



SUSTAINABILITY TODAY

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energy | water | waste | recycling | sustainability

Big future in the pipeline



A new name in the sector of in-situ pipelining aims to hit the ground running after attracting interest from Europe, Asia and the United States as well as the UK within weeks of launching.

UK-based ESCS Pipe Coating Systems brings together Roger Clark, Steve Jones, and Shaun McDonald, three experienced engineers in the sector, boasting more than 70 years of experience of in-situ spray application.

By launching the new company, the trio have created a one-stop shop for those requiring the application of a protective coating within the internals of static pipes.

Once approval is received from the Drinking Water Inspectorate, it is said that ESCS Pipe Coating Systems will be the first company to offer both the specialist paint and the state-of-the-art machinery to carry out the specialised jobs for worldwide water authorities, as well as

companies owning gas or sewer lines.

The new company is part of Middlesbrough firm ESCS, a worldwide manufacturer and distributor of surface preparation and surface coating equipment that recently completed a wide-ranging order for the South Caucasus Pipeline Expansion Project.

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www.escs-pcs.com

Prevco Subsea LLC: Manufacturers of subsea pressure vessels

Prevco are a subsea engineering company, specialising in the design and production of underwater housings.

The company was founded by John Head in 1999 who graduated from MIT as an Ocean Engineer and spent many years in the industry working with both ROV and connector companies before starting Prevco and has never looked back.

Traditionally, their main market has been with the Oil and Gas industry and defence companies, however in the current changing market conditions, more work is being done to support scientific projects, environmental monitoring and



offshore renewables, arguably one of the fastest growing of the subsea industries.

The unique selling point for Prevco is the fact that they have their own bespoke in-house software called

'New Tube Designs' that contains proprietary algorithms and allows the quick and accurate design of both stock and custom housings. The software is the brain-child of John Bertoldi, senior engineer and long-time employee who started working with John in the early days of the company and has developed and evolved the software over many years.

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+44 (0)1892 731528
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Contact Prevco USA on:
001 4808370100
(John Head: noleaks@prevco.com)
www.prevco.com

What has lime ever done for EfW?

The industrial Emissions Directive (IED) came into effect in 2012 and details stringent regulations for large combustion plants.

Traditional processes involve a wet 'scrubber' system. These legacy wet systems are being superseded by modern dry systems as the UK growth in EfW continues. Therefore, as the dry system is the current preferred FGT method it calls for efficient acidic pollutants removal reagents to ensure compliance with IED regulations.

What is Sorbacal®?
Sorbacal® is a widely recognised range of calcium-based reagents used to neutralise acidic



pollutants generated as a result of the incineration process in waste to energy plants, biomass plants and industrial processes such as glass manufacture, cement production and non-ferrous metal processing.

pollutants generated as a result of the incineration process in waste to energy plants, biomass plants and industrial processes such as glass manufacture, cement production and non-ferrous metal processing.

How does Sorbacal® achieve this?
SP and SPS in accordance with propriety hydratex™ technology,

have the unique capability of higher reactivity towards gaseous pollutants such as HCL, SO² and HF versus a standard hydrated lime.

What are the benefits?
The ability for reduced quantities of reagent to neutralise larger quantities of acidic pollutants than a standard hydrated lime offers greater flexibility to the plant designer. Plant designers now have the capability to implement a much simpler, lower cost, yet more efficient FGT process.

Contact
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www.sorbacal.co.uk
www.lhoist.com/uk

Engineered for a Cleaner Environment

Total solutions for separation of airborne dusts and fume control. Dry sorption technology for the removal of acid gases such as SO₂ and HCl, dioxins and heavy metals. Vast experience within Waste to Energy Plants, Biomass Installations, Gasification Systems and Clinical Waste Incineration.



Lührfilter Ltd.
Air Pollution Control Technology

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Burntwood | Staffordshire | WS7 3GG
Tel: 0121 353 0176 | Mail: info@luhrgb.co.uk | www.luhrgb.com

Getac strengthens leading rugged convertible notebook

Getac, manufacturer of mobility solutions for a range of industries, today announces updates to its leading Getac V110 rugged convertible notebook, designed to drive greater productivity and flexibility for utility field professionals as their industries become increasingly digitised.

The V110 provides the reliability and power needed to perform a range of tasks efficiently for an entire shift. It includes the latest Intel processors (Intel®Kaby Lake Core™ i5 or i7) for increased computing performance and better power usage, and has long lasting hot swappable batteries for use around the clock.

Sometimes good enough is just not good enough. That was the problem Van Walt Ltd, the specialist supplier of water, soil and groundwater environmental research equipment, were experiencing. So taking matters into their own hands; they have designed and developed their own, brand new data-logger the vanwaltDataHub.

So in looking for a solution Van Walt established there was nothing available that could offer everything they wanted, so they decided to make our own.

The result, just 10 months later, is the vanwaltDataHub. A brand new, very powerful and flexible data-logger, packed with features like multiple, simultaneous inputs and outputs (Pulse, SDI12, Relays, Analog, Modbus and/

This helps utility companies take on a higher workload capacity, complete work faster and deliver better service to customers.

Today, data collection and exchange are growing exponentially with the rise of meter readings, GIS mapping, image processing and task tracking requirements. This can be simplified by the V110's eight megapixel rear camera allows workers to rapidly capture digital evidence for asset and parts management or infrastructure maintenance. As workers need to be connected constantly, the V110's proprietary antennae has been designed to provide exceptional 4G LTE



WWAN coverage and performance out in the field, and combined with PowerShare USB 3.0 and multiple input ports, they get much faster download speeds.

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www.getac.com

Van Walt launch a brand new Data-Logger



or Digital I/Os) linking up to 300 different environmental sensors to one data-logger. Data from these sensors can trigger alarms and operate switches; other sensors and gauges.

The vanwaltDataHub instructs, powers, interrogates and collects data from onsite

sensors, organising it for distribution or sharing through on-board memory, industrial SD card, radio frequency, GPRS or satellite portals.

Van Walt Ltd worked with GB Electronics (UK) Ltd, a dedicated electronics design company for the prototype design, product assembly, programming and testing. When it Matters for the web interface.

vanwaltDataHub is a registered Trademark.

The vanwaltDataHub is available with telemetry as a vanwaltCONNECT system or as an OEM data-logger.

T +44 (0)1428 661660
sales@vanwalt.com
www.vanwalt.com

Your one-stop-shop solution for wireless LoRa energy and IoT services

Founded in 2003 by current owner Peter Thompson, Invisible Systems Ltd specialise in the design, manufacture and supply of wireless LoRa energy and the condition and compliance monitoring and control of IoT systems. Invisible Systems Ltd concentrates on surveying client buildings and sites, proposing then designing solutions, through to supply and installation of monitoring hardware. They also provide their own Realtime Online software, a web-enabling platform software suite, with dashboards, tailored reporting around various applications and alarm notifications in the event of exceptions.

Excellent customer service is at the forefront of Invisible System's priorities, with the company working in close conjunction with clients' supply chains to ensure their products are delivered on time with a



fast turnaround. With over 14 years' experience in delivering reliable products to reputable businesses such as National Grid, Royal Mail, Greggs, Universities across the UK and more, Invisible Systems are your one-stop-shop solution for all of your manufactured, innovative wireless energy monitoring and control tools.

We asked Pete Thompson from Invisible Systems Ltd what differentiated the company against other technological manufacturers and suppliers, to which he responded, "Here at Invisible Systems Ltd, we are able to supply a wide range of wireless hardware for various applications, and not just for one vertical. Our web-based software with different modules are designed around different applications and our team have the experience and development capability to produce bespoke products and software to meet our client's requirements."

The past year has been immensely successful for Invisible Systems Ltd, as their leading and highly efficient IoT solutions have increased the company's brand and product awareness. The company were also named as joint winners of BT's latest Infinity Lab competition aimed at discovering business transformation solutions in the Internet of Things. The competition attracted entries from almost 100 SMEs from the UK and overseas with several themes emerging around the potential application of future IoT based technologies. Invisible Systems' wide range of products and Realtime Online cloud based software programmes which provides end to end IoT solutions, caught the eye of the judges because it



helps businesses save money and achieve regulatory compliance. BT is interested in these technologies as a potential IoT based solution for buildings which currently lack a building management system (BMS). This is typically used to control and monitor equipment such as ventilation, lighting and power as well as fire and security systems. Such critical factors need to be continuously monitored in a data centre environment, which is an application of Invisible Systems' technology.

Additionally, in order to meet with current customer demands and to be able to provide clients with the latest technological solutions available on the market, Invisible Systems Ltd continuously develop a highly innovative, engineered range of products, with the same and additional functionality to the current range; where these will be both LoRa for private networks and LoRAN for public networks. Due to their commercial success, going forward, Invisible Systems are looking to increase the business turnover by circa 50-75% this year and are currently on track following their initial thriving first three months of this financial year.

As one of the UK's leading technological supply and manufacturing companies, Invisible Systems Ltd can be found at numerous trade shows throughout the year. This includes Industry 4.0 manufacturing, Edie Live, London IOT, Food Expo, and The Pharmacy Show, all of whom Invisible Systems Ltd are planning to visit again in 2018.

If you would like to get in contact and find out how their many specialist services can benefit you or your business, then don't hesitate to pick up the phone today. More information can also be found by visiting the website below:

Contact
T +44 (0)1539 722520
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www.invisible-systems.com



Jobs created as Lanes wins Northumbrian Water contract



Lanes Group plc has created 12 new jobs after winning a major contract to clean wet wells for Northumbrian Water.

The drainage and utility solutions specialist has opened a new utility hub at its depot in Stockton-on-Tees, County Durham, to deliver the planned and reactive maintenance work.

The three-year contract, with an optional two-year extension, went live in January, with Lanes investing £1 million in advanced specialist

equipment to carry out the work.

Lanes has been appointed as the primary supplier for an area covering Teesside and Teesdale, as well as Bran Sands treatment works. It is the secondary supplier in all five other contract areas.

In terms of value, the company will be responsible for delivering 60% of the entire Northumbrian Water wet well cleaning contract.

Lanes has purchased a new DISAB high volume

vacuumation unit, three 18,000 litre articulated vacuum tankers, and two 12,000 litre tankers to carry out the work.

The contract is one of several awarded to Lanes in recent months. Drainage and wastewater maintenance contracts have also been won with Cambridgeshire Police, Wigan Council, Durham Council, and Anglian Water.

T 0800 526488
www.lanesfordrains.co.uk

Tetra Pak® Separators with Encapt™ technology

Tetra Pak has reduced the energy use of its separators by 40%, by incorporating a breakthrough pressure management technology, Encapt™, into the systems' design.



The Encapt technology lowers the atmospheric pressure around the spinning bowl using a low-pressure pump, and the system is supervised by sensors that keep air friction minimal. Less friction means less energy required.

Combined with a unique AirTight design inside the bowl, where the whole system is hermetically sealed to ensure no air enters. With the inlet at the bottom and the outlet at the top it saves the centre for outlet flow, and so requires less energy. These two technologies together make the machines the most efficient on the market.

Tetra Pak Product Manager, Ulrika Rehn said, "We want to help customers meet the challenge of achieving superior product quality with lower operational costs, and a lower environmental footprint. Most commonly used to separate milk or whey – the Tetra Pak Separators with Encapt technology, when paired with AirTight technology, offer incomparable energy savings."

www.tetrapak.com

Thermal Imaging
Thermal imaging can be used to identify loose electrical connection that could result in lost time at best and a fire at worst.

Infrared Windows
Infrared inspection windows retrofitted to distribution boards and cabinets allow safe and efficient inspection.

Please contact **Bryan Elwick** to find out more:
☎ +44 (0)7961 033715 | ✉ bryan@elwicks.co.uk
Visit our website www.eltec.co.uk

CHURCHILL CONTROLS
www.churchill-controls.co.uk

Mega_Link is a cost effective and versatile radio telemetry system for passing two-way instrumentation, measurement and control data between industrial plant and site locations. Our equipment is used by all UK water companies for fresh water supply, wastewater, land drainage and other applications include industrial, chemical works, landfill and boiler monitoring.

- **TELEMETRY & CONTROL**
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 - LONG DISTANCE via REPEATER SITE(S)
- **FLEXIBLE COMMUNICATIONS**
 - Licence Exempt UHF Low Power Radio
 - GPRS & 3G Mobile Networks
 - Leased Line and Private Wire
- **SENSOR and DATA INTERFACES**
 - Volt-free DIGITAL I/O and 4 - 20 mA ANALOGUE I/O
 - RS232/RS485 Serial Modbus, Allen Bradley DF1 and Mitsubishi Melsec FX
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Contact us: 01344 750233
sales@churchill-controls.co.uk
www.churchill-controls.co.uk

IMSPEX Diagnostics Ltd: Providing a range of GC-IMS solutions for your analytical questions

IMSPEX Diagnostics Ltd was founded in 2011 as a spinoff of the University of Glamorgan, in South Wales, with the aim to develop markets and applications for Ion Mobility Spectrometry Technology in clinical research, clinical diagnostics, food and environmental analysis. Through its acquisition of GAS GmbH in January 2013, IMSPEX secured access to World leading IMS technology and to a range of equipment which is market ready for customer



applications. During 2013, the group formed by IMSPEX and GAS and has established relationships and provided instruments to a range of blue-chip companies, research hospitals and research centres and universities.

Now recognised as a group of international leaders in multidisciplinary with extensive experience in business development and analytical sciences, the combined IMSPEX and GAS GmbH teams are a World leading business, application and technological development team with over 120 years combined experience in the field of Ion Mobility Spectrometry.

We asked Kevin Fernandes, Sales Manager at IMSPEX Diagnostics Ltd, what differentiates the company from other analytical chemical providers, to which he explained, "We are rapidly growing company with exciting chemical sensor technology for a wide range of applications. Perhaps our most recent success was the award of 3 million Euros from the Horizon 2020 (European Research Budget) to explore the possibility of diagnosing by breath samples differences in bacterial versus viral infection and the subsequent decision or not to prescribe antibiotics."

He added, as an example one of our targeted

applications is on the rapid separation detection and identification of siloxanes in biogas down to levels as low as 10 parts per billion (ppb). Siloxanes when burnt are converted to silica which is akin to having sand in the gas burning engines. What this means potentially is down time and loss of income from biogas but also considerable service costs for replacement parts and labour. The GC/IMS siloxanes instrument when deployed is very important early warning system that filters are saturating and need to be changed. Costs saving again can be considerable as the filter material can be a significant cost to landfill, AD food waste, and sewage treatment works operators.

IMSPEX Diagnostics Ltd focus is on solving analytical needs by providing turn-key, automated and simple solutions to specific problems by leveraging the expertise of their group. For instance, one of their most highly-sought after products is their GC-IMS ODOR™ standalone instrument, developed for at-site, on-line sampling and delivers quantification and reporting of Gasodor®-5-Free® (methyl acrylate and ethyl acrylate) and THT concentrations in natural gas. Eliminating the need for helium or hydrogen, the system requires only a nitrogen or synthetic air source for carrier and drift gas. The system can also be used with the new G.A.S internal gas loop, making the system totally portable,

without the need for cylinder gas. The measurement intervals are user-defined and calibration can be carried out using a traceable gas standard via a designated calibration port either manually or routinely to ensure maximum accuracy. The large TFT touchscreen permits system control displays, current measurements, and allows review of previous results. Results and measurement files are stored internally on the integrated compact flash card. These results can be downloaded via USB or transferred via the 4-20 mA current loop, a modem or network connection to a control station.

If you would like to get in touch with IMSPEX Diagnostics Ltd to find out about their specialist range of equipment, then don't hesitate to call today. More information can also be found on their website, listed below.

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www.gas-dortmund.de



Emex Show Review Top 10

Public and private sectors unite to boost UK energy efficiency

For the past 3 years, EMEX, organised in partnership with the Energy Managers Association (EMA, www.theema.org.uk), has helped thousands of businesses from all sectors to increase their energy efficiency and reduce their operational costs.

Taking place on Wednesday 22 and Thursday 23 November 2017 at ExCeL in London, EMEX was the must-attend energy management show that connects all energy users with leading experts, policy makers, suppliers, and technical solutions. 100+ CPD-accredited free seminars and 130+ exhibitors.



make large energy cost and carbon emission savings through the installation of energy efficiency measures. The energy efficiency technologies that deliver these savings are readily available, tried and tested, and often repay their initial capital cost within just a few years.

EMEX returns to London's ExCeL this year from 21-22 November 2018.

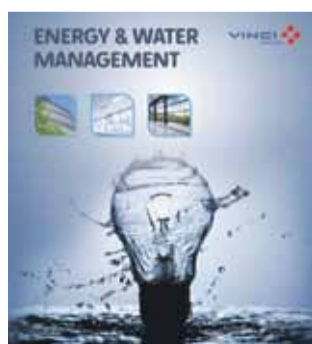
www.emexlondon.com

Energy is a cost to most organisations that has grown as a proportion of overall expenditure in recent years. All energy consuming organisations need to manage energy consumption if they are to avoid the impact of price increases on the products or services they provide. In this context, the case for investing in energy efficiency has never been stronger and of course, the cheapest energy is the energy organisations don't use.

There is considerable potential within most organisations in the public and private sectors to

Creating and maintaining great places to live and work delivered by excellent people who care

Vinci Facilities offers a wide range of energy & water management services to meet organisations energy challenges. Aligned to our core technical FM delivery we provide a quality service ensuring our customers buildings are operated to maximise asset lifecycle, whilst optimising energy performance.



The EMEX event provided a great platform to reinforce VINCI Facilities as a trusted and innovative partner

for helping our customers save money, carbon and reduce utilities risk for their businesses. Together with our supply chain partner Offgrid, we sponsored Theatre 1, where we unveiled the first battery powered seminar theatre. In addition, our exhibition stand was also powered by battery technology.

If you want to know more about what we do and how we could help your business, please get in touch with Paul Lynch, Head of Energy & Water Management: paul.lynch@vincifacilities.com.

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Our ability to deliver an 'end to end' energy & water management service provides best value procurement, bureau and options analysis, maximising customers energy and water management budget by offering long term value throughout.

Heating, Ventilation & Air Conditioning News

Delta showcased its EC Fan Series at Mostra Convegno Expocomfort (MCE) Exhibition 2018

Delta returns to Mostra Convegno Expocomfort (MCE) exhibition to introduce its latest Electronically Commutated (EC) Fans designed for HVAC applications (ex Chiller, Exchanger, Air Handling Unit, Commercial Refrigerator and etc). This cost-effective solution is reliable and complies with the latest requirements in industrial and commercial applications. Moreover, with its EC technology, its low noise impeller, Delta EC fans offer the best level of energy efficiency on the market while even be able to be customized to specific requirements. The EC fans are able to reach 30% energy saving compared with AC fans in average.



Delta is widely recognised as the global leader in switching power supply and brushless DC fans. Based upon their in-depth knowledge and experience, Delta has combined the advanced technology in power electronics and brushless DC fans and developed the Electronically Commutated (EC) fan series. The EC Fan Series is a combination of the distinctive patented blade design, innovative structure design, and control that not only greatly increases cooling performance but also reduces system noise with temperature sensor control when the fan is in low load operation. Delta fan development groups have dedicated themselves

in improving energy efficiency and control technology and use the optimised configuration design and control technology to improve product performances, solve noise and vibration problems, and provide intelligent control interface with stable speed control. The Delta EC fan range, with electrical input power? 125W has been designed to exceed the eco-design requirement of 2015 (ERP2015).

www.delta-emea.com

STULZ introduces the new range of air handling units

The CyberHandler 2 series is used for air conditioning everything from data centres to hotels, from commercial buildings to industrial sites.



As power densities increase, a new design factor is coming to the fore-precision air conditioning solutions. Air handling units (AHU) incorporate all the air conditioning equipment of a data centre in one outdoor container, therefore creating more space for productive IT systems inside the actual server area. STULZ introduced its first air handling system back

in 2015. With the CyberHandler 2, the specialist for reliable air conditioning solutions is now launching a comprehensively redesigned successor.

The CyberHandler 2 series includes eleven output ratings

from 30 to 520kW. It combines free cooling, adiabatic cooling and mechanical chilling in one sealed outdoor container. The choice of chilling methods includes chilled water coils, scroll compressors or a redundant DX system with external condenser. If high availability is required, a fully weather-independent air conditioning system with a high level of redundancy can be designed, and can work in mixed mode for great energy efficiency.

www.stulz.co.uk/en/cyberhandler-2

Delta's unparalleled competence in developing Integrated Solutions

Delta, a global leader in power and thermal management solutions were highlighted at the Hannover Messe 2018, its unique ecosystem of smart and energy-efficient solutions to realise smart manufacturing as well as safe and comfortable green cities. At its own press conference, Delta was underscoring the superior features of its new High-Flexibility Multi-Tasking Smart Production Line, a 4-meter IIoT-based manufacturing platform integrating three robot workstations, software systems and a smart conveyor to offer visitors a live demo of smart manufacturing. In addition, Delta displayed an

abundant range of solutions for sustainable cities, including the IoT-based Building Management Platform, which integrates our building automation technologies, IP surveillance equipment and smart LED lighting to deliver substantial energy savings and lower carbon emissions in commercial and industrial facilities.

Mr. Jackie Chang, President & General Manager of Delta Electronics in the Europe, Middle East & Africa (EMEA) region (pictured) said, "We were deeply proud to demonstrate at Hannover Messe 2018 that the utility, functionality and versatility

of our integrated energy-saving solutions were advancing rapidly. Whether our EMEA customers are seeking to implement IIoT connectivity, energy monitoring and smart automation in their manufacturing platforms, or increase the energy efficiency, safety, comfort and market value of their buildings, or integrate EV charging infrastructure with renewable energy in their city, Delta is certainly the most suitable partner given our superior technology and accumulated experience in integrating total solutions."

www.delta-emea.com



Delta showcased its Smart Energy-Saving Solutions for Sustainable Cities at Hannover Messe 2018

Delta, a global leader in power and thermal management solutions, announced its vast energy-saving solutions offering to support the creation of smart green cities which was presented at Hannover Messe 2018. The showcase included: Delta's IoT-based Building Management Platform, which leverages automation technologies from our subsidiaries LOYTEC and Delta Controls to support all open protocols used in building control (BACnet, DALI, KNX, etc.) and now offers next-generation IP surveillance solutions from our subsidiary VIVOTEK, to enable comprehensive energy-efficient and secure supervision of entire buildings; the 150kW DC Ultra-Fast EV Charger, capable of facilitating a 100-kilometer EV driving range with less than 15 minutes of charging; as well as the 90kWh Li-ion battery energy storage system E530 series, ideal for both commercial and industrial applications.



- EV Charging Solutions
- Battery Energy Storage System
- Solar PV Inverters

Delta's diversified solutions for smart cities were presented for Hannover Messe 2018 visitors at our Hall 11, stand A57 exhibition site held from April 23 to 27.

Contact
www.delta-emea.com

Delta's exhibition booth which was located at Hall 11, stand A57, presented the following solutions:

- Solutions for Smart Green Buildings

Delta demonstrated its Smart Manufacturing Capabilities at Hannover Messe 2018

Delta, a world-class provider of industrial automation solutions unveiled at Hannover Messe 2018 its integrated Smart Factory and Energy Management solutions to enable higher productivity and energy conservation through smart manufacturing. Delta's High-Flexibility Multi-Tasking Smart Production Line features seamless integration of our digital manufacturing monitoring platforms, IIoT technologies, three robot workstations and a smart conveyor to let visitors perform on-site order processing and real-time monitoring of the customised production process. Furthermore, the new 3D Vision Inspection System enhances logistics efficiency through precise package shape and dimension identification. The aforementioned solutions shall demonstrate Delta's unparalleled calibre in the field of smart manufacturing at equipment, production line and factory layers.



capabilities of its industrial automation solutions and their underlying software and hardware platforms, to help customers attain superior performance and lower carbon emissions through smart manufacturing in their operations. Our showcase at Hannover Messe 2018 was specifically designed to prove how our next-generation solutions and integration prowess converge to turn smart manufacturing into a reality."

Mr. Andy Liu, General Manager of Delta's Industrial Automation Business Group, indicated, "Smart manufacturing is not only a trend but an imperative way for companies to sharpen their competitive edge. Delta remains focused on strengthening the

www.delta-emea.com

Greenbuild News

Steel Coating uses rapeseed oil, not fossil-based oils

House KD, a holiday home in Sweden featuring a Green-Coat colour-coated steel roof, made the shortlist of the 2017 World Architecture Festival Awards. GreenCoat colour-coated steel products from SSAB have a patented, Bio-based Technology coating, using



rapeseed oil instead of fossil-based oils in its manufacture. This reduces the environmental footprint and provides extreme durability, resistance to corrosion and long colour retention.

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Bauder Ltd launches roofing solution for construction within flood sensitive areas

As climate change causes more extreme weather patterns, the construction industry faces new challenges with an increase in excessive rainfall resulting in flash flooding and standing water. Continued development in built up areas where existing drainage systems can be depleted, and natural infiltration is limited has prompted the introduction of Sustainable Urban Drainage System (SuDS) legislations by local authorities.



of the SuDS legislation and the subsequent requirements for developments in built up and flood sensitive areas, the evolution of our ever-popular green roof system was a natural process. Using rooftop and podium solutions will address the excess water issue at source by providing the necessary drainage to ensure structural integrity along with regulation compliance and optimal waterproofing." Nigel Blacklock, Technical Director at Bauder.

T +44 (0)845 271 8800
www.bauder.co.uk

"The Bauder brand is recognised for the proactive approach we take to developing our roof systems and the high standards to which we deliver. With the introduction

Fuel Services News

Opti-Diesel is ready to half UK fuel emissions



Opti-Diesel is a patented fuel additive specifically designed to improve fuel consumption - generating significant cost savings and reducing greenhouse gases and other harmful emissions. It's been found that introducing Opti-Diesel to the national fuel supply chain would be the equivalent of removing 50% of vehicles from the UK roads.

Opti-Diesel is a world first catalyst in the fuel industry. The way this works is that the additive lowers the amount of energy needed to cause the fuel to combust. Thereby, reducing greenhouse gas carbon dioxide emissions. Just 0.26ml of Opti-Diesel is needed to make 1 litre of fuel more efficient.

Opti-Diesel uses a unique combination of reactions, including fuel use reductions and catalytic reduction, in order to significantly slash the amount of harmful and toxic emissions released from the vehicle.

The additive has no negative impact on existing emissions controls system or engine wear. Opti-Diesel can be used with practically any vehicle as the additive requires no specialised equipment to install or utilise, and it requires no modifications to the existing vehicle's engine.

Case Study 1: A global mining firm added Opti-Diesel to their bulk refuelling tanks via a calibrated dosing system. Over the course of a year, they experienced a 12.34% reduction in fuel consumption, a 75% reduction in carbon monoxide, a 99% reduction in Nitrogen Monoxide emissions and a 55% reduction in Nitrogen Dioxide emissions, leading to 91% reduction

in total Nitrogen Oxides, and finally a 47% reduction in harmful diesel particulate matter.

Case Study 2: The first test on a 26 tonne Scania with a Euro V engine showed a smoke/opacity level of 0.22. The vehicle then had Opti-Diesel added to its fuel and was re-tested after travelling 980 miles since the first test. The second test showed an opacity/smoke level of 0.05. A reduction of 77.27%, which is consistent with previous results on earlier engines.

Testing on a range of different engines under both laboratory and live conditions in different countries including the UK have all recorded a range of improvements in fuel consumption and reductions in emissions. The range of improvements is significant, outstanding and impressive.

| Fuel consumption improvement | 3.5% | 15.53% |
|-------------------------------------|-------|--------|
| Carbon Monoxide (CO) | 68.8% | 81.4% |
| Carbon Dioxide (CO ₂) | 6% | 8% |
| Nitric Oxide (NO) | 99.4% | 99.6% |
| Nitrogen Dioxide (NO ₂) | 54.5% | 58.8% |
| Nitrogen Oxides (NO _x) | 22% | 94% |
| Smoke/Opacity | 50% | 89% |
| Particulate Matter (PM) | 47% | |

If you are looking to reduce the carbon footprint of your vehicle or even fleet of vehicles, and would also like to save some money or you would like further information on the company or product then get in touch...

T +44 (0)1422 349188
www.opti-diesel.com