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Edition

Damen delivers five tugs to Empresa de Navegación Caribe, Cuba

Damen Shipyards Gorinchem has delivered five new harbour tugs to Empresa de Navegación Caribe, a subsidiary of Cuban maritime company Grupo Empresarial de Transporte Marítimo Portuario (GEMAR).

The five new tugs have joined around 40 other tugs, tankers and ro-ro ferries operated by GEMAR. They will be based in Havana, but undertake assignments at ports and harbours right around the main and subsidiary islands and cays.

Four of the five vessels are Damen's best-selling Stan Tug 2608 model, 26 m long and with a bollard pull of 47 tonnes. The fifth is the larger Damen ASD 2810, with 60 tonnes of bollard pull. All were built at the Damen Song Cam Shipyard in Vietnam before being transported to Damen Shipyards Gorinchem to be held in stock. Three of the five are standard vessels.

The 2810 was already equipped with a variety of options including a crane and a fire-fighting system and so was available for immediate delivery, and the last of the Stan Tug 2608s was fitted with an aft winch prior to handover.

Ezequiel Najmias, sales manager Americas at Damen said, "In Europe, the Damen tugs department and Damen customer finance worked fast and accurately to meet the needs of the client. Each tug was then delivered by a Damen crew and on arrival in Cuba was met by a Damen Services team. They conducted a detailed inspection following the transoceanic voyage and made final adjustments prior to each going into service.



"Damen Sales Americas was responsible for the administration and for ensuring that the entire process was smooth and trouble-free," added Najmias.

The contract included a comprehensive selection of spares, and all the vessels will be fitted with power converters over the next few months to compensate for the fact that Cuba, like North America, generates power at 60 Hz.

Damen's build-for-stock vessels are equipped for 50 Hz, the standard across around 80% of the rest of the world. Damen also organised export credit insurance from Atradius (the Export Credit Agency of the Netherlands). In order to qualify, the order was placed through Gilmar Project Finance Establishment, a company based in Europe, having a branch duly registered at the Chamber of Commerce of the Republic of Cuba.



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Ad Hoc Marine Designs unveils 41m SWATH Crew Transfer Vessel



New SWATH CTV by Ad Hoc Marine.
Photo credit: Ad Hoc Marine

Ad Hoc Marine Designs has introduced a new 41m Walk to Work (W2W) SWATH Crew Transfer Vessel (CTV), capable of being at sea for up to two weeks with 24 technicians onboard, accommodated in their own individual cabins.

The vessel designer said that the new SWATH CTV, which can also carry any combination of 4 ISO containers, gives operators a better alternative to ordering larger vessels, especially when servicing offshore wind farms built far offshore.

The new vessel is based on the company's Typhoon Class SWATH design that meets significant wave height requirements for future rounds of offshore wind farms in the UK, according to Ad Hoc, who explained that the 41m CTV can run in Hs=3.5m sea heights and adopts the same philosophy of MCS SWATH 2 by going quad drive with four CAT 3512C engines rated at 1,678kW each, giving 25 knots.

"The next round of windfarms and the future vessel requirements for higher wave

height and being longer at sea is due to windfarms being placed further out to sea," said John Kecsmar, naval architect at Ad Hoc Marine Designs. "Our Typhoon Class SWATH design is the best one on the market to meet these requirements going forward."

The company highlighted its new 41m SWATH's seakeeping capability during both transits and transfers.

The SWATH's motions are tuned away from expected sea states, coupled with the addition of Island Engineering's zero heave mode built-in to the motion control system, ensuring that the whole vessel is 'heave damped' and does not require any heave dampened gangway for transfers.

This enables the operator to reduce fuel consumption by running on just one or two smaller engines when on the tower, or just the gensets when in 'hotel' mode for long extended periods, Ad Hoc detailed. Nevertheless, the vessel is also able to be fitted with Ad Hoc's DampaCat system which increases damping even further.

Upon introducing the new 41m CTV, Ad Hoc also presented a 33m Typhoon Class SWATH, a smaller version of the new W2W CTV that can accommodate 12 passengers. The 33m vessel is also designed to operate offshore for up to two weeks.



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First electrically powered inland container vessel is on the horizon

Dutch electrical firm Werkina, Lloyd's Register, Asto Shipyard and inland barge operator Port-Liner are working on Europe's first electrically powered inland container vessel. The first five small ships in the series will be completed this year, and six larger vessels are in the works.

The novel barges will use containerized battery packs for power, which can either be recharged or exchanged at the terminal, allowing for rapid turn times. The smaller barge will carry 24 TEU and use one battery pack, and the larger model will carry 224 TEU with four battery packs.

Werkina says that the larger models of the electrically powered inland container vessel will carry about eight percent more cargo than standard barges, as they will not need as much space for an engine room. They will also have features that prepare them for unmanned operation.

Like many barge designs, the vessel will have a retractable wheelhouse that can be lowered to pass under bridges. Unlike standard models, though, this wheelhouse will be supported by two arms on each side, which also serve as enclosed access passageways.

The European Commission's Connecting Europe Facility provided an \$8.5 million grant to support the project, which is intended to spearhead the use of electrical power in inland waterway navigation. The Port of



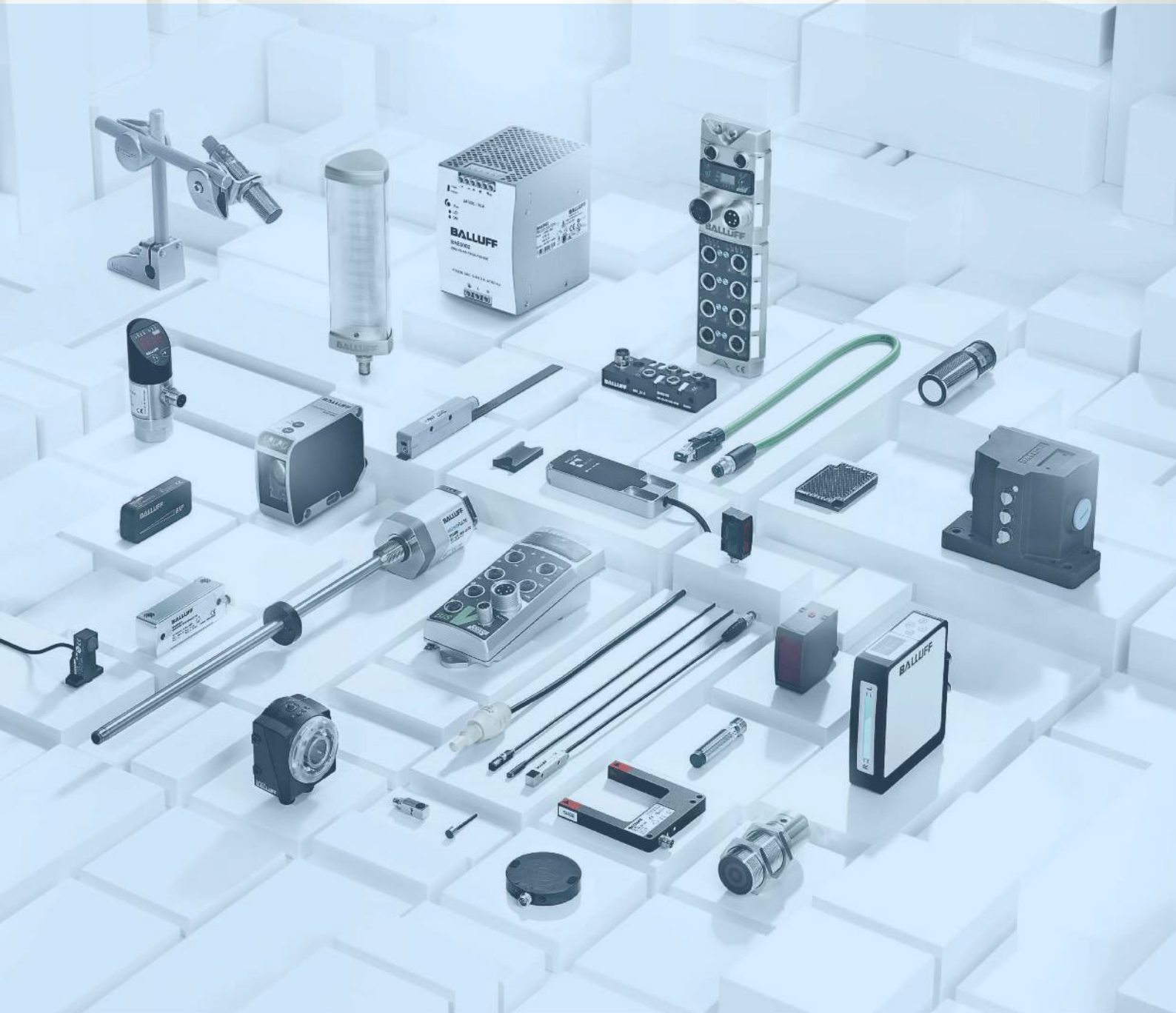
First electrically powered inland container vessel is on the horizon

Antwerp has provided an additional \$250,000.

Port-Liner CEO Ton van Meegen told the Loadstar that the containerized battery packs could allow the electrification of Europe's existing, diesel-powered inland fleet as well. "There are some 7,300 inland vessels across Europe and more than 5,000 of those are owned by entrepreneurs in Belgium and the Netherlands. We can build upwards of 500 a year, but at that rate it would take some 50 years to get the industry operating on green energy," he said.

Port-Liner's electrically powered cargo vessels will be a first for Europe, but in China, similar ships are already in operation – notably Guangzhou Shipyard International (GSI)'s battery-powered coal carrier, which began trials last year. The 2,000 dwt vessel can carry coal along the Pearl River at speeds of up to seven knots.





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Top Indian oil explorer may raise \$5.48 billion to buy HPCL



HPCL oil station

India's biggest oil and gas explorer has widened its first debt-raising plan to as much as \$5.48 billion to buy state-run refiner Hindustan Petroleum Corp.

Oil & Natural Gas Corp.'s board has approved raising as much as 350 billion rupees in loans to buy the government's 51.1% stake in HPCL, Chairman Shashi Shanker said in New Delhi on Sunday. That would be a 40% increase from its plan last year to raise 250 billion rupees. The state-run explorer said Saturday it will pay 369 billion rupees in cash for the stake.

The acquisition is part of a plan to create an oil major that was first outlined by Finance Minister Arun Jaitley while presenting the federal budget in February last year. The stake sale will help the government meet more than half of its asset-disposal plan for the year to March 2018 and is crucial for narrowing its budget

"We will use our cash first and then the liquid assets and debt will be last," Shanker told reporters. "This order can change, because we won't sell the liquid assets in distress. Also, we have offers for over 500 billion rupees debt at very competitive rates, both foreign currency and local."

The company currently has about 130 billion rupees in cash reserve, Shanker said, adding that the company could also sell the shares it holds in India's biggest refiner Indian Oil Corp.

and state-run gas utility GAIL India Ltd. ONGC holds a 13.8% stake in Indian Oil and a 4.8% stake in GAIL, data compiled by Bloomberg showed.

Bringing HPCL into its fold will make ONGC the nation's third biggest refiner after Indian Oil Corp. and Reliance Industries Ltd. ONGC said it will pay 473.97 rupees a share for the purchase. The shares will be transferred directly to ONGC without being routed through the stock market, Shanker said.

"Overall we see the transaction valuation as fair, but don't see major direct synergies," Credit Suisse analyst Badrinath Srinivasan wrote in a report Monday, adding that the acquisition will make ONGC's earnings more stable.

ONGC shares on Monday rose as much as 6.4% to 206 rupees, the biggest intraday gain since August 2015. It pared gains to trade at 204.80 rupees as of 9:53 a.m. in Mumbai, while HPCL fell 2.5% to 405.80 rupees. The benchmark S&P BSE Sensex was 0.4% higher.

The company, which expects to close the deal by the end of January, may later consider merging its oil refining subsidiary Mangalore Refinery and Petrochemicals Ltd. with HPCL, Shanker said.

Merging MRPL will be positive for HPCL as it would help in combined crude sourcing and

reduce logistics costs, Srinivasan of Credit Suisse said. The transaction is exempt from the requirement to make an open offer and all regulatory approvals have been secured for the deal, ONGC said.

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Nigeria moves closer to energy overhaul with new oil bill

Nigeria's House of Representatives passed a bill governing the country's energy sector after the Senate did so in May, taking Africa's top oil producer one step closer to a much-awaited overhaul of the key industry.

The Petroleum Industry Governance Bill now awaits President Muhammadu Buhari's signing to become law.

The bill will "promote openness and transparency in the industry by clarifying the rules, processes, and procedures that govern the oil and gas sector," Senate President Bukola Saraki said in a statement Thursday. "After nearly two decades of back-and-forth, near-misses and 'near-passages', the 8th National Assembly finally reached a milestone."

Delays in passing the new laws created a climate of uncertainty that has cost the country as much as \$15 billion a year in lost investment, the Petroleum Ministry has said. Lawmakers still

need to pass two more pieces of legislation to complete an overhaul that will replace current laws. One focuses on new oil taxes and the other seeks to address long standing grievances by oil-producing communities in the Niger River delta.



Saraki promised to pass those "very soon." He said in June that they would be enacted by last month. However, the two remaining draft bills will be more difficult to pass, according to Cobus de Hart, an analyst at NKC African Economics near Cape Town.

Disagreements over how oil proceeds should be disbursed among Nigeria's different states represent "one of the reasons why the original petroleum industry bill failed," he said in emailed note. "Abuja will have to tread carefully with changes to the fiscal regime so as not to discourage investment in a sector which is already plagued by elevated security risks."

Nigeria, Africa's top oil producer, holds an average 55% stake in joint ventures run by Royal Dutch Shell Plc, ExxonMobil Corp, Chevron Corp., Total SA and Eni SpA. These account for about 80% of total oil production, which generates at least two-thirds of government revenue.

The West African country pumped 1.68 MMbopd in December, according to its oil ministry, and is yet to reach full capacity of 2.2 million daily following disruptions caused by militant attacks from 2016.

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Studio 5000 Software Release Optimizes Productivity and Reduces Design Time

Latest release includes modern user interface and productivity-enhancing features across all applications



Studio 5000

MILWAUKEE, March 5, 2018 — Engineers can more quickly design, build and commission automation systems using the newly enhanced Rockwell Software Studio 5000 integrated development environment . The latest software release includes a new user interface that provides a common, modern look across all Studio 5000 applications, and includes updates to help engineers improve productivity from design to deployment.

The Studio 5000 Logix Designer application now includes updates to several programming languages and a modernized structured text editor to help optimize design time. The text editor has been updated with many new features, such as collapsible code segments and inline value monitoring, for more productive programming and editing.

“The modified structured text editor improves ease of use for programmers at different skill levels,” said Andy Stump, business manager, Rockwell

Automation. “Power users currently using structured text programming and new engineers who are unfamiliar with it will both be comfortable using the modernized editor.”

The new Logix tag-based alarm functionality allows engineers to easily add alarms to structures and manage them in a single environment, which helps save time by avoiding the need for programming. The update also includes new drive safety instructions in accordance with IEC 61800-5-2, and motion instructions for expanded kinematic support. In addition, the modern user interface includes multi-monitor support and tabbed views to help improve usability and reduce design time.

The Studio 5000 Logix Designer application also includes support for the new Allen-Bradley GuardLogix 5580 and Compact GuardLogix 5380 controllers. This provides new high-performance options for users as they design safety systems and can help reduce overall machine costs.

The Studio 5000 View Designer application now includes data logging and trending for easier troubleshooting. And it gives engineers access to emulation capabilities for virtual commissioning and testing applications to help reduce system development time and risk.

The Studio 5000 Architect application supports systemwide capabilities that can reduce design complexity and time. For example, the updated version has adopted the open data-exchange interface, AutomationML (Automation Markup Language), for expanded connectivity and robust data sharing between the Studio 5000 software and other engineering tools such as EPLAN Electric P8.

A new Studio 5000 Application Code Manager lite edition is available for download as a single-user edition for machine and equipment builders who operate on a smaller scale. At no added cost, this version will contain bulk-programming and library-management capabilities, with a standard version available as an annual subscription.



Interface of Studio 5000

In addition, to help jumpstart development, Rockwell Automation now provides a Machine Builder Library and Process Object Library for Studio 5000 Application Code Manager. Both libraries can be downloaded from the Product Compatibility Download Center (PCDC) for no additional cost.

The Studio 5000 Logix Emulate application now has an updated interface for connectivity to operator training systems like Cape Software VP Link and MYNAH Mimic, along with an improved user interface.

New Beechcraft King Air 350 turboprops



Royal Flying Doctor Service South Eastern Section modernizes fleet with new Beechcraft King Air 350 turboprops

SINGAPORE (Feb. 7, 2018) – *Textron Aviation Inc., a Textron Inc. (NYSE:TXT) company, today announced at the 2018 Singapore Airshow that it has received an order from the Royal Flying Doctor Service of Australia (RFDS) South Eastern Section for two modified Beechcraft King Air 350 cargo heavyweight aircraft scheduled to begin delivery in the third quarter of this year. The new turboprops will replace King Air B200 aircraft in order to modernize the organization's patient transfer and air ambulance fleet.*

The RFDS organization currently operates more than 35 Textron Aviation aircraft, including the South Eastern Section's fleet of 18 King Air turboprops.

"The organization's commitment to Textron Aviation is a testament to the long-proven history of reliability, value and performance our aircraft are known for," said Jessica Pruss, president, Asia Pacific sales and marketing. "We are eager to continue supporting the RFDS patient transport and medevac mission with the King Air 350, a trusted aircraft that empowers the operator to utilize unimproved runways and travel longer distances with a higher payload." The two new King Air 350 turboprops are scheduled to be delivered with an 11-pax, high-density seating configuration.

This configuration empowers the RFDS to transport passengers from rural and remote communities to their regional health care facilities. The organization plans to take advantage of the flexibility of the King Air 350 by converting it from its high density seating to air ambulance configurations and back as needed for each mission. Other modifications include an added cargo door for easier patient loading and offloading as well as heavyweight landing gear that support a higher maximum takeoff weight for increased payload capabilities. The King Air 350 configured with heavyweight landing gear is an uncompromising aircraft with the ability to operate with full fuel as well as a max payload of more than 1,100 kg that can be carried more than 2,500 km.

David Charlton, General Manager Aviation and Strategic Development for the Royal Flying Doctor Service South Eastern Section said "Building our fleet through the acquisition of the Beechcraft King Air 350 advances our strategic mission to deliver more health care to those that need us most. Innovation is vital to our evolution so the Beechcraft King Air 350 are valuable additions."

Using the latest in aviation, medical and communications technology, the Royal Flying Doctor Service works to provide emergency

medical and primary health care services to anyone who lives, works or travels in rural and remote Australia. The RFDS provides 24-hour aeromedical emergency services that can reach anywhere, no matter how remote, within hours. Combined with telehealth consultations, fly-in fly-out GP and Nurse clinics, mobile dental services, patient transfers, and a myriad of other health services, the RFDS is constantly working to see that those living in rural and remote areas can enjoy the same health outcomes as those living in city areas.



Left to right: Jessica Pruss, president, Asia Pacific Sales and Marketing, Textron Aviation; David Charlton, General Manager Aviation and Strategic Development, Royal Flying Doctor Service South Eastern Section; Scott Ernest, president and CEO, Textron Aviation; Kate Hamilton, Regional Sales Director, Textron Aviation

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Libya Restarts Wintershall's Oil Fields to Boost National Output



"The perpetrators and others considering using the tactic should remember this is a very serious offense for which there is no statute of limitations," Sanalla said in the statement.

The restoration of Libyan oil despite the country's divisions has put the spotlight on Sanalla, whose influence has waxed in a country dependent on oil exports. In another sign the sector is stabilizing, Royal Dutch Shell and BP have agreed to annual deals to buy Libyan crude.

Production remains well below the level of 1.6 MMbpd reached before the revolt in 2011, however, and efforts to increase output and exports are complicated by Libya's commitment to an OPEC campaign to reduce a global surplus.

Source: www.worldoil.com

Libya's state energy producer National Oil Corp. announced the restart of production at Wintershall's Sara oil fields more than two months after they were closed by protests, in the latest sign that the OPEC nation's oil industry may be stabilizing.

The fields will increase the North African country's crude output by 57,000 bpd, according to an NOC statement on Sunday. Wintershall confirmed that crude output at the fields resumed on Jan. 21, according to an emailed statement from the company on Monday.

The shutdown since November resulted in the loss of 4.4 MMbpd of production at a cost to the economy of \$281.5 million, NOC said in the statement. The municipality of Jikharra had decided to reopen the area following pressure from NOC and the public prosecution, it said. The fields, located in the Jikharra area, were closed in early November due to protests by people demanding jobs and more local development projects.

Since the 2011 war that ousted former leader Muammar Qaddafi, Libya has been carved up among dozens of militias, with rival administrations in the east and in Tripoli.

Infighting since 2014 crippled the production and exports of oil, Libya's main source of income, devastating the import-dependent economy. Oil output has since been increasing and reached last year its highest level in four years. Output has stabilized at about 1 MMbpd over the last quarter, hampered only by isolated disputes and shutdowns.

Crude Exports

NOC Chairman Mustafa Sanalla said the restart in Jikharra was a setback for a parallel Libyan oil administration based in eastern Libya, which for several years had tried to gain control over the country's central and eastern oil facilities and export the crude independently. It failed to do so as major international oil companies only recognize the Tripoli-based NOC.

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First Ultra Long Range A350 XWB makes its debut



A350 XWB Ultra Long Range

The first Ultra Long Range version of the A350 XWB has rolled out of the Airbus final assembly line in Toulouse. The latest variant of the best-selling A350 XWB Family will be able to fly further than any other commercial airliner and will enter service with launch operator Singapore Airlines later this year.

Singapore Airlines prepares to resume world's longest commercial flights

The first Ultra Long Range version of the A350 XWB has rolled out of the Airbus final assembly line in Toulouse. The latest variant of the best-selling A350 XWB Family will be able to fly further than any other commercial airliner and will enter service with launch operator Singapore Airlines later this year.

Altogether, Singapore Airlines has ordered seven A350-900 Ultra Long Range aircraft, which it will use on non-stop flights between Singapore and the US, including the world's longest commercial service between Singapore and New York.

Following completion of the airframe assembly, the first aircraft has now moved to an outdoor station where it will undergo extensive ground tests, prior to installation of its Rolls-Royce Trent XWB engines.

The aircraft will then embark on a short flight test programme to certify the changes over the standard A350-900 that will bring the additional range capability. These include a modified fuel system that increases fuel carrying capacity by 24,000 litres, without the need for additional fuel tanks. The test phase will also measure enhanced performance derived from aerodynamic improvements, including extended winglets.

With a maximum take-off weight (MTOW) of 280 tonnes, the A350 XWB Ultra Long Range is capable of flying up to 9,700 nautical miles or over 20 hours non-stop, combining the highest levels of passenger and crew comfort with unbeatable

economics for such distances.

The A350 XWB is an all new family of widebody long-haul airliners shaping the future of air travel. The A350 XWB features the latest aerodynamic design, carbon fibre fuselage and wings, plus new fuel-efficient Rolls-Royce engines. Together, these latest technologies translate into unrivalled levels of operational efficiency, with a 25 per cent reduction in fuel burn and emissions, and significantly lower maintenance costs. The A350 XWB features an Airspace by Airbus cabin offering absolute well-being on board with the

quietest twin-aisle cabin and new air systems.

To date, Airbus has recorded a total of 854 firm orders for the A350 XWB from 45 customers worldwide, already making it one of the most successful widebody aircraft ever.

Singapore Airlines is one of the largest customers for the A350 XWB Family, having ordered a total of 67 A350-900s, including the seven Ultra Long Range models. The carrier has already taken delivery of 21 A350-900s.

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A350 XWB
The Xtra that makes the difference

ABB fast chargers power Norway's biggest electric bus project

2018-02-28 - As Norway grows its electric bus fleet, ABB is to supply fast chargers to Trondheim's dual-manufacturer electric bus scheme.

ABB is set to supply eight Heavy Vehicle Chargers (HVCs) to Trøndelag County Council to power a fleet of 35 fully electric vehicles in one of Europe's largest electric bus schemes. The project is one of the first projects where fully electric buses of two different bus brands will run a large scale commercial operation using the same charging infrastructure.

Demonstrating the need for interoperability and the strength of open interfaces, ABB's HVC 450P chargers, will charge 25 Volvo 7900 Electric buses and 10 Heuliez GX 437 buses. All buses are fully electric and operated by Tide Buss in the city of Trondheim, Norway on behalf of Trøndelag County Council.

ABB's powerful charger, HVC 450P provides 450 kW DC output power and can recharge a battery in three to six minutes. The chargers are compatible with OppCharge, an interoperable and open interface for DC electric bus charging



that uses a pantograph mounted on the infrastructure. The contract is for a ten year period and will include connected services like remote management to ensure high uptime during operation through ABB Ability™.

Per Olav Hopsø, head of Transport Committee, from Trøndelag County Council said: "Working with ABB has enabled us to deliver a high quality and reliable solution which allows operators from different networks to work simultaneously and share infrastructure. This not only provides good economies of scale and return on investment, but continues to support our forward thinking approach in delivering first-rate modern infrastructure for our region. With the help of innovative

companies such as ABB, public transport within the city of Trondheim will be fossil free by 2019."

ABB opportunity chargers offer charging at the end of a bus route during layover time. The chargers will be installed at the endpoints of four bus routes that are being electrified, including some more remote locations served by the Trondheim bus route.

Commenting on the initiative, Frank Mühlön, Head of ABB's Global Business for Electric Vehicle Charging, said: "At 35 vehicles, Trondheim will have the largest electric bus fleet in Norway and we are proud to have been chosen as a strategic partner.

Exmar takes delivery of world's first barge-based FSRU from Wison

IBM and A.P. Moeller-Maersk on Tuesday announced a joint venture to create a platform based on Hyperledger Fabric 1.0, with the goal of creating huge efficiencies in the global supply chain.

IBM and Maersk, one of the world's leading shipping container firms, have teamed up to provide a more efficient method of standardizing shipping logistics using blockchain technology.

"Adoption of Hyperledger Fabric by Maersk and its partnership [with] IBM has the potential to remake the shipping sector landscape and its use of information technology," said Brian Behlendorf, executive director of The Linux Foundation, which hosts Hyperledger Fabric 1.0.

The new firm, which will be based in the New York metropolitan area pending regulatory approval, will be 51 percent owned by Maersk, with the remaining 49 percent owned by IBM. Mike White, former president of North America for Maersk, will be CEO of the venture. Vincent Clerc, chief commercial officer at Maersk will be chairman of the board.

The venture will offer the platform to a variety of companies. Among those that have expressed early interest are automaker General Motors; Procter & Gamble, the makers of Tide detergent, Bounty paper towels and Pampers diapers; and freight forwarding company Agility Logistics, which will be able to provide more streamlined customs clearance brokerage.

"Maersk is a strategic partner of General Motors," noted Nick Richards, product development/purchasing and supply chain communications manager at GM.

"We believe this initiative will improve efficiency in how we manage our logistics network, as well as improving visibility of our cargo," he told LinuxInsider. "We have started testing this in a few international lanes with Maersk."

Efficient Entities

The new company will provide an opportunity to use blockchain technologies to reduce inefficiencies and build revenues across the global industry, said Maersk spokesperson Katherine Mosquera.

"Today blockchain opens up an entirely new set of possibilities and a unique opportunity to engage the entire global shipping ecosystem," she told LinuxInsider.

The new venture will employ cloud-based artificial intelligence and Internet of Things technology through IBM to help create a more efficient logistical network, according to Maersk.

Blockchain technology gives companies the ability to trace the origin and destination of various goods in ways that previously were not available, moving anything from digital currency to a diamond or a

photograph, according to IBM.

Customs officials in Singapore and Peru plan to utilize some of the venture's capabilities to enhance supply chain security and facilitate trade flow. In addition, international terminal operators APM Terminals and

PSA International will work with the new venture to improve terminal planning and improve port collaboration.

IBM and Maersk first launched a joint venture in June 2016 to develop technology involving blockchain. They have run pilot programs with several major companies to test how they can



use the new platform to create more efficient logistical operations.

The pilots have involved a wide range of entities, including Pak, Port Houston, Rotterdam DuPont, Dow Chemical, Tetra Port Community System Portbase, the Customs Administration of the Netherlands, and U.S. Customs and Border Protection.

Global Buy-In

This major commitment by two important companies may provide the impetus for many others to jump on board, leading blockchain to its full potential.

Maersk has been successful in running pilot programs of blockchain in the past, noted Stewart Bond, research director of data integration software at IDC.

That said, in order to work on a global scale, blockchain networks need buy-in and participation, he told LinuxInsider.

"Both of these companies can bring forth vast depth and range of existing business relationships," said Jessica Groopman, industry analyst at Kaleido Insights.

"This isn't just an advantage over startups working on blockchain supply chain applications," she told LinuxInsider. "It's an essential enabler of value."

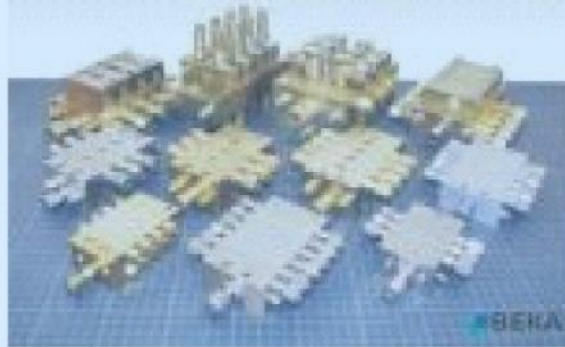


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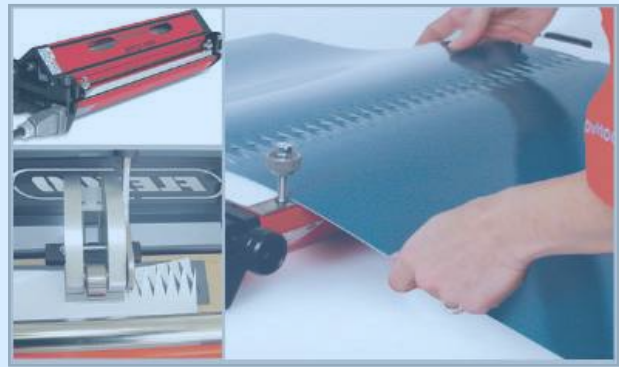
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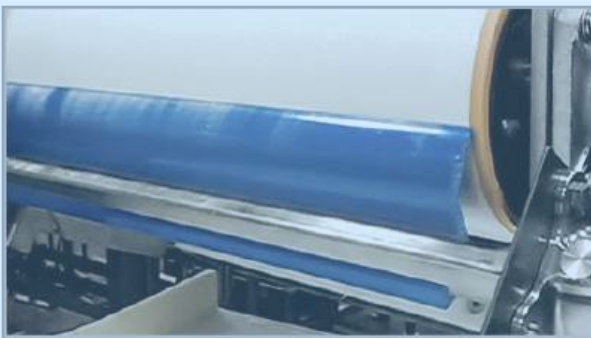
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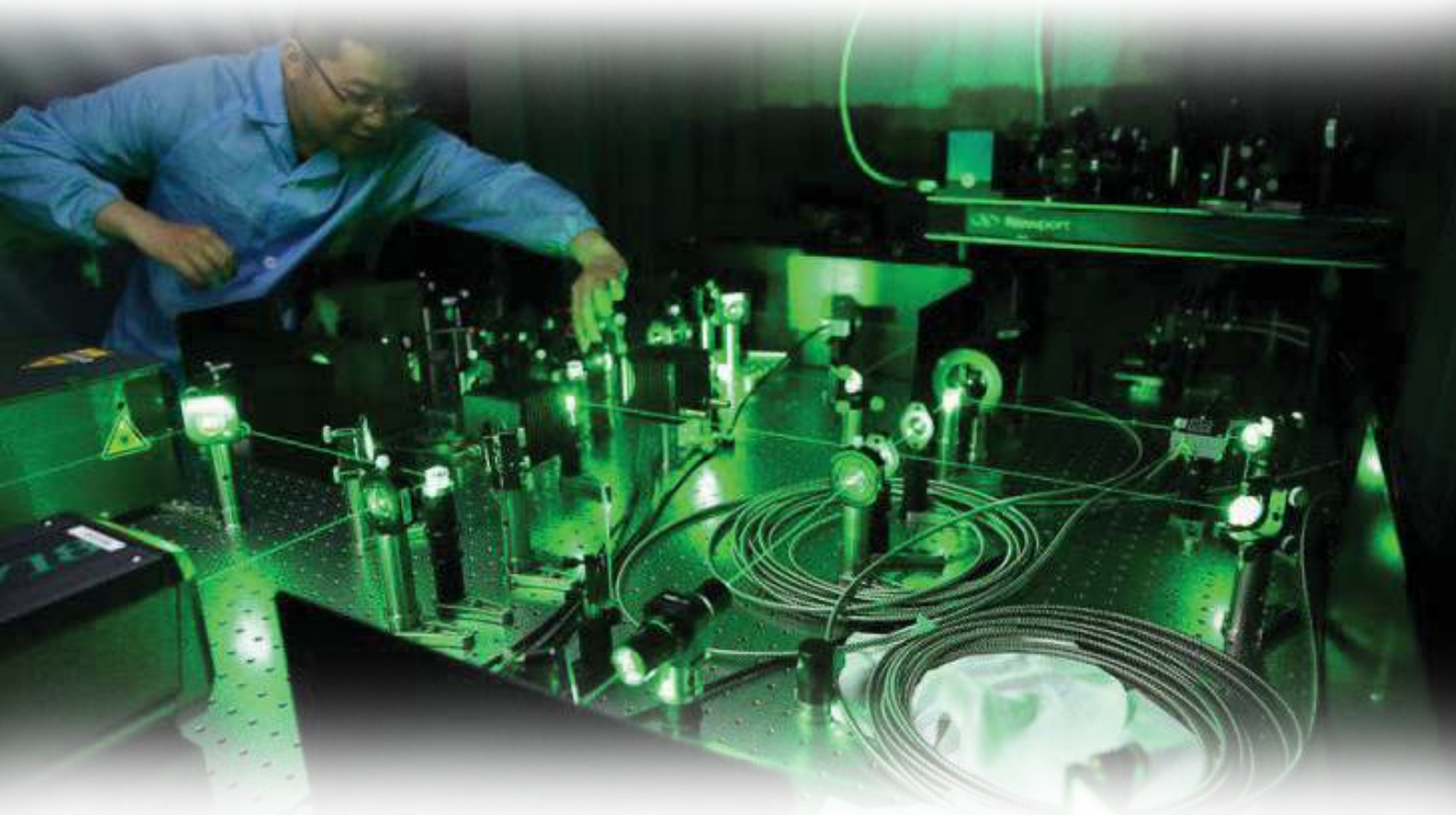
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Alibaba launches 11 qubit quantum computer with cloud computing access

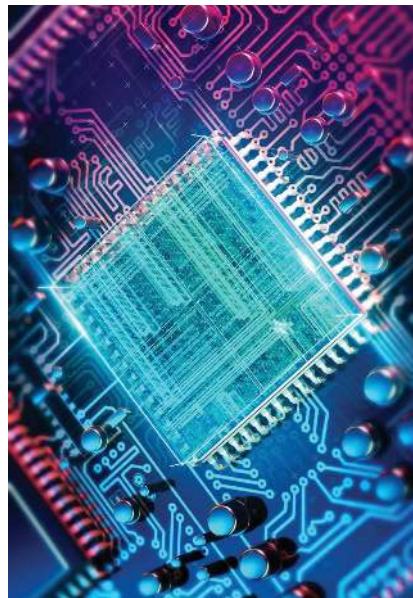


Alibaba opened up access to an 11-qubit system on its computer cloud. IBM has a 20 qubit quantum computer available on its cloud.

Users can now access the superconducting quantum computing cloud through Alibaba Cloud's quantum computing cloud platform to efficiently run and test custom-built quantum codes and download the results.

Dubbed the "ultimate computing power" of the Mother Nature, quantum computing is seen as a solution that can perform calculations at a rate far beyond that of traditional computers. With this ground-breaking quantum technology offered by CAS and Alibaba Cloud, users will be able to run and trial their quantum algorithms in order to learn more about the features and capabilities including the performance of the processor and any existing technological barriers. Understanding more about these considerations will further push the advancement of quantum technology.

Offering quantum computing services on cloud is another breakthrough by the two parties. This will enable wider participation in overcoming technological challenges and the



sharing of ideas and knowledge that will move scientists towards full utilization of this powerful technology.

Dr. Shi Yaoyun, Chief Quantum Technology Scientist at Alibaba Cloud, said: "By introducing quantum computing services on cloud, we make it easier for the teams to experiment with quantum applications in a real environment to better understand the property and performance of the hardware, as well as leading the way in developing quantum tools and software globally. The user experience offered on cloud will, without doubt, help us further enhance our platform."

Alibaba Cloud has made a significant commitment to quantum technology over recent years. In July 2015, Alibaba Cloud and CAS jointly established the first quantum computing laboratory in Asia, and shortly thereafter made a breakthrough in achieving the world's first cloud-based quantum cryptography method.

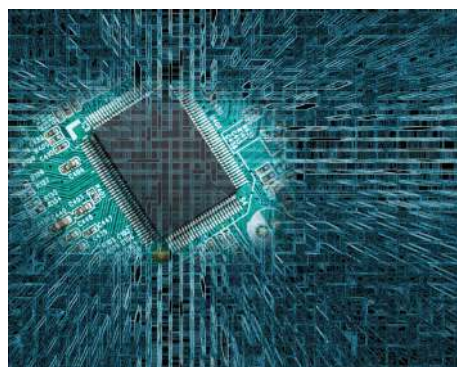
In May 2017, CAS-Alibaba Quantum Computing Laboratory participated in the development of the world's first photon quantum computer.

Industrial PCs Offer Critical Solutions for Big Data/IIoT

NY-Series Industrial Panel PCs deliver uninterruptable machine control with an isolated Real Time Operating System (RTOS).

Omron Automation (www.Omron247.com) designed the NY-series of Industrial PCs for reliable machine control and the flexibility to handle the most demanding SCADA, ERP/SAP, and SQL applications. They pave the way to adopt and capitalize on IIoT for production optimization, to achieve compliance with traceability regulations, and to establish preventive maintenance protocols.

In the crowded market for industrial PCs, Omron created a uniquely reliable way to crash proof machine control operations by partitioning the drive. In the NY5 Machine Controller IPC, one part runs the embedded NJ machine control RTOS, the other one runs the computer operating system. A hypervisor virtual network between the two ensures collaborative operation in normal conditions, and uninterrupted machine control operation in the event of a Windows crash. The embedded NJ can even be set to restart Windows OS.



Chip on circuit board

For multi-axis motion control applications that require high precision and high speed, Omron created an IPC with programmable motion control, model NY51-A. It incorporates advanced functionality developed by Omron Delta Tau Technologies to handle complex motion tasks.

The NY-series IPCs are part of Omron's Sysmac platform, allowing simulation and commissioning using the integrated development environment in Sysmac Studio software package. They also run Omron InduSoft software used to design SCADA and HMI projects.



Industrial PC

Available Types of NY IPCs

Type	Series
Industrial Pc	NYB Box Pc
	NYB Panel Pc
IPC Machine Controller	NY51 <input type="checkbox"/> Box Pc
	NY51 <input type="checkbox"/> Panel Pc
IPC Programmable Multi-Axis Controller	NY51 <input type="checkbox"/> -A Box Pc
Industrial Monitor	NYM

About Sysmac Platform

Omron's Sysmac Platform provides a scalable architecture for reliable, high-performance, centralized machine control. This system guarantees integration of multiple technologies and interoperability between Logic, Motion, Vision, and Safety technologies with a single software interface. Sysmac Studio software creates a universal tag database that

maximizes user efficiency by consolidating configuration, programming and commissioning operations with single-file revision management. This is achieved by providing a clean controls architecture, with built-in open network interfaces EtherNet/IP (for enterprise), and EtherCAT (for real-time machine devices), into a single software.



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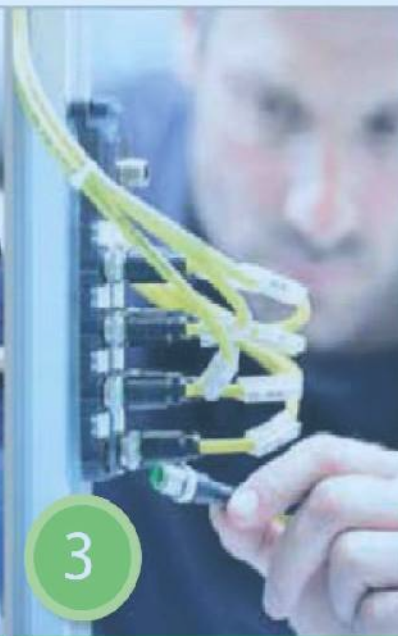
1

ELECTRONICS IN THE
CONTROL CABINET



2

INTERFACES



3

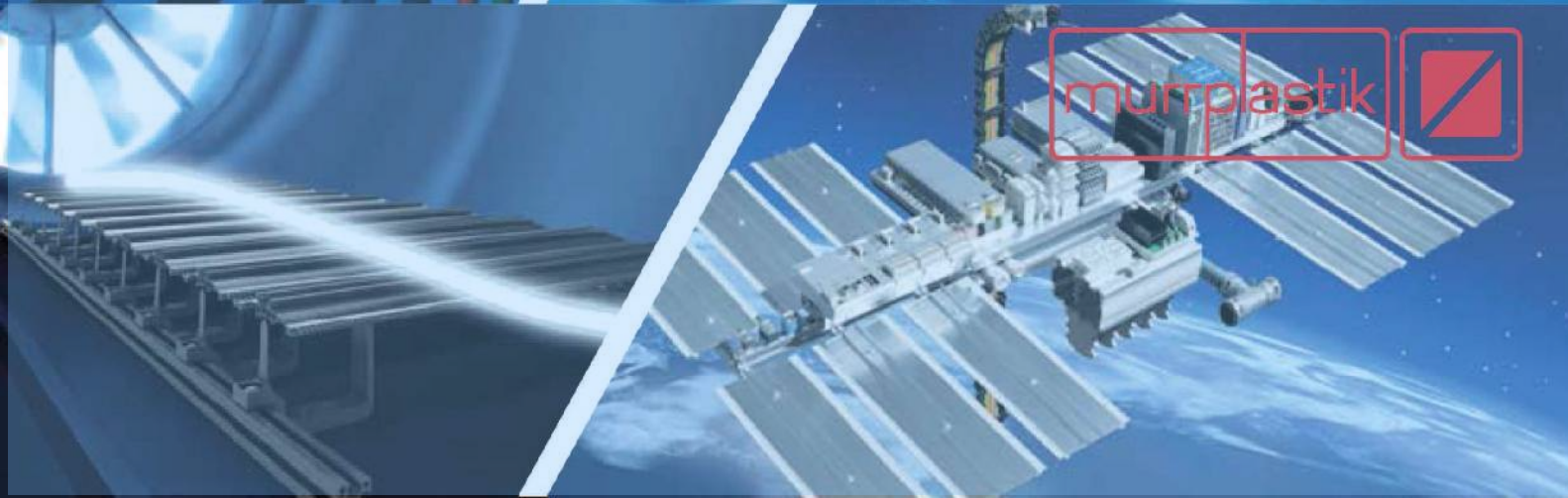
CONNECTION
TECHNOLOGY



4

I/O SYSTEMS

LITZE
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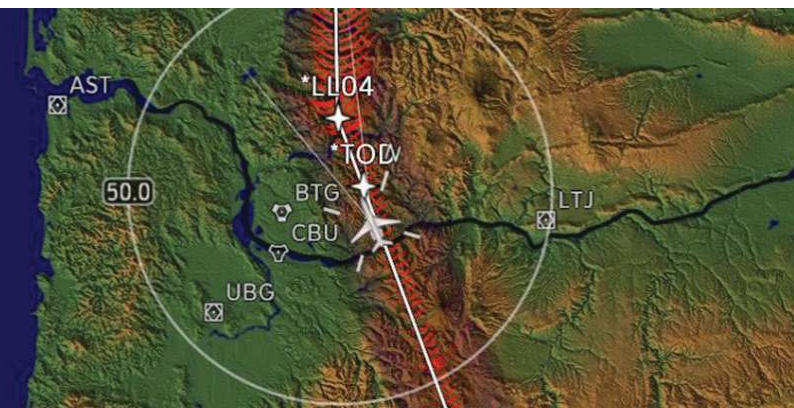


Top 12 Innovations of the Year

These breakthroughs demonstrate how connectivity is changing the world



From software to hardware to IoT, these are the breakthroughs that help create a smarter, safer and more sustainable future. We can't wait to see what's next.



1. Sonic Boom Mitigation

What: New technology will help mitigate loud sonic booms over populated areas, bringing the aerospace industry closer to supersonic flight

Industry: Aviation – it would enable pilots to cut business jet travel times roughly in half. For instance, travel time from New York to Los Angeles would be reduced from five hours to less than two and a half.

Why it's innovative: With NASA, Honeywell integrated software with our Interactive Navigation technology into a modern business jets, which allows pilots to predict sonic booms over a future planned flight path. This provides actionable information and visuals to assess the boom impact of a flight plan and display trajectories, preventing the loud sound from disturbing populated areas.

2. Unmanned Aerial Vehicle (UAV) Industrial Inspection

What: Our UAV inspection service provides state-of-the-art monitoring to help industrial customers inspect structures and increase employee safety.

Industry: Utilities, energy, infrastructure and oil and gas

Why it's innovative: According to the U.S. Department of Labor, utility line workers have one of the top 10 most dangerous jobs in the United States with 21.5 annual fatalities from high-voltage lines for every 100,000 workers. With this service, utility companies can send a UAV to inspect substations, transmission towers and power lines, which is safer and more cost effective than using helicopters, cherry pickers or ladders.



3. Theft-Resistant Bag

Available in: Flak Sack Coalition bag

Industry: Textiles

What it does: Designed to be theft-resistant. Thanks to Spectra® fiber, one of the strongest manmade fibers in the world, it exceeds the industry's highest rating for cut resistance.

Why it's innovative: This is the most cut-resistant bag in the world.

Top 12 Innovations of the Year



8. More Powerful Turbochargers

Available in: Garrett G Series G25-550 and G25-660 Turbo Chargers

Industry: Vehicles

What: Lots of power in a small package

Why it's innovative: It's the first turbocharger that does not utilize existing Original Equipment (OE) components. It has new Compressor and turbine wheel designs that increase efficiency and horsepower.

9. Multiple Threats Monitoring

Available in: AreaRAE Pro transportable multi-threat detector

What: It protects crowd venues and other governmental applications in real time. A wireless, connected device that monitors multiple threats simultaneously, including toxic and combustible gases, volatile organic compounds, gamma radiation levels, wind speed and direction and humidity.

Industries: Municipal (stadiums, events), critical infrastructure, HAZmat and homeland defense

Why it's innovative: It uses a variety of state-of-the-art wireless communications (GPS, mesh wireless, WiFi or Bluetooth) and sensing technologies to identify and communicate information on an assortment of threats. Because it's transportable and lightweight, it can be deployed rapidly, in minutes instead of hours or days, giving its users a full-scale, all-in-one multi-threat monitoring system that provides up-to-the-second situational awareness of the area being monitored. And because it's a connected device, the information it collects can be displayed on a PC at a command center nearby or remotely to a location thousands of miles away.



10. Smart Gas Detectors

Available in: Sensepoint XCL and XRL Fixed Gas Detectors

What it does: Smart gas detectors that monitor for hazardous gases to protect facilities and workers. The goal was to make the most efficient gas detector to install, commission, use and maintain.

Industry: Commercial and light industrial operations (XCL) and industrial facilities (XRL)

Why it's innovative: Simpler and faster installation. A mobile application connects wirelessly to the device to greatly simplify testing and calibration, resulting in reduced installation time and paperwork.

11. Gas Variable Nozzle Turbine (VNT)

Industry: Automotive – passenger vehicles

What it does: This technology uses movable “gates” or “vanes” inside the turbocharger to better regulate airflow to precisely match the needs of the engine across engine speeds. This results in improved fuel economy and reduced CO2 emissions at nearly all engine speeds.

Why it's innovative: It solves for the inherently higher temperatures associated with gasoline engines by adapting the variable geometry technology for modern gasoline engines that has been synonymous with diesel engines for nearly three decades. Honeywell and VW launched the first gas VNT engine in a cost-effective manner suited for high-volume production vehicles with best-in-class fuel economy.



12. Hydrotreating Catalysts

Industry: Oil and gas refining

What it does: Hydrotreating catalysts clean sulfur and other contaminants from petroleum, so it can be refined into fuels and petrochemicals. The catalysts also help those fuels burn more cleanly.

Why it's innovative: These hydrotreating catalysts are the first of their kind to be specially designed to work with UOP's refining processes. Without these chemical agents, we wouldn't be able to use petroleum for fuel or other petrochemical products that eventually make plastics

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Exmar takes delivery of world's first barge-based FSRU from Wison

Wison Offshore & Marine has delivered the world's first barge-based FSRU to Exmar.



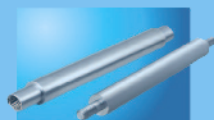
The 25,000 cum FSRU barge built at Wison Nantong shipyard has a re-gasification capacity of 600MMSCFD.

The barge-based FSRU serves as a flexible solution designed to reduce both capex and lead time for projects and Exmar has secured a charter for the unit from mid-2018.

Huqing Wei, Project Director for the FSRU Project and Deputy General Manager of Wison (Nantong) Heavy Industry commented; "We are glad to continue working with Exmar on the first-of-its-kind floating LNG projects and feel grateful for concerted efforts by all partners who made it happen."



Linear Guides



Linear Shafts



Couplings



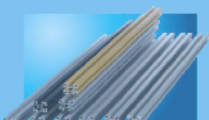
Timing Pulleys



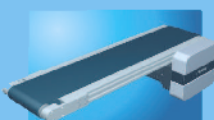
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Marine Institute supports Ireland's commitment to ban microbeads

The Marine Institute supports Ireland's commitment to introduce national legislation that will prohibit the sale and manufacture of certain products containing microbeads.

Dr Peter Heffernan CEO of the Marine Institute, was recently interviewed on RTE Morning Ireland about the potential harmful effects of the tiny pieces of plastic known as 'microbeads' entering our oceans.

"The key risk about microbeads is the potential to get into the food chain - something that small can be eaten by small microorganisms at the base of the food chain in the ocean and eventually end up in products that humans eat," Dr Heffernan said.

"It is globally a significant issue, especially when you consider that 97 percent of the Earth's water is in the ocean and half the oxygen we breathe comes from the ocean. There is an existential relationship between the health of human life on planet earth and the health of our oceans."

At the Our Ocean Conference held in Malta on 5-6 October 2017, Minister of State Ciarán Cannon TD delivered Ireland's national commitments to promote and protect the world's marine resources. Ireland reaffirmed that by the end of 2018 it will introduce national legislation to prohibit the sale or manufacture of certain products containing microbeads, including not just cosmetics but also body care and cleansing products as well as detergents and abrasive surface cleaning products.

"We are at a very early stage, globally, in understanding the scale of the risk and even the pathways of the plastic into the food product. Ireland has been very quick off the ground with research undertaken in Galway Bay, off the continental shelf, and in the very deep continental waters," Dr Heffernan said.

The Marine Institute has committed €446,000 in funding to three international microplastics projects, through JPI Oceans - the Joint Programming Initiative Healthy and Productive Seas and Oceans, via three Irish partners - University of College Cork (UCC), Galway Mayo Institute of Technology (GMIT) and National University of Ireland, Galway (NUI Galway).

The Marine Institute is a research partner in the CleanAtlantic - Tackling Marine Litter in the

Atlantic project, working with partners from Spain, France,

Portugal and the United Kingdom. The EU funded CleanAtlantic project aims to protect biodiversity and ecosystem services in the Atlantic Area by improving capabilities to monitor, prevent and remove (macro) marine litter.

Research on microplastics has also been undertaken by scientists on board the Marine Institute's two research vessels, the RV Celtic Explorer and the RV Celtic Voyager. In April 2014, PhD student Amy Lusher from GMIT, researched the distribution of microplastics in the Atlantic Ocean, on a RV Celtic Explorer voyage from Galway to St Johns Newfoundland. On board the RV Celtic Voyager in October 2015, Dr Audrey Morley from NUI Galway conducted the first assessment of microplastic pollution in marine sediments taken from the Irish continental shelf. Recently, in December 2017, a team from GMIT's Marine and Freshwater Research Centre (MFRC) were on board the RV Celtic Voyager to carry out a survey of microplastics in Galway Bay.

Dr Peter Heffernan said the scale of plastic pollution in our ocean

is alarming and our current human behaviours need to change.

"We have got to change human behaviour, we have got to change manufacturing and industrial behaviour. We have personal choice in this; we can choose not to use single-use plastics. We can choose to identify where products contain microbeads and decide at a personal level not to use them. That is a very powerful signal to the market," Dr Heffernan said.



Microbeads

The European Commission today adopted the Europe-wide strategy on plastics to protect the environment from plastic pollution while fostering growth and innovation. Under the new plans, all plastic packaging on the EU market will be recyclable by 2030, the consumption of single-use plastics will be reduced and the intentional use of microplastics will be restricted.



New regulations from the Danish Maritime Authority for operating personal watercraft come into force

Following the launch of new regulations from the Danish Maritime Authority, effective from 1 January 2018, operators of personal watercraft must complete a theoretical as well as a practical test.

As part of the Danish Government's efforts to enhance the safety of those using the sea for recreational purposes, the Danish Maritime Authority will now require operators of personal watercraft and the like to hold a special personal watercraft license.

Everyone who wants to operate a personal watercraft must have passed a theoretical as well as a practical test to acquire a personal watercraft license. However, persons who already have a certificate for yachtsmen will only need to pass the practical test.

If you already hold a valid yachtsman certificate that entitles you to operate a personal watercraft, you can continue to do so. However, you have to pass the practical test for operators of personal watercraft and acquire the personal watercraft license within a period of two years in order to continue to operate your craft.

Director Rasmus Høy Thomsen from the Danish Maritime Authority:

"Personal watercraft are special due to their high speed and unique manoeuvring capabilities. With the new regulations, yachtsmen will have the competences required to operate these craft safely and show consideration of their surroundings."

All operators of personal watercraft and the like must be able to present a valid personal watercraft license. Violations of the new provisions are punishable by fine.

More details information about the new regulations:

- Personal watercraft licenses are introduced from 1 January 2018
- You must have turned 16 years to acquire the license

The theoretical test must include knowledge about:

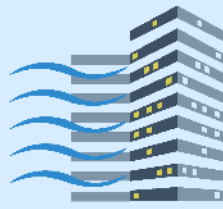
- The distribution of responsibility on board
- The obligation to give way
- Local navigational provisions
- Behaviour and safety on and around the craft

The practical test must include the following:

- Preparing for operation
- Leaving and approaching land
- Using safety equipment
- Using navigational regulations
- Taking precautions in case of falls overboard
- Operating at different speeds
- Making evasive manoeuvres and emergency stops
- Displaying safe behaviour and continuously evaluating risks



New regulations from the Danish Maritime Authority for operating personal watercraft come into force



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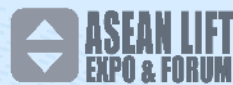
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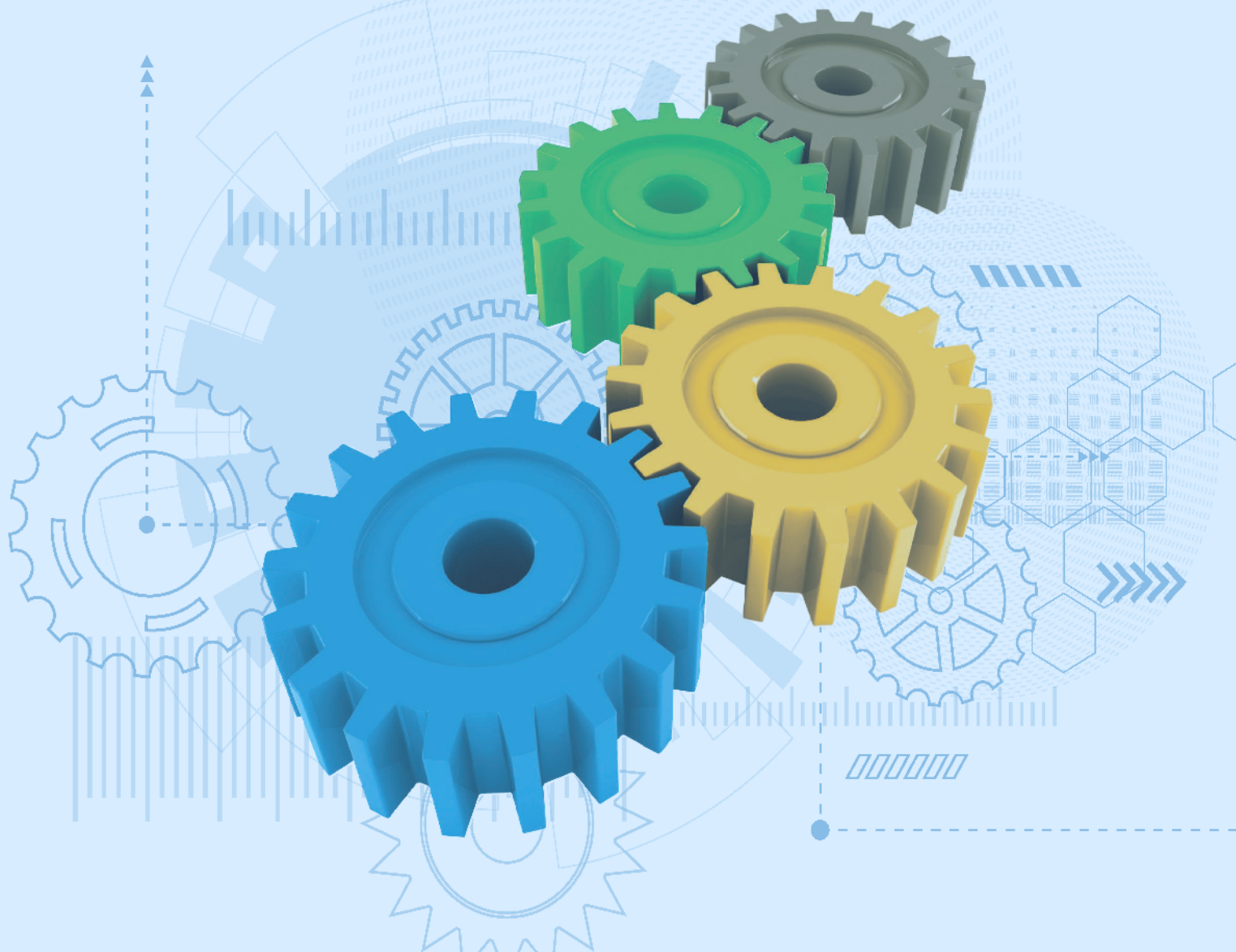
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Airbus Helicopters outlines complete connected services offer

At HAI Heli-Expo 2018, Airbus' helicopter division presented its three-tiered connected services offer for enhanced safety, operational cost savings and higher aircraft availability.



This new addition to the HCare service offer is comprised of a suite of software and applications that works in concert with operational flight and aircraft data to give operators a global view of their fleet's performance, usage, and maintenance needs—aiding decision-making for safe and cost-efficient operations.

Three digitalised options are proposed for the benefits of flight, operations analyses and support decision-making.

The first level, Digitize, provides users with applications and data-as-a-service, categorised into three packages focused on safety management, maintenance, and operations (Ops). Users can easily access and visualise their data, simplifying their operations while setting the foundation for detailed analysis of their activities. One example is the maintenance package combining the mobile and web based applications Fleet Keeper (eTechlogbook) and Fleet Master (powered by RUSADA) with real time data sharing to ease and strengthen airworthiness and maintenance management.

Flight Planner, Airbus Helicopters'

electronic flight bag app, facilitates flight planning and assesses the feasibility of missions by integrating all-in-one software, supplying pilots with data on aircraft performance, weight and balance and map displays, among others. Its latest version brings further enhancements in wirelessly uploading flight plans to the aircraft's Garmin FMS/GPS GTN750; an updated version will be available on the H145, H175, H225 and H215 by Q2 2018, and on the H135 at the end of 2018.

The second level of service, Optimize, includes data analytics services such as helicopter flight data monitoring to identify the exposure to risks in flight, or a parts and stocks forecast for optimising costs. For instance, to aid predictive maintenance, the FlyScan software helps customers study data from their fleet's health & usage monitoring system (HUMS). Over the course of the flight, HUMS records information about the aircraft's behaviour, which is then analysed to provide feedback on the helicopter's current condition. By allowing operators to anticipate unscheduled maintenance events and avoid disruptions to their operations, FlyScan enhances flight

safety, helps increase fleet availability, and reduces customers' maintenance burden.

Finally, level three – Achieve – sets Airbus Helicopters experts to work analysing data, with the aim of identifying improvements or proposing tailored solutions to targets set by customers.

In the air, in communication Digital communication forms part of the connected services offer. To aid the exchange of information between a helicopter and ground services, Airbus is teaming with Astronautics Corporation of America to develop and produce the wireless Airborne Communication System (wACS), the first prototype of which will begin bench tests in March 2018.

Made up of a set of communication modules and software representing a complete air-to-ground, modular data transmission system, wACS will allow customers to exchange data through various channels (Wifi, Satcom); supply e-flight bag applications with data; and store and retrieve operational data. This new solution will leverage the value of data for safer and more efficient operations.

Top 12 Innovations of the Year



4. Digitized Building Management

Available in: Outcome Based Service

What: Digitized building management service, helping building operators save money through better decision making and improving the quality of life for those who live and work inside the building.

Industry: Buildings, including airports, healthcare, higher education, pharmaceuticals, hospitality, leisure and entertainment.

Why it's innovative: It combines the data from the building management system with powerful algorithms, providing greater visibility into the building's performance, improved lifecycle predictability and dashboards to help manage and report, promoting better operating performance, greater uptime and reduced risk. When a technician shows up on site, they can see highest priority issues, and make step-by-step improvements with the support of analytics professionals.

5. Monitored DIY Home Security

Available in: Smart Home Security System

What: An all-in-one home security solution that helps you keep an eye on your home no matter where you are and without monthly costs.

Industry: Connected home

Why it's innovative: While traditional security systems require professional monitoring and installation with associated monthly fees, the Smart Home Security System plugs in and is ready-to-go, as it monitors the home, alerting you of motion and sound detection and letting you know who is coming and going in real-time. Future features include facial recognition and audio analytics, distinguishing between a smoke detector and dog barking.



6. Virtual Reality Steering

What: Allows drivers to maneuver in a windowless vehicle using an augmented/virtual reality headset.

Industry: By reimagining how a driver interacts with the outside world, future systems based on GXV-T research could enable an entirely new way of driving. Vehicle operators could eventually be given a full 360-degree view of their surroundings, which would allow them to use new methods and strategies to stay protected from external threats. These future systems could also provide operators with more information about their mission, such as optimal routes, difficult terrain or troop movements by augmenting what they are seeing. The virtual reality technology would also be useful in training or simulation environments.

Why it's innovative: This is the first case where a natural viewing experience has been achieved in an indirect, windowless driving system.

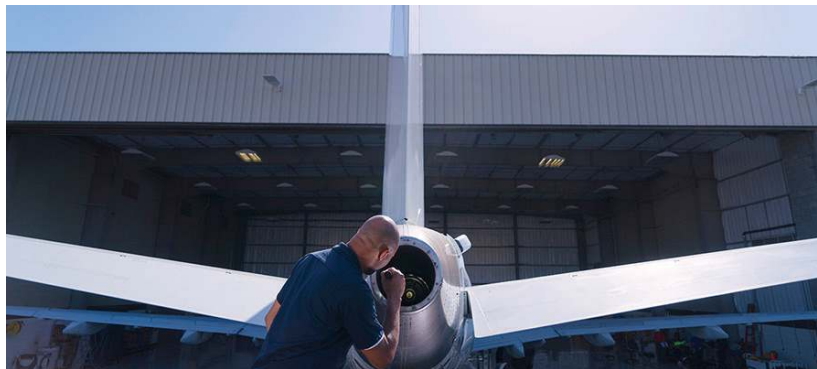
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What: The service gathers historical and near real-time data from your aircraft, flight and maintenance operations and repair shops. It then generates predictive maintenance alerts that are sent to airlines with the concrete maintenance action and timeline to avoid an operational disruption, keeping airlines on time and passengers comfortable.

Industry: Air travel

Why it's innovative: Delays can cost airlines \$10,000 and up per hour or more, cancellations can be upwards of \$100,000. This service helps airlines save on repairs.





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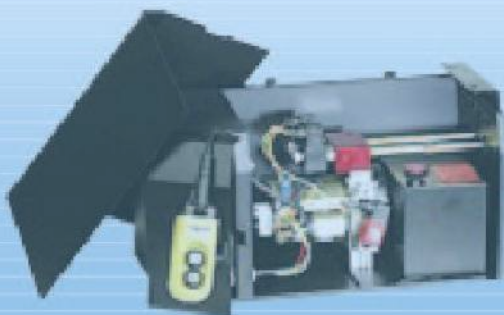
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Babcock to operate the first fleet of H160s



Babcock to become the H160's global launch customer.

Babcock is set to become the global launch customer for the H160 after signing a five year frame agreement for the purchase of a fleet of H160s. The fleet of H160s is destined for EMS and other critical services missions starting in Europe and to be deployed progressively across Babcock's bases worldwide.

Las Vegas, 1 March 2018 – Babcock is set to become the global launch customer for the H160 after signing a five year frame agreement for the purchase of a fleet of H160s. The fleet of H160s is destined for EMS and other critical services missions starting in Europe and to be deployed progressively across Babcock's bases worldwide. "The H160 was a natural choice for Babcock's operations as its large cabin and low vibration levels and its state-of-the-art technology will make it a safe and comfortable environment for mission critical services to work in" said Roger Hardy, Chief Executive Aviation, Babcock International Group. "We are sure that the innovations that the H160 brings to the market will help us deliver our high standards of quality, safety and cost-effectiveness".

"We are proud that the largest

civil helicopter operator has selected the H160 to become its next generation solution for saving lives. As the H160 launch customer, Babcock inaugurates a new era for helicopter operators" said Ben Bridge, Executive Vice President for Global Business at Airbus Helicopters. "In every aspect, from industrial production, to maintenance and fleet management and of course mission readiness, the H160 represents the new standard in helicopter capabilities for the next 30 years" he added.

With 68 patents, the H160 integrates Airbus Helicopters' latest technological innovations aimed at providing passengers with superior comfort thanks to the sound-reducing Blue Edge blades and superb external visibility for both passengers and pilots, not to mention the additional safety features provided by Helionix's flight

envelope protection and reduced pilot workload. Airbus Helicopters' new industrial model, based on site specialisation and a plug and play component assembly process, has reduced the H160's time to market to 24 weeks giving customers more flexibility. This will enable customers to confirm their mission configuration at later stage based on market needs.

Babcock's Aviation business provides mission critical services, ranging from aerial emergency medical services, aerial fire-fighting, Search and Rescue, Surveillance operations, and Oil and Gas transportation, in 14 countries with over 51 years' experience in saving lives and protecting the environment.

British ESA astronaut Tim Peake visits Airbus Portsmouth to see revolutionary Eutelsat Quantum satellite

Portsmouth, 26/02/2018 - Airbus's Portsmouth site played host to British ESA astronaut Tim Peake today to see the latest revolutionary telecommunications satellite being built at the factory.

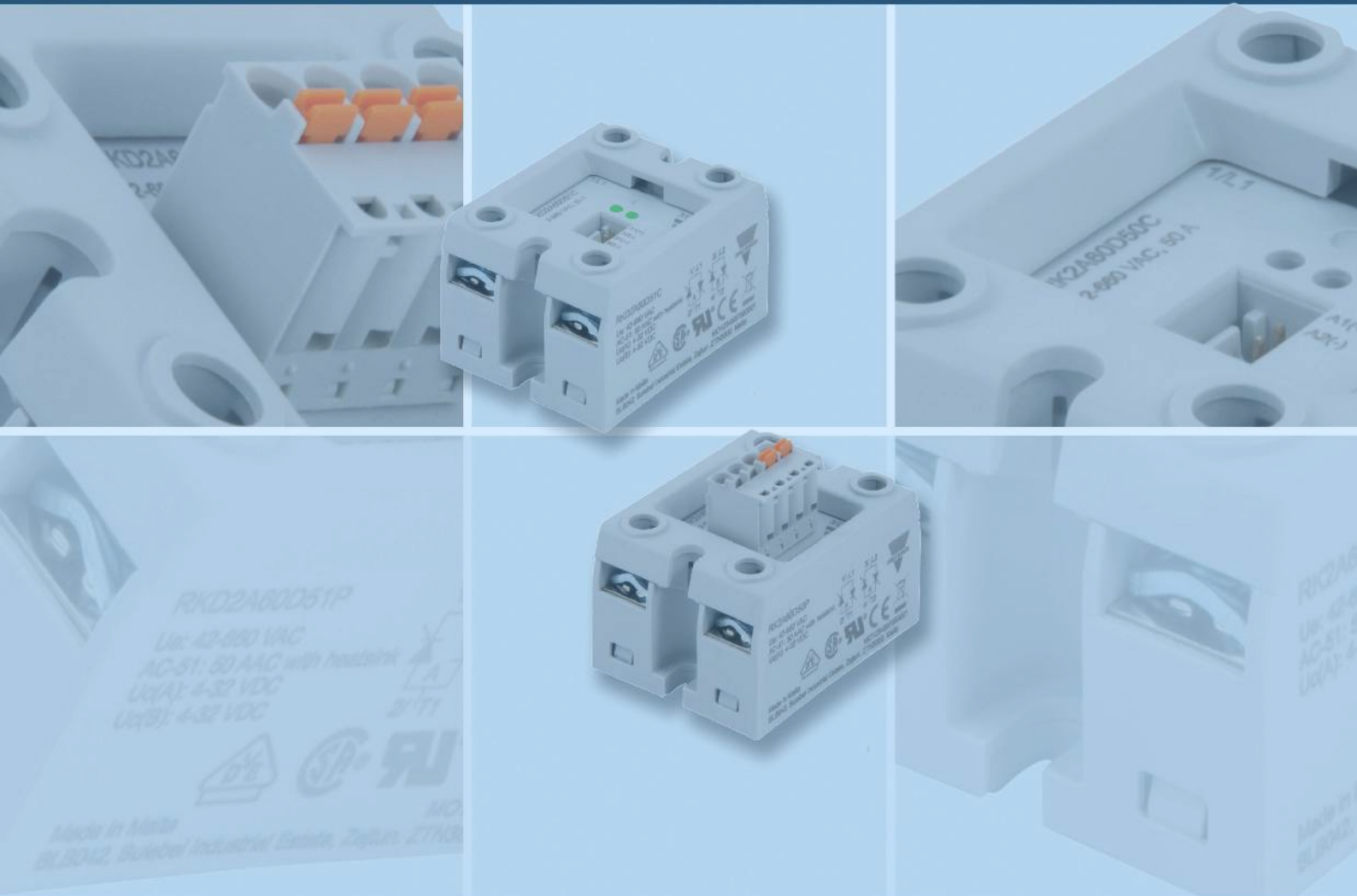
The Eutelsat Quantum satellite, being manufactured by Airbus and Surrey Satellite Technology Ltd (SSTL), is the world's first geostationary telecommunications satellite that will be fully reconfigurable in orbit. The satellite is being built under a public, private partnership between the European Space Agency (ESA), the satellite operator Eutelsat and Airbus. The Eutelsat Quantum, due to be launched in 2019, will be able to adapt to new demands in coverage, bandwidth, power, frequency configurability and even change its orbital position. Eutelsat Quantum will be the first generation of universal satellites able to serve any region of the world and adjust to new business without the user needing to procure and launch an entirely new satellite. Featuring phased array antennas and flexible connectivity, which is fully reconfigurable in orbit, Eutelsat Quantum will be able to adjust its coverage and capacity to suit customers' needs as and when they change. It builds on the payload technology developed by Airbus in the UK under the ESA Advanced Research in Telecommunications Systems programme (ARTES) and supported by the UK Space Agency. As well as visiting the cleanroom



Eutelsat Quantum Credit Airbus DS

to see the satellite, Tim Peake also spoke to apprentices and graduates at Airbus as well as meeting other employees. Airbus' Colin Paynter, Head of Space in the UK, said: "It was great to welcome Tim to Portsmouth where we build world leading telecommunication payloads for satellites. Quantum is a truly disruptive technology with the ability to be fully flexible and reconfigurable at any stage in its lifetime in orbit." Dr Graham Turnock, Chief Executive of the UK Space Agency, said: "We're working together with industry to grow the UK's share of the global space market, as part of the Government's Industrial Strategy. It was fantastic to visit Airbus alongside Tim Peake and meet the team behind this world-first satellite. The UK invests more than any other country in ESA's telecommunications research programme and the work going on in Portsmouth is a great

example of the benefits this brings." Yohann Leroy, Deputy CEO and CTO at Eutelsat: "Eutelsat Quantum is the 24th satellite to be manufactured by Airbus for Eutelsat, building on a long-standing and innovative collaboration spanning more than 40 years between our two Groups. Combining flexibility and performance, the Eutelsat Quantum will bring a truly revolutionary shift to the commercial telecommunications satellite sector to meet the multiple and evolving needs of our customers." The Eutelsat Quantum satellite is primed and manufactured by Airbus in the UK and includes a new small geostationary satellite platform called GMPT from SSTL.



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Mr Jeff Zhang, Chief Technology Officer of Alibaba Group, said, "We are excited to work with the best and brightest around the world such as researchers at NTU to develop smart solutions for our future. Alibaba has been dedicated to working on technology breakthroughs and practical applications of AI, and this collaboration is another example of how we are advancing our technological leadership globally for better living and enabling businesses worldwide through innovation."

NTU students, staff and faculty will have opportunities to go on exchange to Alibaba's facilities and vice versa, while working on cutting-edge AI research. In addition, both parties will work toward building a crowdsourcing platform to connect researchers and industry

practitioners around the world within an AI-focused R&D ecosystem, encouraging global AI experts, research institutions and universities to join and contribute to the AI research community.

NTU Singapore Vice President (Research) Professor Lam Khin Yong said key outcomes of industry-academia partnerships are innovation and education, where disruptive ideas are turned into marketable products and with NTU students gaining skills and knowledge for the 21st century workplace.

"We are very excited to be partnering with Alibaba, a company that has made its mark in the world of e-commerce, e-payment, cloud computing and AI-driven technologies through their use of disruptive technologies and innovation

over the last decade. Our research expertise will complement Alibaba's extensive business and technological experience to tackle challenging problems in their business ecosystem."

Ms Liu Xiangwen, Director, Technology Strategy Department at Alibaba Group, who will be Alibaba's lead for the joint research institute, said, "Our partnership with NTU Singapore demonstrates the close alignment of Alibaba's strategic vision with Singapore's Smart Nation initiative to leverage technology for the good of the community. We look forward to further strengthening Alibaba's competency in AI with the support of Singapore's strong R&D capabilities and co-create future-ready solutions for the world."

About Nanyang Technological University, Singapore

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,500 undergraduate and postgraduate students in the colleges of Engineering, Business, Science, Humanities, Arts, & Social Sciences, and its Interdisciplinary Graduate School. It also has a medical school, the Lee Kong Chian School of Medicine, set up jointly with Imperial College London.

NTU is also home to world-class autonomous institutes - the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering - and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI) and Energy Research Institute @ NTU (ERI@N).

Ranked 11th in the world, NTU has also been placed the world's top young university for the last four years running. The University's main campus is frequently listed among the Top 15 most beautiful university campuses in the world and has 57 Green Mark awards (equivalent to LEED-certified) buildings, of which 54 are certified Green Mark Platinum, covering 95 per cent of the campus buildings. NTU also has a campus in Novena, Singapore's medical district.

About Alibaba Group

Alibaba Group's mission is to make it easy to do business anywhere. The company aims to build the future infrastructure of commerce. It envisions that its customers will meet, work and live at Alibaba, and that it will be a company that lasts at least 102 years.

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OPEC-Russia deal faces a new danger: Too much winning

When OPEC and Russia meet this weekend to review their strategy for clearing a global oil glut, they'll face an unusual problem: it could be working just a bit too well.

As their output cuts, coupled with robust global demand, tighten the market, crude prices have soared to a three-year high near \$70/bbl. That's prompted warnings -- from Iran's oil minister to Goldman Sachs Group and even OPEC's own analysts -- of a fresh surge in U.S. production, wrecking all of the group's hard work.

"The big concern is prices -- are



they worried about prices going too high too quickly?" said Mike Wittner, head of oil-market research at Societe Generale in New York. "There are many reasons they'd be concerned, but top of the list is: how will U.S. production respond?" With plenty of surplus oil still

around, ministers from the United Arab Emirates, Iraq and Kuwait insist there's no need to change strategy and the cartel will stick with its plan to restrain production for the rest of the year. Nonetheless, the price jump means that delegates gathering in the Omani capital of Muscat face increased urgency to decide how to phase out the curbs.

"Getting too far above \$70" can both stimulate new supply and affect the economy, Jeff Currie, head of commodities research at Goldman Sachs, said in a television interview. "OPEC members do not want to see that."



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Princess Yachts and BAR Technologies collaborate on revolutionary carbon yacht

Plymouth, UK yard, Princess Yachts, has announced that it is working Portsmouth based BAR Technologies on a joint carbon fibre project which has been billed as an entirely new class of yacht.

The project is shrouded in secrecy to prevent any details being released before its official unveiling. Currently the only known fact is that its length is mid-30 foot (approximately 10.6 metres). BAR Technologies covered the new-build in a camouflage hull wrap as it was recently transported out of its yard in Portsmouth.

BAR Technologies was established to share design knowledge, technical skills and resources built up through Land Rover BAR's involvement in the America's Cup programme.



Princess Yachts and BAR Technologies collaborate on

Anthony Sheriff, executive Chairman of Princess Yachts, commented, "We are thrilled to be working on a brand new, fully carbon fibre yacht that will deliver an exhilarating experience through bold innovation and cutting-edge technology."

"While we cannot reveal more at this point, we are confident this entirely new class of yacht, which is one of the most exciting and revolutionary products Princess has developed, will become this year's most sought-after product."



NTU Singapore and Alibaba Group Launch Joint Research Institute on Artificial Intelligence Technologies

The institute will be Alibaba's first joint research institute outside China



Mr Jeff Zhang, Chief Technology Officer of Alibaba Group, and Professor Subra Suresh, President of NTU Singapore, at the MoU signing

Singapore, February 28, 2018 - Nanyang Technological University, Singapore (NTU Singapore) and Alibaba Group officially launched the Alibaba-NTU Singapore Joint Research Institute today at a ceremony graced by Dr Amy Khor, Senior Minister of State for the Ministry of the Environment and Water Resources and Ministry of Health, Singapore.

The signing of the Memorandum of Understanding between NTU Singapore President Professor Subra Suresh and Alibaba Group Chief Technology Officer Mr Jeff Zhang marked the establishment of Alibaba's first joint research institute outside China. The multimillion dollar per year collaboration with NTU Singapore is for an initial five years, starting with a pool of 50 researchers from both organisations.

The joint institute will seek to combine NTU's human-centred AI technology

which has been applied to areas such as health, aging, homes and communities, with Alibaba's leading technologies including Natural Language Processing (NLP), computer vision, machine learning and cloud computing to explore further technology breakthroughs and real-life AI solutions.

Over the next five years, NTU and Alibaba will further push the frontiers of AI and deploy AI solutions in scenarios ranging from home, retail, community and urban transportation to hospitals and nursing homes, with the aim of enhance the city's efficiency and helping people to achieve a healthier, smarter and happier life.

NTU Singapore President Professor Subra Suresh said: "Using AI technologies, we can address fundamental societal challenges such as aging population which is a huge issue for cities with a rapidly aging population such as

Singapore. For example, virtual AI assistants can be deployed to improve work productivity and smart sensors can be used to watch the health of the elderly, with data stored on the cloud for continuous monitoring.

"These AI and cloud technologies will be developed and tested on the NTU Smart Campus to demonstrate the effectiveness of the solutions so that our partners can have confidence before taking them to the market in Singapore and rest of the world."

NTU has built up deep expertise in key areas shaping the Fourth Industrial Revolution, such as AI, data science and robotics. For instance, NTU's LILY research centre which focuses on active living for the elderly has received several international AI awards. NTU is also ranked the world's top university for citations in AI according to a 2017 list

Saudi Aramco, Bahri, Lamprell and HHI launch International Maritime Industries shipyard jv

The joint venture between Saudi Aramco, Bahri, Lamprell and Hyundai Heavy Industries to build a \$5.2bn mega-yard in Saudi Arabia has been officially launched.



The joint venture International Maritime Industries (IMI) will enable Saudi Aramco to source and manufacture offshore rigs, oil tankers and offshore support vessels locally.

The 12m sq m IMI facility will be the largest shipyard in the Middle East and is expected to be fully operational in 2022. It will have the annual capacity to build four oil rigs, 40 vessels including three VLCCs, and service over 260 maritime assets. The yard already has orders for 20 oil rigs and 52 vessels, with Bahri and Saudi Aramco guaranteeing a baseload of work for the yard.

“By meeting Saudi Aramco’s offshore production and transport needs, International Maritime Industries will serve our strategic intent to become the world’s foremost integrated energy and chemicals company. Its combination of technology, supply chain efficiencies and lifecycle partnership will create a world-class company that offers customers a keen competitive advantage,” said Abdallah I. Al-Saadon, chairman of the jv’s board of managers and Saudi Aramco’s svp of finance, strategy & development.

Saudi Aramco senior executive Fathi K. Al-Saleem has been

appointed as ceo of IMI bringing with him 23 years of experience.

Al-Saleem said, “International Maritime Industries is positioned to be a global competitor and a regional hub for maritime products and services. Through our combination of technology, integrated facilities and supply chain efficiencies, we are redefining what it means to partner with customers for maritime advancement.”

The yard facility, previously reported as a \$5.2bn investment, is expected to start initial production and service operations in 2019 with full operations in 2022.

Apple Watch Series 3 now tracks skiing and snowboarding activity



Apple Watch records ski workouts and automatically detects lifts and runs throughout the day.

Starting today, skiers and snowboarders can use Apple Watch Series 3 to track their activities via new updates to apps available in the App Store. Watch users can now record runs, see vertical descent and other stats, and contribute active calorie measurements directly to the Apple Watch Activity app.

Developers are taking advantage of the built-in GPS and altimeter in Apple Watch Series 3 as well as custom workout APIs released in watchOS 4.2 to enable tracking of specialised metrics. App updates for snoww, Slopes, Squaw Alpine, Snocru and Ski Tracks now track new metrics on the slopes including:

- **Total vertical descent and horizontal distance**
- **Number of runs**
- **Average and maximum speeds**
- **Total time spent**
- **Calories burned**

Apps can auto pause and resume and users will get credit towards their Activity rings; workout information will also be recorded to the Health app on iPhone with user permission. Using Siri, users can start Slopes and snoww to track their runs using just their voice. "Having the ability to track the details of runs with Apple Watch is an incredible asset for everyone from training athletes to skiers and riders just looking to have fun and stay active," said Jonny

Moseley, Olympic Moguls Gold Medalist and Squaw Alpine Mountain Ambassador. "The Squaw Alpine app for Apple Watch helps me when I'm out with my family to not only track exactly where my kids are on the mountain, but also compare our performance, so I can make sure I'm keeping up with my sons and add some fun competition to our day."

"We're thrilled with the updates Apple

Watch Series 3 and watchOS 4.2 allow us to make" said Eddy Healey, developer of snoww. "We designed snoww thinking about quick interactions and glances while out on the mountain, so these updates have helped us make it easy to record accurate, relevant metrics as well as create a fun and social experience for our users." The updated apps are now available on the App Store and require watchOS 4.2 or later.



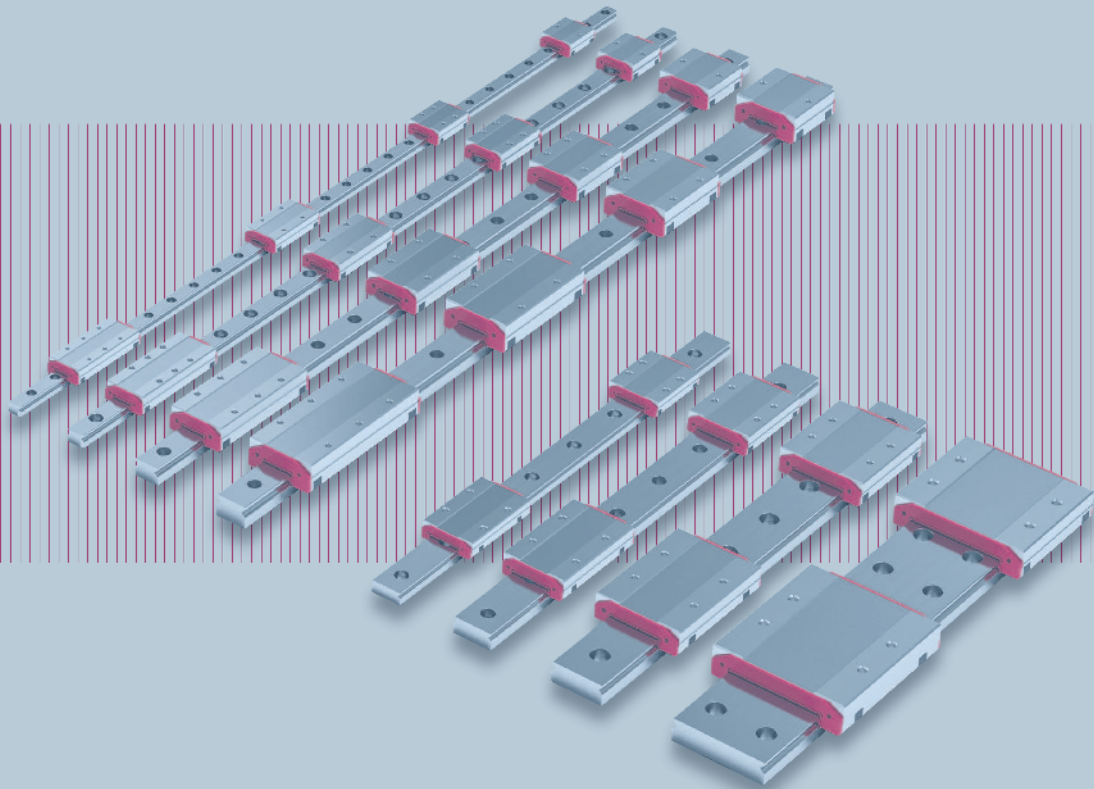
1. The updated Slopes app tracks speed, vertical, distance, lift vs. trail time and more with a completely redesigned interface.
2. Snoww provides timely notifications, including run stats and milestones, and also finds friends' live locations.
3. Squaw Alpine is a resort-specific app that lists trails and chairlifts ridden that day.
4. Snocru's app update supports tracking entirely from Apple Watch and integrates with the Apple Watch Activity app.
5. Ski Tracks features 17 different snow workouts for credit in the Apple Watch Activity app.



Watch users can track new metrics and find their friends on the mountain with a glance at the wrist.

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Spotted: New Asphalt Tanker Joins Compass Shipping

On December 21, China's Fujian Mawei Shipbuilding held a naming and delivery ceremony for Kan Wo, an asphalt tanker.

The 6,200 dwt newbuilding is owned by Hong Kong's Compass Shipping and classed by ABS.

Kan Wo, which flies the flag of Hong Kong, features a length of 109.9 meters and a width of 20 meters.

Designed by Bestway Marine Engineering and Design, the vessel is said to incorporate the latest bitumen cargo ship design.

Featuring four independent cargo tanks, and built to ABS rules, Kan Wo will leave China shortly for its first cargo loading in Australia, according to ABS.



Image Courtesy: ABS

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Libya Restarts Wintershall's Oil Fields to Boost National Output

Appalachian gas production has surged over eighty five percent (from 13,837 bcf/d to 26,027 bcf/d) since 2014. The region has one the most productive and economic gas acreage in the country, and today it produces more gas than all other shale plays in the United States combined. Now, with the slate of pipeline projects coming on-line in 2018 Marcellus and Utica molecules can finally reach end consumers in larger markets creating a more adequate price equilibrium throughout the United States regions. During cold winter months this will translate into thousands of dollars saved on energy bills for consumers in Midwest and Atlantic Seaboard. Appalachian gas today is well positioned to change long established regional dynamics of gas pricing and flow while transforming the United States energy economy for years to come. It is worthwhile to have another look into why Appalachia matters today more than ever to the United States energy economy.

If there was one defining characteristic of Appalachian gas production, it would be technological innovation and constantly evolving costs. In 2015, an unexpected diversion occurred between rig count and total gas output from the region. As number of operating rigs continued to decline, production per well continued to increase and last month it reached the record high level of 26,027 mcf/day. It defined skeptics who argued that Marcellus and Utica shale operators had exhausted the best rock in the region and output was bound for downward trajectory. Contrary to that argument, a new Marcellus gas well today yields almost twice as much gas as the same well with similar latitude/ longitude in Haynesville field, East Texas (the second largest producing gas region in the United States).

The main driving factor behind such a steep and sustainable increase in output is a constantly evolving technology that is being tested and applied in the region. In fact, some of the recent drilling techniques of



Appalachian producers have never been seen anywhere in the world. Arrival of super laterals (as long as 20,000 feet long), multiple well drilling (typical pad currently expected to contain dozen wells), proppant with the latest crush resistance and high conductivity allowed Appalachian rig operators yield an average sixty percent more gas per well compared to 2014 levels. Move towards "walking" rigs that could literally get up and walk from one part of the pad to another substantially reduced the drilling time. It currently takes just few days as opposed to months to complete a well all the while achieving fifty percent increase in efficiency of a drilling operation. The latest example of this comes to us courtesy of NorthEast operator Eclipse Resources that drilled a well in Utica shale just under 17 days from the spud to the total completion with the lateral exceeding 19,000 feet. Technological innovations allowed Appalachian producers to lower their operating costs and hence reduce their breakeven margins. Since 2011 an average drilling cost in South West Pennsylvania have gone

down seventy one percent (from \$1,200,000 to \$300,000) yet an average lateral length increased by a whopping 9,500 feet! According to EQT Corporation, expected IRR for 12 well pad with 12,000 feet lateral exceeds hundred percent, while 5 well pad with 5,500 feet lateral barely breaks seventy percent mark (assuming 3\$/ mmbtu gas price). In a currently depressed price environment, this has come as a remarkable achievement for Appalachian producers. Marcellus and Utica gas have been consistently trading with a discount to Henry Hub and one can only imagine the tremendous pressure these guys were under to remain competitive.

Today this price reduction achieved by Appalachian gas producers can finally pass on to consumers all around the United States. Several interstate pipeline projects, such as Leach XPress, Rover, Atlantic Sunrise (1.7 bcf/d) and Atlantic Coast (1.5 bcf/d) pipeline will create critically needed connectivity between prolific, but constrained, Marcellus and Utica production areas and the larger markets. Atlantic Seaboard gas market has long suffered from bottlenecks during cold winter months on

Transco pipeline route. For example during the polar vortex in winter 2014 gas prices in Maryland, Virginia and North Carolina spiked to almost 100\$/per mmbtu, while in Pennsylvania they remained 1/10 of that price level. Additional Appalachian gas volumes along the Transco corridor will help alleviate these problems and result in tremendous savings on energy bills for consumers in these states. It is estimated that net energy savings from Atlantic Coast pipeline for the states of Virginia and North Carolina to be \$ 377 million annually.


Appalachian gas has a significant immediate economic impact and a potentially huge long term

benefit of supply security in the United States. In 2015, Transo pipeline has reversed gas flows for the first time in 50 years. Traditionally gas molecules were flowing in one direction from the South to large demand centers in the North East and Mid- West. Today Marcellus and Utica gas is increasingly serving the growing LNG, power and industrial demand load in the Gulf Coast. Texas and Louisiana gas consumption is expected to grow by 10 bcf/day in the next 5 years and will represent thirty percent of the total US gas demand by 2022. In the Mid-West, Marcellus molecules are increasingly displacing Rockies gas as a dominant supplier of Illinois

market with a large demand center in Chicago. The Rover pipeline (3.25 bcf/ day), which comes on-line this year, will bring more price competition, benefit end user consumers, and change long established dynamics in the region. Constitution pipeline (650 mmcf/d), a proposed project that is currently held in a legislative limbo by regulators, could have brought Appalachian gas to overpriced New England and Massachusetts markets as well. However, the pipeline is not expected to be approved anytime soon. Massachusetts, for example, although located next to the nation's largest gas producing region, absurdly relies on LNG imports and hence is vulnerable to price spikes during winter months.

Spurred by favorable economics and build-up in pipeline capacity, Appalachia currently supplies forty-two percent of the United States gas demand with further expected growth in 2018. This region has become a testing ground for technological innovation in hydraulic fracturing

which gave regional producers a competitive edge in an ultra-low price environment. Yet, Appalachia today is also a testing ground for regulatory framework around rapidly evolving hydraulic fracturing process. Some regulators have come under sharp criticism for their inability to keep up with experimental and potentially hazardous drilling techniques. With the advent of multiple well drilling and laterals as long as 20,000 feet, the public should rightfully be concerned about potential fugitive methane and induced seismicity in their backyards. There is nothing new about the debate between balancing economic development and environmental protection. Today, however, the community of "impacted" stakeholders has changed with strong interests in further development of Appalachian basin. Communities and businesses are forging ties to work together for transparent, evolving and commercially predictable regulatory framework that benefits everyone. Appalachian gas production is here to stay and will dominate national conversation about energy, policy and environment for years to come.




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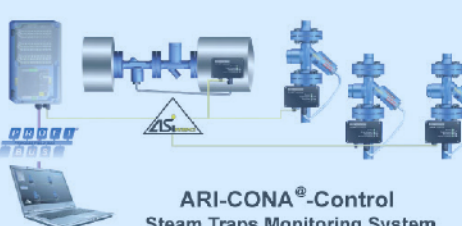
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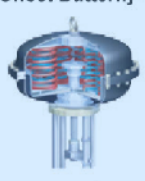
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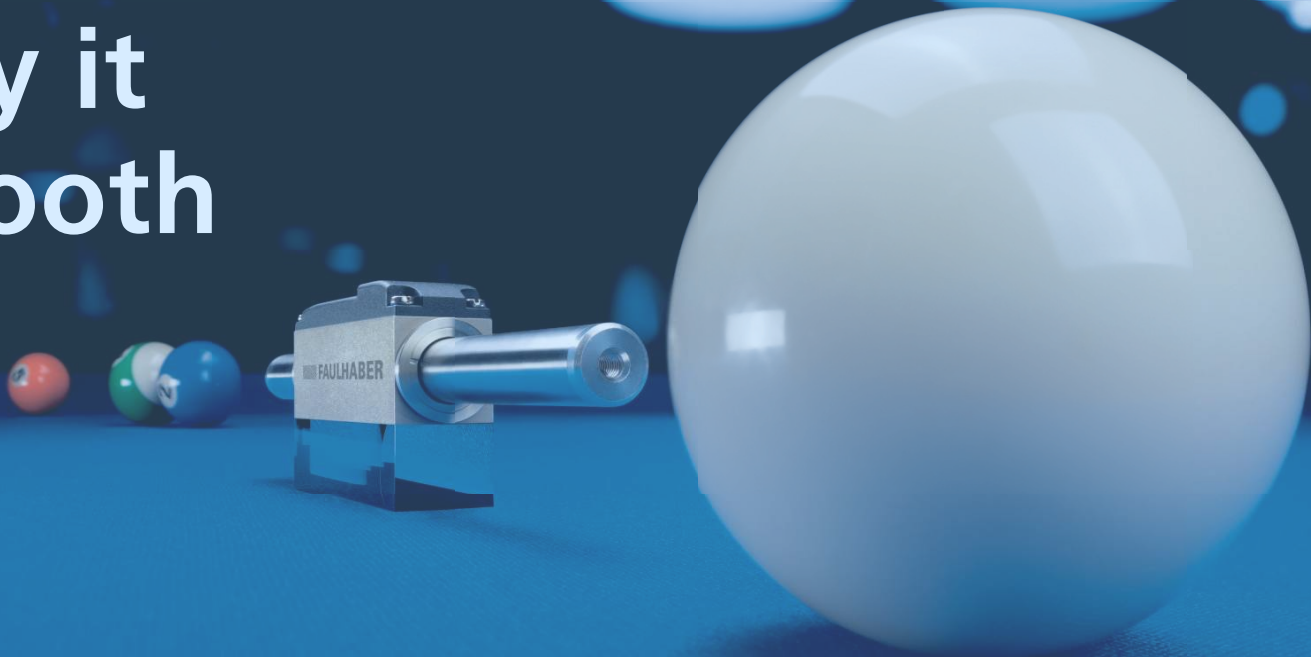
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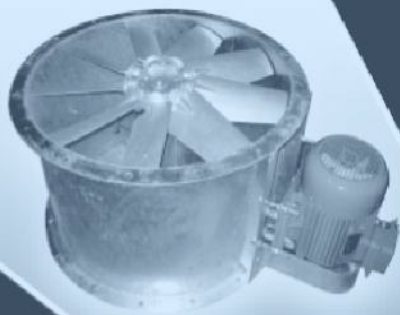


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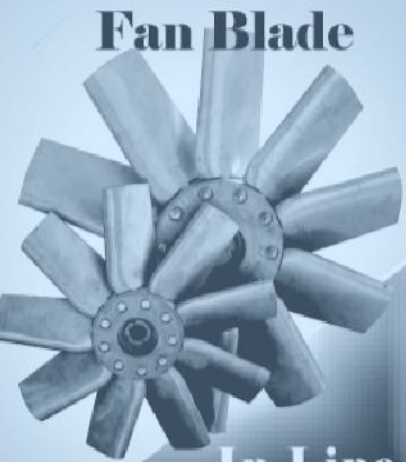
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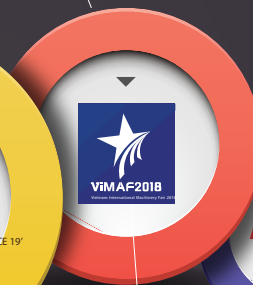
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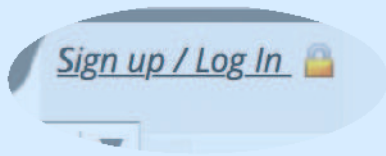
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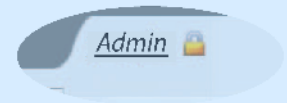
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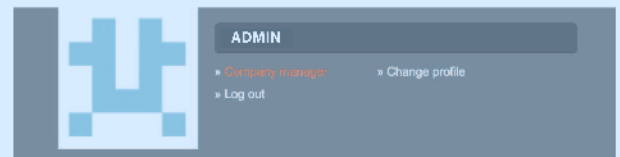
Step 4 : Fill in your particulars and press the **SIGN UP** button.

Step 5 : After you have **SIGN UP**, You will see your name on the top right hand corner.

Step 6 : Click on your name.



Step 7 : Click on the **COMPANY MANAGER**.

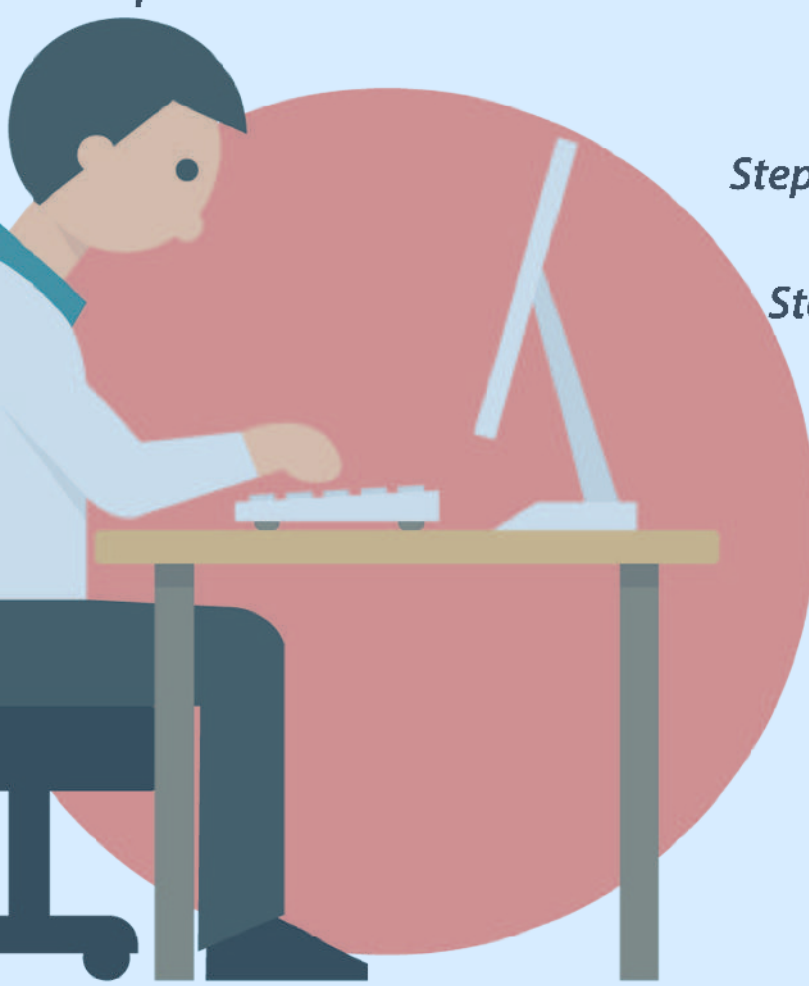
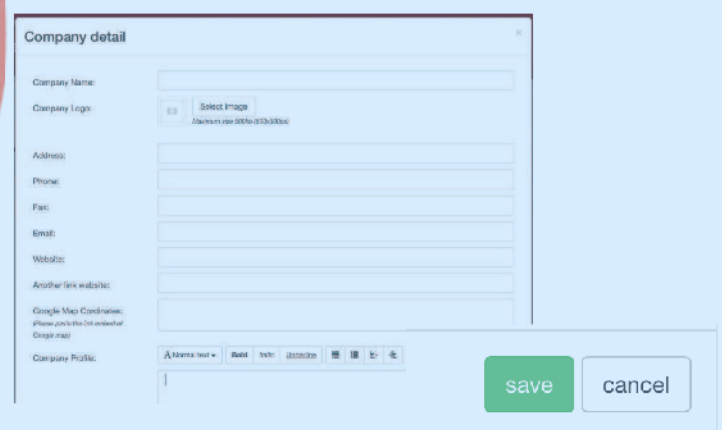


Step 8 : Click on the **ADD** button.



Step 9 : Fill up your **COMPANY DETAIL**.

Step 10 : After you are done filling up your company detail press **SAVE**.





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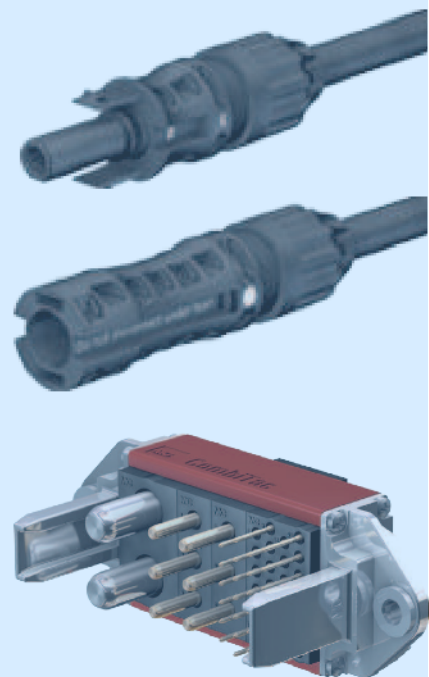
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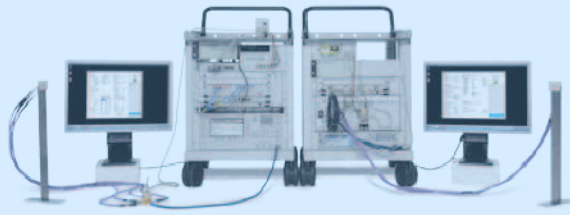


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Updated guidelines for the carriage of calcium hypochlorite in containers



Updated guidelines for the carriage of calcium hypochlorite

The International Group of P&I Clubs (IG Clubs) and the shipping line members of the Cargo Incident Notification System (CINS) have issued a revised version of the guidelines for the carriage of calcium hypochlorite in containers.

The Guidelines were first issued in May 2016, with version 2.0 of the Guidelines issued in January 2017 to take account of the package

limit of 100lb drums under US measurement as well as the package limit of 45kg net weight.

The Guidelines can be considered "IMDG Code plus precautions" in that they include selected provisions from the IMDG Code plus additional precautions consistent with the science basis established in 1999 by consulting scientists advising the IG Clubs.

The revised version 3.0 of the Guidelines seek to provide continuity in terms of the referencing of the package limit and provide clarity as to the nature of the guidelines.

At normal temperatures calcium hypochlorite decomposes very slowly and releases heat. However, at higher temperatures the rate of decomposition increases and if the heat is not able to escape from within the material then its temperature increases, along with the rate of decomposition.

A self-accelerating reaction can result in a violent decomposition of the calcium hypochlorite releasing heat and oxygen. This has resulted in serious fires and explosions.

The packaging and quantity can have an impact on self-accelerating decomposition.

The United Nations Manual of Tests and Criteria provides self-accelerating decomposition test (SADT) methods for determining the properties of substances classified as self-reactive. These tests can also be used to evaluate oxidizers such as calcium hypochlorite. The International Group of P&I Clubs advice in this paper is also based on the critical ambient temperature (CAT) method used to determine self accelerating properties.



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