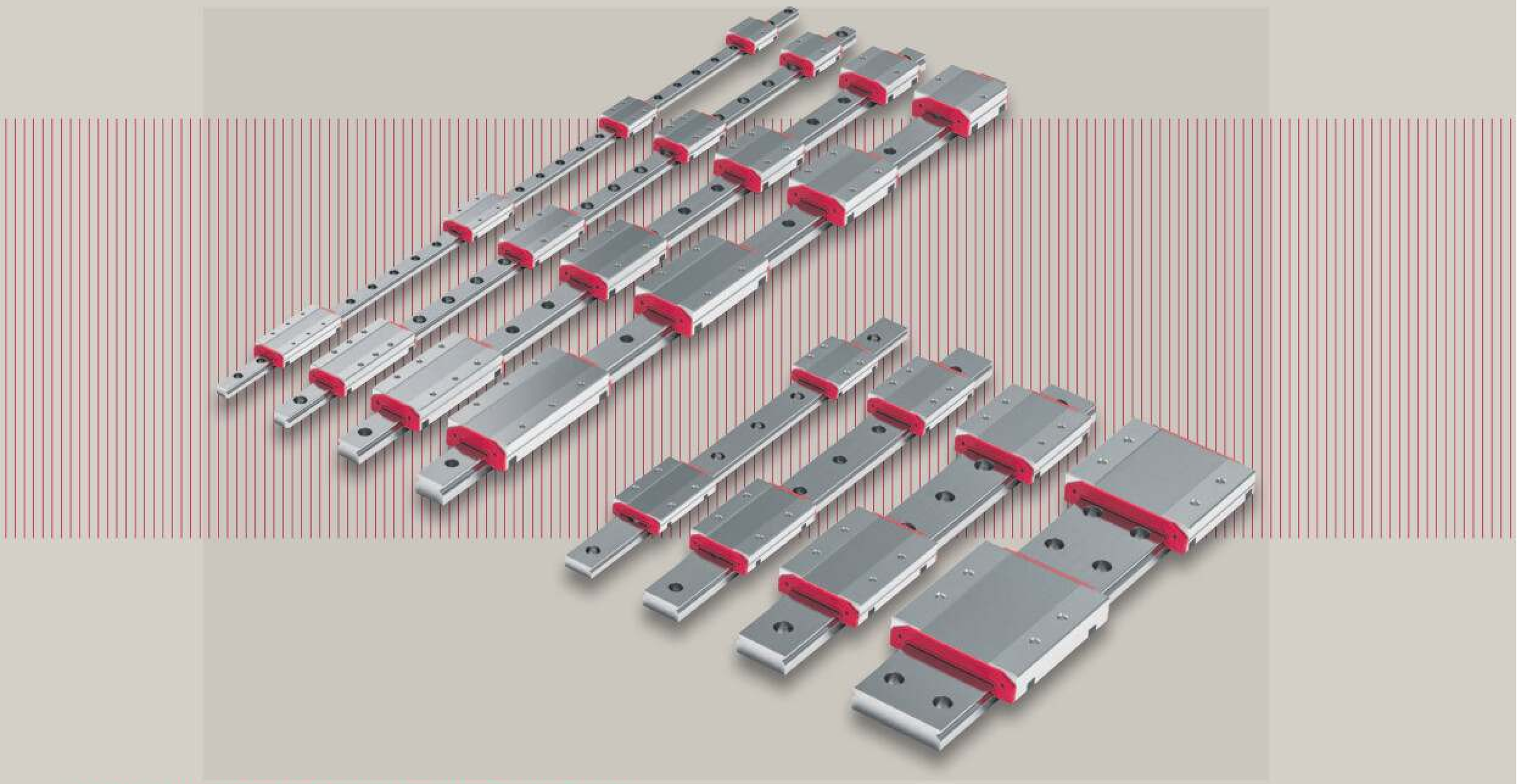
Our Competitions feature more than fifty skills across a wide range of industries. The level of competition at WorldSkills inspires many young people who see it, to consider pursuing these skills themselves, or to set up businesses with skills at their heart.

The WorldSkills event is not just a Competition – it includes a world-class Conference at which Ministers, policy-makers, and academics debate developments in the sector.

For more information https://worldskills2021.com/en/competition/

«Essentials for the Best!»

SCHNEEBERGER
LINEAR TECHNOLOGY



MINIRAIL PROFILED MINIATURE GUIDEWAY

Reliable and ultra-fast precision engineering

MINIRAIL represents the latest generation of miniature guideways for sophisticated applications.

They are extremely robust, and their smooth running, precision, and reliability are demonstrated in every application.

Benefits:

- Pulsation 0.1 µm
- No bolted parts
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- High durability

Industries:

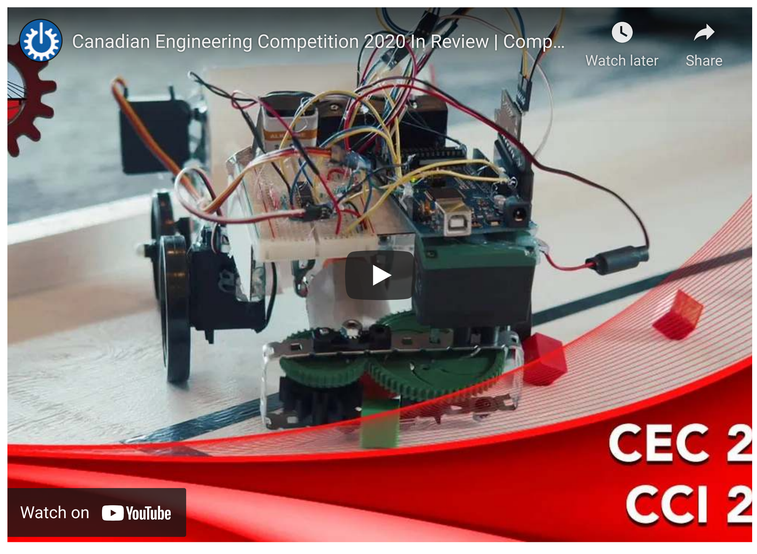
- Biotechnology
- Metrology
- Semiconductor Equipment
- Micro-automation
- Medical Equipment
- Laboratory Automation
- Optical Industry
- Robotics, Pick & Place



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Email: info-sg@schneeberger.com

Canadian Engineering Competition 2021

Since 1985, the Canadian Engineering Competition (CEC) has brought together 200 of the country's brightest engineering students to compete in one of eight categories, ranging from consulting to programming. Each competition category at CEC challenges its participants to expand their frame of reference and develop unique solutions to problems experienced in the engineering industry. In partnership with the Canadian Federation of Engineering Students, the University of New Brunswick will host the 37th Canadian Engineering Competition, breaking new ground and persevering through unexpected circumstances to host CEC online for the first time in the history of the competition.



In addition to the design competitions, competitors will have the opportunity to connect with our sponsors through a variety of networking opportunities, including a virtual career fair and interactive sessions.

For more information https://cec.cfes.ca/

Student Manufacturing Design Competition 2021

The purpose of the competition is to foster interest in manufacturing, provide the manufacturing, engineering community with fresh new perspectives on design, and create a forum for students to share their new and innovative ideas.

Original student designs that focus on manufacturing engineering and science are sought. Any design of a system, component, or process that can be used to promote the art, science and practice of manufacturing engineering is acceptable.

Requirements

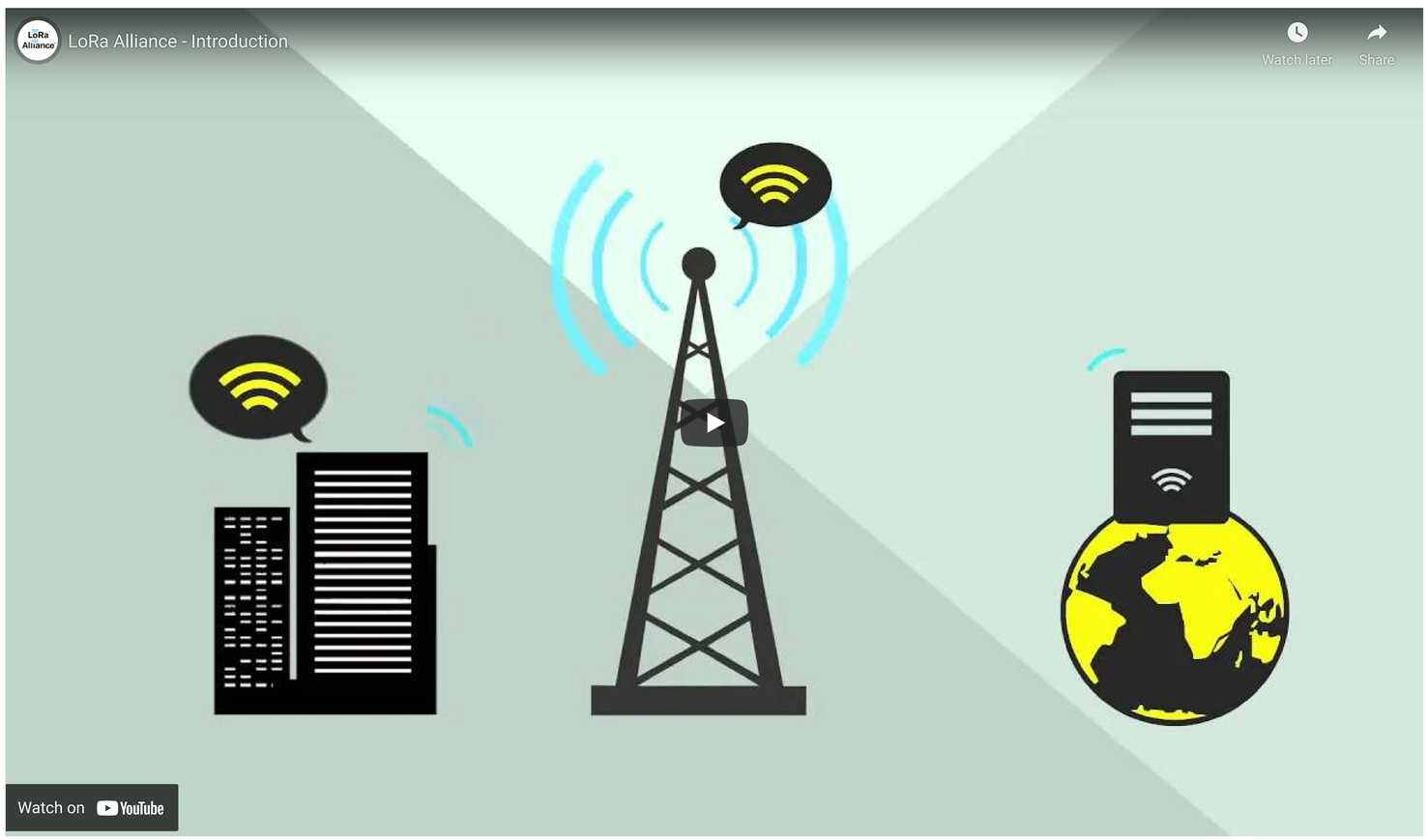
The project report is limited to 3,000 words with supporting figures and/or photographs. Items that must be included in the project description are:

- Project Title
- Names and addresses of the participating students, with one designated as corresponding
- The name and signature of a faculty sponsor with complete contact information

For more information https://event.asme.org/Events/media/library/resources/msec/MSEC-2021-Student-Manufacturing-Design-Competition.pdf



LoRa Alliance® Accelerates Massive IoT with the Introduction of Zero-Touch Device Provisioning Using QR Codes



Eliminates the need for manual device provisioning; delivers competitive advantage for LoRa Alliance members by simplifying deployments

The LoRa Alliance®, the global association of companies backing the open LoRaWAN® standard for the Internet of Things (IoT) low-power wide-area networks (LPWANs), today introduced its LoRaWAN Device Identification QR Codes for Automated Onboarding that simplify and accelerate LoRaWAN network management. The new QR codes carry all required identification information to add devices to a network.

The new QR codes enable zero-touch onboarding by facilitating network acceptance of LoRaWAN devices via automated information exchange. Now, QR codes can be printed on devices, and contain all of the required device and vendor information, pre-formatted to ensure standardized input into a vendor's network management system. The new QR codes use industry-accepted norms for information processing, allowing members to implement a quick, easy, secure and interoperable method for onboarding a device through optical reading. This greatly improves the deployment experience while significantly accelerating the onboarding process.

Implementing QR code-based network management offers tremendous advantages by automating a previously manual process. These benefits build on our recent enhancements of the LoRaWAN 1.0.4 specification, which now provides every element needed for easy development, certification testing, and deployment of LoRaWAN. This commitment to ease of use is a strategic goal of the LoRa Alliance and is key to achieving massive IoT globally.

LoRa Alliance members are each assigned a dedicated vendor ID. Use of the codes provides members a competitive advantage in the marketplace by simplifying business operations and driving sales, thanks to improved ease of use. It also provides competitive differentiation, as only LoRa Alliance members can use the new onboarding process. These vendor IDs initially support the QR code functionality and will be used for future applications to further drive standardization for LoRaWAN deployments. The QR codes are just one of the many benefits of LoRa Alliance membership.



Analog Devices Introduces Automotive Industry's First Wireless Battery Management System for Electric Vehicles

General Motors to use ADI's Wireless Battery Management System Across its Ultium Battery Platform

Analog Devices, Inc. announced the industry's first wireless battery management system (wBMS), which enables automotive manufacturers increased flexibility to scale their electric vehicle fleets into volume production across a wide range of vehicle classes. This is the first wireless battery management system available for production electric vehicles, and it will debut on General Motors' production vehicles powered by Ultium batteries.
The implementation of ADI's wBMS eliminates the traditional wired harness, saving up to 90% of the wiring and up to 15% of the volume in the battery pack, as well as improving design flexibility and manufacturability, without compromising range and accuracy over the life of the battery.
ADI's wBMS includes all integrated circuits, hardware and software for power, battery management, RF communication, and system functions in a single system-level product that supports ASIL-D safety and module-level security building upon ADI's proven industry leading BMS battery cell measurement technology. By delivering high accuracy for the lifetime of the vehicle, the system enables maximum energy use per cell required for best vehicle range and supports safe and sustainable zero-cobalt battery chemistries, such as lithium iron phosphate (LFP).
Additional system features enable batteries to measure and report their own performance, increasing early failure detection, and enabling optimized battery pack assembly. The data can be monitored remotely throughout the battery lifecycle – from assembly to warehouse and transport through installation, maintenance and into a second-life phase.
ADI and General Motors recently announced a collaboration, bringing the wBMS technology to General Motors' Ultium battery platform. The ADI technology helps ensure scalability of the Ultium platform across General Motor's future lineup, which will encompass different brands and vehicle segments, from work trucks to performance vehicles.





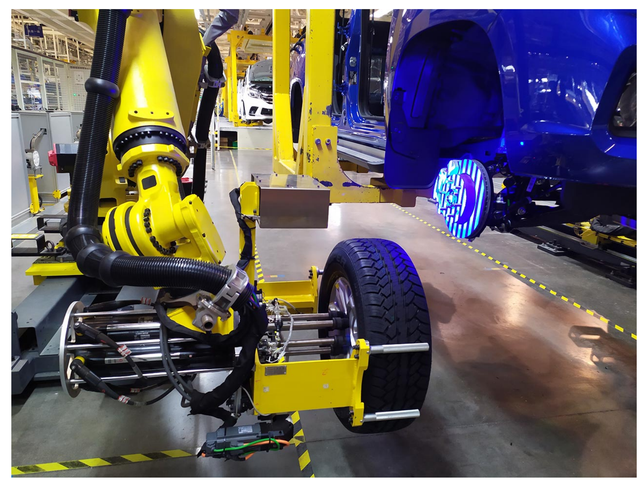
Robot Guidance Automated Wheel Installation

THE APPLICATION

Our client in the automotive sector approached us to improve the wheel installation processes in its factory. Our client was using a manual system that required four workers to pick-up and mount each tire on the rotor; two workers would work on each side of the wheel during the installation process.

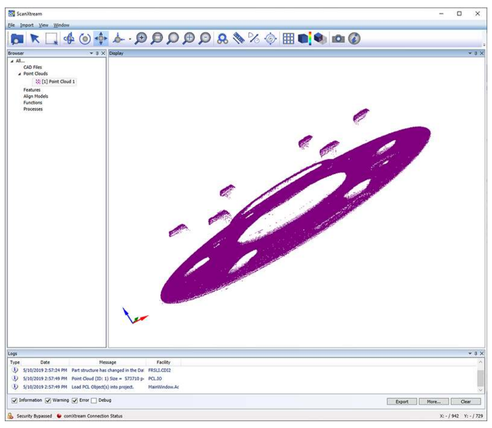
THE CHALLENGE

There were a number of challenges to address when designing an application that would improve performance, process, and quality. These challenges relate to both the rotors and the processes involved in fitting the tires.



- Over 60 different rims are used with different types of surfaces (dark, matte, glossy), which makes 2D camera systems difficult to implement because of the effect of lighting solutions on the different types of surfaces.
- The bolts are preinstalled on each router. Each bolt cap has a small surface area, which means a 3D,high-resolution vision system is essential to accurately locate the point cloud for each bolt cap.
- During installation, the rotor has a random rotation, which means that the bolts are in a different position for each installation, requiring a solution that will for and identify the bolt location.
- Because the rotor can rotate up to 15 degrees in both directions along the car, the solution also needs to be able to achieve 3D matching or a large point cloud.
- In addition to these technical factors, the part is heavy, and the cycle time is limited, with only 3.5 seconds available for the full point cloud grab and process.

THE SOLUTION



We implemented the Bluewrist 3D Vision Robot Guidance solution using two Fanuc robots with a seven-axis linear slide and high-resolution blue structure light snapshot 3D cameras. Using this system and the ScanXtream and comXtream software, the point clouds of the wheel and the rotor are matched to the corresponding CAD model with remarkable accuracy. Our vision system can achieve +/– 0.3 mm accuracy in XYZ and +/– 0.3 degrees in WPR.

THE RESULTS

Our full Bluewrist solution is scalable from a few hundred to thousands of cars per day as required by a manufacturer's production requirements. Our client's current production run rate is 250 cars per day, and the wheel installation system consistently achieves 99.5% uptime. The application can pick up the wheel and install it onto the rotor with multiple features covering the functionality required to process different surfaces, fitting positions, and bolts. With a vision processing cycle time of 3.5 seconds, efficiency is much improved, the initial problems have been resolved, and the process no longer requires any worker involvement.

SAP Empowers Developers with Low-Code/No-Code Tools and Further Enhancements to SAP Business Technology Platform

SAP SE announced new tools, updates and services for making developers' lives easier, regardless of skill level or job focus. These new offerings include low-code/no-code tools, a free tier model for SAP Cloud Platform, exclusive free learning opportunities and further updates to SAP Business Technology Platform.

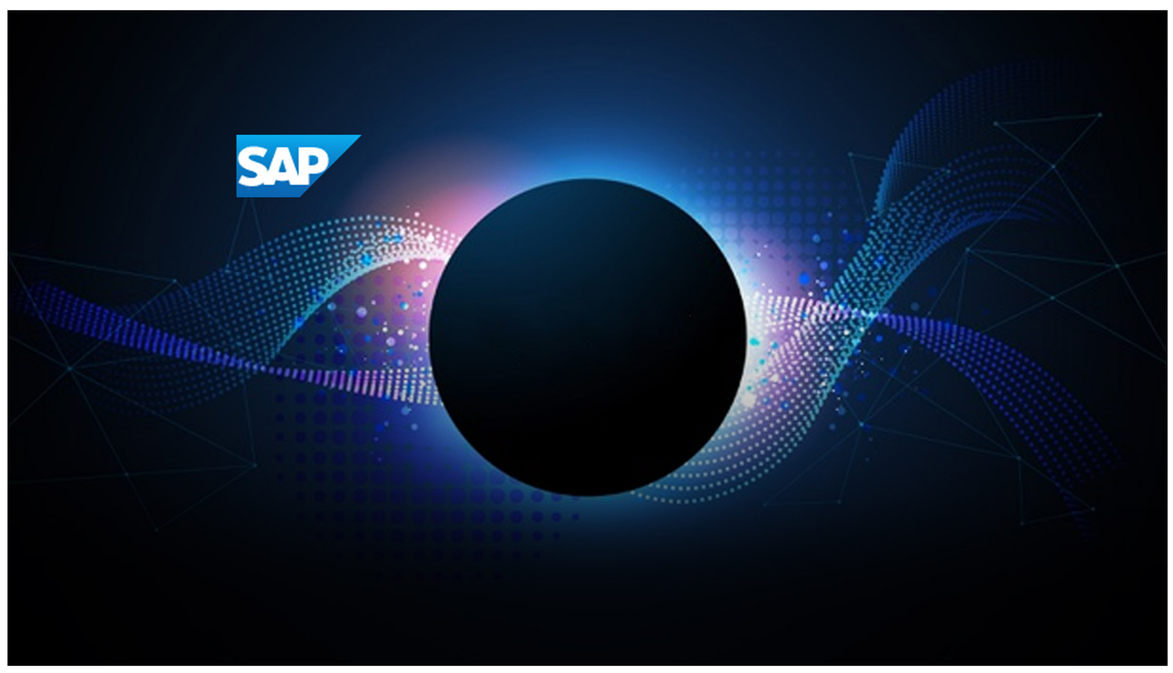
Extension Through Process Automation, Low-Code and No-Code Tools

SAP Cloud Platform Extension Suite empowers developers to build and extend business applications, processes and innovations with clicks or code. With its latest enhancements, the suite now offers three complementary and integrated process automation tools, which address different skill levels and automation scenarios.

Free Tier Model for SAP Cloud Platform

SAP in 2021 plans to offer developers a free tier model for SAP Cloud Platform, the integration and extension solution for SAP Business Technology Platform. The free tier model will provide users access to learn, develop and implement integrations and extensions in one account. It removes current time restrictions and allows users to transfer projects to production without the need to rebuild content. As an intermediary step toward the free tier model, SAP recently extended its current SAP Cloud Platform trial offering from three to 12 months.

Integration Capabilities Updated



SAP Business Technology Platform helps make it easier to share data across SAP applications by providing SAP One Domain Model — a common data model for business objects. It now supports its first business objects for the end-to-end recruit-to-retire business process. More business objects for other end-to-end business processes will follow. Developers can access these through the SAP Graph software beta offering or SAP API Business Hub.

The redesigned user experience for SAP API Business Hub helps make it easier for architects and experts to identify relevant integration content, such as APIs and events, integration packs and user documentation. The update will be available as a beta shipment by the end of 2020.



Data to Value: Make Confident, Timely Business Decisions

To account for the tremendous increase in data volume and variety, on-premise installations of SAP HANA can now be extended with SAP HANA Cloud as a hybrid data solution. This offers users a single access point to data across SAP and non-SAP sources while simplifying a customer's data environment, reducing replication or inaccuracies, and increasing security and compliance.

Exclusive Free Access to SAP's Learning Resources

SAP TechEd 2020 attendees will get free access to the event edition of SAP Learning Hub for SAP TechEd. It offers learning journeys to upskill users on SAP Business Technology Platform and additional courses that lead toward SAP Global Certification digital badges. Attendees also can take advantage of a special discounted SAP Global Certification offering.



Enjoy 48 hours of live and on-demand content, interactive workshops and learning opportunities. Channel One will stream a rolling agenda of continuous broadcasts and provide guidance on where to find more information across the event platform.

MEASURLINK® Transforms QC for Pinnacle Machine Works



Challenge

As Pinnacle grew, in late 2017 they embarked on a mission to transform and improve productivity. This involved a re-organization of the manufacturing plant, the rollout of lean initiatives and an investment in new tooling. As this transformation progressed, it unveiled additional opportunities for improvement. In particular, it became clear that quality still needed to improve and inspection only, as a means of improving the quality of their product, was not possible. The traditional inspection/QC (quality control) techniques of writing measurements down and not doing much with that valuable information were too slow and limited any potential manufacturing gains. Every product produced was already inspected dimensionally and visually, culminating in thousands of inspection points per day. More costly measuring equipment was not going to solve that. This prompted Pinnacle to investigate new QC options.

Solution



In reviewing options related to improving and streamlining QC processes, Pinnacle realized they could either go the manual route and add additional QC personnel or go the digital route and invest in an electronic gaging solution. The company decided that switching to an electronic gage was the only logical choice—it would enable Pinnacle to maintain an accurate and increased product flow without increasing labor costs. In addition, it would allow for real-time data collection and the use of SPC (Statistical Process Control), which to this point had not been possible, to make serious improvements to the manufacturing process to improve quality.

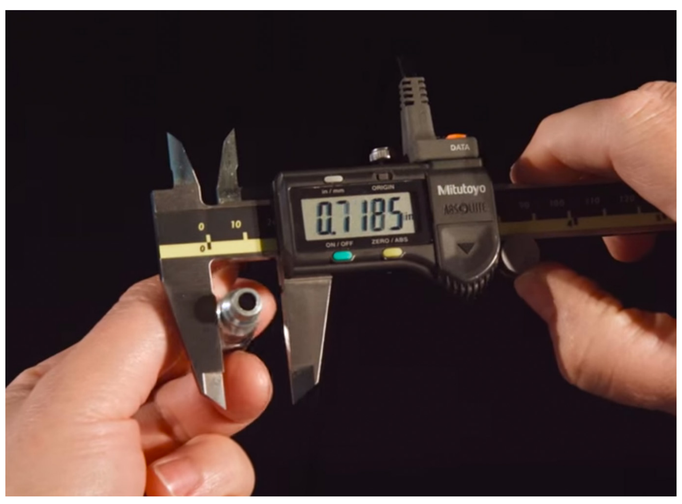
When selecting the data management solution that best fit their needs, the company considered a number of criteria: the ability to utilize traditional gages/ techniques that were called out by API 5B; the ability to capture inspection values in the software and store them by date, work order, machine center, or other category; and the ability to report on, and analyze, any and all inspection field data in order to uncover trends and determine better control measures. Mitutoyo's MeasurLink® Quality Management Software turned out to be the only product that fulfilled the company's criteria and aligned with their future goals. "We knew MeasurLink® was the right choice for Pinnacle after looking at several other QC data collection options," says Jim Caldwell, General Manager of Pinnacle. "It was one of the few options that had the power to provide us with real-time data and analysis."

Results



MeasurLink® has now been used on the coupling shop floor for over a year, with full implementation occurring within the last six months. As a result of installing MeasurLink®, Pinnacle has seen their reject rate drop from 3 percent to 1.3 percent. At the same time, overall shop productivity has increased by 45 percent. To date, their reduction in the instance of non- conforming product has saved the company more than $180K in lost material alone

Now that the software is in place, Pinnacle is beginning to utilize control (Cpk Ppk) measures/targets to better control the process. Run charts and control charts allow machine operators to visualize their work. This is having a positive impact on employees, who have been extremely happy with the product post- implementation—especially how it improves accuracy while at the same time streamlines their workflows.



Employees are also able to easily ascertain information about when and why a part goes out of specification, which allows the quality manager to use a Pareto chart and other quality tools to identify the best place to take actionable improvements. One unexpected benefit of rolling out MeasurLink® has been the ability to re-use the data for production throughput and tracking. Given the positive response to, and added benefits of, this MeasurLink® adoption, Pinnacle is now in the process of implementing the product in their thread shop, as well.

Change your bearing now



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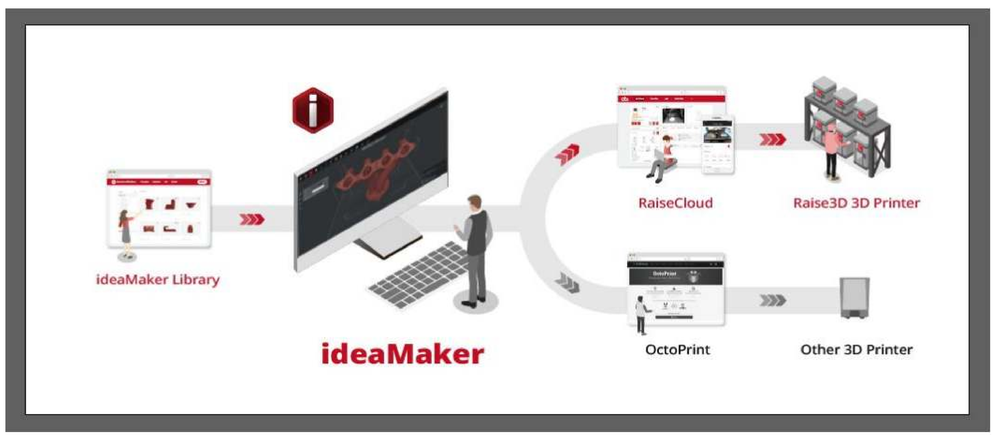
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RAISED3D Launches IDEAMAKER 4.0 Slicing Software

3D printer manufacturer and software developer Raise3D has launched the latest version of its slicing software, ideaMaker 4.0.

The ideaMaker 4.0 will become the core of Raise3D software ecosystem, providing better integration with the firm's other software offerings while enabling users to further maximize the efficiencies and properties of their prints.





Raise3D's additive manufacturing software

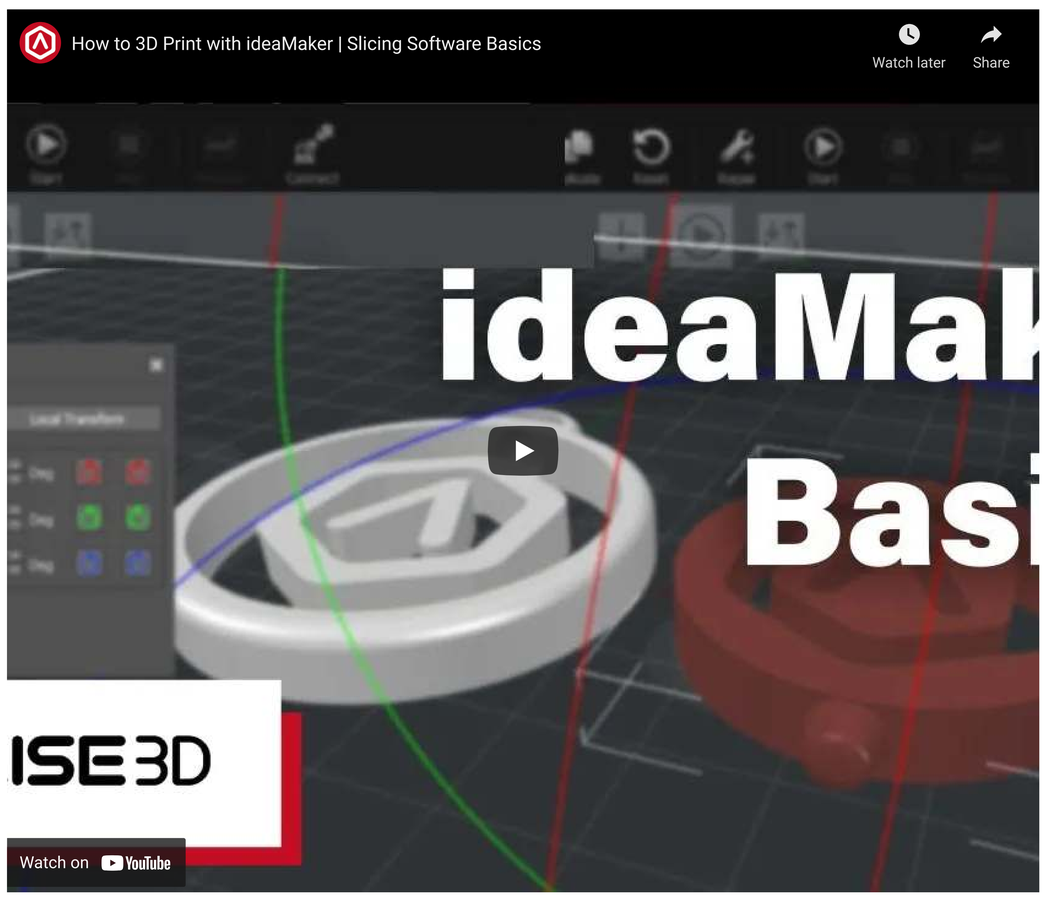
At Hannover Messe 2019, the firm announced its RaiseFactory 3D printing systems, based on its previously released Pro2 series 3D printers, to provide customers with a "flexible manufacturing" system promoting versatility, ease-of-use, and scalability. Shortly after, the firm launched its industrial-grade E2 3D printer equipped with an IDEX system at TCT Show 2019.

Most recently, Raise3D unveiled its new ideaMaker Library platform, the final addition to its all-in-one portfolio which integrates all stages of the 3D printing workflow. This year, the firm also delivered several updates of its RaiseCloud print management system in addition to launching RaiseOcto, a plugin that allows users to manage all their machines, regardless of the brand, on the same platform.

ideaMaker 4.0 software

Raise3D has continually updated its ideaMaker software over the past year, with its latest version, ideaMaker 4.0, now offering users additional optimization and customization options.

Through the software, users can customize the settings of single sections, selected layers, or a specific shape, inside an STL model in order to maximize the efficiency of their print, while reducing waste material and print time. The ideaMaker 4.0 also provides better integration with Raise3D's ideaMaker Library, RaiseCloud, and Octoprint. Users can download and share slicing templates through the ideaMaker Library platform before uploading a Gcode to Octoprint. They can then remotely monitor the printing process via RaiseCloud.



EVENT CALENDAR

JANUARY 2021

15-17 JANUARY 2021
Electronic Components And Materials Expo
TOKYO BIG SIGHT, KOTO, JAPAN

20-22 JANUARY 2021
NEPCON JAPAN 2021
TOKYO BIG SIGHT, KOTO, JAPAN

23-26 JANUARY 2021
AUTOMOTIVE MANUFACTURING 2021
BANGKOK INTERNATIONAL TRADE & EXHIBITION CENTRE, BITEC, BANGKOK, THAILAND

27-30 JANUARY 2021
THAILAND INDUSTRIAL FAIR 2021
BANGKOK INTERNATIONAL TRADE & EXHIBITION CENTRE, BITEC, BANGKOK, THAILAND

FEBRUARY 2021

3-5 FEBRUARY 2021
Mechanical Components & Materials Technology Expo
MAKUHARI MESSE, JAPAN

24-27 FEBRUARY 2021
Industry Automation & Control South World Mumbai
BOMBAY EXHIBITION CENTRE, MUMBAI, INDIA

24-26 FEBRUARY 2021
TOKYO PACK 2021
TOKYO BIG SIGHT, KOTO, JAPAN

25-28 FEBRUARY 2021
ACMA Automechanika New Delhi
PRAGATI MAIDAN, DELHI, INDIA

MARCH 2021

3-5 MARCH 2021
8th World Smart Energy Week OSAKA
TOKYO BIG SIGHT, KOTO, JAPAN

10-12 MARCH 2021
AUTOMOTIVE TESTING EXPO KOREA 2021
HALL 7, KINTEX, SEOUL, KOREA

15-20 MARCH 2021
The 28th Taipei Int'l Machine Tool Show
TAIPEI WORLD TRADE CENTRE (TWTC), HALL 1
TAIPEI NANGANG EXHIBITION CENTER, HALL 1 (TaiNEX 1)
TAIPEI NANGANG EXHIBITION CENTER, HALL 2 (TaiNEX 2)

16-20 MARCH 2021
Koplas 2021
HALL 4, 5, KINTEX, KOREA

18-21 MARCH 2021
MegaBuild 2021
JAKARTA CONVENTION CENTER (JCC), JAKARTA, INDONESIA

24-26 MARCH 2021
INMEX Vietnam
BA RIA - VUNG TAU SPORTS ARENA, VUNG TAU CITY, VIETNAM

APRIL 2021

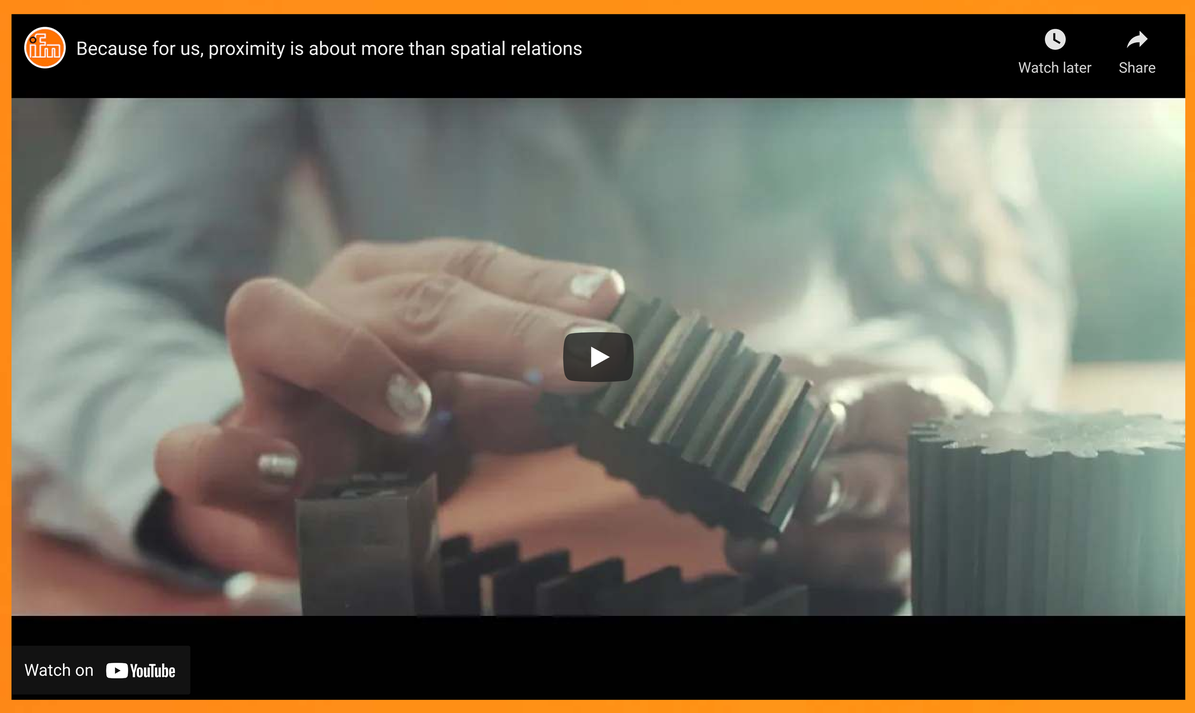
7-10 APRIL 2021
The 12th International Food Processing And Packaging Exhibition
BANGKOK INTERNATIONAL TRADE & EXHIBITION CENTRE, BITEC, BANGKOK, THAILAND

13-16 APRIL 2021
KOREA PACK (Int'l Process & Packaging Exhibition)
HALL 1, KINTEX, SEOUL, KOREA

21-23 APRIL 2021
Smart Manufacturing Taiwan 2021
TAIPEI NANGANG EXHIBITION CENTER, HALL 1 (TaiNEX 1), 4F

26-28 APRIL 2021
Software & Apps Development Expo Spring
TOKYO BIG SIGHT, KOTO, JAPAN





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