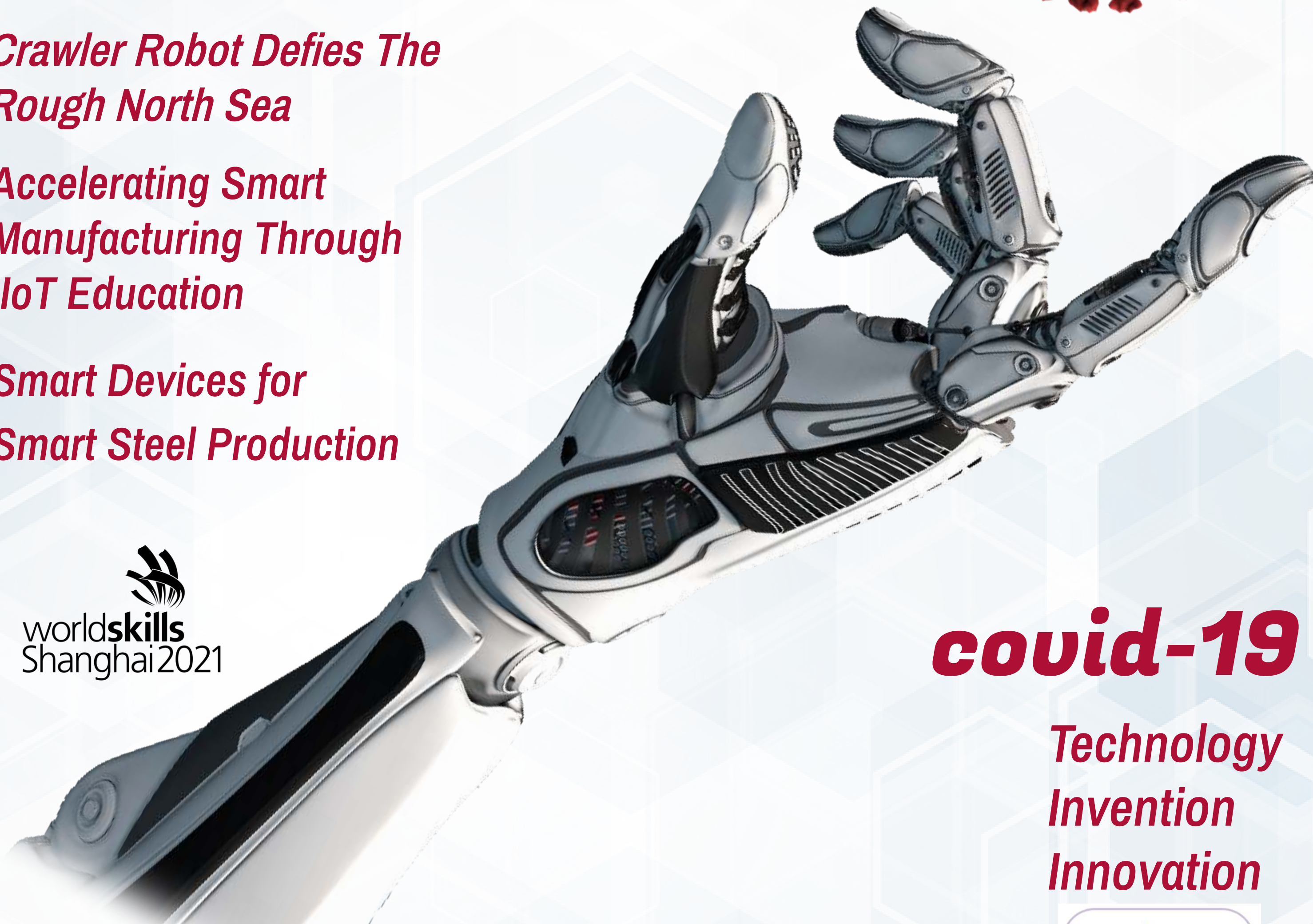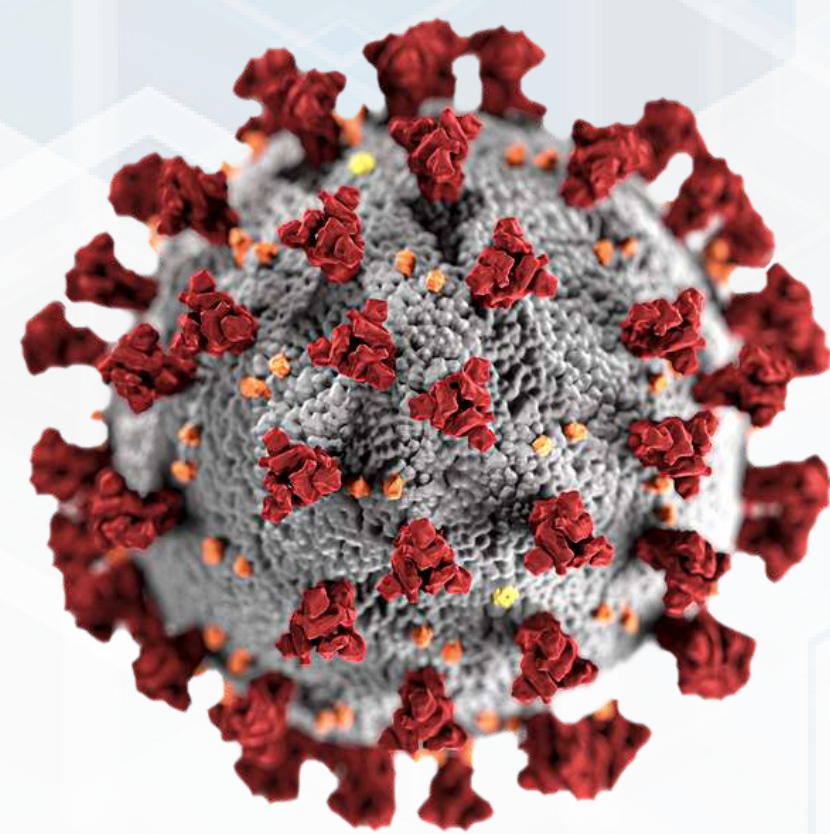# industrial guide ASIA

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Crawler Robot Defies The Rough North Sea

Accelerating Smart Manufacturing Through IIoT Education

Smart Devices for Smart Steel Production

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DECEMBER 2020: MANUFACTURING AUTOMATIVE, ADDITIVE MANUFACTURING, 3D PRINT, ROBOTICS & VISION

JUNE 2020: PRECISION & METALWORKING, MEASURING & CONTROL, MEDICAL MANUFACTURING

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Dear Friends

First half of the year, the world has come together to fight One Demon, every hour and day, people are fighting for so many things, it comes down to one- Survival.

There is so much to learn during this pandemic, morally, how to be tolerant, how to be kinder, how to make things work for others. People has come together and work to banish this. Never would anyone wake up to find out that by staying home and do nothing outdoor is saving lives.

Here in Industrial Guide Asia, we have received numerous cancellations of trade fairs and event around the world. We also receive overwhelming responses for purchasing of products because many companies are closed, factory that runs under essential services require purchasing and replacement items literally gone limbo. Overnight, many organisations start to manage their work online, most come unprepared. Thus, many raise issues such as cyber security and data transmission, who gets to see our data and keep them? Many platforms offering free services such as video conferencing and organizing work virtually. Human Resource Department immediately put in the spotlight and many needed to make huge changes for their operation and immediate workers. It seems the i4.0 effect is taking up fast without much promotion require now.

Here , we have make several changes to the Magazine since late December. Please do watch out for the Orange play button ▶ here you will be able to play Video about the article instantly. We have since increased our publishing with 3 issues Print and 3 Digital, however Print version will also have digital copies with video functions.

*This issue has touch on more topics about the technology and innovation to curb Covid 19, the next upcoming June issues, we will be featuring topics about **Precision & Metalworking, Measuring & Control, Medical Manufacturing**. Please do send your interesting stories over.*

Please take very good care of yourself, your family and team currently. We are sure, all these shall pass, here in IndustrialGuideAsia.com we are sending you good vibes and strength.

Yours faithfully,

Team Industrial Guide Asia

HUAWEI CLOUD: Fighting COVID-19 with Technology

HUAWEI CLOUD announced that they launched a global action plan to help customers around the world to fight COVID-19 with cloud and AI services. As part of this international action plan against the coronavirus, HUAWEI CLOUD will be providing free AI and cloud services and will be recruiting partners around the world to help fight this pandemic together.

Deng Tao, President of HUAWEI CLOUD Global Market, stated, "HUAWEI CLOUD has been working with partners in China to use innovative technologies such as cloud and AI to fight the pandemic, and has accumulated practical experience with AI-assisted CT scan analysis, drug discovery, online education, and telecommuting technologies. Now, we are launching this international action plan to share our practical experience to the international market. We will make every effort to leverage technology to help our customers around the world cope with challenges faced in the midst of this crisis."

In the healthcare domain, HUAWEI CLOUD provides EIHealth free of charge, which includes services such as viral genome detection, Antiviral drug in silico screening, and AI-assisted CT patient screening service. In the education sector, HUAWEI CLOUD works with partners to provide online education services for schools and other educational institutions. They are also helping enterprises migrate businesses to the cloud to ensure continuous operations while the pandemic continues. HUAWEI CLOUD is now offering up to 1,500 hours of free cloud resources for each newly registered user, complete with 24/7 professional support on the HUAWEI CLOUD (international) website.

HUAWEI CLOUD has also released the Anti-COVID-19 Partner Program, a program focused on five main scenarios: remote office, AI support, enterprise assistance, smart healthcare, and online education. Partners who participate in this program can not only obtain comprehensive business, technological, and market support, but will also have the opportunity to obtain free cloud resources worth up to USD $30,000.

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IBM HELPING TO BATTLE COVID-19 MEDICAL SUPPLY CHAIN SHORTAGES

As part of IBM approach to combating COVID-19 with technology solutions that enable more trustworthy information, accelerated discovery, resiliency and adaptation, the company today announced IBM Rapid Supplier Connect, a blockchain-based network designed to help government agencies and healthcare organizations identify new, non-traditional suppliers who have pivoted to address the shortage of equipment, devices and supplies needed for COVID-19 relief efforts. Rapid Supplier Connect is available at no cost until August 31, 2020 to qualified buyers and suppliers in the United States and Canada.

"Northwell Health has had adequate supplies to protect patients and our staff during the increase in New York COVID-19 patient cases," said Phyllis McCready, vice president and chief procurement officer at Northwell Health. *"It is through creating our own GPOs and supply chain, and joining forces with non-traditional suppliers that we have maintained an adequate stockpile of PPE and other equipment and supplies, so we are pleased to join IBM Rapid Supplier Connect."*

With healthcare workers and other first responders feeling the impact of supply chains disrupted by unprecedented challenges, many large and small businesses from outside the traditional healthcare procurement system are reconfiguring to mass produce masks, gowns and other essential supplies. In order to begin purchasing from them at scale, buyers — including hospitals, state procurement divisions, pharmacies and others — need help identifying these new suppliers, efficiently vetting and on-boarding them, and understanding their real-time inventory availability. The network also helps identify existing supplies and excess inventory going unused, allowing hospitals to make it available to others and redirect supplies where they are needed most.

Buyers who access the network can benefit from a broader range of suppliers outside of their traditional supply chain, a streamlined supplier onboarding process, validation checks and inventory information in near-real time. Suppliers benefit from a portable online identity, access to user feedback and the ability to post and manage inventory availability. Real-time insight into a volatile and uncertain supply chain is never simple, and with the challenges of the current global situation, IBM harnessed the Trust Your Supplier blockchain-based identity platform built by Chainyard for qualification and identification, in conjunction with its existing Sterling Supply Chain Suite and highly scalable Inventory Visibility microservice to deliver this increased visibility.

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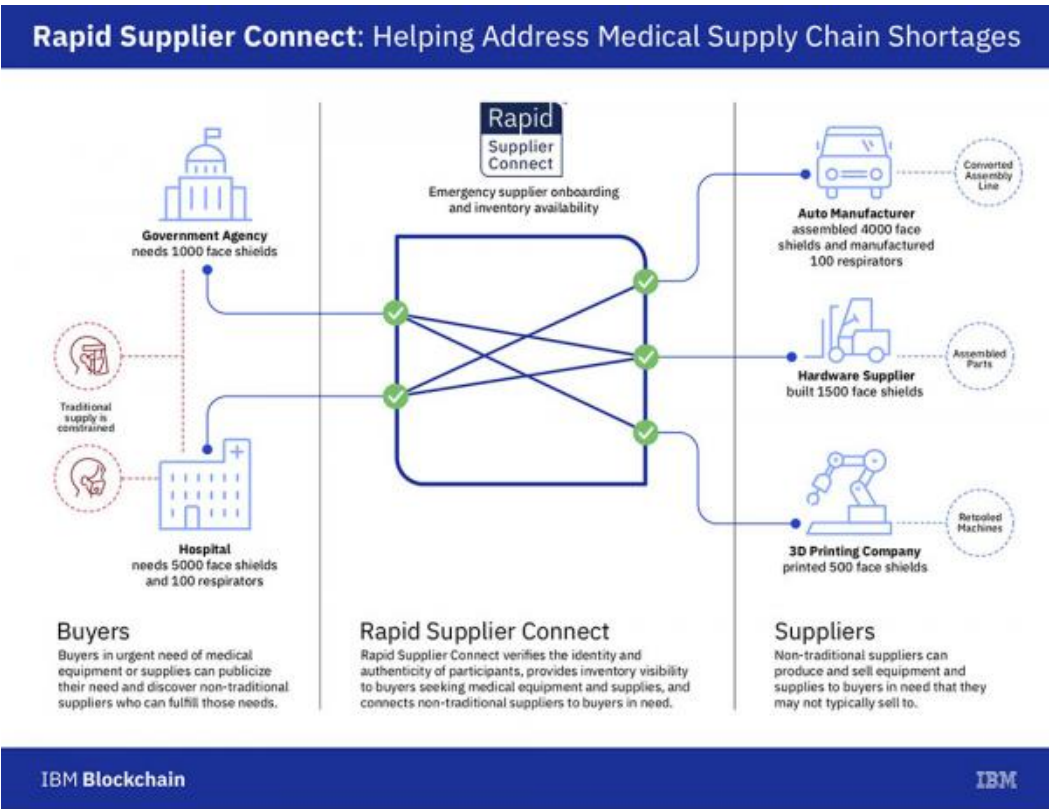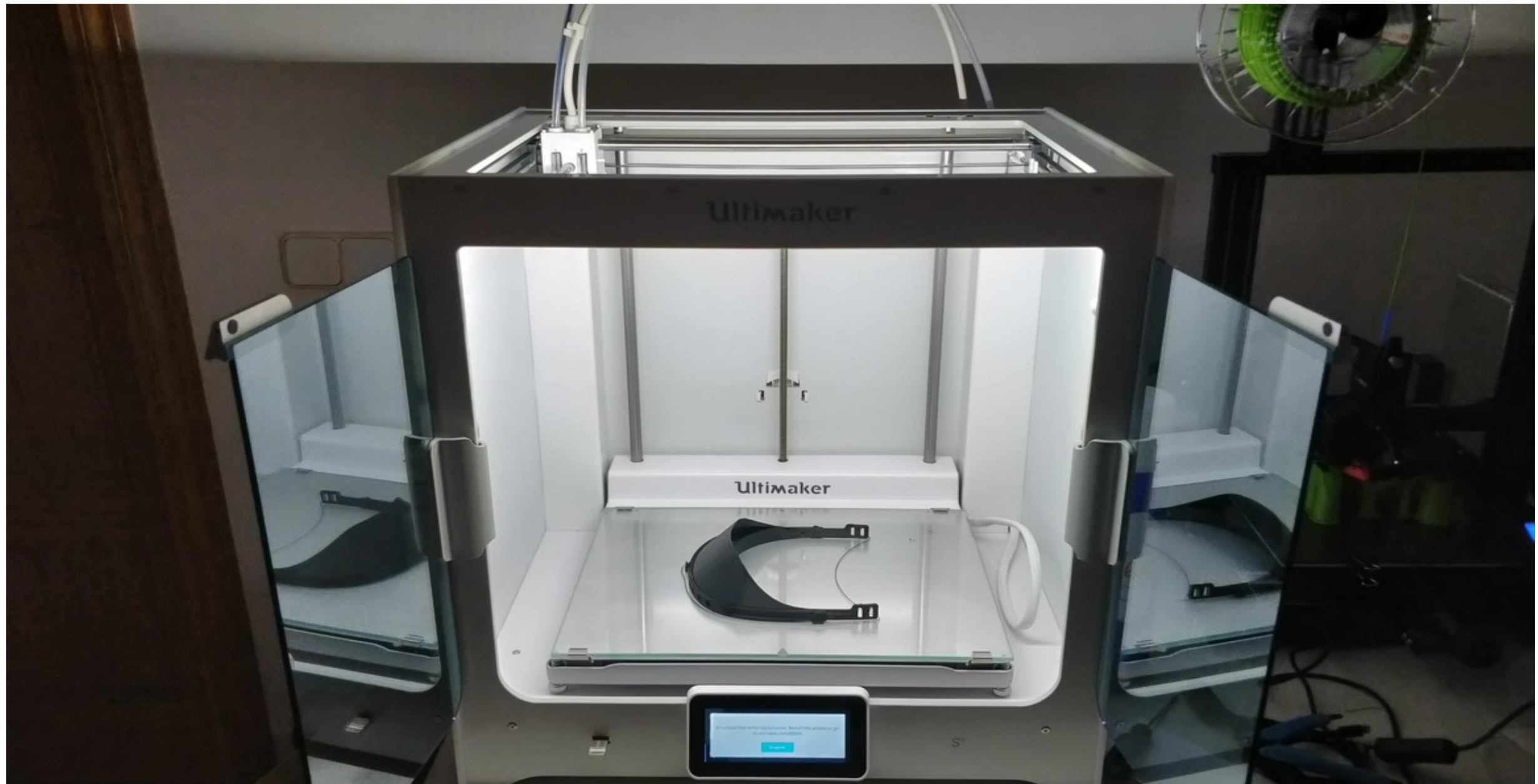
Alstom 3D Printing Hub in Barcelona Committed to the Fight Against COVID-19

Alstom's 3D printing hub in Barcelona is coordinating initiatives being implemented at a Group level to contribute to the fight against the COVID 19 global pandemic. Since last week, engineers and developers based in Santa Perpetua site (Barcelona) have been coordinating and implementing different initiatives to produce pieces, supply consumables and design new solutions.

Alstom's hub is working in coordination with the 3Dcovid19.org network to manufacture visors for face shields and ventilators valves, that are being delivered to different hospitals.

"The aim is to help the healthcare community by manufacturing parts that meet appropriate quality and safety standards," says Jaume Altesa, responsible for Alstom's 3D printing hub at Santa Perpètua. *"3D printing has gained prominence due to its particular usefulness for creating equipment to protect against COVID-19, as it can be used to manufacture materials currently suffering severe shortages such as face masks, mechanical respirators and even door openers, among others",* he adds.

The CAD design experts at the Santa Perpetua facilities are also innovating in new solutions and developments. They are currently working, for example, on portable personal protectors for door handles and the use of anti-bacterial materials in the masks.

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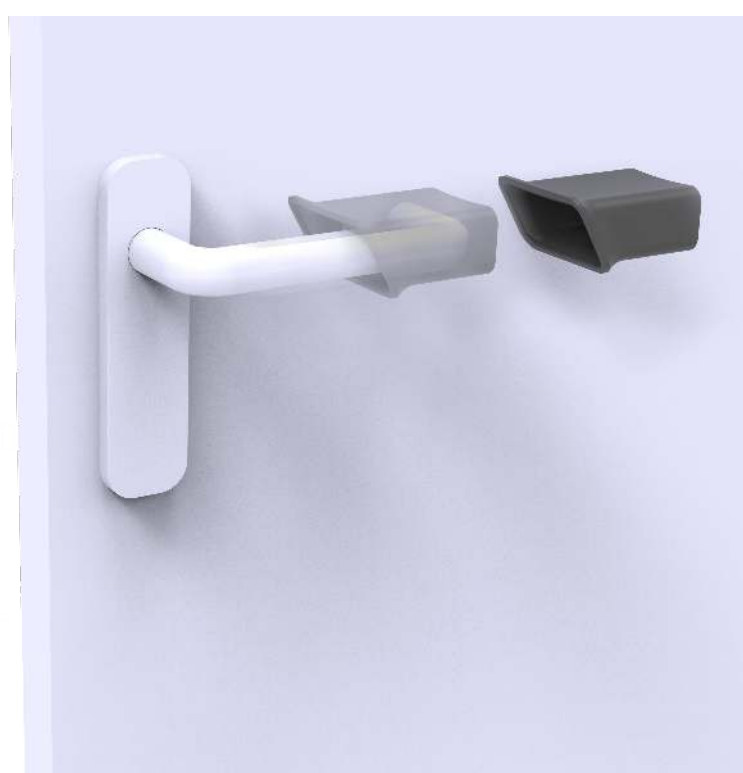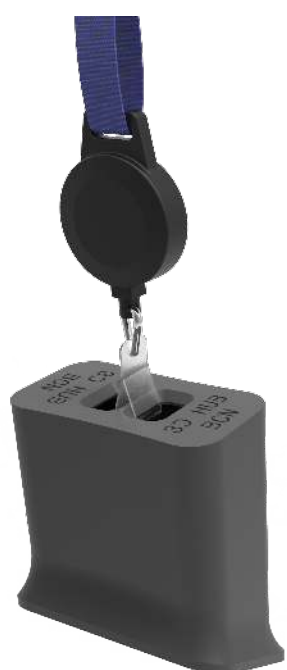
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DJI Helps Fight Coronavirus With Drones

Since emerging in the Chinese city of Wuhan in December 2019, the new COVID-19 coronavirus has spread around the world. As of February 12, the death toll within mainland China exceeded 1,113, with 44,563 confirmed cases.

As the outbreak grew, so did public questions and concerns. How far would the virus spread? How can people protect themselves?

To help address those fears and resolve the crisis, public safety officials in China explored how to use new technologies — and DJI has stepped up to that challenge with drones.

Disinfecting Public Spaces with Drones

Together with agricultural technology think tanks, DJI has been working to fight the disease. On February 4, we pledged almost US $1.5 million in aid to help contain the outbreak. We have also adapted our Agras series of agricultural spraying drones to spray disinfectant in potentially affected areas. Drones can dramatically improve how China attempts to kill the virus in public areas: They can cover far more ground than traditional methods, while reducing risk to workers who would otherwise spend more time potentially exposed to both the virus and the disinfectant.

After rounds of research and testing, teams developed best practices for spraying a chlorine or ethyl alcohol-based disinfectant from the air. The concentration of the solution as well as flight guidelines can be modified for different circumstances, such as whether an area is known to be infected or not.

DJI has sprayed disinfectant in over 3 million square meters in Shenzhen. The company is also helping 1,000 counties in China to adopt the spraying method. Target areas include factories, residential areas, hospitals, and waste treatment plants. In total, this covers 600 million square meters across the country so far. With this solution, spraying efficiency can be 50 times faster than traditional methods. In a crisis where time plays a critical role, this is great news.

Using Drones in More Ways During the Outbreak

These past few weeks have given people a chance to discover new ways to curb the spread of COVID-19 in China. Loudspeakers were mounted on drones to help disperse public gatherings in crowded places. Drones flew banners advising people how to learn more about precautions. Thermal cameras on drones were also used to monitor body temperature so medical staff can identify new potential cases.

Drone delivery is another popular topic. The outbreak has kept millions of families in their homes to avoid contact with others. A huge help to these households can come in the form of contactless delivery. Organizations can send food, supplies and medicine to anyone in need. At the same time, avoiding face-to-face contact will cut the risk of infection.

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Feature Story: Beating Covid 19 with Technology

KC Wearable Launches COVID-19 Symptom Detector

Smart Helmet for Unaware and Contactless Temperature Measurement

Rapid screening for both indoor and outdoor

KC Wearable ,launch its smart helmet for fast-screening fevers in public spaces in the fight against COVID-19.

Every corner of society and the economy will need to do its part to get through the current pandemic. Whilst medical technology won't solve all the problems, it can and will be crucial.

The KC Wearable Smart Helmet allows the user to monitor up to 13 people's temperatures at any one time, with up to 200 individuals being scanned per minute. This could prove vital as governments around the world seek to curb the spread, and potential re-emergence, of COVID-19.

Following significant success in China, the helmet is now launching internationally. With over 80 million people already scanned to date, it has consistently proven its accuracy (over 96%) and straightforward utility. This is particularly important given that the KC helmet is designed to be used everywhere – from hospitals and airports to parks and pubs. As countries and communities move beyond self-isolation, transitioning in a safe and responsible way will be vital.

Dr Jie Guo, Global Head at KC Wearable, said, "COVID-19 continues to pose unparalleled challenges to our way of life around the world. Amidst the chaos, there are two overriding priorities. Firstly, protecting the health and safety of our citizens; and then getting back to our normal way of life. The KC helmet is our first step in achieving both aims."

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The KC Wearable Smart Helmet's flexibility and adaptability are key markers that differentiate it from more traditional infrared thermal imagers. This means, the helmet can be worn by the user or fixed on a tripod, as well as being usable day or night. Results can be tracked and illustrated on a screen in real time, and also shared on an individual basis with those being scanned

Source:PR Newswire

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DANISH ROBOTS TO FIGHT CORONAVIRUS

As a new and powerful weapon against the spread of the coronavirus, Chinese hospitals are now deploying Danish disinfection robots from UVD Robots.

Self-driving Danish disinfection robots are now shipping to a number of hospitals in China to help fight the coronavirus, also called COVID-19. This happened after Sunay Healthcare Supply today signed an agreement with the Danish company UVD Robots. The first robots shipped this week and in the following weeks, many more robots will be shipped via air to be deployed in the fight against the coronavirus. With ultraviolet light, the Danish robot can disinfect and kill viruses and bacteria autonomously, effectively limiting the spread of coronaviruses without exposing hospital staff to the risk of infection.

Through Sunay Healthcare Supply's partners in China, the robots will be deployed in all Chinese provinces. "With this agreement, more than 2,000 hospitals will now have the opportunity to ensure effective disinfection, protecting both their patients and staff," says Su Yan, CEO of Sunay Healthcare Supply, a medical equipment supplier to the Chinese market.

Developed by large group of collaborators from hospital and robotics industries

UVD Robots is a portfolio company in Blue Ocean Robotics, which develops a wide range of service robots.

The development of the UVD robot started in 2014, when a group of Danish hospitals demanded a far more effective way of reducing infection rates in hospitals. The fruitful collaboration between bacteriologists, virologists and hospital staff from hospitals, and robot developers, designers, engineers, investors and business people from Blue Ocean Robotics led to an early market introduction in 2018.

Claus Risager, CEO of Blue Ocean Robotics and Chairman of the Board of UVD Robots, calls it a tremendous satisfaction for employees, management and the circle of owners to witness the deployment of the UVD Robot. "We are now helping solve one of the biggest problems of our time, preventing the spread of bacteria and viruses with a robot that saves lives in hospitals every day."

"We found the UVD robot to be superior compared to other technologies and are pleased to – in a very short amount of time – enter into a reseller agreement with exclusive rights to supply the UVD robots in China," says Su Yan, emphasizing how both parties have worked intensively to get deliveries of robots to the Chinese hospitals.

CEO of UVD Robots, Per Juul Nielsen, is pleased to be helping combat the spread of the virus in China through the company's solution: "In a severe crisis like this where the world health is threatened, our innovative technology really proves its worth," he says.
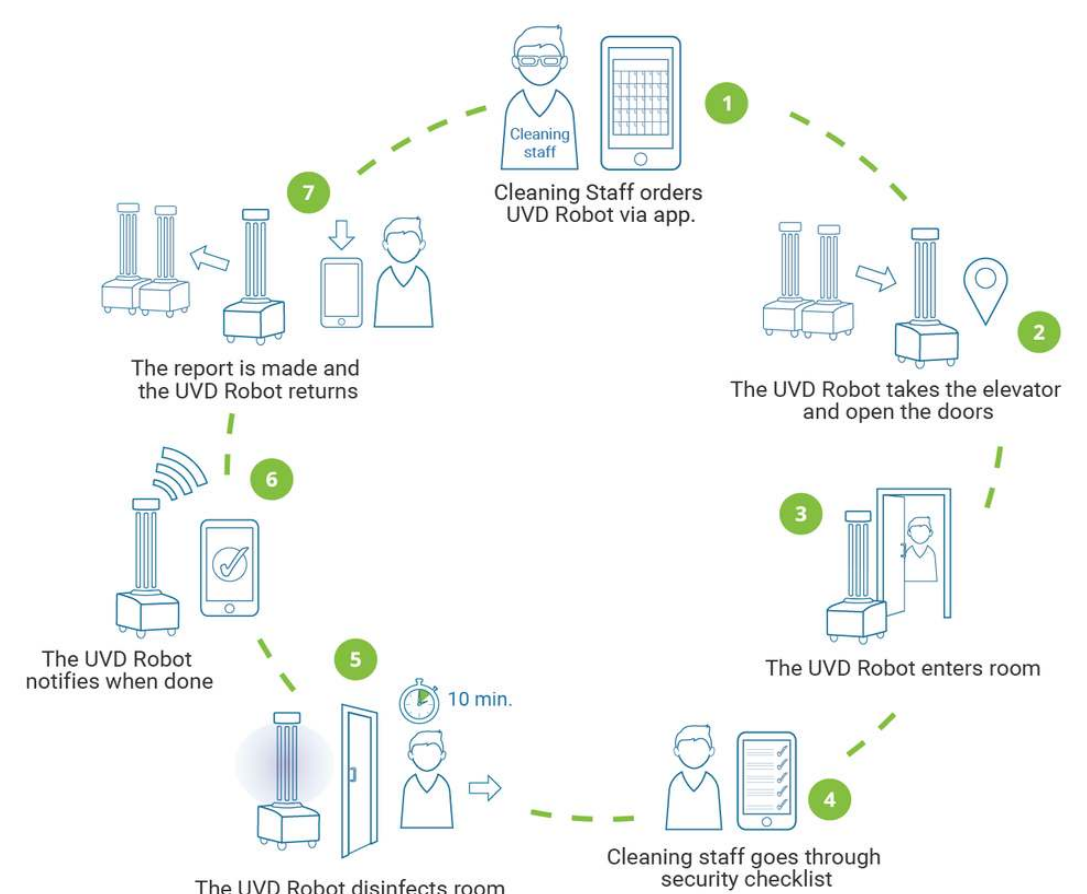
Potential treatment for COVID-19 identified by BenevolentAI using artificial intelligence enters randomised clinical trial

Baricitinib enters a randomised-controlled trial with the US National Institute of Allergy and Infectious Diseases (NIAID); predicted to inhibit COVID-19 infection of human lungs and reduce inflammatory damage

BenevolentAI, transform the way medicines are discovered and developed, today announced that baricitinib, which it identified this year as a potential treatment for COVID-19, will be entering late stage phase 3 clinical trials to treat the disease, the greatest medical challenge of the century. This new trial is occurring alongside a Canadian government-sponsored randomised-controlled trial already underway of baricitinib as a potential treatment. Others studies are ongoing or being set up currently.

Baricitinib is an already approved drug developed by Eli Lilly and Incyte for the treatment of rheumatoid arthritis and is being studied for other indications. The randomised trial announced by Eli Lilly today with the US National Institute for Allergies and Infectious Diseases (NIAID) will investigate the efficacy and safety of baricitinib as a potential treatment for patients with serious COVID-19 infections. The study will begin in the US in late April with planned expansion to additional sites in Europe and Asia. Results are expected within the next two months.

Baroness Joanna Shields, CEO of BenevolentAI said "In response to the COVID-19 global health emergency, we turned our AI drug discovery and development platform toward understanding the body's response to this novel infectious disease. Rather than focusing solely on drugs that could affect the virus directly, we explored ways to inhibit the cellular processes that the virus uses to infect human cells. We identified baricitinib as a potential drug with both anti-viral and anti-cytokine properties and published our research in early February. We are pleased that Eli Lilly is progressing baricitinib to clinical testing for COVID-19 patients. While we wait for a vaccine to be developed, there is an immediate need for medicines that can prevent life-threatening respiratory and other serious complications of COVID-19 infections."

In February, in the face of the growing global health crisis, BenevolentAI set up a specialist scientific team and launched an investigation using its drug discovery platform to identify approved drugs which could potentially stop the progression of COVID-19, inhibit the cytokine storm and reduce the inflammatory damage associated with this disease. Benevolent's research findings were published in The Lancet and again twice in Lancet Infectious Diseases proposing baricitinib as a potential treatment with both anti-viral and anti-inflammatory properties, for COVID-19 patients admitted to hospital prior to the development of critical lung damage.

By March, investigator-led studies began recruiting and treating infected patients with baricitinib, and with the announcement by Eli Lilly and NIAID today, the drug will now begin it's first large randomised trial in COVID-19 patients. The speed with which the drug entered clinical trials reflects the urgency of the global pandemic and the significance of AI and advanced technologies in facilitating the discovery of treatments and their potential impact on patients.

"Lilly is moving at top speed and using all available resources to help fight this pandemic," said Daniel Skovronsky, M.D., Ph.D., Lilly's chief scientific officer and president of Lilly Research Laboratories. "Developing potential therapeutic medicines for COVID-19 is part of our vital and humanitarian mission. To be successful, we must combine resources, data and expertise, with government, academia and other companies. We look forward to seeing the results of the baricitinib clinical studies."

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ALIBABA CLOUD OFFERS AI, CLOUD SERVICES TO HELP BATTLE COVID-19 GLOBALLY

ALIBABA CLOUD, DAMO ACADEMY AND DINGTALK TECHNOLOGIES AVAILABLE TO MEDICAL PERSONNEL

Alibaba Cloud, the data intelligence backbone of Alibaba Group, has offered medical personnel around the world advanced cloud-based technology applications in the fight against the COVID-19 pandemic. The artificial intelligence-enhanced innovations are based on learnings and insights garnered during the initial outbreak of the virus.

The series of cloud-native anti-coronavirus solutions stem from joint efforts of Alibaba Cloud's solution experts, scientists and researchers from Alibaba DAMO Academy and the technical team at DingTalk, one of the platforms UNESCO has tabbed as facilitating distance learning during the coronavirus outbreak.

While DingTalk might be better-known for supporting more than 120 million students across China with their live-streamed online classes, the team has taken it up a notch to launch DingTalk's International Medical Expert Communication Platform, hosted on Alibaba Cloud. It provides a means of free communication for medical workers all over the world to directly contact doctors from medical institutions such as the First Affiliated Hospital of Zhejiang University and others in China, who have been on the frontline of the COVID-19 battle.

Through video conferencing and real-time AI translation into 11 languages (Arabic, Bahasa, Chinese, English, French, Japanese, Russian, Spanish, Thai, Turkish, and Vietnamese), Alibaba Cloud aims to build a virtual community, inviting Chinese doctors to share their experiences and answer questions from global peers.

From Alibaba DAMO Academy, a global research initiative by Alibaba, three proven solutions are being made available via free trial for medical professionals and research institutes worldwide. Alibaba Cloud will work with local partners to deploy relevant services and solutions in accordance with local laws and regulations.

How International Health Care Organizations are Using Bots to Help Fight COVID-19

As the coronavirus pandemic began spreading across Europe earlier this year, the number of calls to Emergency Medical Services Copenhagen quickly ramped up.

The organization, which provides emergency care for about one-third of Denmark's population, saw calls to its emergency lines almost double after the outbreak began, with around 2,000 calls coming in daily by early March from worried people who were showing symptoms of COVID-19 or had questions about the disease.

Emergency Medical Services Copenhagen is now among health care organizations in Europe and beyond using Microsoft's Healthcare Bot service to help screen people for potential coronavirus infection and treatment. Powered by Microsoft Azure, the service uses artificial intelligence (AI) and natural language processing technology to help organizations create their own bots — in which the data is owned and solely accessible by the organization — to respond to inquiries and free up doctors, nurses and other health care professionals so they can provide critical care to patients who need it.

Microsoft's Healthcare Bot service has been used by health care organizations for more than a year and was originally designed to support common virtual health assistant scenarios. But as the coronavirus pandemic took hold, threatening to overwhelm health care systems worldwide, organizations in the U.S., Europe and the Middle East have been using the tool to help screen patients for potential COVID-19 infection.

Since March, health organizations have created 1,230 COVID-19 self-assessment bots based on the Microsoft Healthcare bot service, reaching 18 million individuals and serving more than 160 million messages.

Using the Microsoft Healthcare Bot service, Emergency Medical Service Copenhagen created and launched its COVID-19 bot in mid-March in less than two days. The bot answered 30,000 calls the first day, Lippert says, lowering the number of inquiries to Denmark's emergency number and reducing demand on healthcare workers.

The bot was considered so successful that it was quickly rolled out nationwide. Stephanie Lose, president of the Danish Regions, says the tool will help relieve the burden on emergency lines throughout the country and ensure callers in most need of help can be assisted sooner.

Microsoft | Healthcare Bot Service around the world

1,230 instances of COVID-19 bots
18,000,000 individual users
160,000,000 messages served

FORD TO PRODUCE RESPIRATORS, MASKS FOR COVID-19 PROTECTION IN MICHIGAN
SCALING UP PRODUCTION OF GOWNS, TESTING COLLECTION KITS

• Ford, with design and testing consultation from 3M, has developed a new powered air-purifying respirator (PAPR). Production of this PAPR starts Tuesday, April 14 at Ford's Vreeland facility near Flat Rock, Mich., with paid UAW volunteers, with the ability to make 100,000 or more

• Ford, in collaboration with the UAW, is now producing face masks at Ford's Van Dyke Transmission Plant for internal use globally and pursuing certification for medical use

• To help further protect health care workers, Ford is leading efforts to manufacture reusable gowns from airbag materials with supplier Joyson Safety Systems

• Ford is lending its manufacturing support to help Thermo Fisher Scientific quickly expand production of COVID-19 collection kits for patient testing

Ford is expanding its efforts to design and produce urgently needed medical equipment and supplies for health care workers, first responders and patients fighting coronavirus.

In addition to the current production of more than 3 million face shields in Plymouth, Mich., Ford-designed powered air-purifying respirator production begins Tuesday, April 14. Ford also is now producing face masks and leading an effort to scale production of reusable gowns for health care workers. Lastly, Ford started providing manufacturing expertise to help scientific instrument provider Thermo Fisher Scientific quickly expand production of COVID-19 collection kits to test for the virus.

"We knew that to play our part helping combat coronavirus, we had to go like hell and join forces with experts like 3M to expand production of urgently needed medical equipment and supplies, said Jim Baumbick, vice president, Ford Enterprise Product Line Management. "In just three weeks under Project Apollo, we've unleashed our world-class manufacturing, purchasing and design talent to get scrappy and start making personal protection equipment and help increase the availability and production of ventilators."

Ford and 3M Collaboration Leads to New PAPR

Since late March, Ford manufacturing, purchasing and supply chain experts have been embedded at 3M manufacturing facilities to help increase production of urgently needed products.

With this additional help, 3M and Ford were able to increase the output of PAPRs and N95 respirators at 3M's U.S.-based manufacturing facilities.

Ford will start producing an all-new PAPR design to help protect health care professionals on the front lines fighting COVID-19. Rapidly designing components and prototyping in accordance with federal guidelines and with 3M expert support and guidance, Ford teams reduced PAPR development time to less than four weeks.

HOW DATA CAN AID THE FIGHT AGAINST COVID-19

As the world fights COVID-19 and countries develop plans to reopen their societies, it's critical to have a clear understanding of how the disease is spreading. Better data can help governments determine where to send resources such as ventilators and personal protective equipment — and eventually which areas are safe to start opening up again.

Facebook can uniquely help researchers and health authorities get the information they need to respond to the outbreak and start planning for the recovery. We recently started showing the Facebook community in the US an opt-in symptom survey run by health researchers at Carnegie Mellon University. The survey asked people if they have symptoms such as fevers, coughing, shortness of breath or loss of smell that are associated with COVID-19. Since experiencing symptoms is a precursor to becoming more seriously ill, this survey can help forecast how many cases hospitals will see in the days ahead and provide an early indicator of where the outbreak is growing and where the curve is being successfully flattened. The survey responses are sent to the researchers and aren't accessible to Facebook.

This is work that social networks are well-situated to do. By distributing surveys to large numbers of people whose identities we know, we can quickly generate enough signal to correct for biases and ensure sampling is done properly. We're partnering with faculty from the University of Maryland to expand this survey globally, and the team at Carnegie Mellon is building an application programming interface, or API, that will let researchers everywhere access the results. We're hopeful that this will help governments and public health officials around the world who might not otherwise have this kind of precise data to make decisions in the weeks and months ahead.

There are other ways data can help with the response. For example, we've released several new disease-prevention maps from our Data for Good program that show in aggregate where people are traveling and interacting between regions. Over the past few months, public health researchers have used these data sets to inform decisions across Asia, Europe and North America. Researchers in Taiwan have been able to identify the cities with the highest chance of infection; researchers in Italy are analyzing lockdown measures in relation to income inequality; and California officials are reviewing county-level data daily to steer public health messaging.

Data like this can unlock a lot of good. Since we're all generating data from apps and devices every day, there will likely be many more opportunities to use the aggregate data to benefit public health. But it's essential that this is done in a way that protects people's privacy and respects human rights.

WEG to Produce Artificial Ventilators for Patients Tested Positive for COVID-19

WEG will use the current structure of its factories in Jaraguá do Sul, in the state of Santa Catarina, to produce ventilators and works with the possibility of adjusting the project to speed up production.

WEG announced the signature of a technology transfer agreement with LEISTUNG Equipamentos Ltda., Manufacturer of Medical-Hospital Equipment, to produce artificial ventilators that will be used by patients tested positive for COVID-19.

The contract, signed between the companies, grants WEG the license to produce the ventilator based on the mechanical ventilation device "Luft-3" from LEISTUNG.
WEG will use the current structure of its factories in Jaraguá do Sul, in the state of Santa Catarina, to produce ventilators and works with the possibility of adjusting the project to speed up production.The plan is to immediately purchase all required components in order to produce 500 ventilators. Once the production line is installed, WEG will have an estimated capacity to produce 50 ventilators per day and deliver in mid-May.

"We now depend on obtaining electronic and pneumatic components, many of which are imported and are currently in short supply in the market", says Manfred Peter Johann, Managing Director of WEG Automation.

The implementation of the production line will follow all heath hygiene protocols and other protective measures recommended by health authorities for all industries.

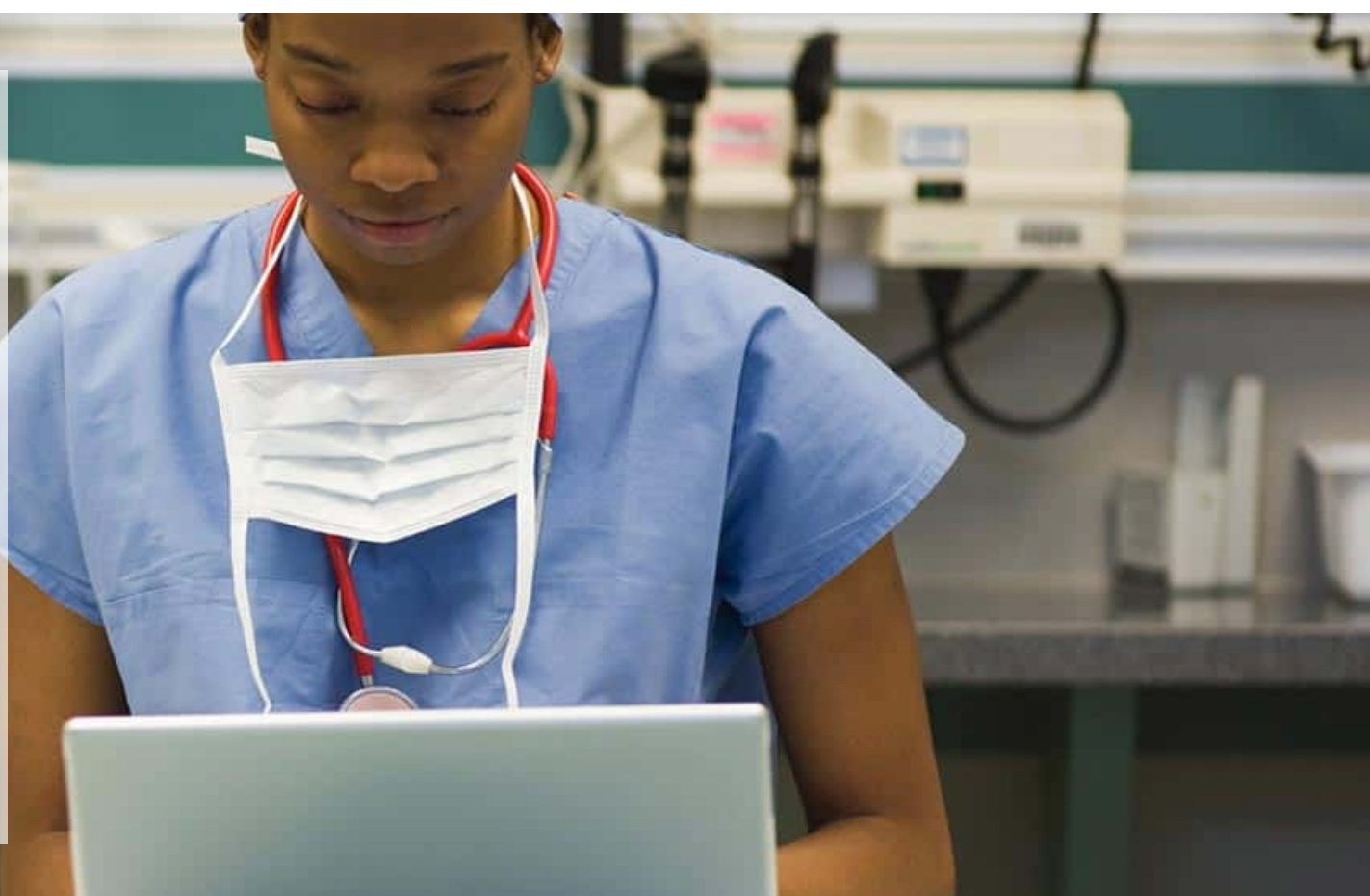# Feature Story: Beating Covid 19 with Technology

SAP SE announced that to automate and speed up contact tracing after a COVID-19 case is confirmed, a local health department in southern Germany is using a cloud-based Web application developed by SAP, which went live on April 10, 2020.

Each week, physicians in Germany test around 400,000 people for COVID-19, according to the Robert Koch Institute. If a test is positive, the physician has to inform the patient and the local health department. Pursuant to the provisions of the German Protection Against Infection Act, the local health department is then required to record the details of every person who has had close, face-to-face contact with the patient in the past two weeks.

"*Tracing the people who have come into contact with a COVID-19 patient is a huge task; having an IT solution will make it much simpler,*" says Roland Bernhard, chief administrative officer for the district of Böblingen in southern Germany, of the successful collaboration between the district's local health department and SAP. "*The processes have been streamlined for the municipal and district administration offices, which ultimately helps prevent the virus from spreading.*"

The people identified as having been in close proximity to a COVID-19 patient now receive an e-mail from the local authority in Böblingen containing a link to the Web application developed by SAP. After just one click, they can enter the required data from any device. But to do so, they must consent to their data, pursuant to the German Protection Against Infection Act, being used, processed, and sent — in anonymized form — to health institutions, such as the Robert Koch Institute, for inclusion in statistics, for example. Other advantages of the system include, for instance, that vulnerable people are notified faster and can therefore take appropriate action, such as going into isolation, sooner. And the app frees up the employees at the local health department for other, more important tasks.

The local health department for the district of Böblingen initiated the project by reaching out to SAP. The SAP team was happy to help and together, they quickly finetuned the idea. The new software, which runs on SAP Cloud Platform, went live at the district administrator's office in Böblingen early on April 10, 2020. By leveraging SAP Cloud Platform, no time needed to be spent looking at hardware or other IT requirements. Because the solution supports multitenancy, its use could be extended to all of Germany's approximately 400 health departments. And the solution will remain relevant once the coronavirus pandemic ends: Physicians are also required to report cases of other infectious diseases, such as measles, meningitis and salmonella, in Germany to prevent other outbreaks.

Automating COVID-19 Contact Tracing with Help from SAP

Dassault Systèmes' 3DEXPERIENCE Lab:
Inali Develops Smart Ventilator for COVID-19 Pandemi
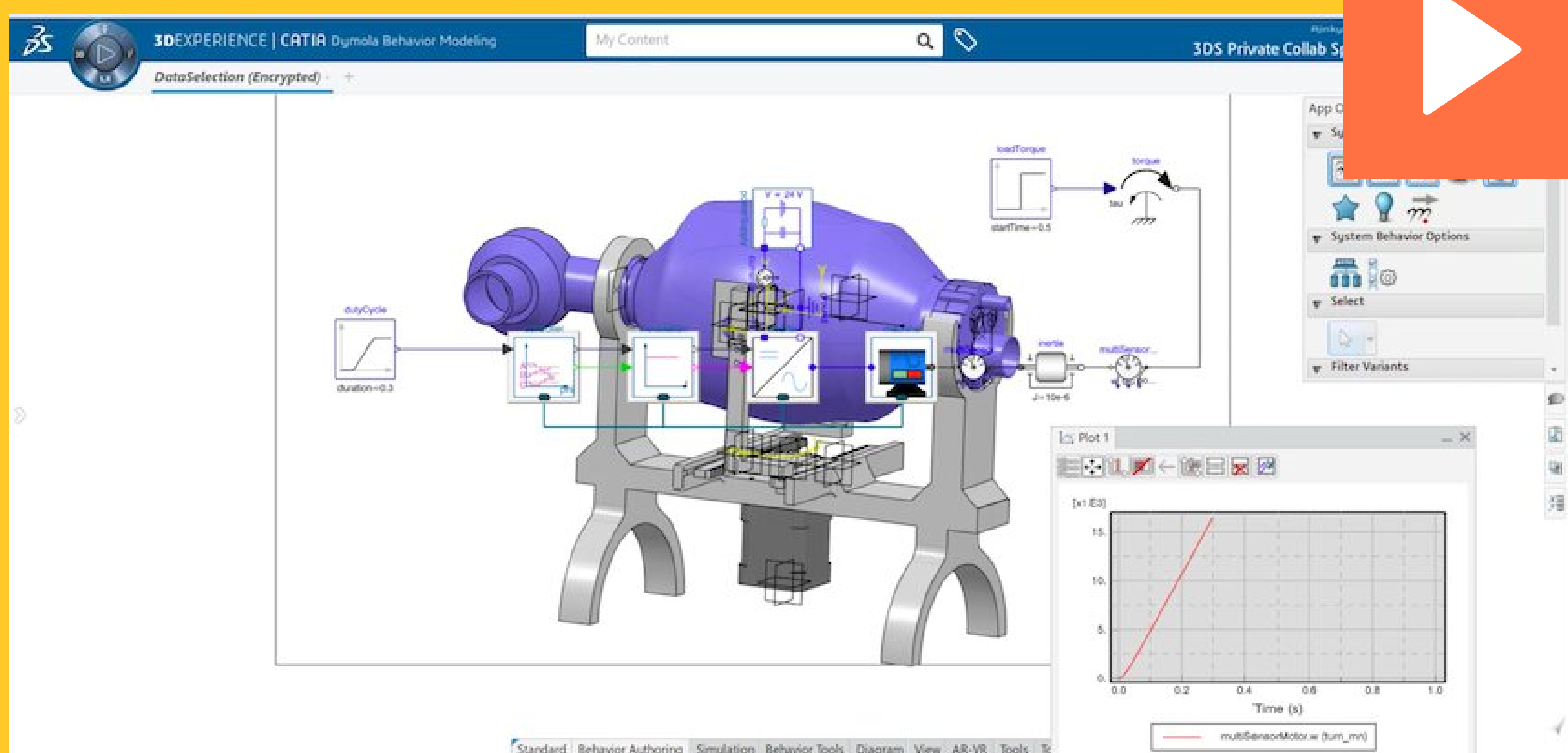
As part of its initiatives to answer urgent needs in the COVID-19 pandemic, Dassault Systèmes' 3DEXPERIENCE Lab supported the Indian startup Inali in the rapid development of a safe, affordable "smart ventilator" that could be quickly manufactured and deployed for emergency use. The development took less than eight days.

Inali, a non-profit organization creating assistive health care products, designed and developed the smart ventilator using the 3DEXPERIENCE platform and a collaborative approach with designers and healthcare professionals from the lab's OPEN COVID-19 online community, as well as with engineering mentors from the 3DEXPERIENCE Lab in India.

Using cloud-based digital applications, Inali engaged with this community of experts and innovators in real time – no matter their location – leveraging collective intelligence to rapidly design a 3D model of the smart ventilator, engineer it, simulate its function, and manufacture and validate a prototype. The smart ventilator was designed to identify performance metrics for parameters such as air velocity and air pressure that are needed to function, and adjust its operating parameters accordingly, as well as to identify the appropriate oxygen level for an individual patient and the safety metrics required for reliable and safe use.

Ventilators play a key role in treating patients suffering from COVID-19. As the number of cases rise, India risks running short of ventilators and the imported parts needed to manufacture them. Inali's smart ventilator was designed to be manufactured locally and quickly with readily available parts, to help meet demand by hospitals and government agencies cost-effectively. Inali will publish the complete smart ventilator design and manufacturing details as open source information that can be downloaded by anyone to manufacture in their area.

Combating the Coronavirus Pandemic: Bosch Develops Rapid Test for COVID-19

The coronavirus SARS-CoV-2 is posing major challenges for healthcare systems and medical institutions worldwide. An ability to rapidly diagnose the virus is of invaluable help in curbing its exponential spread in many countries. Bosch's new, fully automated rapid test for COVID-19 can help medical facilities such as doctors' offices, hospitals, laboratories, and health centers make fast diagnoses. The rapid molecular diagnostic test runs on the Vivalytic analysis device from Bosch Healthcare Solutions. "We want the Bosch rapid COVID-19 test to play a part in containing the coronavirus pandemic as quickly as possible. It will speed up the identification and isolation of infected patients," says Dr. Volkmar Denner, chairman of the board of management of Robert Bosch GmbH.

Faster certainty, slower spread

Developed in just six weeks, the rapid test can detect a SARS-CoV-2 coronavirus infection in patients in under two and a half hours – measured from the time the sample is taken to the time the result arrives. Another advantage of the rapid test is that it can be performed directly at the point of care. This eliminates the need to transport samples, which takes up valuable time. It also means patients quickly gain certainty about their state of health, while allowing infected individuals to be identified and isolated immediately. With the tests currently in use, patients must usually wait one to two days for a result. "*Time is of the essence in the fight against coronavirus. Reliable, rapid diagnosis directly on site with no back and forth – that is the great advantage of our solution, which we see as another example of technology that is 'Invented for life,*" Denner says.

Differential diagnosis: diagnosing ten respiratory pathogens simultaneously

Bosch's rapid test is one of the world's first fully automated molecular diagnostic tests that can be used directly by all medical institutions. What's more, it allows a single sample to be tested not just for COVID-19 but also for nine other respiratory diseases, including influenza A and B, simultaneously. "The special feature of the Bosch test is that it offers differential diagnosis, which saves doctors the additional time needed for further tests. It also provides them with a reliable diagnosis quickly so they can then begin suitable treatment faster," says Marc Meier, president of Bosch Healthcare Solutions GmbH. The newly developed test will be available in Germany starting in April, with other markets in Europe and elsewhere to follow.

Easy application at the point of care

In various laboratory tests with SARS-CoV-2, the Bosch test delivered results with an accuracy of over 95 percent. The rapid test meets the quality standards of the World Health Organization (WHO). A sample is taken from the patient's nose or throat using a swab. Then the cartridge, which already contains all the reagents required for the test, is inserted into the Vivalytic device for analysis. During the analysis, medical staff can devote themselves to other tasks, for example treating patients. The Vivalytic analyzer is designed to be so user-friendly that even medical personnel who have not been specially trained on it can reliably perform the test. A Bosch Vivalytic analyzer can perform up to ten tests in the space of 24 hours. This means it takes just 100 devices to evaluate up to 1,000 tests per day. Given the dynamic spread of the coronavirus SARS-CoV-2, laboratories are already working beyond capacity. The Bosch Vivalytic will thus help to increase available testing capacities.

PROXIMITY TRACING IN THE CONTEXT OF CORONA:
FRAUNHOFER'S APPROACH FOR GERMANY

Proximity tracing apps are a digital option for efforts to contain the coronavirus pandemic currently underway. Various assumptions and prejudices figure prominently in the debate on the use of proximity tracing apps in Germany and Europe. The Fraunhofer-Gesellschaft has developed an approach of its own for a German proximity tracing app. Using Bluetooth technology on cell phones to measure distance and time, it is to enable digital messaging to notify individuals who are at risk of a SARS-CoV-2 infection. Germany already has functioning and established pandemic control practices and procedures in place.

The aim of this project is to develop an IT system with digital tools to augment health authorities' practices and to help implement the corresponding recommendations of the Robert Koch Institute (RKI). This is to be done by way of a digital process that measures distance and time using Bluetooth technology on cell phones and notifies people who are at risk of a SARS-CoV-2 infection. The overall system's functionality derives from the legal mandate of public health authorities and has to meet a number of specifications for it to be used. This project addresses these demands directly.

Work on the German app commenced in early March 2020 at the participants' expense, with the support of base funding from the Federal Ministry of Education and Research (BMBF), and with a feasibility study funded by the Federal Ministry of Health (BMG). From the outset, this project was geared to create a pan-European solution that complies with data privacy laws. French partners are on board to help develop the system. This cooperation was stepped up in recent weeks to achieve full compatibility.

The project's entire approach is underpinned by the conviction that the public healthcare system must retain sovereignty over the criteria for conducting risk assessments, recommending actions and sharing feedback within this type of system. The proposed system does not collect or process data such as information about the place, phone numbers, names, and the like when the app is used. The use of the system via an installable app will be voluntary. Users may uninstall the app at any time without the service on the server being able to identify who deactivated the app. Registration does not require personal data such as the individual's name or phone number. The intention is to maximize support for the app on available devices by collaborating with the operating system vendors Google and Apple. The system's design factors in the principle of data minimization in keeping with data protection regulations.

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Evans Deploys New Machine Vision AI System from ADLINK to Improve Warehouse Order Accuracy and Efficiency

Evans chooses the ADLINK Edge™ Smart Pallet solution to optimize warehouse packing line and automate quality checking – as showcased at ADLINK's booth 614, IWLA Convention & Expo

Evans Distribution Systems, a provider of third-party logistics and supply chain solutions, is transforming its warehouse packing line with a machine vision AI solution from ADLINK Technology, a global leader in edge computing. The ADLINK Edge™ Smart Pallet technology will be showcased by ADLINK in booth 614 during the 2020 IWLA Convention & Expo in San Diego, March 15-17, 2020.

Evans has deployed the ADLINK Edge™ Smart Pallet solution to improve accuracy and efficiency using two GigE cameras, an Edge AI Gateway computer and ADLINK Edge™ software. Package contents are recorded and classified as they move along the packing line and rule-based analytics are able to identify any incorrect contents.

The solution is able to cross reference real-time vision data viewing the box contents on the packing line against the packing list on Evans' Warehouse Management System and, if an error is detected, a label is printed on the box to signal that a manual quality check is required.

"Our investment in this technology from ADLINK is a small step toward a larger organizational goal: To provide the highest quality service to Evans customers using people and innovation to enhance the end-to-end supply chain," said Steve Ruch, Vice President of Warehousing at Evans. *"The goal is to enhance our current operations with a nondisruptive technology and machine vision AI has great potential to transform our business. The packing line conveyor still works in the same way but this machine is over 99% accurate, allowing us to utilize the valuable skills of our people in other areas more efficiently."*

"Our Smart Pallet solution is out of the box technology with minimal configuration and is proven to transform warehouse logistics operations. It replaces traditional barcode hand-scanning by using machine learning to help automate correct packing in the warehouse, removing errors in inventory," said Daniel Collins, Director of IoT Solutions for ADLINK Americas. *"As a smart solution, Smart Pallet includes all the hardware, software and training needed, including ADLINK's leading Smart Cameras, Edge IoT software for real-time connectivity and Edge IoT apps for machine vision."*

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Large Wind-power Plant with Yokogawa Control System Comes Online in Japan

Yokogawa Electric Corporation announces that Yokogawa Solution Service Corporation, a wholly owned subsidiary, has installed a Yokogawa control system for one of Japan's largest wind-power plants, and that this facility, Wind Farm Tsugaru, has come online. This plant was built by Green Power Tsugaru GK, a limited liability company that belongs to Green Power Investment Corporation.

Wind Farm Tsugaru is located in Tsugaru City, Aomori Prefecture. With 38 wind-turbines and a total power generation capacity of 121,600 kW, it is one of the largest onshore wind-power plants in Japan. To monitor the operation of this facility's wind turbines and provide integrated supervisory control of remote substations and the system interconnection switching stations, Yokogawa Solution Service delivered the FAST/TOOLS™ SCADA software, e-RT3 real-time-OS-based controllers, and network infrastructure devices. In addition to carrying out all the engineering work, Yokogawa Solution Service assisted the customer with the commissioning of the SCADA system.

In keeping with its sustainability goals for the year 2050 and the business focus areas defined in its Transformation 2020 mid-term business plan, Yokogawa is strengthening its renewable energy business. Leveraging the experience that it has gained in Japan through such undertakings as the participation in Wind Farm Tsugaru project, and based on its measurement, control, and information technologies and know-how, Yokogawa will work actively with companies around the world to combat global warming by proposing solutions that help renewable energy plants generate power more efficiently.

Hyundai Motor to Establish Hyundai Mobility Global Innovation Center in Singapore

Hyundai Motor Company will establish a Hyundai Mobility Global Innovation Center in Singapore (HMGICs) to accelerate its innovation efforts, with support from the Singapore Economic Development Board (EDB).

As an open innovation lab, HMGICs will help ensure the company's transformation into a smart mobility solution provider and secure its sustainable growth. The lab will explore business ideas and technologies to revolutionize a value chain encompassing R&D, business and production for future mobility solutions. It also will help define the future business direction for the company.

HMGICs will become Hyundai's global open innovation hub. The lab, through open innovation on multiple fronts, will explore and prove new future mobility business concepts for eventual expansion into global markets. Combining Hyundai's open innovations efforts with Singapore's fertile atmosphere, HMGICs will validate concepts including multi-modal mobility service.

The lab will also spearhead efforts to reach new markets and customers with cutting-edge technologies that will transform automotive R&D, production and sales. Combining AI, Internet of Things (IoT) and other advanced technologies, the lab will create a human-centered smart manufacturing platform that will be validated through a small pilot EV production facility. In conjunction with the platform, an innovative product development process and on-demand production system will be tested and proven.

HARTING Supplies Cable Assemblies for Medical Devices

Against the backdrop of the coronavirus pandemic, the HARTING Technology Group has taken numerous measures to protect its employees on the one hand, while ensuring that customers continue to benefit from a reliable supply of HARTING products and solutions on the other. "The protection of employees, but also maintaining the supply chain, is our top priority," as Philip Harting, CEO of the HARTING Technology Group underscored. HARTING supplies renowned manufacturers of medical and respiratory equipment with customer-specific cable assemblies.

Working under high pressure, several German manufacturers are currently producing the devices on which patients and doctors are urgently dependent in the coronavirus pandemic. HARTING has aligned its internal processes so as to supply these medical device manufacturers as quickly as possible. For years now, HARTING has been manufacturing complete connectivity system solutions for these devices. The current high and short-term requirements and the maintenance of the associated supply chain present major challenges for all parts of the company. At HARTING, securing the supply of the required components takes priority over all other activities.

Extensive rules of conduct and hygiene

All manufacturing, storage and delivery functions are secured by separation in space and time as well as a multitude of hygiene measures. Where expedient and sensible, many employees are already working from their home office. In addition, HARTING started to ramp up its stock levels weeks ago in order to be able to respond in the best possible way to any supply chain disruptions. Specially formed back-up teams serve to safeguard key areas when necessary.

A corona task force and a pandemic team coordinate all necessary measures.

"*We are experiencing something that is absolutely unprecedented in this form. And we don't know when the nightmare of the 'Corona pandemic' will end and what challenges still lie ahead. One thing is certain, we are doing everything we can to protect our employees and help our customers wherever possible*," Philip Harting went on to emphasize.

Successful Exlar European Strategy Meeting in The Netherlands

Growth in Europe with distributors through dialogue with Exlar USA

Exlar is based in Minnesota USA and since 2012 part of Curtiss-Wright group. Core business is development and production of actuators based on the roller-screw mechanism in which Exlar is the inventor of the integrated roller-screw servo-actuator integrated. Distributors in Europe are supported from Exlar Europe GmbH in Frankfurt. This method is successful: Growth in Europe has been even greater in recent years than in other parts of the world.

The European Exlar strategy meeting was organized by Exlar Europe GmbH and ATB Automation on 2 and 3 March at Hotel Mijdrecht Marickenland in the Netherlands. Participants were the managers of the European distributors, as well as the management of Exlar USA including the new general manager, sales manager and technical manager. New impetus with a lot of experience.

ATB Automation has been one of the successful European distributors in the Benelux for more than 15 years. In all these years a close relationship has been established with Exlar and the European distributors, whereby knowledge exchange and especially team spirit are always central.

Central during the strategy meeting is also the dialogue between Europe and USA with its similarities and differences. Exlar USA management also recognizes these differences. Reason for them to keep the dialogue with their sales team in Europe intensive and to listen carefully.

During the meeting, important items such as technical developments, market trends, competition and especially the needs for the European market are discussed in an informal atmosphere. In short: a lot of input for the strategy.

The new generation of Exlar actuators has also been presented. Central to this are effective production, short delivery times in combination with even higher presentations.

The conclusion of the meeting is that the team feeling between all distributors and the management of Exlar is strong and that together we are ready for the future.

Azbil Reduces Nearly 35,000 Tons of CO2 Emissions at Indonesian Refinery Unit

Azbil Corporation announced that its low-carbon technology has successfully reduced approximately 35,000 tons of CO_2 emissions in 10 months at a refinery unit of Indonesia's largest gas and oil company, PT Pertamina (Persero). This was one of three demonstration projects in Indonesia for the Joint Crediting Mechanism (JCM), organized by Japan's New Energy and Industrial Technology Development Organization (NEDO).

In January 2020, NEDO and Japan's Ministry of Economy, Trade and Industry (METI) announced that the three projects resulted in the issuance of 37,836 tons worth of credits, of which Azbil contributed approximately 92%, or 34,956 tons.

The purpose of the demonstration project Azbil participated in was to improve the operation of power plants at Pertamina's oil refinery unit in Central Java (project timeframe: system installed in 2017, CO_2 reduction monitored in 2018). Azbil installed its advanced control technology in the existing control system and achieved coordinated control of multiple power plants by configuring settings without operator assistance, resulting in greatly improved efficiency. The advantages of using the advanced control technology, unlike a complete retrofit, are completing the project in a short time, showing immediate results, and being cost effective. In addition to CO_2 reduction, the power plants were able to cut energy usage by approximately 4%, leading to a savings of approximately 300 million yen (calculated in terms of heavy oil).

Advanced Energy Announces Its New State-of-the-Art Manufacturing Facility in Southeast Asia Is Now Operational

Global leader in power solutions expands footprint with new facility in Penang, Malaysia to serve semiconductor and industrial customers in a region known for its rich community of high-tech manufacturing experts

Advanced Energy Industries, announces that its newest facility in Penang, Malaysia has begun commercial operations and started to deliver products to our customers. Situated in the heart of Southeast Asia on the country's northwest coast by the Malacca Strait, the state of Penang has long served as an important outlet to the markets of Europe and the Middle East, making it an ideal location for Advanced Energy's state-of-the-art manufacturing facility.

Advanced Energy's new 178,000 square-foot facility will manufacture a variety of its precision power supplies and generator products. When the factory is completed, it is expected to employ approximately 550 on-site associates inclusive of key roles in operations, electronics manufacturing, test engineering and new product introduction (NPI), with an estimated 35 percent comprised of technical staff.
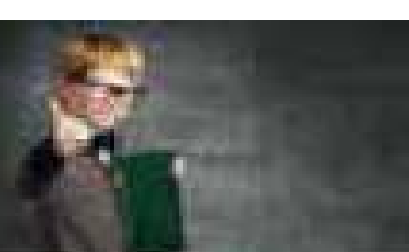
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Yokogawa Acquires Fluid Imaging Technologies, a Provider of Flow Imaging Particle Analysis Solutions

Yokogawa Electric Corporation announces that on April 8, it completed the acquisition of all shares of Fluid Imaging Technologies, Inc., as mutually agreed. Fluid Imaging Technologies possesses advanced technologies and know-how in the analysis of cells and other types of particles suspended in liquid media, and specializes in the development, manufacturing, and sale of flow imaging instrumentation used to perform particle analysis. With Fluid Imaging Technologies as a member of the Yokogawa Group, Yokogawa will be able to expand the portfolio of cell observation solutions offered by its life innovation business, and thereby strengthen its business targeting the bioeconomy market.

Fluid Imaging Technologies is a pioneer in the development of flow imaging instruments that combine the features of traditional microscopes, which are used for the observation of cells, and flow cytometers, which are used for high speed analysis of the characteristics of lymph and other types of blood cells suspended in a liquid medium. With functions that enable them to image, measure, analyze, and count particles in liquid samples, these instruments are used in fields such as marine research and municipal water management and industries ranging from biopharmaceuticals to chemicals, and oil & gas.

Through the provision of the CSU series confocal scanner units for the 3D observation of the inside of cells and the CellVoyager series high-content screening systems for automated drug evaluation experiments using cultivated cells, Yokogawa supports the research and development of cutting-edge live cell imaging systems. These instruments are suitable for observing adherent cells that are cultivated on the surface of Petri dishes and other types of culture plates. The addition of Fluid Imaging Technologies' flow imaging instruments to the Yokogawa product lineup will give our customers a greater range of choices, and the integration of our AI-assisted image analysis technologies with these technologies will enable us to offer new solutions for applications such as antibody drug quality inspection on production lines and water quality inspection for water supply systems.

By integrating this flow imaging technology with the technologies and know-how that Yokogawa has developed for its core control business targeting the oil, chemical, and water supply/wastewater treatment industries, we will be able to offer new value in diverse fields including healthcare, foods and beverages, pharmaceuticals, and environmental research.

"The combination of Fluid Imaging Technologies' flow imaging instrumentation with Yokogawa's optical engineering, artificial intelligence software, marketing, and distribution capabilities will accelerate FlowCam™'s positioning as the global brand leader in flow imaging technology," says Kent Peterson, president and CEO of Fluid Imaging Technologies. "Yokogawa's long-term goal for 2050 is to contribute to society's sustainable growth. One of our goals is to provide well-being for all. I strongly believe Fluid Imaging Technologies can greatly contribute in realizing this aim, says Hiroshi Nakao, a Yokogawa vice president and head of the company's Life Innovation Business Headquarters.

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IBM and Fraunhofer bring Quantum Computing to Germany

The Fraunhofer-Gesellschaft, Europe announced today the signing of the agreement aimed at advancing quantum computing in Germany. The collaboration gives companies and research institutions access to IBM quantum computers in Germany and the USA under the umbrella of a nationwide Fraunhofer competence network. The aim is to research the technology, application scenarios and algorithms while generating competence development and competitive advantages for the local economy and science.

As part of the collaboration, an IBM Q System One quantum computer will be installed in a IBM computer center near Stuttgart. The system is scheduled to go into operation in early 2021 and will be the first of its kind in Europe. Fraunhofer plans to bring together established partners from research and industry under the umbrella of a research infrastructure of Fraunhofer institutes, which will work together in a centrally coordinated national Fraunhofer competence network for quantum computing.

This network has set itself the goal of further developing and transferring application-oriented quantum computing strategies under complete data sovereignty of European law and will initially be represented by competence centers in expected six German states – Baden-Württemberg, Bavaria, Rhineland-Palatinate, Berlin, Hesse and North Rhine-Westphalia. Currently, more than ten Fraunhofer Institutes are already working on various fields of quantum technology.

As early as April 1, 2020, interested companies and research institutions will have access to the world's largest group of quantum computers in the US-based IBM Quantum Computation Center under the umbrella of the nationwide Fraunhofer competence network. The IBM Quantum Computation Center currently comprises 15 systems and is located in the US state of New York. Under the terms of the agreement, IBM will offer Fraunhofer technical support and assistance in using the IBM Quantum systems.

Cosmo Oil Adopts SAP Ariba Solutions for Procurement Efficiency

SAP SE announced that Japanese petroleum company Cosmo Oil Co. Ltd. has rolled out SAP Ariba solutions to help it more efficiently procure indirect materials.

As a core business within Cosmo Energy Group, Cosmo Oil functions as the Group's supply division, procuring crude oil and managing the production, import, export and logistics for petroleum products and petrochemical products.

Cosmo Oil aims to reinforce its competitiveness by elevating its expertise and technological prowess in petroleum refining and R&D, and by creating alliances with other companies. The company is also exploring digital technologies and the transformation of its indirect materials procurement to help it meet its efficiency goals.

Cosmo Oil decided to adopt SAP Ariba solutions for better insight into its spend data in order to realize more strategic procurement and purchasing, reinforce supplier and sourcing management functions, facilitate expansions with other sites of operation, and standardize procurement processes across the company — all while driving to an intuitive, convenient user experience.

Bosch Reacts to Falling Automotive Demand: Cutbacks in Operations at German Locations

Starting March 25, 2020, Bosch will be drastically cutting back operations at its German locations and steadily throttling parts of its manufacturing and administrative operations. At some locations, this will start successively from March 23, 2020. This has been agreed by the company and central works council in constructive meetings. In total, this will affect some 35 locations of the Mobility Solutions business sector in Germany, as well as locations performing corporate functions. In taking this measure, the company is reacting to the drastic drop in demand for vehicles, especially in Europe, and the associated production shutdowns by automakers. Bosch will decide on further suitable measures to guarantee heightened protection against the risk of coronavirus infection for all its workforce.

The necessary preparations will be made over the next few days. In a first phase, the associates affected will be asked to reduce or offset their overtime accounts and/or take vacation. In a second phase, the company plans to introduce reduced working hours by April 5 at the latest. The details of this are currently being worked out. It is currently unclear how long these measures will last. This will depend on further developments.

Differences from location to location mean that details of how this decision will be put into practice, such as the precise timing and duration of these cutbacks, will be agreed locally, together with the employee representatives at the respective locations. The agreed measures will then be quickly taken. Associates will be informed in good time about what has been agreed.

Necessary, business-critical activities and selected manufacturing and engineering activities are to be continued, also in view of the current gradual recovery of the Chinese automotive market. With reliable supplies of products, Bosch wants to help encourage this trend. By supplying necessary parts to commercial vehicle manufacturers and for vehicle maintenance, Bosch is also helping to maintain the transport of goods and people worldwide. In addition, the company wants to be ready to satisfy its automotive customers' requirements quickly and in the best possible way once the market recovers. Bosch is in close contact with its associates, customers, partners, and suppliers.

A number of other European locations are also affected by the drop in demand for vehicles. Here as well, the company is consulting closely with customers and local employee representatives in order to reach viable, location-specific solutions.

Etteplan's Private Network as A Service Enables The Smart Factory of The Future at Danfoss

Danfoss is piloting a private LTE network provided by Etteplan at its factory in Vaasa in a one-year project that began in January this year. By deploying the highly reliable wireless private network, Danfoss aims to improve productivity and workplace safety, expand the services Danfoss offers to its customers, and enable one component for the smart factory of the future.

The pilot project utilizes Etteplan's connectivity service, in which the customer gets a 5G-ready LTE private network on a turnkey principle in exchange for a start-up fee and a monthly payment.

"*At Danfoss, our aim is to use the private network to improve plant productivity. We want our factories to run more efficiently. A private LTE network enables us to collect a larger amount of data, as well as new kinds of data. Another incentive is operational safety. The network enables us to transmit video and detect potential hazards with the help of machine vision applications*," says Jari Marjo, Head of Global Technology, Supply Chain at Danfoss Drives.

Etteplan's LTE private network accelerates digitalization by enabling the efficient integration of physical systems with business-critical processes in various industries. A private network is especially well suited for large factories, mines, logistics terminals, ports, and hospital complexes, since comprehensive network solutions based on other technologies can turn out to be expensive or difficult. The ability to transmit data with low latency also enables real-time processing and analysis with the help of edge computing.

Etteplan's service is delivered as an end-to-end solution that includes network design, base stations, the management server, terminal devices with SIM cards, and network maintenance. Etteplan partners with Nokia and Edzcom (formerly Ukkoverkot) in the provision of private LTE networks. As the solution provider, Etteplan is responsible for all the necessary hardware and software integration.

The private network transmits large quantities of data to support proactive maintenance

During the pilot project as a user of Etteplan's private network, Danfoss will study the benefits of a private network not only at its factory, which produces frequency converters under the VACON® brand, but also in the product development of the products and services it provides to its customers.

"*The primary purpose is to understand when a device is close to malfunctioning. This refers to proactive maintenance and the related analysis and diagnostics. In our first customer pilot, our goal is to replace the current data transmission network of our large factory complex with a private network that will solve problems related to data transmission capacity, costs, and density*," says Marjo from Danfoss.

The private network supports the company's goal of moving towards the smart factory of the future, in which data from devices can strengthen decision-making and the physical structures of the factory are easier to change due to reduced cabling needs.

NEC to Provide Vietnam with "LOTUSat-1" Earth Observation Satellite System

NEC Corporation announced that it received an order from Sumitomo Corporation for the manufacture and launch of the "LOTUSat-1" Earth observation satellite system for the Vietnam National Space Center (VNSC) (*1). The order also includes development of a ground system and local human capacity building programs related to satellite development processes, and is expected to be worth approximately 20 billion yen.

The satellite is scheduled to launch around 2023 and will contribute to measures against natural disasters and climate change in Vietnam as the first satellite system that NEC provides outside of Japan.

The LOTUSat-1 Earth observation satellite (*2) will be equipped with Synthetic Aperture Radar (SAR) and developed based on NEXTAR, a standard satellite system that leverages NEC's long-standing expertise and enables rapid delivery times, reduced costs, and high functionality. The LOTUSat-1 will also feature systems modeled after the ASNARO-2 radar observation satellite (*3) that is currently in operation.

NEC will provide a completed ground system, including a 9 meter-diameter parabolic antenna, satellite control center, and mission data utilization center and user interface which is based on NEC's "GroundNEXTAR" (*4) software package. The system will be installed at a space center in Hoa Lac being established and operated by the VNSC.

NEC will also support the development of local human resources by providing training in technology related to satellite development and operation processes, which will contribute to improving monitoring capabilities and enhancing the ability to forecast natural disasters.

This is the first satellite project by a Japanese company using Official Development Assistance (ODA) funds from the Japan International Cooperation Agency (JICA) under its Special Terms for Economic Partnership (STEP) program.

Grundfos Ready to Support Healthcare System

Production in Bjerringbro will deliver up to 5000 face shields a day to aid Danish health services in the fight against coronavirus.

36 hours after the call from the Danish Medicines Agency, a Grundfos team had made a visor prototype. On Friday 3 April, full-scale production is set to begin. Up to 5000 visors, or face shields, will – according to demand – roll out every day, so that employees in the health and care sector can protect themselves and patients against corona infection.

The delivery of aids also includes other countries in areas, where Grundfos has production facilities. For instance, 2500 visors will be delivered to a local French hospital on Monday 6 April.

"I am incredibly proud of our skilled colleagues, who have established this so quickly. It is imperative that everyone contributes with solutions in any way possible, so we can support our health and care staff in the fight against coronavirus. We are ready to do everything within our power," says Morten Bach Jensen, Group Vice President, HVAC OEM, Grundfos.

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Sembcorp Launches Singapore's First Renewable Energy Certificate Aggregator Platform To Meet The Sustainability Needs Of Customers

Sembcorp Industries (Sembcorp) is pleased to launch Singapore's first renewable energy certificate (REC) platform that manages RECs from multiple sources. Backed by the company's fast-growing renewable power capacity in China and Southeast Asia, the Sembcorp REC platform enables customers to transact RE100-recognised RECs to meet their green energy requirements.

The platform aggregates RECs by combining them from different sources with RECs generated from Sembcorp renewable assets for sale in bulk. This is especially useful for RE100 companies looking to purchase large volumes of RECs to offset their carbon footprint. Sellers are guaranteed of a sale of their RECs, regardless of quantity, as long as such RECs meet the stringent authenticity criteria of the Sembcorp REC platform. At the same time, buyers are assured of purchasing high-quality RECs which are traceable and authenticated. As a leading renewable energy generator, Sembcorp is also able to offer additional stable supply of authentic RECs and ensure high liquidity of RECs on the platform.

The use of blockchain technology on the Sembcorp REC aggregator platform ensures transparency and integrity of every transaction as well as better security, while the quality of RECs are verified by third-party validators. The platform offers real-time tracking and management of every transactioncovering a REC's life cycle from generation and registration, to transfer and eventual retirement.

The Sembcorp REC aggregator platform is developed for businesses as well as individual consumers. In future, producers of renewable energy can also install smart meters and link them up to the platform to generate RECs directly. This upcoming feature encourages decarbonisation by all category of customers whether businesses or individuals, by allowing them to monetise their RECs with ease via the Sembcorp REC aggregator platform, which would go towards defraying investment costs in their renewable energy systems.

For customers with sustainability targets for energy consumption, water usage and waste management while managing costs and quality of service, Sembcorp is the only renewable energy player in Singapore that offers end-to-end energy and environmental solutions to help overcome these challenges. For instance, Sembcorp is able to package traditional power with green power – through physical assets and RECs – to optimally balance the energy and sustainability requirements of each customer. The Sembcorp REC aggregator platform is also a core technology offering within Sembcorp's customisable suite of urban sustainability solutions that includes electricity retailing, solar energy generation, green energy attribute management and distributed gas retailing; on-site heat and cooling solutions; distributed wastewater treatment, water harvesting and recycling; as well as solid waste management and logistics, recyclables collection and conversion of waste into energy.

UPS Enhances Singapore Healthcare Supply Chain Capabilities

UPS announced that its freight forwarding operation at Changi Airport, Singapore, has received IATA CEIV Pharma Certification for pharmaceutical logistics. The certification is the first for UPS in Asia Pacific and strengthens the value proposition of UPS's healthcare logistics offering in the region. It is a further validation of its capabilities in the safe, secure and efficient transportation of high-value pharmaceutical products.

IATA's CEIV Pharma Certification is an industry certification developed by IATA, regulators and aviation industry stakeholders. It evaluates companies on a comprehensive range of criteria including quality management systems, facilities, equipment, operations and staff expertise. The certification requires companies to meet or exceed many existing pharmaceutical standards and guidelines such as IATA Temperature Control Regulations, European Union Good Distribution Practices, World Health Organisation Annex 5 Good Distribution Practices for Pharmaceutical Products and United States Pharmacopeia Standards.

"*Pharmaceuticals are time and temperature-sensitive, requiring an extra amount of care throughout the transportation process. These are not typical packages, and at times life-saving deliveries as well. This certification is an affirmation of the high standards of handling and transportation that UPS's customers in the healthcare and life sciences sector have come to rely on for their high-value shipments,*" said Lim Bee Koong, Director, Healthcare Strategy, UPS Asia Pacific.

Enhancing its value proposition with an industry-leading set of standards like the IATA CEIV Pharma certification is part of UPS's vision to inspire trust and empower innovation to improve patient care across the healthcare and life sciences ecosystem.

This follows the formation of a dedicated UPS Healthcare unit to connect all global UPS healthcare operations and commercial groups within a single business unit to streamline processes and enable faster turnarounds and decision-making. The company is in the midst of a structured transformation including investments in new capacity and automation for its Smart Global Logistics Network, leveraging data, analytics and innovative technology.

"*Our continual upgrades and technology investments give us a high degree of visibility over the healthcare supply chain. For example, UPS has strategically placed control towers globally that monitor UPS Temperature True® shipments for any potential temperature excursions that may otherwise degrade temperature-sensitive pharmaceuticals. It's this customer-first focus that has helped pave the way for our IATA CEIV Pharma Certification,*" added Bee Koong.

WEG Implements Energy Efficiency Project in Mexico's Factory

To meet the need for machined cast components for all industrial electric motor housings produced in Mexico, WEG went to great lengths to further automate the Mexican subsidiary. By doing so, the WEG Mexican Factory is recognized as one of the most modern foundries existing today, complying with excellence, with a goal of being one of the most important in Latin America.

Energy Efficiency in the Exhaust System

When implementing the solution in its own factory, in operation since November 2019, WEG developed an energy efficiency project in the exhaust systems. This project included the installation of 7 W22 Magnet motors with IE5 Ultra Premium and IE4 Super Premium performance levels, with powers from 45kW to 260kW, and a W22 NEMA Premium Efficiency motor, that operates with the CFW11 frequency inverter and a pressure transmitter. The solution provided a reduction of 30% to 35% in electricity consumption, also reducing the operating cost of the entire system.

The Airlift against Corona - Pforzheim Companies Fit Mobile Ventilators with STOBER Components

Felix Theurer, Managing Director of the student design office FF Maschinen GmbH, is very well known to STOBER. In December last year, STOBER sponsored the young engineer and his team in a mechanical engineering project with suitable electronic hardware and software.

In times of corona and the increased demand for ventilators, Theurer had the idea to expand manually operated mobile ventilators in such a way that they can also be used for patients with corona-related breathing difficulties.

In order to create a reliably functioning prototype from a concept developed with various doctors and intensive care physicians, Felix Theurer turned to the Pforzheim-based special machine manufacturer SOGA Gallenbach. SOGA is a long-standing customer and close partner of STOBER who immediately agreed to support him. Together with NAST Automation, whose managing director Dennis Nagel is a former STOBER co-worker, the students of FF Maschinen GmbH work intensively on the technical implementation.

In only seven days they created a ventilator device easy to operate that "breathes" with STOBER components: an EZ302 synchronous servo motor in combination with a SC6A062 drive controller.

The prototype masters all required ventilation modes and runs stably. A certification application for a quick special approval has already been submitted. As soon as the prototype is certified, production can begin.

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GE's Mobile Technology Arrives in The Bahamas to Power The Island

Bahamas Power & Light Company Ltd. (BPL), the state-owned electric company that provides service to approximately 110,000 customers, recently installed a GE's TM2500 mobile aeroderivative gas turbine in its Blue Hills plant. The unit will supply up to 34 MW, enough energy to power the residential consumption of between 12,000 and 18,000 customers, and may potentially help stabilize the country's grid.

The installation and commissioning of the equipment was completed in only 42 days. The deployment of the mobile gas turbine by GE Gas Power will potentially support the improvement of frequency control of the grid, which is expected to help reduce power outages and eventually facilitate the connection of more renewable generation.

"*Our TM2500 mobile aeroderivative gas turbine can operate on a wide variety of fuels including natural gas, LPG and distillate liquid fuel, becoming the first equipment of its kind to be installed in The Bahamas*", said Carlos Mousadi, General Manager for Central America and The Caribbean for GE Gas Power. "*The technology may potentially provide cheaper and cleaner power than the current diesel generators on the island*", Mousadi added.

Solar energy has always been another alternative of green power for The Bahamas, but in order to make it efficient, it requires a very stable grid to connect to. In the current situation, where the grid is at limit and the frequency is not stable, GE's gas technology at Blue Hills might help bringing more stability to the system.

This instability reaches higher levels as a result of the 6.6 million tourists that visit the island every year. According to the Bahamas Ministry of Tourism, the last couple of years have been record-breaking as far as the number of visitors, and only in February 2019 international arrivals increased by 11.1 % year-over-year. This growing trend has an important impact on power demand, since the country has only about 390,000 inhabitants.

"*The highest peak of energy consumption during summer in New Providence is 250 MW and in winter goes down to 160-170 MW. Having an additional of up to 34 MW is significant for our operation and will allow us to deliver a better service to our customers and to the millions of tourists who visit us every year*", said K. Quincy Parker, Director of Public Relations of BPL.

With a mobile power plant like the one just installed in Blue Hills, BPL will potentially be able to reach areas impacted with natural events like tropical storms and hurricanes of the intensity of Dorian. By getting the technology up and running as required, and allowing the unit to go from cold metal to full power output in only 5 minutes, needs such as medical care, water, shelter and food might be met in a short period of time. "*Now, we can possibly provide power to where is needed very quickly. In emergencies, time is critical and the TM2500 may be the answer to that problem*", said Mousadi.

Azbil Building Automation Products Win Red Dot Award for Product Design

Azbil Corporation announced that its ceiling-mounted temperature sensor (round type) , infrared array sensor system, and controllers and input/output modules for savic-net™G5 building management system have won the prestigious Red Dot Award 2020 in the product design discipline.

Organized by Germany's Design Zentrum Nordrhein Westfalen, the Red Dot Award is one of the world's largest and most respected design awards. Over 10,000 entries from more than 50 countries and regions are submitted every year across the disciplines of product design, brand &amp; communication, and design concept, with winning entries selected by an international panel of experts.

The ceiling-mounted temperature sensor (round type), an indoor temperature sensor for use with building HVAC systems, has a diameter of a mere 40 mm and a small, minimalist design form that allows it to blend in with its surroundings. It contributes to creating a comfortable environment both in terms of temperature and aesthetics. It features high accuracy and fast response time despite its compact size, and a mechanism that uses springs to snap the sensor into place, which greatly reduces the work required for installation.

The infrared array sensor system uses infrared detection to determine the status of a room's environment, including the number and position of occupants and heat from sunlight. By monitoring the room's temperature change, the system can maintain a comfortable environment while saving energy in unused areas by reducing air conditioning or heating, dimming lights, etc. Because the system boasts a design that harmonizes with indoor environments and a lineup of various sensor types, it can be used in a wide range of environments or places that necessitate differing installation methods.

The controllers and input/output modules for savic-net G5 building management system are used to control HVAC, lighting, heating/cooling units, and other equipment in buildings. To aid in flexibly constructing systems, the controllers and modules enhance coordinated control between devices and are compatible with international communication standards, allowing them to connect with various devices and easily be used with other systems. The indicators on the equipment as well as the wiring feature a shared design, which not only achieves consistency but also improves installation efficiency.

reddot winner 2020

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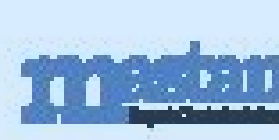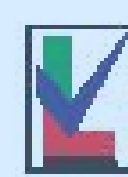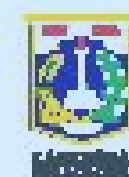# 25 - 27
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Bosch Makes Driving Forklifts Even Safer

They whiz nimbly down narrow aisles of shelving, transporting heavy loads in production plants and warehouses – forklift trucks are an absolutely essential piece of equipment in modern-day logistics. Their use, however, also poses potential risks. According to data from the German Social Accident Insurance (DGUV), more than 12,500 accidents resulting in personal injury and involving forklift trucks were reported in 2018 alone. In one third of forklift accidents, the person injured was the

driver, and in 42 percent of cases, the accident victim was hit, crushed, or run over by a forklift. "*With our innovative collision warning system, we are now offering an essential upgrade for increasing forklift operation safety and reducing workplace accidents in this area*," says Andrew Allen, responsible for the Commercial Vehicles and Off-Road operating unit at Bosch.

The collision warning system comprises four compact near-range cameras and a control unit that creates an all-around view of the vehicle's surroundings and displays this to the forklift driver on a monitor. Bosch presented the first generation of the multi-camera system for forklifts, which was designed purely as a view assist solution, at the LogiMAT trade show in 2019. This system already provided a good all-around view, even in the case of blind spots, i.e. restricted visibility, for example, due to the load on the fork or during vehicle reversing maneuvers. The function enhancement now warns the forklift driver about any stationary or moving objects in the vehicle's immediate surroundings. The alert can, for instance, take the form of a clearly discernible colored area overlaid onto the picture of the vehicle surroundings displayed on the monitor.

Perfect view combined with timely alerts

When driving in an aisle or past rows of shelves, the driver is warned about anyone kneeling, standing, or moving behind or alongside the vehicle. At intersections with restricted visibility, the system also helps the driver react in good time to persons or vehicles approaching from the side. A further benefit is the warning feature that assists the driver when handling storage items. It enables the driver to better focus on, for example, the task of retrieving a load from storage, since the system will provide a timely warning if there is a risk of collision. In addition to the collision warning feature, the functionality provided by the multi-camera system also includes all the features offered by the first-generation view assist solution. For example, an image of the driver's own vehicle is shown on the cockpit display as a 3D model that is accurate in every detail.

Quick and easy multi-camera system setup

The new collision warning solution is based on the same hardware as the multi-camera system, so the calibration process is quick and easy. In the case of mobile machinery used in off-highway applications, Bosch makes the process of adapting the multi-camera system to different customer use cases very straightforward. It means service technicians can get the system of cameras operational in under 25 minutes, even on different vehicle variants. All that is needed to perform the calibration are five handy calibration patterns (that can be rolled up for easy storage), a measuring tape, and a service PC for running the calibration tool. The service technician can perform the calibration quickly and easily using the quick setup function or a guided, dialog-based setup. The calibration tool therefore adapts perfectly to the technician's personal preferences and level of experience. It also offers features like diagnostic functions for troubleshooting, software updates, and additional custom settings.

Mitutoyo's MeasurLink® Quality Management Software Streamlines Data Management Process

System saves time, money and increases productivity in brake automotive manufacturing industry

In the automotive industry, disc brake calipers and ABS/Traction control systems are usually manufactured in large quantities, and in the past, it has been nearly impossible to capture data in real time. Real time data provides a streamlined process of looking at the data that is very intuitive to quality engineering and can be interpreted in a more fluid way.

Mitutoyo America Corporation's CMM's, using MCOSMOS and GEOMeasure software, can capture manufacturing data; however, a data management software system is a more efficient way to manage a larger volume of data. Operators could use CMM reports to ensure the parts were in spec, but the operators needed to apply real-time SPC to ensure products produced maintained an acceptable Cpk/Ppk.

Traditionally, the data was manually managed in a Microsoft Excel spreadsheet, but there were many limitations to this process including ease of importing data, inconsistences with data and a micro process which didn't have the ability to be streamlined to expand the data to meet quality needs efficiently, safely and accurately.

Ultimately, Mitutoyo's MeasurLink® Quality Management Software was the perfect solution. The company had already been working with Mitutoyo on their other quality solutions, was familiar with the data management challenge and was able to install and customize to fit the company's needs for real time data management.

MeasurLink® is a full partner for manufacturing process control and incorporates several customizable features for customers who want to acquire and analyze data in real-time and check variable and attribute inspection to maximize production and minimize defects.

As a result of installing MeasurLink®, there has been a major boost in productivity being able to capture and supply real time accurate historical data up to 10 times faster than previously reported to their customers. This has been one of the most invaluable benefits of MeasurLink®'s addition. By the end of 2019, MeasurLink® will be implemented and expanded into an additional 30-50 inspection stations to support Electronic Parking Brake manufacturing.

Additionally, MeasurLink® has been expanded into a safety critical seal groove measurement process, which uses a Mitutoyo CNC Contracer to ensure the groove geometry is correct. The data is collected by MeasurLink® and is reviewed by manufacturing engineers to ensure conformance of safety characteristics. This is an extensive measurement system that previously was a manual process and has now become a fully automated CNC process going from a 45 minute to 5 minute cycle time.

Additionally, an engineering group specifically dedicated to process improvement has been developed. This has allowed the company to evaluate, verify and stabilize internal scrap and decrease the amount of costs directly related to internal defects by nearly 60 percent. The addition of MeasurLink has stabilized any data collection problems to almost zero and brought cost associated with these data mistakes down considerably.

Extend SIL Proof Test Intervals with New Liquiphant FTL51

CABB AG in Switzerland attaches great importance to plant safety. That is why it has decided on a new model of the proven tuning fork level switch from Endress+Hauser. Operated in homogeneous redundancy, the new Liquiphant ensures reliable point level detection in a SIL3 safety loop.

According to Michael Lemke, functional safety expert at CABB AG, more and more SIF circuits (safety circuits with a defined SIL level) are being installed in the plant. Accordingly, the maintenance and testing effort increases. This is aggravated by the fact that the time windows for carrying out proof tests are becoming shorter and shorter, while the number of maintenance staff remains the same.

In order to compensate for the increased effort, safe and reliable measuring instruments are required, which ideally should also be developed according to IEC 61508. This should also result in a longer application or operating life.

The Liquiphant is used in a SIL3 application. It consists of four tanks, which are connected by pipes that communicate with each other. The medium used is thionyl chloride which is acutely toxic to humans. For this reason, the technicians remove the devices for a comprehensive test according to SIL guidelines under full protection. The tank must be emptied and cleaned for this purpose. In the past, the level switch had to be removed for testing every year. By using Endress+Hauser measurement technology, this effort has been reduced significantly.

Endress+Hauser Solution

The new Liquiphant FTL51 is used in 1oo4 architecture and homogeneous redundancy on the tanks. Each individual tank is therefore equipped with a new Liquiphant FTL51, which is important because of the design and the connection of the tanks to each other. For a SIL3 application, a 1oo2 architecture would otherwise be common on a tank.

The device also displays within the app its current status via the diagnostic function as well as the oscillation frequency of the fork. If the frequency increases steadily, this can be an early indicator of corrosion on the fork, which the Liquiphant signals with a warning. The monitoring function records the past frequencies and thus enables predictive maintenance. Another important feature for the customer was the digital NAMUR signal that the sensor outputs. It facilitates integration into the existing process control.

Customer Benefits

Shorter intervals in which the measuring devices are inactive reduce the downtime of the entire plant. At the same time, the probability of systematic errors is significantly reduced because the measuring device has to be removed and installed less frequently. Thanks to the development in accordance with IEC 61508, the device can also be used directly in SIL safety circuits without the need for additional operational testing by the user.

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Smart Devices for Smart Steel Production

Smart manufacturing is the gateway to digital transformation. Connected smart devices open new windows of visibility into processes. Data and analytics enable better and faster decision-making. Seamless connectivity spurs new collaboration.

One of those companies is a metals manufacturer. Comprised of multiple divisions, this producer is both a supplier of raw materials as well as a manufacturer of finished parts for a variety of consumer and industrial applications. They melt, roll and process steel but, at the core, this customer is a service business committed to investing in the people and technologies that add value to their customers' products.

While the individual divisions all serve the metals industry, each division has unique operating requirements and customer demands. This producer understood the importance of keeping up with modern technology and the opportunities associated with data driven operations. Digital transformation was a departure from traditional methods being used across the divisions within their operations, but the potential opportunity cost was too much to forego. The challenge would be to identify solutions that could be shared across the unique divisions yet deliver distinct results.

The metals manufacturer selected Rockwell Automation as their vendor of choice to pursue their digital transformation objectives. Careful to deliver an implementable solution, it was important to develop a plan that provided the customer with a singular strategy that allowed for strategic differences within the different divisions. Operational assessments were conducted with core stakeholder teams to develop a strategic roadmap. The C-suite, finance, operations, engineering and IT teams were consulted to deliver a solution that offered transparent similarities and differences across the divisions and aligned with corporate and individual needs. It was also important that these key stakeholders realized the benefits of digital transformation and were fully on board to achieve long-term success.

The Approach

By leveraging Rockwell Automation's established Connected Enterprise framework, assessments were taken across the enterprise to develop recommendations, form a business case and establish a roadmap. To accomplish this, several steps were taken:

• **Evaluation:** Existing strategies and infrastructure of the organization were examined. A deep dive was taken to analyze IT/OT, information and networks as they currently stood.

• **Assessment:** Multiple division visits and workshops with diverse client stakeholders took place to assess potential gaps and roadblocks that could prohibit a successful digital transformation.

• **Identification:** Opportunities for business benefits and improved device connectivity across divisions were quantified and a plan was put in place to address these target areas with digital transformation.

Identified Solutions

The results of the assessment across the individual divisions identified a set of tangible savings through digital transformation. Labor productivity improvements of 8%, tooling cost reductions by 10% while cutting down on scrap by 13%. Additional downtime reductions of 12%, saving time and money where it's most frequently lost.Digital solutions included the modernization of current automation pieces in the plant to allow for data access and connectivity across machinery. Edge analytics software was proposed to fulfill the need for monitoring and analyzing streaming process data for real-time anomaly detection.Several of the divisions have proceeded to implement the core of these new solutions with Rockwell Automation and its partners. With these updates, the metals manufacturer is positioning itself for long-term success and is prepared for the next phases of implementation and digital updates. Working together with Rockwell Automation, the customer has already seen significant improvements leading to optimized production, reduced downtime and money saved.

Crawler Robot Defies The Rough North Sea

It cleans ,inspects and removes steel structures on the Danish gas platform, Tyra: Robotic Crawler, a robot that eliminates the need for dangerous and expensive dives. To protect the robot against corrosion and wear during its work in the harsh North Sea, the engineers rely on high-performance polymers from the motion plastics specialist igus.

The next time you holiday in Denmark and turn on the gas stove, bear in mind: with a probability of 90 per cent, the gas comes from the Danish North Sea. Pumped from a platform called Tyra, which the company Total has been operating since 1987, located 200 kilometres west of the city of Esbjerg. But Tyra is in danger. Because the porous limestone layers under the seabed are diminishing. The seabed - and the gas platform - has sunk by over five metres in recent decades. This has brought the platform so close to the water that high waves in winter become a danger to employees. Therefore, Total has decided to rebuild the gas platform. Gas production has been discontinued until 2022. Construction work has been scheduled.
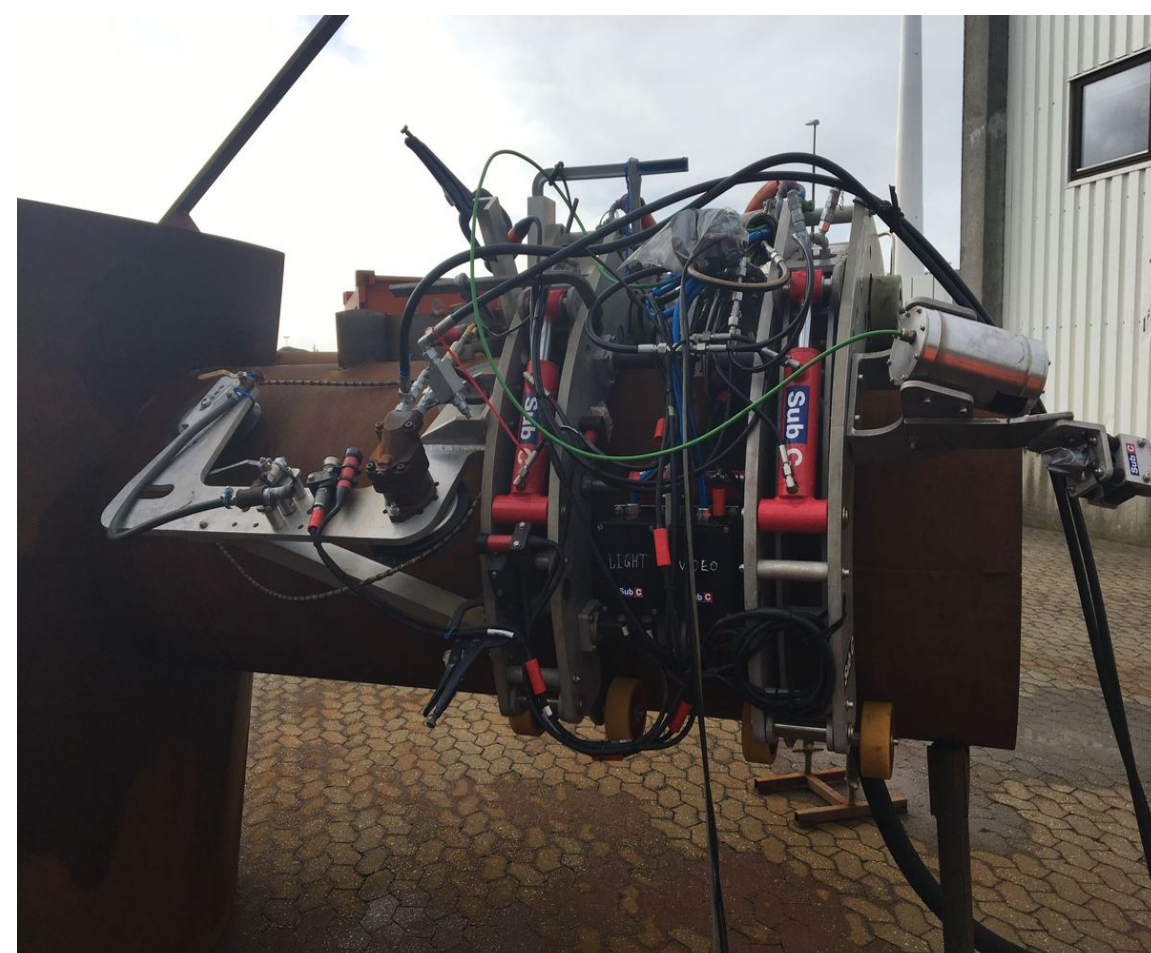
'Like in a washing machine' – dives are dangerous and expensive

Offshore platforms are mounted on so-called 'jackets' - on square structures made of steel tube anchored to the seabed. The rebuilding project included making an inventory. What about the quality of the steel pipes - especially near the water surface, in the so-called splash zone, where the structure is susceptible to corrosion? To find answers, divers would have jumped into the water in the past. A dangerous task. A 'ride in a washing machine' is how a diver compares the operation. In addition, crew, equipment and support vessels are expensive.

Safer and more cost-effective: robots for inspection and decommissioning work

The Crawler has two hydraulically powered metal claws with a total of 12 rollers, each clinging to the steel structure with a contact pressure of 500kg. On 12 rollers, the crawler moves around the tube. The forward motion resembles that of a caterpillar: if it wants to move forward, the rear claw clasps the tube. The front claw presses forward by a few centimetres via hydraulic cylinders. Then the front claw pulls the rear one after. In this way the robot reaches any point of the tube.

High performance polymer protects the Robotic Crawler from corrosion

The Robotic Crawler - unlike a diver - does not run the risk of getting injured. But the salty seawater was still a challenge for the engineers. If the experts had used metal bushings in the joints of the robot, the risk of corrosion and unplanned downtime would have been constant companions. The engineers therefore opted for an alternative: bushings made of iglidur high-performance polymer offered by the motion plastics specialist igus based in Cologne.

Laboratory tests confirm wear resistance of polymer bearings

In order to prove the durability of its materials, igus operates a 3,800 square metre test laboratory, where more than 15,000 tribology tests are conducted each year on 300 test facilities. Also, iglidur Z, the material used by SubC Partner, had to prove its robustness there. The engineers pivoted a polymer bushing on an ST52 gas-nitrided shaft - at a speed of 0.01 metres per second and a load of 30 MPa. Even after 200,000 cycles, no appreciable wear could be measured on the bushings and the shaft. The result is different with the metallic bushings.

Accelerating Smart Manufacturing Through IIoT Education

Training for smart manufacturing talent starts from education. The comprehensive execution of industry-academic partnerships can help foster the next generation of smart manufacturing talent

Taiwan has established a powerful status in the manufacturing industry, resulting from an experienced workforce with skills and talents in traditional manufacturing technology. This strong foundation has consolidated Taiwan's reputation in the industry to date.

However, traditional manufacturing technology has reached a pinnacle and it is now important to ask the question, how can we help it reach the next level? Globally, Industry 4.0 and the Industrial Internet of Things (IIoT) is evolving rapidly and as the world's core supply chain hub, Taiwan needs to be more innovative in smart manufacturing.

Collaborations between companies and universities are critical drivers of the innovation economy. As such, Rockwell Automation Taiwan and Feng Chia University are co-developing smart manufacturing education to facilitate the next generation of students learn about digital transformation.

Next Generation Smart Manufacturing

Smart manufacturing and industrial operations embrace a new way forward. This new direction is - IIoT enabled, highly connected devices and processes that can be continually monitored and optimized.

This requires the use of new and disruptive technologies, from analytics and mobile to collaborative machines.

These technologies communicate with each other and adapt to internal and external conditions. Smart operations also require new strategies that make the most of these technologies to create flexible, efficient, responsive, and secure operations. Education is a key enabler to help manufacturers embrace these new technologies.

Bringing Smart Machines to The Classroom

FCU's innovative environment, together with the large number of OEMs in Taichung, makes it the best choice to facilitate the next generation of students to learn about digital transformation.

"*The world is rapidly changing, and industry is seeking transition to new technologies. To address these needs, FCU cultivates its students so they can participate in the next stage of industrial upgrading and transition. We have co-developed smart manufacturing education with Rockwell Automation to enable innovative talent to be trained so they can participate in the upgrading and transition of society and industry,*" explained Lee Bing-Jean, president, Feng Chia University.

Turning Theory to Practice

This innovative model provides the opportunity for students to combine lectures with 'hands-on' practice with the latest industrial automation equipment. FCU was previously lacking the latest knowledge of Industry 4.0 and smart manufacturing but now it can take advantage of the resources provided by Rockwell Automation. This allows students to learn on campus and directly enter the workplace in the future through a seamless transition into the industry.

Furthermore, Rockwell Automation and FCU are also hoping to co-create an Applications Development Center within the university. This will focus on how to apply the digital transformation knowledge learned in school to various applications and industries. The ultimate goal will be to tackle industry challenges and help customers implement smart manufacturing.

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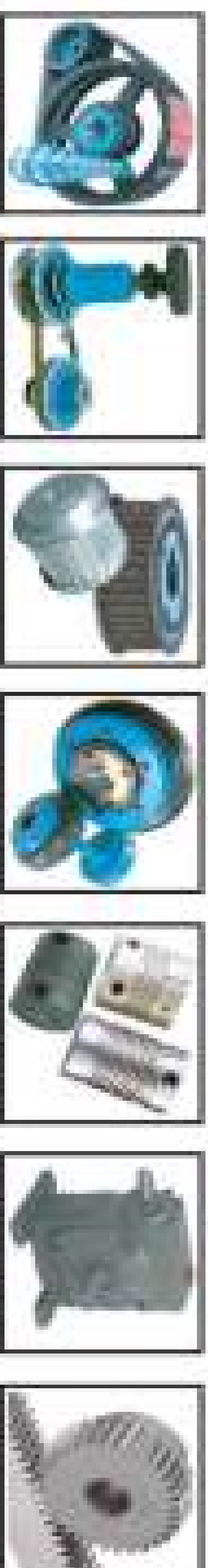## 26-28 AUGUST 2020

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New L&W Autoline Offers Fastest, Most Reliable Automated Paper Testing Solution

ABB's next-generation system provides rigorous quality control information, up to 10 times faster than manual testing, to enable the rapid reduction of off-spec production

Technology leader ABB announces its enhanced L&W Autoline automated paper testing system, scalable to fit any lab and user-friendly in operation for those new to automated testing. The fast, accurate solution optimizes quality control and minimizes operational costs for all papermaking operations.

For intuitive simplicity, Autoline incorporates a unique, visual touchscreen interface, requiring minimal training to master. Other features include the smoothest and most reliable feeding system on the market, that pulls the samples through the machine to minimize jamming; a unique dual test function to reduce queuing by allowing simultaneous testing; high-volume information storage, enabling identification of quality trends over time; and real-time visualization, providing direct feedback to operators on the unit and throughout the mill.

The system—which can handle everything from sample preparation to the final reel report—radically reduces dependence on manual testing, enabling resources to focus on continuous and sustainable quality improvements while reducing quality control costs.

The speed at which the system gathers information and highlights off-spec data facilitates rapid process tuning 24/7, 365 days of the year. Visualizations are instantly available in real time to operations and engineering personnel both locally and remotely, to ensure production targets and quality specifications are fulfilled.

Building on the legacy of almost 50 years of automatic paper testing, L&W Autoline now comes in two different sizes: L&W Autoline S has a reduced footprint for smaller mills and those new to automated testing. L&W Autoline L is a larger unit, designed for more extensive testing requirements.

Danfoss Releases "World's Smallest" EEV for Small A/C and IT Cooling

Danfoss has unveiled what is believed to be the world's smallest electronic expansion valve (EEV), a mini EEV for small A/C and CRAC units, allowing OEMs to drive greater system efficiency, reliability and quieter operations.

A mini EEV for **small A/C units and Close Control**
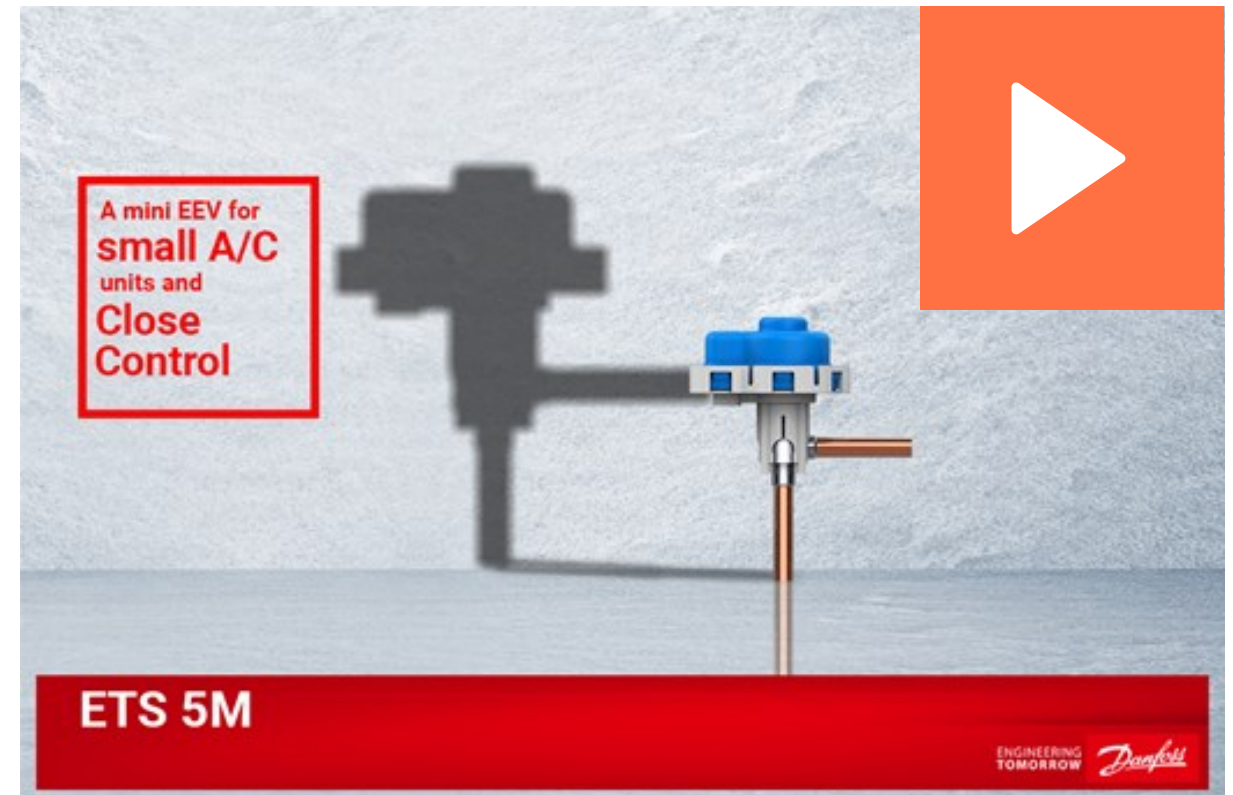
ETS 5M

Developed in response to market demand for quieter unit operation and greater reliability, the Danfoss ETS 5M is significantly smaller and lighter than the next best alternatives—giving OEMs the opportunity to create compact system designs or replace in existing systems.

For comfort applications, the ETS 5M ensures low acoustic level, and offers full performance bi-flow capability—enabling quiet, precise performance for both cooling and heating.

In addition, the ETS 5M is ideal for high evaporating temperature Computer Room Air Conditioners (CRAC) with direct expansion. Its precise flow control and best-in-class protection against moisture and internal leakage improves system reliability in data centers where constant temperatures need to be maintained around the clock. The new valves is electrically compatible with existing 12V drivers. It is a major addition to the portfolio for small A/C units and extends an already well-established portfolio of components for a wide capacity range of CRAC units, which include compressors, controls and sensors, system protectors like filter driers, ball and check valves and micro-plate Heat Exchangers in WC systems.

New Fanless Kinetix VPC Servo Motor Delivers Energy Savings

Printers and other industrial operators can improve their energy efficiency and reduce machine complexity with a new fanless version of the Allen-Bradley Kinetix VPC continuous-duty servo motor from Rockwell Automation. The new motor uses the same interior permanent magnet technology as the original fan version to help operators achieve better performance and higher energy efficiencies.

The new motor achieves IE5 energy efficiency ratings. Additionally, by removing the fan the motor further reduces wiring and components, saves even more on energy costs, and is ideal for applications like printing that are sensitive to airflow disturbances.

The VPC family of motors reduces torque ripple, which translates into smoother roll-to-roll web-handling processes critical for high-quality printing, tensioning and other application-specific tasks.

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RM1D: The New DC Switching Solid State Relays

Carlo Gavazzi Automation, the international electronics group with activities in the design, manufacture and marketing of electronic equipment, today presents the new DC switching solid state relays.

DC output solid state relays are used for switching loads supplied with a DC voltage. Typical loads include heating elements, electric valves, fans and solenoids.

Unlike mechanical relays, solid state relays have a very long life, are silent in operation and can achieve very fast switching response times. In addition, they are more immune to vibration and shocks since they are fully solid state and there is no arcing or bouncing of contacts that is typical with mechanical relays. These characteristics make DC solid state relays the preferred and ideal choice for switching of DC loads.

Apart from higher current ratings that now extend the range to 100 ADC, new features include higher switching frequency, lower switching losses with faster response times to switch ON and OFF, improved thermal performance with low power dissipation mosfets, LED indication for control voltage presence and the removal of the potting compound to remove mechanical stress on internal components.

"*Performance, reliability and lifetime expectations have made DC solid state relays the preferred switching component for DC loads. Nowadays, battery operated applications such as automotive and renewable energy systems, are driving a higher demand for DC switching solutions,*" Dorianne Grech, International Product Manager, says. "*With this extension of DC switching solid state relays to Carlo Gavazzi's portfolio we can better meet our customer needs and strengthen our position in the SSR market.*"

Festo Introduces the VAEM Valve Controller for Multi-Head Liquid Dispensing

Festo introduces the new VAEM solenoid valve controller for multi-head micro-dispensing in pharmaceutical manufacturing and laboratory applications that require high speed and a low coefficient of variation (CV). The compact and energy efficient VAEM provides individualized control and calibration of to up to eight solenoid valves.

The VAEM can open a valve in under 2 milliseconds. Rapid and precise control of the valve decreased CV from 3% to less than .5% in laboratory benchmark testing. The VAEM enables users to easily and quickly calibrate flow through individual channels, which improves precision across multi-head systems.
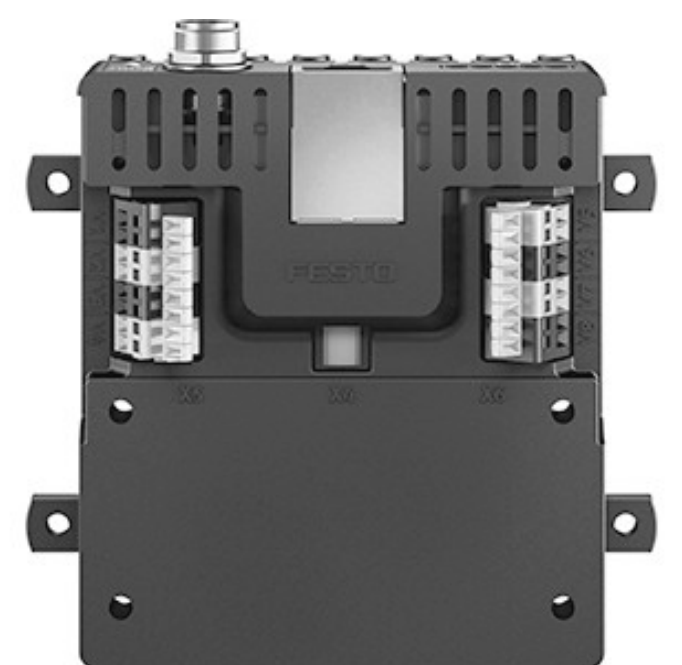
The VAEM employs a "hit and hold" strategy to lower energy consumption. A short burst of high current "hits" the open position, and then the VAEM switches to a minimum current to "hold" the open position for a specified time. The strategy of using current rather than voltage to control valves diminishes heat buildup and aids in maintaining specified flow.

Industry's First Ultrasonic Transducer with Metal 3D-Printed Mini-Horn Array Enhances Flow Meter Performance

Emerson's titanium-housed gas ultrasonic transducer delivers enhanced performance and long-term reliability in extreme wet, sour and corrosive chemical gas environments

Emerson has released the Daniel™ T-200, a titanium-housed transducer, for its gas ultrasonic flow meter product line, marking the first use of metal 3D printing to enhance the acoustic performance of ultrasonic flow meters in custody transfer applications. The T-200's robust design provides increased reliability, uptime and safety while achieving the highest accuracy class attainable in gas measurement.

In an ultrasonic flow meter, transducers generate acoustic signals that are sent back and forth across the fluid stream. The arrival times of these signals determine the fluid flow velocity. Signal quality and strength are critical to measurement accuracy, which is paramount in custody transfer applications. An error of only 0.1% can equate to hundreds of thousands of dollars annually in a large diameter high pressure pipeline.

To boost signal strength through the titanium housing, the T-200 uses a metal 3D-printed mini horn array, which consists of an intricate geometrical structure of titanium horns and a titanium diaphragm that acts as a harmonic oscillator and matching layer. This maximizes the sound energy coupled into the gas, which improves the signal-to-noise ratio and accuracy of the measurement.

"The T200's mini-horn array could not be made without metal 3D printing technology, making it transformational to the sound quality and performance achievable through a titanium barrier," said Kerry Groeschel, director of ultrasonic technology, Emerson. *"Emerson is committed to developing innovative solutions that help our customers achieve safer, more efficient operations."*

The meter's all-metal housing provides a barrier from corrosive hydrocarbon fluids and wet gas, thereby extending the life of transducer components and ensuring stable performance. This unique design allows the meter to be hydrotested with transducers in place, steam cleaned while in the operating line and blown down with no limits on the rate at which the meter can be depressurized.

The T-200 can also be safely extracted while the meter is under pressure without special high-pressure extraction tools, which reduces the possibility of greenhouse gas emissions during extraction. The capsule which contains the piezoelectric crystal used to produce ultrasonic sound waves is retractable as a single piece for simplicity and ease of use. No other gas ultrasonic transducer can be extracted under pressure without special tools and with so few parts to remove or touch in the removal process.

ADLINK LAUNCHES THE MLC 8 SERIES, A NEW GENERATION OF ALL-IN-ONE MEDICAL COMPUTERS

Hygienic Design, Superb Performance, and Configuration Versatility for Intensive Care

ADLINK Technology, introduces its new generation of All-in-One medical panel computer, MLC 8 series, to help hospitals in digital transformation. Digital transformation with benefits of improved efficiency and quality of patient services and care is sweeping the healthcare sector. Under the grand plan for digitization ADLINK's MLC 8 series offers hygienic design, superb performance, and configuration versatility tailored to meet application requirements for better patient care.

Medical computers that ensure high-quality patient care, support data exchange and processing, and are designed for high reliability in mission critical procedures play an essential role in today's digitized healthcare institutions. "Representative of these are our MLC 8 medical computers, available in 21.5, 23.8 and 27 inch diagonals. Thanks to the 8th generation of Intel® Core™ processors, they offer high computing power and convincing graphical representations. The MLC 8 series comes with a completely sealed and easy-to-clean housing, touch control buttons on the edge-to-edge protective glass, which are visible depending on the use of the device in landscape or portrait orientation, and an LED indicator light bar," says André Fortdran, Product Marketing Manager Medical at ADLINK, explaining the benefits of the computer family. The MDD class I certified MLC 8 adapts to the respective requirements and budget specifications due to the manifold configuration options and is used, for example, for patient vital signs monitoring, in anesthesia documentation, for clinical diagnostic support, and PDMS systems.
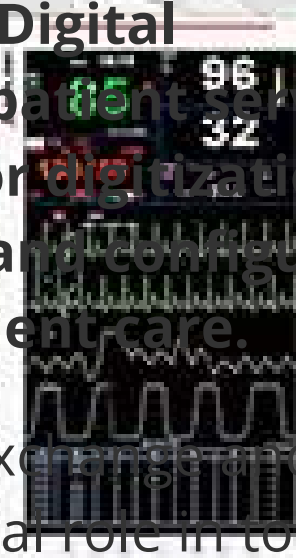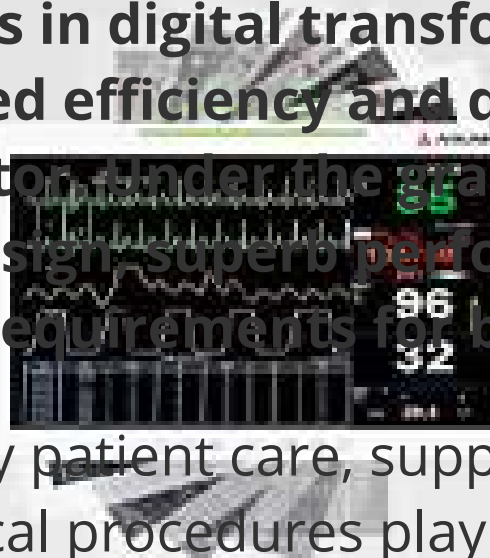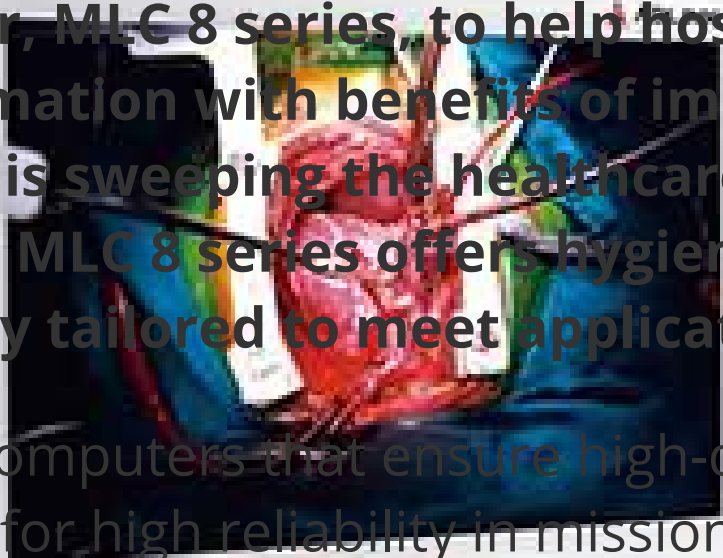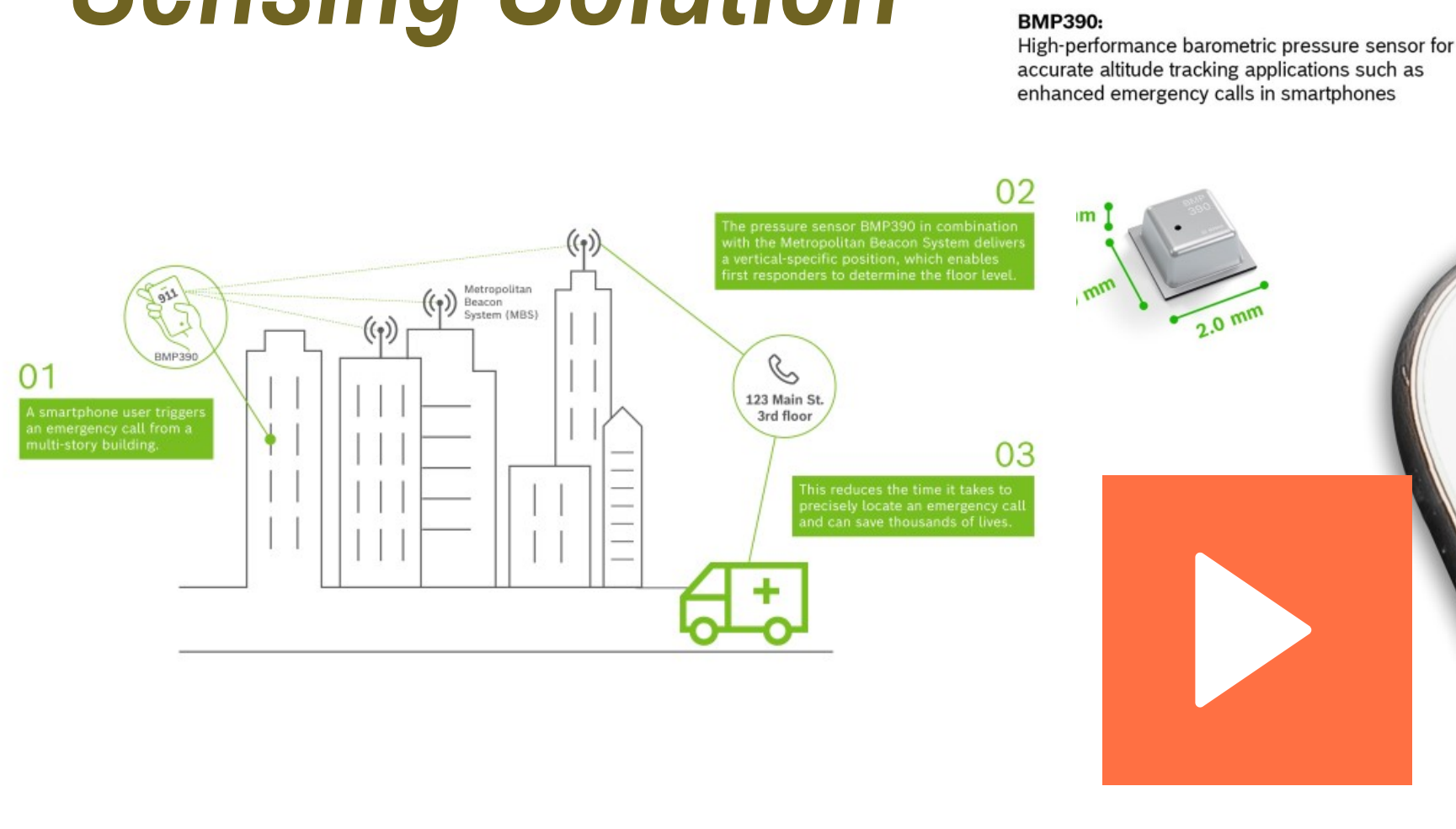
Prosonic Flow G 300/500 Redefines Process Gas Measurement

The ultrasonic gas flowmeter for demanding applications in the oil/gas and chemical industries

Tremendous gas reserves are still being discovered. It is expected that the demand for natural gas as a fuel or energy source will continue to increase. Whether natural gas, process gas or gas mixtures, either in the offshore or onshore sector: the new Prosonic Flow G from Endress+Hauser is the ideal flowmeter for demanding applications. This flowmeter combines tried-and-tested ultrasonic measuring technology with decades of experience in the oil and gas as well as chemical industries.

Accurate Indoor Localization Can Save Thousands of Lives – Enabled by Pressure Sensing Solution

BMP390:
High-performance barometric pressure sensor for accurate altitude tracking applications such as enhanced emergency calls in smartphones

01
A smartphone user triggers an emergency call from a multi-story building.

02
The pressure sensor BMP390 in combination with the Metropolitan Beacon System delivers a vertical-specific position, which enables first responders to determine the floor level.

03
This reduces the time it takes to precisely locate an emergency call and can save thousands of lives.

Metropolitan Beacon System (MBS)

123 Main St. 3rd floor

Bosch Sensortec announces the BMP390, a barometric pressure sensor that delivers unmatched accuracy for altitude tracking in smartphones as well as wearable and hearable devices. The new sensor can measure height changes below 10 centimeters thanks to the improved resolution, and is 50 percent more accurate than its predecessor.

Accurate altitude detection helps to localize people indoors, where GPS signals are not available. The addition of the vertical-specific position to existing horizontal information enables first responders to determine the floor level of smartphone users who trigger an emergency call. The Federal Communications Commission (FCC) estimates that the additional vertical information has the potential to save up to 10,000 lives per year just in the USA alone.

"*The use of Bosch Sensortec's latest BMP390 pressure sensor in smartphones, enables a high precision localization service that ultimately has the potential to save thousands of lives,*" said Dr. Stefan Finkbeiner, CEO at Bosch Sensortec.

Enabling enhanced emergency calls

According to a recent report by the FCC, wireless providers in the US will soon be required to meet an increasingly stringent series of location accuracy benchmarks in accordance with a timetable, including providing the caller's dispatchable location. The order adopts a z-axis location accuracy metric of ±3 meters relative to the handset for 80 percent of indoor wireless 9-1-1 calls starting in 2021. Emergency applications such as the enhanced 911 (E911) system in the US could also be implemented in other regions like Europe or Asia, to further improve people's safety and peace of mind.

Accurate indoor and outdoor navigation and improved fitness tracking

Not limited to emergency applications, the sensor also enables improved indoor navigation in general, for example in combination with the Position Tracking Smart Sensor BHI160BP. These navigation solutions compensate for traditional localization technologies such as GPS that do not work efficiently in shielded environments. This will help users to save time and avoid the hassle of getting lost, for example when searching for their car in an underground garage.

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AAEON BOXER-8120AI: AI Monitoring for Fever and PPE Compliance

AAEON's versatile BOXER-8120AI is being deployed to power deep learning AI which monitors crowds for fever and compliance with PPE rules

In light of the ongoing pandemic, nations around the world are putting into place various practices to help curtail the spread of COVID-19. One common rule among these is the requirement to wear masks or personal protective equipment (PPE) out in public, as well as barring anyone with a fever. However, observing large numbers of people in such detail can be overwhelming for security teams and staff. AAEON's BOXER-8120AI is being deployed by developers to assist in monitoring for such breaches of newly imposed rules.

On April 3rd, the task force in charge of the Taiwan CDC's efforts, the Central Epidemic Command Center (CECC), imposed new rules requiring the wearing of masks on public transportation, with stiff fines for failing to comply. Also included were rules restricting access to those whose body temperature is above 37.5°C (99.5°F). With an average of over two million passengers each day, monitoring and enforcing these rules on Taipei's Metro system is daunting to say the least.

Utilizing artificial intelligence, authorities can reduce the workload of the task, allowing security and staff to effectively monitor passengers without requiring a ramping up of personnel. Some developers are deploying the BOXER-8120AI embedded edge platform to power this innovative and important role.

Traditional monitoring equipment usually involves only using infrared cameras. However, the surrounding environment can interfere with readings, leading to missed reports and false alarms, with the requirement to adjust data afterwards. Utilizing AI technology with deep learning, the application can combine both facial recognition with thermal detection to accurately detect those who are violating mask requirements, or have fevers.

The BOXER-8120AI is currently deployed in several hospitals, providing monitoring of hospital entrances. In this role, it is crucial to detect potential patients, allowing hospital staff to separate and administer the appropriate treatments. Despite wearing a mask, the facial recognition models can still accurately identify people and features, allowing hospital staff to quickly locate and address anyone with an abnormally high body temperature. Operating at the edge, the system is able to identify and measure the temperature of up to 240 people per minute, and can allow for the monitoring of multiple entrances, greatly reducing the workload of staff.

The BOXER-8120AI is one of AAEON's most popular AI Edge Computing solutions. It's compact size and rugged, fanless design are perfect for use and deployment in just about any role or application. Powered by the NVIDIA Jetson TX2 SOC with 256 CUDA cores, it supports AI frameworks such as TensorFlow, Caffe2, and can support custom AI inference software. With four Ethernet ports, two USB 3.0 and two COM ports, the BOXER-8120AI provides flexible I/O to easily integrate with most projects.

NEW DATES

26 - 28
AUGUST 2020
**GRAND CITY CONVEX
SURABAYA, INDONESIA**

INDOWATER
2020 EXPO & FORUM
International Water, Wastewater & Recycling Technology Event

Incorporating with

INDOWASTE 2020 EXPO & FORUM
INDONESIA'S NO.1 INTERNATIONAL WASTE TECHNOLOGY AND SOLUTION EVENT

INDORENERGY 2020 EXPO & FORUM
INDONESIA'S NO.1 INTERNATIONAL RENEWABLE ENERGY EVENT

INDO POOLTECH 2020 INDONESIA POOL TECHNOLOGY EXPO & FORUM

EXPO & FORUM INDONESIA INTERNATIONAL SMART CITY 2020

INDONESIA'S NO.1 INTEGRATED TECHNOLOGY EVENT

SUPPORTING PARTNER

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OFFICIAL PUBLICATION

Water & Wastewater Asia

SUPPORTING PUBLICATIONS

QWi | labsatu.com | ENF | GLOBAL RECYCLING | EVERYTHING ABOUT WATER | Indotrading | asian WATER | EXPO ROOMS | TERITORIAL

Kota Industri | MAPS & GLOBE | eventcerdas | orange | THE PROPERTY TIMES.io | BCI ASIA | CONSTRUCTION

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DC-Servomotors
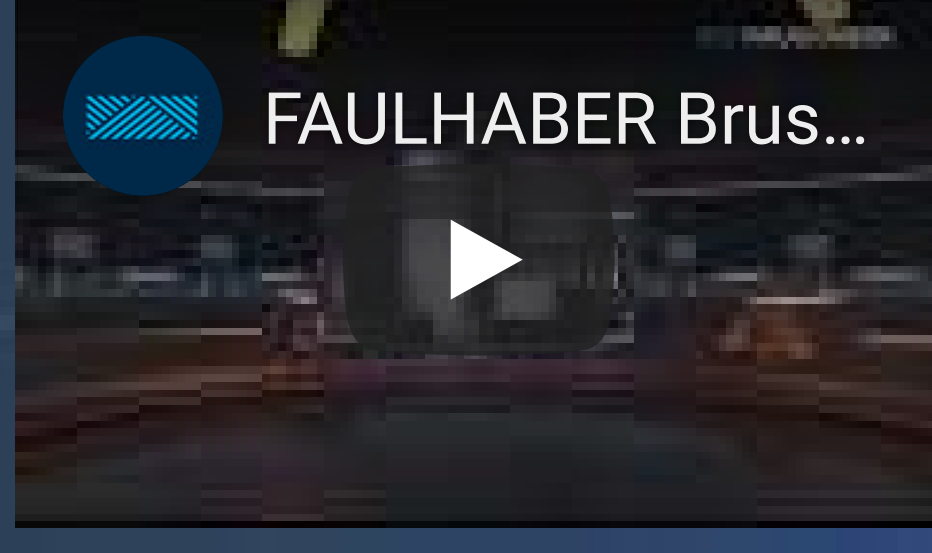
FAULHABER Singapore Pte Ltd
info@faulhaber.com.sg
www.faulhaber.com/p/bxt/en

WE CREATE MOTION

DARULAMAN INTERNATIONAL INNOVATION, COMPETITION AND EXHIBITION 2020 (DiICE'20)

Darulaman international innovation, competition and exhibition 2020 present an exciting opportunity for inventions to be showcased on potential educational innovations both locally and internationally. The DiIce competition is open to all participating inventors to gain recognition for their inventions as well as to compete with other international inventors for local and international awards and medals. DiICE is organised by the Institute of Teacher Education, Darulaman Campus in collaboration with the State Government of Kedah Darul Aman and MyRIS, University of Perlis Malaysia (UniMAP)

Objective

• To showcase innovation, invention and designs which are produced and created by local and foreign academicians and non-academicians, agencise, students from lower to higher education.
• To create a platform for research groups among local and foreign academician and non-academicians in commercializing their innovations and ideas.
• To steer innovative culture among lectures, higher institution students, school teachers, and other educational practitioners.
• To realise and develop cooperation among participants in the commercialisation of the ideas.

Visit https://ipgkda.edu.my/DiICE/ for More Information

International Eurake Innovation Exhibition 2020

For the seventh time, Universiti Kuala Lumpur Malaysian Spanish Institute (UniKL MSI) is organizing an innovation competition;
International EUREKA Innovation Exhibition 2020 (i-EIE 2020). This year i-EIE 2020 theme is "INTEGRATING RESOURCES TOWARDS SMART INFRASTRUCTURES ". This program will be held from 20 – 22 July 2020.
i-EIE 2020 is a competition that highlights research and innovation products and promotes the culture of research and innovation among participants from local and international institutions of higher education including primary and secondary school students. i-EIE 2020 is a link between institutions of higher education and industries to share their products and creative ideas that can be commercialized.

Award Categories

• **EUREKA BEST AWARD PRIMARY SCHOOL**
• **EUREKA BEST AWARD SECONDARY SCHOOL**
• **EUREKA BEST AWARD CHAPTER A**
• **EUREKA BEST AWARD CHAPTER B**
• **EUREKA BEST AWARD CHAPTER C**
• **EUREKA BEST AWARD CHAPTER D**
• **INDUSTRY SPECIAL AWARD**
• **EUREKA BEST OF THE BEST AWARD**

Visit https://www.msi.unikl.edu.my/eureka/index.php for More Information

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WorldSkills Shanghai 2021

WorldSkills Shanghai 2021 will be held from 22-27 September. More than 1,300 Competitors from over 60 WorldSkills Member countries and regions will compete in 56 skills.

WorldSkills Conference 2021, held on 23-24 September, will attract over 1000 educators, ministers, government officials, leaders of business and industry, and youth together to share best practice and learn about global trends and issues found in Vocational Education and Training (VET), skills demand, skills of the future as well as skills excellence and development.

Visit https://worldskills.org/what/competitions/wsc2021/ for More Information

ITEX Invention & Design Competition

The International Invention, Innovation & Technology Exhibition (ITEX) presents an exciting opportunity for inventions to be showcased to potential business and investors both locally and internationally. The ITEX competition is open to all participating inventors to gain recognition for their inventions as well as to compete amongst other international inventors for local and international awards and medals.

All participating inventions vie for the **gold, silver or bronze ITEX medals**. In addition, they will also be in contention for special awards, international awards and the Best Inventor of the Year Awards. The organisation with the highest number of gold medals will be awarded with the Patron Award by the Ministry of Science, Technology and Innovation.

Participants Categories:
• **Universities/Educational Institutions**
• **Research Institutions**
• **Corporates**
• **Startups**
• **Overseas**
• **Individuals**

The highlight of the awards is the most prestigious **Asian Invention Excellence Award** which will be awarded to the very top invention amongst all the inventions in the exhibition.

Visit https://itex.com.my/competition/ for More Information

Great Opportunity

Korea Creative Invention Contest, CiC 2020

Creativity is highly required for any field of studies and industries and it is important to recognize its value in all knowledge-based society. Korea Invention News (KINEWS) annually organize Korea Creative Invention Contest, CiC to provide opportunities for students, inventors, innovators and research scientists to express their creativity and the innovative ability to invent through their novel ideas to recognize the vital significance of world intellectual property, globalization and national competitiveness

Contesters are welcome to participate in Korea Creative Invention Contest regardless of age, field of study or specialization to be evaluated and recognized for their special ability to create, invent and innovate. The contest locates its theme as "Anyone Can Invent" and aims to identify and exercise the latest technologies and creative ideas from inventors around the world to aid inventors' passion and desire to invent for the development of our living life and society.

Event Schedule (tentative)

Registration Period : **30th of June 2020**
 Registration Method : **Completion of Entry Form - Email Submission**
 Announcement of Winners : **5th of July (individually by email or via delegates)**
 Award Ceremony : **26th of July 10:00 ~ 14:00**
 Venue of Event : **@ Convention Center – Chung Mu Art Hal**

Application Categories

A) Apparel & Personal-Care Products
B) Agriculture and Food Industry
C) Automotives & Transportation
D) Building & Construction
E) Stationery & Office Equipment
F) Housing, Kitchen Equipments & Tools
G) Telecommunication
H) Engineering
I) Industrial Design
J) Transportation
K) Machinery and Materials
L) Hardware Products & Hand Tools
M) Leisure Goods
N) Electrical Product & Consumer Electronics
O) Textiles
P) Decorations and Garments
Q) Medicine and Health
R) Sporting Goods
S) Accessories
T) Others
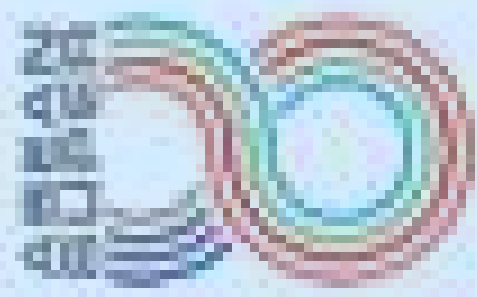
How to Apply

STEP 1: Download [CiC 2020 Entry Form.doc] from **www.kinews.org**   (You can also request for form to **kinews5@naver.com**

STEP 2: Complete [CiC 2020 Entry Form.doc] with your invention/idea

STEP 3: Submit your completed Entry Form to **kinews5@naver.com**   (1 copy of Entry Form for 1 invention entry)

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20 - 22 OCT 2020

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Latest ABB Lab Data Management System Cuts Data Collection and Reporting Time in Half

ABB's new, web-based L&W Lab Management System makes lab instrument data reports accessible site- and enterprise-wide to improve productivity, quality and profit and quickly solve production problems

ABB has launched its newest automated data acquisition and lab reporting solution, offering pulp and paper manufacturers rapid analysis of lab quality information, with reliable data storage, management and reporting. Purpose built for paper testing labs, the scalable, web-based L&W Lab Management System replaces ABB and other legacy systems, halves procedure times, and tailors lab reporting to users' specific workflow preferences.

The system collects, analyzes and reports on information from lab instruments, as well as ABB's L&W Autoline automated paper testing solution. It compares up to four paper properties and plots trends against previous batches. With instruments connected directly through a local area network (LAN), information is instantaneously accessible through any web-browser equipped device, via a user-friendly dashboard that shows sample data, trends, historical references and KPIs. This eliminates the need for desktop PCs connected to each instrument.

"Our new system is purpose-built for how labs operate," said Per Sandstrom, head of lab and process testing measurements for ABB pulp and paper. *"It will significantly reduce the manual work and IT infrastructure which is typical for lab operations in many mills. This is a tool that will help production and quality managers to immediately see and act upon a lab's quality information to improve profit potential, which is our goal for all ABB customers."*
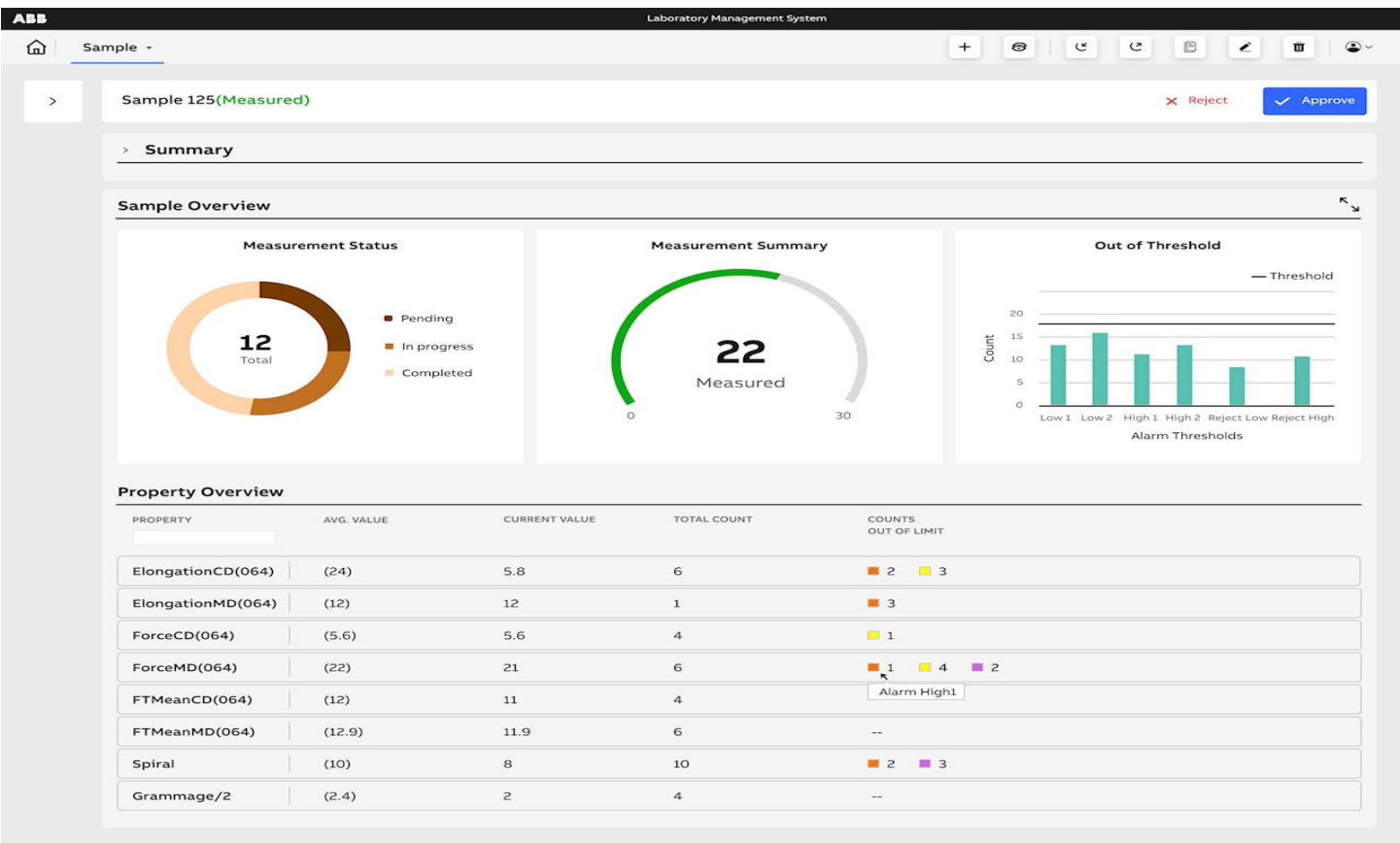
Results generated by the L&W Lab Management System can be exported as xml files to external mill-wide systems. Reports generated can also be integrated with the ABB Quality Data Management system and/or the ABB Ability™ Manufacturing Execution System to enable lab information to be included with other key process indicators.

Part of ABB's end-to-end quality control solution for the pulp and paper industry, the L&W Lab Management System is suitable for mills seeking efficiency gains with automatic lab data collection, including those combining L&W Autoline automated paper testing with other stand-alone instruments, and larger mills needing to collect and export lab data to ERP/MES systems effectively.

New Basic Unit for Easy Diagnostics and Setup of Power Supply Systems

Siemens is expanding its modular Sitop PSU8600 power supply system to include a new single-phase 480-watt basic unit. The new product features four integrated monitored outputs with a total of 24 volts DC at five amperes per output. Each output is flexible and can be set during operation in a range between 4 and 28 volts either manually or remotely via software. This eliminates the need for additional power supply units to supply five or twelve volt loads. The CNX8600 expansion module can be used to monitor up to 36 total outputs. Thanks to its integration into the TIA (Totally Integrated Automation) Portal engineering framework, fast implementation in to the automation is supported. In addition, the Sitop Manager provides easy parameterization and diagnostics. Comprehensive diagnostic and maintenance information are also available via the two integrated Ethernet/Profinet interfaces and via OPC UA, and can be evaluated directly in the automation systems. This means that errors can be located quickly and reduces downtime.

The BUF8600 buffer module or the UPS8600 interruptible power supply module with the BAT8600 battery modules covers mains failures and the comprehensive monitoring and diagnostics functions reduce errors caused, for example, through the overheating or overload of one of the outputs. With the integrated web server and OPC UA server, remote diagnostics and third-party communication are well supported. Integration into the TIA Portal or Step7 for network integration and device parameterization ensures that engineering is particularly simple. Step7 application programs feature for example function blocks for Simatic S7-300/-400/-1200/-1500. Simatic WinCC Faceplates can be used for integration into the Simatic PCS 7 process control system via the Sitop library. The user also benefits from reliable support for energy management thanks to the individual acquisition of current and voltage for each output and the targeted activation and deactivation of outputs via Profienergy.

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HCL Software Announces Domino Volt with New Low-Code Application Development Capability

HCL Technologies a leading global technology company, today announced the general availability (GA) of HCL Domino Volt, a new low-code capability built on the HCL Domino platform. This release continues HCL's commitment to transform over 10 million enterprise-grade apps powering business for more than 15,000 customers. Starting today:

• **Domino Volt adds low code to your team's arsenal.** Traditional app developments are time-consuming, expensive to build, and rely heavily on IT developers and resources. Domino Volt puts more power in the hands of business users and IT staff, providing them the ability to build enterprise apps lightning fast to quickly overcome challenges and react to market demands.

• **Domino Volt builds apps 70% faster.** Domino Volt users can create web apps complete with forms, views, and workflows in minutes, even from a spreadsheet. More technical developers can build apps up to 70% faster and efficiently extend them with integrations, customized CSS, JavaScript, and REST APIs. Domino Volt apps are native Domino apps; customers can deploy, manage, and extend the functionality of their apps and deliver them on mobile devices quickly.

• **Domino Volt is powered by Domino.** Domino has always been a leader in application development, business transformation, and automation. Built on Domino, Domino Volt offers low-code tools with advanced enterprise-grade scale and functionality — with stability and security built in. See increased productivity and enjoy the same low total cost of ownership the trusted and proven Domino platform already provides.

Maintenance According to the Traffic Light Principle: Smart Drylin Linear Guide from igus

The drylin linear guide systems have to withstand extreme conditions in continuous operation or even in abrasive environments. In order to have the linear guides slide without lubricant, igus relies on linear bearings made of high-performance polymers. But when should I change the bearing? The new smart linear carriage from igus helps here. In accordance with the traffic light principle "stop when red, go when green", the maintenance technician receives information about the maintenance requirement at the push of a button.

Continuous operation, glass dust and wood fibres are extreme challenges for the sliding elements in drylin linear guides. igus has developed a smart drylin linear system to detect wear in the tribo-polymer bearings at an early stage. The principle: a sensor, attached directly to the liner, measures the wear of the bearing, which is insensitive to dirt and dust, and gives the user a signal in good time when the wear limit is reached. The signal can then be transmitted from the icom communication module to an intelligent system via Bluetooth, LoRa or LTE and evaluated. "*On the part of our customers, however, there was also feedback that a uniform, superordinate and economical system for processing the signals was not yet available. That's why we have now additionally developed a solution that fulfils the function completely without a network connection*", says Stefan Niermann, head of drylin drive technology at igus GmbH.

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NEC and Siemens Partner to Provide AI Monitoring and Analysis Solution to Accelerate Digitization in Manufacturing

NEC Corporation announced a collaboration with Siemens in the IoT field to provide a monitoring and analysis solution for manufacturing that connects MindSphere®, the cloud-based, open Internet of Things (IoT) operating system from Siemens, and NEC's System Invariant Analysis Technology (SIAT). As part of the agreement, NEC is joining the MindSphere Partner Program, which can provide NEC with access to specialized technical training and support from Siemens as well as a number of joint go-to-market capabilities.

In recent years, with the acceleration of digitization and the spread of IoT, the safety, efficiency, maintenance and product quality of systems are being visualized and analyzed based on data collected from a large number of sensors installed in various locations, such as plant systems, manufacturing lines and factories. However, it is necessary to systemize data collection, storage, monitoring, analysis and other processes in order to utilize sensor data. Moreover, unique know-how, such as knowledge about IoT systems and data analysis, is required to construct such a system, making it difficult for customers to construct by themselves.

System Invariant Analysis Technology, part of NEC's cutting-edge portfolio of AI technologies, "NEC the WISE", is being used to automatically learn and model the behavior of systems based on data gathered from a large number of sensors installed in large-scale, complex systems. This provides visualization of systems and how they operate, in addition to enabling systems to operate safely and efficiently by proactively detecting errors using analytical models. NEC has already installed approximately 100 such systems internationally.

This collaboration enables both companies to provide total data collection, storage, monitoring and analysis, including customization according to customer needs. Specifically, MindSphere is being used to collect and accumulate field sensor data and NEC's System Invariant Analysis Technology system automatically monitors and analyzes the data. This solution will first be offered as a cloud solution for the manufacturing industry, then applied to factory systems, manufacturing lines, plant facilities and other equipment, as well as products that are produced using this equipment. This makes it easy to visualize and analyze vast amounts of sensor data, thereby contributing to increased productivity, reduced operational risk, product quality and the preservation of know-how.

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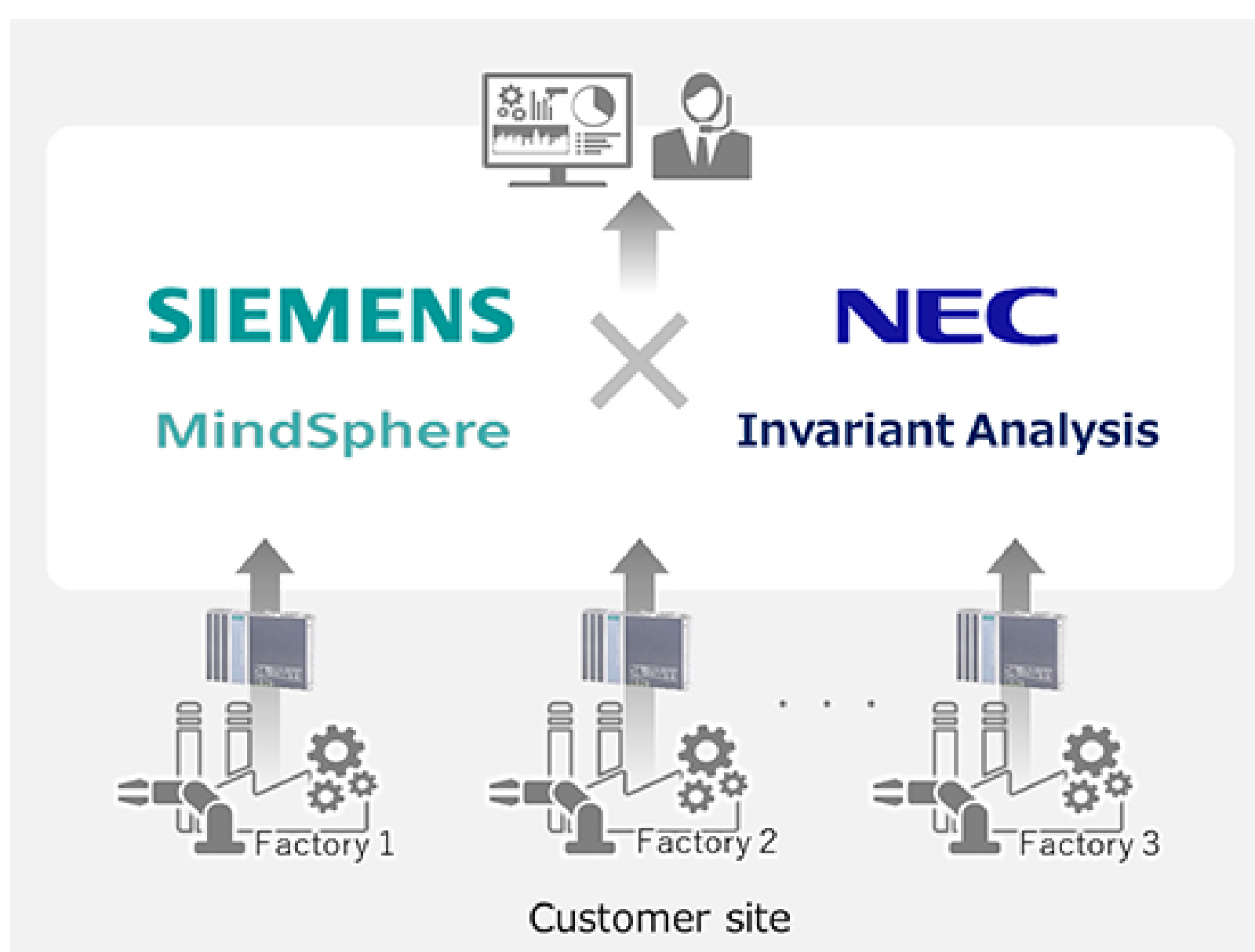
HCL Releases BIGFIX 10: Bringing New Innovations to the Industry's Most Comprehensive Endpoint Management Platform

HCL Technologies (HCL), a leading global technology company, announced of BigFix 10, a major new release of the industry's leading endpoint management platform, to be generally available in April 2020. BigFix 10 is the only endpoint management platform that enables IT/Security Operations to fully automate discovery, management and remediation, whether it's on-prem or cloud, regardless of location or connectivity. Unlike complex tools that cover a limited portion of your endpoints and take days or weeks to remediate, BigFix can find and fix all endpoints faster than any other solution.

"*BigFix enters a new era of unified endpoint management with the inclusion of Insights, Modern Client Management, and Multicloud Support. This enables companies to more effectively manage and report on all endpoint devices from a single solution at scale,*" said Darren Oberst, CVP and Head of HCL Software, a division of HCL Technologies. "*By simplifying endpoint management and compliance, which improves operational efficiency and reduces costs, BigFix 10 also demonstrates HCL's commitment to providing tangible business value.*"

"*This first major release of BigFix, under HCL ownership, demonstrates that HCL is ready to invest and that it understands what's needed to ensure BigFix can continue to discover, analyze, manage, and secure the modern, rapidly changing, endpoint landscape,*" said Dave Gruber, Senior ESG Analyst.

Simulation saves lives – Reduced development times for respiratory products thanks to digital twin

Vyaire Medical (Vyaire) is a global market leader in the field of health technology. Their portfolio includes respiratory products for the treatment of numerous respiratory diseases. To ensure that its products are tailored as accurately as possible to the individual situation of the relevant patient, Vyaire uses precise models based on scans of actual human heads during development. Another essential aspect for the efficient development process is the digital twin of products, which Vyaire creates using software solutions from Siemens Digital Industries Software. This enables the company to largely eliminate physical prototypes, which saves time and money.

Each person takes between 17,000 and 23,000 breaths in a 24-hour period – mostly without any conscious effort. In the event of serious illness, something as simple as breathing can become a struggle between life and death. Vyaire Medical develops special respiratory products for exactly these situations. "*Traditionally we were forced to use simplified models in the development of a respiratory mask. We would have used a simplified head model for our CFD (Computational Fluid Dynamics, Ed.) simulations, with idealized breathing holes for the nose and the mouth,*" says Dr. Christopher Varga, Senior Engineering Fellow and Senior Director of Research and Development at Vyaire Medical. "*Today we are using scans of actual human heads – different morphologies of actual patient features.*"
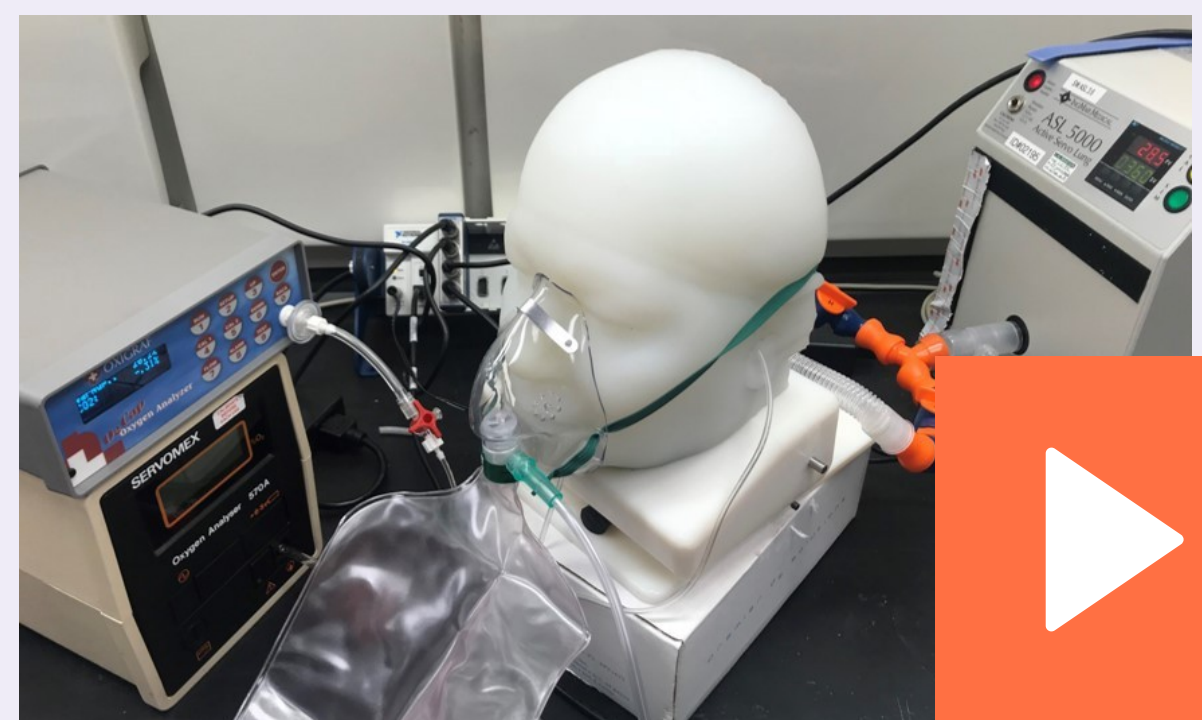
ExxonMobil Field Testing New Comprehensive Methane Monitoring Technologies

ExxonMobil is conducting field trials of eight emerging methane detection technologies, including satellite and aerial surveillance monitoring, at nearly 1,000 sites in Texas and New Mexico to further reduce methane emissions.

The field tests are evaluating effectiveness and scalability of a range of next-generation detection technologies that in addition to satellites use drones, planes, helicopters, ground-based mobile and fixed-position sensors. All technologies and deployment methods will be used to detect leaks and identify potential solutions that can be shared with other oil and gas operators.

"By testing the most promising methane detection technologies in a field environment, we are providing viable solutions that can be adopted by other producers to detect and reduce methane emissions," said Staale Gjervik, senior vice president of unconventional at ExxonMobil. *"We are applying scientific rigor and taking aggressive steps to find commercially scalable and affordable solutions for all operators."*

The technologies are being validated by a combination of field observations, optical gas imaging cameras and portable methane detection instruments. ExxonMobil is also comparing measurements to downwind emissions observations using technology by Aerodyne Research that enables holistic measurement of site emissions.

"We are already seeing the benefits of some of these technologies," said Gjervik. *"Through the trials, we have discovered methane sources that would otherwise not have been detected as efficiently or quickly under the current methods prescribed by regulations. The company is committed to immediately investigating and fixing methane emissions that are detected during the trial."*

The field trials build upon ExxonMobil's previously announced emission reduction initiatives. As of year-end 2019, the company has reduced emissions by nearly 20 percent in its U.S. unconventional operations compared to 2016 levels, and the company remains on track to meet its corporate-wide commitments to reduce methane emissions by 15 percent and reduce flaring by 25 percent by year-end 2020. ExxonMobil's successful voluntary methane management program includes structured leak detection and repair protocols, prioritized replacement of high-bleed pneumatic devices, technology enhancements to infrastructure and substantial data gathering and research.

# Emerson's New Virtual Valve Repair Service Offers Efficient, Immediate Support

Remote Assistance service is supported by augmented reality to deliver secure and cost-effective real-time expert valve repair

Emerson announced its new Remote Assistance service capability to help plant operators immediately respond to industrial valve issues by using augmented reality (AR) technology. The AR technology uses a robust, secure channel certified as ISO 27001-compliant. Valve repairs are advised and guided by Emerson experts as part of the company's expanding Connected Services portfolio in its Plantweb™ digital ecosystem.

Using a mobile device, plant personnel can securely share their field of view through the AR software as Emerson valve experts help troubleshoot and solve valve problems. Step-by-step instructions are overlaid in the field-user's application to support installation, calibration or repair actions.

Valves play a key role in reducing variability and increasing reliability in production because they touch so many areas of the operations. In any given process facility, there could be hundreds to thousands of valves in operation. Depending on the criticality and the application, the maintenance plans could vary from daily monitoring to less-frequent inspections and repairs. Ensuring valves meet operational standards requires detailed record keeping and right-skilled talent to oversee the repair.
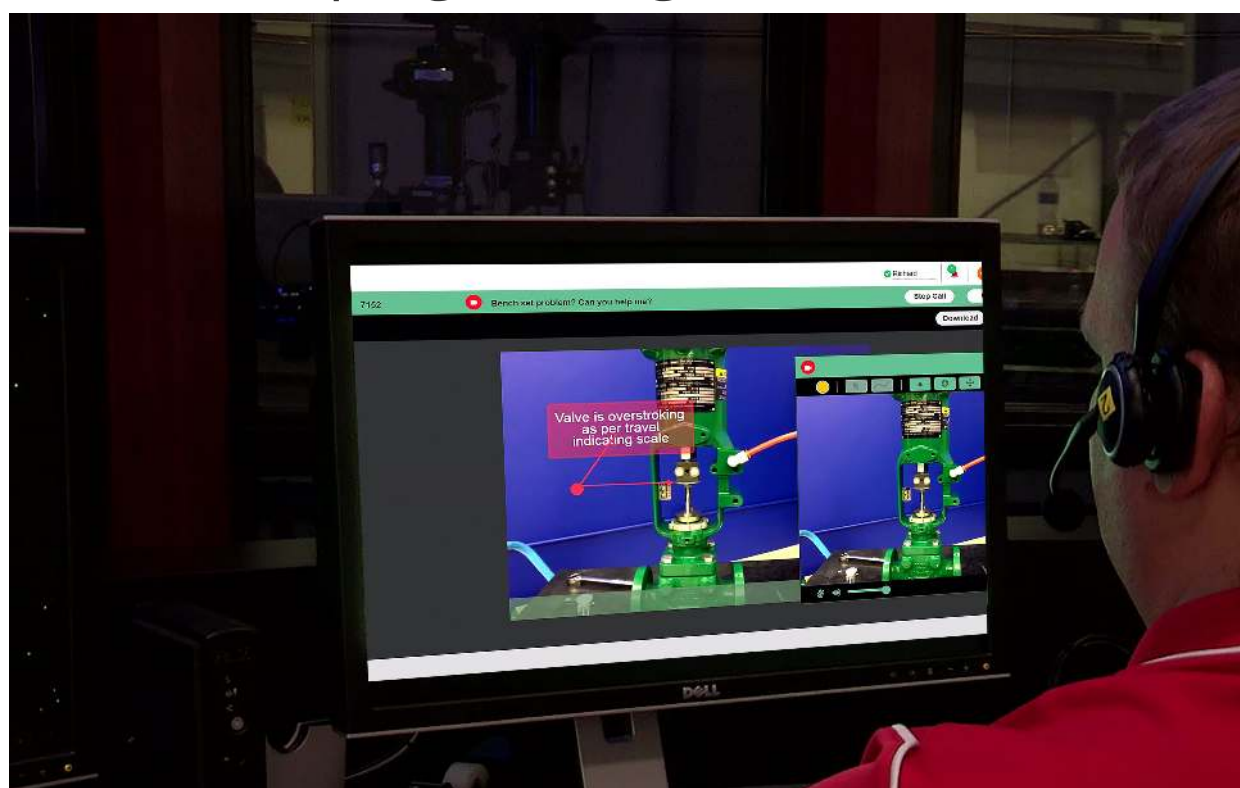
Real-time video communication enables users to resolve issues faster and minimize instruction errors that often occur with audio-only support while eliminating travel time and the cost of getting technicians to the work site. In addition, operators can expand their in-house knowledge base and staff skillsets through on-the-job troubleshooting guidance and recommendations to remediate issues, up to and including oversight of the final repair.

"Our customers are supporting critical infrastructure through the global health crisis that we're experiencing, but they still encounter issues where they need outside help. We're able to continue our promise of support while protecting essential on-site staff and Emerson technicians through the use of this technology," said Clint Schneider, director of Emerson's digital valve services.

The Remote Assistance service is available for Emerson valve, actuator, and regulator product portfolios—and in some instances, can cover non-Emerson products, as some Emerson technicians have extensive backgrounds in repairing products from other manufacturers.

Event Calendar

MAY 2020

13-16 MAY 2020

MTA ASIA
Bangkok International Trade & Exhibition Center (BITEC)

20-22 MAY 2020

INTERNATINAL INTERNET OF THINGS EXHIBITION
Suzhou International Expo Center, B1, C1, China

JUNE 2020

20-22 JUNE 2020

MEGABUILD INDONESIA 2020
Jakarta Convention Center

17-20 JUNE 2020

THE 28TH INTERNATIONAL PROCESSING AND PACKAGING EXHIBITION FOR ASIA
Hall 98-106, BITEC Bangkok, Thailand

20-22 JUNE 2020

THE 26TH INTERNATIONAL PROCESSING & PACKAGING EXHIBITION
National Exhibition & Convention Center (Shanghai

23-25 JUNE 2020

ASEAN'S PREMIER MECHANICAL & ELECTRICAL ENGINEERING POWER & ENERGY SHOW
Malaysia International Trade and Exhibition Center (MITEC), Kuala Lumpur

30 JUN-2 JUL 2020

AMWC SHANGHAI 2020
Shanghai New International Expo Centre (SNIEC)

JULY 2020

7-10 JULY 2020

MTA VIETNAM 2020
Saigon Exhibition & Convention Center, SECC

15-17 JULY 2020

CHINA ELECTRONIS FAIR WEST SHOW
ChengDu Century City New International Convention & Exposition Center

16-19 JULY 2020

31ST MALAYSIA INTERNATIONAL MACHINERY FAIR
Malaysia International Trade & Exhibition Center (MITEC), Kuala Lumpur

21-23 JULY 2020

SEMICOM WEST
Saigon Exhibition & Convention Center, SECC

Event Calendar

29-31 JULY 2020

THE 14TH SHENZHEN INTERNATIONAL INTERNET OF THINGS EXHIBITION

ShenZhen Convention & Exhibition Center

AUGUST 2020

17-19 AUGUST 2020

OTC ASIA 2020

Kuala Lumpur Convention Center, Kuala Lumpur

26-28 AUGUST 2020

INDO WATER, INDO WASTE, INDO RENERGY, INDO POOLTECH AND INDONESIA INTERNATIONAL SMART CITY 2020 EXPO AND FORUM

Grand City Convex-Surabaya, Indonesia

26-28 AUGUST 2020

THE 10TH EDITION OF INAMARINE 2020

Jakarta International Expo (JIExpo) Kamayoran, Jakarta, Indonesia

SEPTEMBER 2020

8-10 SEPTEMBER 2020

KAZAKHSTAN INTERNATIONAL BUILDING & INTERIORS EXHIBITION

Atakent Exhibition Center

9-11 SEPTEMBER 2020

PROPAK VIETNAM

Saigon Exhibition & Convention Center

16-18 SEPTEMBER 2020

ASEAN SUSTAINABLE ENERGY WEEK

Bangkok International Trade & Exhibition Center (BITEC)

16-18 SEPTEMBER 2020

CONSTRUCTION INDONESIA

Jakarta International Expo, Indonesia

17-19 SEPTEMBER 2020

THE 7TH INTERNATIONAL PROCESSING & PACKAGING EXHIBITION FOR MYANMAR

Myanmar Expo (ME), Yangon, Myanmar

22-24 SEPTEMBER 2020

THE 5TH MALAYSIA OIL & GAS SERVICES EXHIBITION AND CONFERENCE (MOGEC 2020)

Kuala Lumpur Convention Centre, Malaysia

22-25 SEPTEMBER 2020

INNO TRANS 2020

Messe Berlin GmBh Expo Center City Messedamm 22 D-14055 Berlin

Event Calendar

25-27 SEPTEMBER 2020
ELECTRICITY & ENERGY EXPO 2020
Tatmadaw Hall, Yangon, Myanmar

28 SEPT-1 OCT 2020
QATAR'S UNIQUE CONSTRUCTION ARENA
Doha Exhibition & Convention Center (DECC)

OCTOBER 2020

6-8 OCTOBER 2020
INTERNATIONAL ENERGY WEEK 2020
Borned Convention Centre Kuching, Sarawak

8-10 OCTOBER 2020
PROPACK INDIA
Pragati Maidan, New Delhi, India

14-15 OCTOBER 2020
BIG DATA & AI WORLD SINGAPORE
Marina Bay Sands, Singapore

19-24 OCTOBER 2020
FIATA WORLD CONGRESS 2020
Bexco Busan, Republic of Korea

20-22 OCTOBER 2020
INDUSTRIAL TRANSFORMATION ASIA-PACIFIC
Singapore Expo

21-23 OCTOBER 2020
MTA MYANMAR
Myanmar Expo (ME), Yangon, Myanmar

NOVEMBER 2020

9-12 NOVEMBER 2020
ADIPEC
Abu Dhabi National Exhibition Center (ADNEC) Abu Dhabi, United Arab Emirates

10-13 NOVEMBER 2020
THE 26TH INTERNATIONAL MACHINE TOOLS, METALWORKING AND AUTOMATION TECHNOLOGY EXHIBITION
The Malaysia International Trade & Exhibition Centre (MITEC)

23-26 NOVEMBER 2020
INTERNATIONAL BUILDING & CONSTUCTION SHOW
Dubai World Trade Centre

DECEMBER 2020

2-4 DECEMBER 2020
THE BUILDINGS SHOW
Metro Toronto Convention Centre

7-9 DECEMBER 2020
SEATRADE MARITIME MIDDLE EAST 2020
New Dubai Exhibition Centre AT Expo 2020

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