



SUSTAINABILITY TODAY

Issue 418 January/February 2020

Tel: 0121 550 7510
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energy | water | waste | recycling | sustainability

Regulations 2020 – Are you compliant?

Premier Tech Aqua UK offers clarity and guidance regarding the new regulations provided by the EA (Environmental Agencies) and the legislative body of the Government on 1st January 2020. Under the new regulations, a septic tank will no longer be allowed to discharge directly to surface water due to plausible threats on public health as well as the deterioration of the ecological quality.



All septic tanks that currently discharge into surface waters will need to comply with at least one of the below options:

- Be replaced (or be upgraded) by a wastewater treatment plant that is fully compliant with the BS EN 12566-3 (request for a CE certification)
- If the regulatory bodies and the Environmental Agencies allow, the effluent should be diverted to a drainage field (soakaway), as per BS6297 2007
- The septic tank or the property should be connected to the utility's sewage network

Homeowners are expected to be liable for their choice, installation, maintenance and operation of their treatment system, so it maintains the expected efficiency as specified by the manufacturers.

In summary, the installation of a new drainage field must be a minimum of 10m away from a watercourse, 50m

from a water abstraction point, and 15m from any nearby building. No sensitive area is expected to be nearby, and if so, application for a permit from the Environmental Agency is a prerequisite.

Connecting the property to a sewage network is a viable solution but examination of its financial attainability is essential, since civil works may be a massive investment.

If the best option is the replacement of your septic tank to a sewage treatment plant, or an upgrade to one, then Premier Tech Aqua can provide the solution. Not only are our products (such as Ecoflo, Solido, ASP and SAF) completely eco-friendly, we invest heavily in R&D to ensure our solutions are fit-for-purpose to meet ever-changing demands.

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Three gloves to improve your environmental credentials

Disposable nitrile gloves are an extremely popular choice as they offer an increased tactile sensitivity, similar to that of latex, without the high levels of allergic reactions that latex gloves can cause. With so many industries using disposable gloves, from care establishments, to caterers, to mechanics and hairdressers, naming but a few, millions of disposable nitrile gloves are thrown in general waste and deposited to UK landfill sites each year.



www.justgloves.co.uk/biodegradable

grade and chemical resistant to EN374 parts 2 and 3.

As organisations strive to reduce their negative environmental impact, leading online retailer, JustGloves, offers its customers a range of SHOWA biodegradable nitrile gloves, for various applications.

SHOWA gloves are made using Eco Best Technology®, an additive that is included during the manufacturing process. This additive allows for the glove to fully biodegrade in a landfill environment, within 5 years. SHOWA gloves fit and perform just as well as other nitrile equivalents, making switching to an environmentally friendly option easy.

SHOWA Biodegradable Disposable Nitrile Gloves

Made from 4mm nitrile with Eco Best Technology®, the SHOWA disposable nitrile glove feels like a second skin and allows for enhanced accuracy whilst carrying out tasks. These gloves are 1.5 AQL medical

SHOWA Biodegradable Nitrile Gripper Gloves

SHOWA gripper gloves not only provide a high abrasion resistance and durable coating to protect hands from oil and grease but are also moulded to replicate the hands natural curvature, thus reducing hand fatigue and increasing dexterity.

SHOWA Biodegradable Chemical Resistant Gloves

With 9mm thick nitrile, the SHOWA chemical resistant glove is lightly textured on the palm and fingers provides additional grip, especially in wet conditions. Designed for comfort and accuracy, these gloves conform to relevant EN standards and provide an extended cuff for additional protection.

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Pumps for Dairy Farm's Digestion Plant

Hidrostal Ltd, the UK distributor for the renowned Swiss pump manufacturer, has provided a Dairy Farm in Devon with pumps for their onsite Anaerobic Digestion (AD) plant.

Langage Farm, situated just outside Plymouth City, has been a working farmstead for over 900 years. Bought by the Harvey family in 1952, the farm was extended into a creamery in 1980 and then developed to incorporate the AD plant in 2011. Langage is thought to be the first dairy company in the UK to have a farm, manufacturing unit and anaerobic digester all on one site, allowing the processes to work in a full Closed Loop cycle. Langage AD produces digestate to fertilise the soil, improving grazing quality in the pastures, leading to increased milk yield for the dairy. The dairy waste then fuels the AD plant.

Hidrostal supplied eleven pumps in total to Langage AD back in 2011. Three hard iron 9 kW immersible pumps for digester grit and waste removal are installed in two below ground dry wells located between each digester. Three ATEX rated hard iron pumps are positioned within the top of the digester for skimming, and two smaller pumps are used to pass the waste digestate. These pumps have been operating continuously for the past 8 years with only routine maintenance required.

Hidrostal pumps were specified by the system designer due to their renowned and proven capability of pumping grit laden sludges. The pumps low NPSH requirements are ideally suited to the digester skimming application due to the unique impeller geometry of the Hidrostal screw centrifugal impeller. Extremely versatile in its application, the impeller provides efficient handling of a range of liquids, often highly abrasive or corrosive in nature. It is ideal for Solids Handling, Pumping Viscous Sludges and Handling Delicate or Low Shear Products. Unique to all Hidrostal pumps is the ability to handle each of these in combination.

Gary Jones, Technical Director of Langage AD, enthused: "The unique nature of the Hidrostal Screw Centrifugal Pumps has served the demanding applications of the Langage Farm AD plant well since 2011. With a bit of routine maintenance these pumps have proven to be very reliable working in a tough environment."

Hidrostal Ltd are delighted that their pumps continue to function so well for Langage and have helped them to achieve their status of becoming the first dairy in the country to be carbon neutral.

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Practical Aspects of PROFINET, PROFIBUS and IO-Link



Free-to-attend training opportunity - April 28, Birmingham

Presented by PROFIBUS and PROFINET International at the National Motorcycle Museum, this event will address the key practical issues arising from the use of digital communications technologies in automated manufacturing and process industry applications, with particular attention to Industry 4.0 and the Industrial Internet of Things (IIoT).

Covering key application areas such as control systems and energy management, pulp & paper, chemical, utilities, pharmaceutical, mechanical handling and logistics, robotics, automotive engineering, electrical and electronics assembly, packaging and printing, it focuses on the practical aspects of using PROFINET, PROFIBUS and IO-Link, from system design and safety & security considerations through to fault-finding and maintenance.

Topics will include:

- ▶ Introduction to PROFIBUS International and the basics of PROFIBUS & PROFINET
- ▶ PROFIBUS network design
- ▶ Network gateway technology
- ▶ Industrial network commissioning and testing
- ▶ PROFIBUS and PROFINET device configuration tools
- ▶ Industrial networks safety & security
- ▶ Update on Industry 4.0, IIoT, TSN and APL

plus a presentation about and tour of the

National Motorcycle Museum.

Live Demonstrations

Supported by an exhibition with demonstrations of actual tools used in configuration and maintenance, the seminar will be of great value to Designers, Production/System Engineers, Instrument Technicians/Engineers and C&I Engineers involved in the design, operation and maintenance of modern automated factories and process plant.

With nearly 80 million nodes installed worldwide, PROFINET, PROFIBUS and IO-Link are truly market leaders, providing state of the art digital communications addressing all the needs of manufacturing and process industries, significantly lowering capital expenditure on installation, commissioning and maintenance. They offer unprecedented integration of automation, control, monitoring and safety systems using standardised and widely supported communications and networking solutions.



Abstracts

PROFINET International and basics of PROFIBUS and PROFINET - Mark Freeman, Siemens

An overview of the Group's structure and global representation, taking a look at the protocol basics and their differences, plus showing the progress of the number of installed devices from the group's supported technologies and relating these figures to their market share.

PROFINET Network Design - Andy Williams, Siemens

It is widely accepted that the most important decisions are made at the design stage of a project. This presentation examines the fundamental principles of good network design for PROFINET systems, although many of the ideas are applicable to PROFIBUS and other networking systems. The presentation will discuss the main factors that must be considered at the design stage of an automation system. Practical examples will show how facilities for health checking, fault-finding and maintenance can have a crucial impact on plant availability. The presentation will also examine how properly thought out network monitoring and redundancy can drastically affect plant up-time and thus profitability.

Industrial network commissioning & testing - Dave Tomlin, Hitex and Xing Ye, Product Manager, IDEAL Industries Networks

Take a walk through the process of certifying a new PROFINET (or any other industrial Ethernet) product against the standards and see how easy it can be, then look at a few gotchas that can easily be avoided by careful planning. Learn how to simplify the process of testing both cabling and networks in Industrial Ethernet networks that utilise the PROFINET protocol, how to

prevent network failures and resolve cable and network issues faster.

Network gateway technology - Peter Thomas, Director, Control Specialists

A vendor-independent overview of how to connect PROFINET networks to existing fieldbuses and expose the data to IIoT technologies using OPC-UA. This presentation, including live demonstrations, will take a "how it's done" approach using products from several well-known manufacturers and will include:

- ▶ Profinet - Profibus DP
- ▶ Profinet - Profibus PA
- ▶ Profinet - CANOpen
- ▶ Profinet - IO-Link
- ▶ Profinet - OPC UA

PROFINET and PROFINET device configuration tools - Phil Waterworth - Project Engineer - Endress+Hauser Ltd

A look at the available device configuration tools and their development including the move to unify the different types into one format - FDI. This will be followed by a live demonstration of PROFIBUS and PROFINET device configuration using an existing open platform and web browser option.

Industrial networks safety & security -



Peter Brown, CSA Group

This paper covers the basics of legislation and responsibilities for safety and functional safety and goes on to consider basic Cybersecurity aspects for Industrial Automation in the UK market.

Industry 4.0 and the Industrial Internet of Things (IIoT) - Derek Lane - Process Automation Manager - WAGO Ltd (Deputy Chairman - PI-UK)

A short journey to explain IIoT, The Industrial Internet of things, IND4.0 from IND1.0 and Big Data. How PROFINET is placed as the ideal Industrial Fieldbus to fulfil the above, how it is implemented and why you should consider it. Some of the myths explained.

More information and online Registration: <http://bit.ly/PUK28April>

Places are limited so don't delay - book today!

In case of difficulty contact Ann on tel: 00 44 207 193 8018 or email admin@profibus.org.uk

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Vexcel Imaging launches subscription image service solutions to government agencies

Vexcel Imaging introduced its high quality and up-to-date aerial image subscription for government agencies in North America, Australia and Europe. The cloud-based image solution, now available via subscription service, saves state and local government a significant amount of time and money by making

it fast and simple to acquire up-to-date, concise, ultra-high-resolution imagery and leverage it organisation-wide into critical location intelligence.

"Government agencies face many challenges like supporting Smart Community initiatives, providing

mission-critical information during emergencies, and ameliorating geospatial data hosting and procurement. Outdated and hard to access geospatial data acquired per department is not a viable option," said Erik Jorgensen, Group CEO of Vexcel Imaging. "Vexcel's imagery solution

now makes it possible for small cities to large states to access detailed imagery that covers entire jurisdictions and is refreshed regularly and predictably."

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Denso Paste & 80mm Tape Control Brunel Bridge Corrosion

Isambard Kingdom Brunel's Swing Bridge was constructed of riveted wrought iron plates in 1849 to provide a crossing over the entrance lock for growing vehicular activity in Bristol Docks. It is a rare survivor of Brunel's Bristol work and predates the Clifton Suspension Bridge. To hold back corrosion in the early days linseed oil and resin based paint coatings were regularly applied, but after 50 years of neglect the Grade 2 Listed structure has rusted seriously.

Denso paste has been applied to the

underside of the ancient bridge's 4m dia forged iron ring to seal against water entering the deep rust-pits. Then the 3mm thick soft aluminium packers were wrapped with Denso Tape, bedded on to the new 20mm thick steel ring. This was then jacked up to bed on the underside of the old heavily-corroded ring to provide a new track for the bridge to run on.

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Protection for rising main

On a recent Yorkshire Water contract J N Bentley Ltd of Skipton was faced with the complexity of replacing approximately 25m of a 350mm diameter rising main pipe at Whitby, Yorks, which was situated within a shaft.

To make things more complicated there was very limited space in the shaft, which was subject to tidal flooding with sea water. Not surprising, it was also classed as a confined space.

J N Bentley therefore employed PMP Utilities Ltd of Burnley to install the rising main after using Winn & Coales (Denso) Ltd's SeaShield 80 system to provide protection from the sea water. To make the installation easier the SeaShield 80 as applied to the barrel lengths of the pipe prior to lifting the 25m long pipe into place. PMP Utilities then applied the system to the bolted flanges in-situ.

The SeaShield 80 System comprises Denso S105 Paste, Denso Marine Piling Tape, Densoclad Tape and Denso SeaShield Smart Band. Denso Mastic was also used to profile the joints.

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Recycling & Waste Management News

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National Sewerage Association

Working to Raise Industry Standards

- N.S.A.**
Represents the interests of companies associated with the survey, operation, maintenance and renovation of sewers, drains and pipelines.
- N.S.A.**
Acts as a forum for its members to ensure that technological developments go hand in hand with improved operational efficiency.

Standards
Pro-active in setting and maintaining training standards within the industry. Representation on standards and parliamentary committees and regular consultees on a broad range of Legislative and Regulatory matters.

Members
Our members range from sole proprietors to divisions of public companies providing services such as:

- CCTV Inspections
- Sewer Flow Surveys
- Systems survey and Mapping
- Drain and Sewer Cleaning
- Equipment Manufacture
- Training

For more information visit our website: www.sewerage.org or call Val Gibbens on 020 8330 0123

EnviroGo Mobile Recycling Bin is on the Move

New from Leafield Environmental is the EnviroGo, a range of stylish recycling bins that make waste segregation at source an even easier proposition.

The distance between the place where recyclate is generated and that from where it is collected can be substantial. Mixed recyclate may be manageable but glass or paper weigh heavy and is not easy to transport. The EnviroGo addresses this problem by having a front, moulded-in handle and two non-marking wheels that provide excellent mobility and manoeuvrability, removing the need for carrying heavy sacks to a point of disposal.

Slim enough to stand back against the wall in corridors and open offices, yet with a 90-litre capacity with a bag (or 63-litres with a plastic liner), the durable, rotationally moulded EnviroGo stands some 970mm high, ideal for ergonomic efficiency. A tilting sack frame enables quick and safe bin maintenance.

Each EnviroGo comes with an A3 signage kit for promotional use or to highlight the waste stream. WRAP colour coded apertures and labelling ensure that no-one is left in any doubt as to what waste stream is being collected in each bin. Segregating waste into recycling streams can save money and even be a profitable move. EnviroGo's mobility can make that move easier.

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The RWM Show Excels In 2019



The RWM Show was back in full force this year at the NEC Birmingham on the 11th and 12th of September. The RWM Show is the biggest recycling and waste management exhibition in the UK and this year, the show welcomed more than 21,500 visitors through its doors.

A vibrant and buzzing atmosphere, the show contained over 500 exhibitors, 13 seminars and various zones to explore throughout Hall 5 at the NEC. Working alongside RWM; the PRYSM environmental portfolio, The RWM Show provided the perfect opportunity for professionals in the industry to network, learn and explore new ways of staying at the forefront of recycling and waste management.

A few noteworthy appearances exhibiting at the show included: Johnston Sweepers, Waste Care, Romaquip, and Astute Technical

Recruitment, showcasing their latest innovations and products.

Receiving ample amounts of positive feedback from the 2019 exhibition, the RWM Show will be returning to the NEC Birmingham in 2020 on the 16th and 17th of September.

For any further information, please see the details below.
www.rwmexhibition.com



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By using renewable forms of energy, it is possible to reduce our dependence on fossil fuels, and wood pellets are one of the best sources of renewable energy when harvested from sustainably managed forests. Additionally, by repurposing commercial and industrial waste into alternative fuels and recycled components for reuse, we can reduce waste emissions that contribute to global warming.

With over 350 reference plants, ANDRITZ is a global leader in biofuel and bio-waste pelleting technology, producing more than 50% of all biofuel pellets worldwide. The amount of CO2-neutral fuel produced with equipment from ANDRITZ replaces almost five

million tons of oil per year.

ANDRITZ innovation focuses on the efficient use of resources with less waste, optimization of hygienic conditions, the safety and wellbeing of every operator, and reduced operational cost and energy consumption.

ANDRITZ makes grinding and pelleting equipment for converting forestry and agricultural by-products into uniform, densified fuel pellets for carbon-neutral biomass and shredders and dryers for the processing of wet waste,

before the pelleting process, which converts waste into compressed waste pellets. With full process lines accounting for half the world's production of biomass alone, ANDRITZ is vital to ensuring a reliable global supply of aquafeed, animal feed, pet food, and biofuel today and in the future.

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Addex Group is a specialist supplier of products and machinery for the construction, refurbishment, facilities and service industries. One of its brands, MaxVac City Cleaning, offers maximum performance equipment to cope with dust management and environmental cleaning solutions.

100% electric with zero emissions, these products are environmentally friendly, with the facility to deep clean and sanitise floors to maintain cleanliness in schools, parks, roads and pavements.

A recent addition to the MacVac City Cleaning range is the MV2000 Vanguard, an electric waste collection machine that is safe, easy to use, and money-saving. This has revolutionised the electric pedestrian street cleaning environment, hygienically collecting any kind of waste that can pass through a 125mm diameter tube.

MaxVac City Cleaning also offers the Gladiator,



which uses low pressure steam and natural bio-degradable detergents to lift gum, grime and contaminants from footpaths and communal areas. Such pollution can pose serious health risks to the public, and after many years of research, the Gladiator has been developed as a unique machine that is winning the war against grime.

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Our engineers will also be on hand to ensure that the plant produces the highest quality outputs.





ISB Global is intent on being a world leader in the waste, recycling and environment software sector. We are achieving our objective with the advanced integrated software platforms, SAP, Waste & Recycling One. This is supported by our expert delivery team and focus on innovation and partnerships. Collectively we aspire to deliver continuous improvement, serving our customers and saving the environment.

We've designed SAP, Waste & Recycling One. It's suite of integrated software platforms built on SAP Business One.

Includes mobile, web, internet of things (IoT), equipment sensor connectivity, waste logistics and recycling materials operations. With integrated financial accounting, banking and business management software tools that eradicate manual processes and therefore effort. Resulting in increased productivity and profitability.

Waste and recycling process management has been extended to a low code, mobile, web and connectivity innovation applications branded SmartWorld built on the OutSystems platform. A suite of

prebuilt, preintegrated applications deliver agility and stability using traditional, efficient safe control, accurate data and processes from SAP, Waste & Recycling One. While being able to quickly tailor the existing application suite or deliver new functionality, data capture, workflow and interface to suit user and requirement, on any device, any operating system – connecting to everything, connecting everyone.

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training, fabric maintenance services and compliance surveys

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Height Safe

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GreCon makes people and places safer and enables the 'smart factory' as the leading provider of innovative fire prevention, measurement and inspection solutions. We offer turnkey solutions and a comprehensive in-house service, delivered by a UK based network of Engineers.

Fire Prevention to enable uninterrupted production and make workplaces safer
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Enabling the Smart Factory
A comprehensive range of measurement and inspection systems help equip the 'smart factory', improving product quality, reducing raw material and energy costs, and ultimately

maximising operational efficiency.

Product Innovation – the intelligent detector
The DLD 1/9 detector is an exciting new product offering the best detection performance in any environment. It features intelligent detection technology; differentiating between dangerous ignition sources (e.g. sparks) and the presence of harmless extraneous light (e.g. due to damaged ducting, or the opening of an inspection hatch).

Rely on GreCon
We have a track record spanning 27 years, providing engineered fire prevention solutions to protect businesses across UK & Ireland.

In addition to our network of field engineers, we offer customers our remote monitoring solution, Satellite which facilitates ease of



training, fabric maintenance services and compliance surveys

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intervention and visualisation of faults, with access to our experienced and knowledgeable Technical Support Engineers. We are a global market leader. Our parent company Fagus-GreCon Greten GmbH & Co. KG developed and launched the first industrial spark detection and extinguishing system in 1973. Since that time, GreCon's product portfolio has significantly evolved, with continuous investment in R&D. Today several hundred thousand customers globally rely on GreCon - call us to discuss how we can help you!

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h | r | c

Handel Rating Consultants

REDUCING THE BURDEN OF BUSINESS RATES

This was our 4th year at RWM but our 1st as an exhibitor and speaker. As a niche consultancy business specialising in the management and mitigation of business rates in the Energy from Waste sector, we assist many of the key operators in the sector with new work coming via referrals.

For us RWM offers a lot and is now an essential part of our calendar. This year we were ideally located at the heart of the Energy from Waste section, and had a busy two days seeing clients and dealing with a steady stream of enquires.

We also used the opportunity to meet with representatives from trade bodies ADBA and REA along with their members and share knowledge with all the other great businesses present at the show.

This collaboration across all the specialisms is what RWM is all about, and we came away from the show better placed than ever to assist our clients manage the burden of rates.

This made it all very worthwhile for our business, which is why we have already committed to RWM 2020.

So we were delighted to have been nominated by Sustainability Today for a stand award.

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Textek

Textek have invested 18 months into the research and development of the first Bespoke mattress/bulky waste shredding line that will divert a whopping 1 million mattresses a year from landfill. It's design allows us to successfully separate the flock from the steel to ensure 100% of the mattress can be recycled. We believe that this line ensures a stable future for mattress recycling and takes out the hard manual work needed stripping a mattress by hand. The average person can strip a mattress in around 7 minutes our line will be able to dismantle a mattress in under 30 seconds. This line is the first of many we plan to install around the country to help with the on-going

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FORWARD

The Global Biogas Industry, Cutting Greenhouse Gas Emissions by up to 12%

After a successful launch in 2019, World Biogas Summit will return to NEC Birmingham, 1-2 July 2020! We are bringing an international line up of thought leaders together to discuss how to realise the huge potential of biogas. The event will feature case studies from around the world demonstrating where it is already happening in practice and the roadmap to how biogas can cut greenhouse gas emissions by 12% in 10 years!

Visit www.world-biogas-summit.com for free registration and sponsorship opportunities.

The World Biogas Summit will once again be

running alongside UK AD and World Biogas Expo, the largest international trade show dedicated solely to the anaerobic digestion and biogas industry, providing the latest market and technology news, sector by sector, as well as a platform for industry professionals from all over the world to network, share best practices and strengthen and form business relationships.

Along with up to 200 exhibitors, the Expo will offer free content across themed theatres bringing you everything you need to do to prepare for the opportunities that lie ahead

ADBA | Anaerobic Digestion and Bioreources Association

for the industry. Free registration, sponsor and exhibitor opportunities at www.biogastradeshow.com

Alyssa Thorp | Marketing Manager - Events | The Anaerobic Digestion and Bioreources Association (ADBA)

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THE WORLD BIOGAS SUMMIT

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1st - 2nd July 2020, NEC Birmingham, UK

Events organised by **ADBA** | **WORLD BIOGAS ASSOCIATION**

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Carbon8

Carbon negative treatment for industrial residues utilising CO₂: inside the Carbon8 Systems CO₂ntainer.

Carbon8 Systems (C8S) has developed a world-leading Carbon Capture and Utilisation (CCU) process based on Accelerated Carbonation. This, circular solution, is used to treat industrial residues, whilst permanently capturing waste carbon dioxide. The technology improves the chemical and physical properties of the residues and generates a carbon-negative product that has multiple applications such as in building materials. The process can be applied to many different residues including those from Energy from Waste, paper recycling, or cement manufacture.

C8S' technology treats residues that would otherwise be landfilled, captures waste carbon dioxide, and creates sustainable, valuable products, with a significant cost saving. The technology is proven at industrial scale and was licensed, in 2010, for the construction of three centralised plants in the UK. In 2018, C8S developed a modular containerised solution; the 'CO₂ntainer'. This plug-and-play system is flexible, scalable, requires lower up-front investment, and can be deployed on-site, treating residues at their source and drawing on the carbon dioxide captured directly from the flue stack.

With over 20 years of award-winning research, containerised and centralised propositions, and numerous clients across various industries, C8S are the first company to have successfully commercialised a mineralisation CCU technology that can treat hazardous industrial residues.

For additional information please contact:
Ffion Rolph, Strategy Director at ffion.rolph@c8s.co.uk
co.uk or James Evangelou, Business Development Manager at james.evangelou@c8s.co.uk
 T +44 (0)1634 763821
<http://c8s.co.uk/>

Are you concerned about:
 Increasing disposal costs?
 Increasing cost of emitting CO₂?
 Disposal options becoming more restricted?

Carbon8 Systems treats a variety of wastes including those from municipal solid waste incineration, cement production, and paper and pulp processing.

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 Web: www.c8s.co.uk

Carbon8

Bollegraaf does not believe that there is such a thing as waste

The core competence of Bollegraaf Recycling Solutions is the sorting of waste. Whatever your waste flow is. Bollegraaf leads the industry by developing advanced and profitable sorting and recycling systems and solutions for single stream, e-waste, MSW processing, C&D, Plastics Recycling and energy-from-waste solutions. With over 58 years of experience in waste sorting, we have installed more than 3,700 recycling systems in Europe, North America, Canada and Mexico and have built the largest MRFs with

capacities of more than 70-100+ tons per hour), including 17 Mega MRFs in the world. More than all our competitors put together. Our customers include all leaders in the recycling industry.

The company's mission is to develop and produce recycling and sorting systems that take care of the environment and improve the quality of life and health of people. They do this by using the limited resources of our planet in a meaningful, innovative and sustainable way. Bollegraaf Recycling Solutions

wants to be the world leader in turnkey recycling systems. To achieve this, they offer sorting solutions that offer their customers the highest return on their investments. In addition, the company is committed to providing the best customer experience within their industry.

In 2005, Bollegraaf introduced the first robotic quality control sorter. Since 2005 we have built and tested very different types of robot sorters using different types of actuators such as scara robots, XYZ robots and delta robots. The



current Bollegraaf AI-driven RoBB-AQC is a fully automated sorting robot, ready and capable of sorting and separating valuable items such as plastic during the final stages of a waste sorting process.

This is what sustainability means for Bollegraaf

T +31 (0) 596 65 43 33
info@bollegraaf.com

New, Powerful Shredders Complete the Metso Family

Launched in the UK at this year's RWM, Metso expands its product line with two new pre-shredders. The K-Series is aimed at customers with production requirements between 5 - 45 t/h.

The K-series has been developed with the same uncompromising approach that is the hallmark of Metso shredders. The goal is to deliver the lowest cost per ton through superior performance, unbeatable uptime and easy maintenance whilst maintaining competitive pricing.

This is achieved through high reliability, ease of operation and great flexibility. The open-cutting-table, matched with Metso's large, aggressive knife designs, means that operators don't need to pre-sort waste before shredding, reducing manpower and breakdowns.

Benefits

- ▼ The unique twin shaft shredding system (both synchronous and asynchronous) provides superior performance no matter the waste, resulting in unbeatable uptime
- ▼ The proven knives geometry reduces the risk of wrapping, resulting in less bridging and fewer cleaning stops, improving capacity
- ▼ Modular design concept ensures that only relevant components need to be maintained, meaning longer lifetime and reduced running costs
- ▼ Robust and proven construction giving easy access, making maintenance fast and keeping service costs low

Metso has a global network of service partners, providing assistance 24/7/365.

To find out more, please call Dan Fairest on 07341 885 553 or email him at daniel.fairest@metso.com



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Bollegraaf also supplies single products and components such as conveyor belts, sorting belts, magnetic and pneumatic sorting systems, drums and screens for sorting installations.

Bollegraaf UK Ltd.
Kimberley Business Park
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Call now to discuss your drying & handling needs!

What do you dry?

Perry of Oakley Ltd have seen a wide range of applications for their Belt Driers, including drying woodchip, flaked maize, grass & refuse (SRF/RDF), grass and paper pulp across the UK and internationally.



Air is drawn down through the product bed which keeps the product tight to the belt, improving drying efficiency & reducing product loss through fans via product lift. It's available in widths of 1.5m, 2.2m & 3.0m and lengths of up to 75m.

Modular construction allows the driers to be extended at a later date, allowing your drier to grow with your business.

Perry of Oakley Ltd are the UK's most experienced manufacturer of materials handling & drying equipment. All of the Perry machines are manufactured in their factory based in the South West of the UK.

Adjoined to this, it should be noted that Perry also manufacture a complete range of handling equipment to feed and discharge the belt driers, including: store conveyors, belt and bucket elevators, augers and screw conveyors, in addition to many more handling & storage solutions. Perry are able to offer full turn-key solutions for industries ranging from farms/agricultural applications to feed mills & flaking mills, biomass and industrial applications. They are able to manufacture & supply handling, storage and drying equipment in capacities ranging from 8tph to 1000tph.

To find out if the Perry Belt Drier is the drying solution you are looking for call now on +44 (0)1404 890300 or visit their website www.perryoakley.co.uk

Amicus is a specialist broker to the Construction, Recycling & Waste Industries

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Saving 20% on your transport costs with Optrak4 route optimisation



What would saving 20% of your transportation costs mean? If you're an operator of 20 vehicles, that's four vehicles, or roughly £300,000 a year. If you're an operator of 50 vehicles that's 10 vehicles and a saving of £750k a year.

Our vehicle route optimisation software is designed to offer that level of saving. Taking collection data from waste businesses, our Optrak4 product optimises their routes, taking into account the realities and restrictions of the world they operate in - from rush-hour and urban traffic to ADR regulations and driver-shift rules - to significantly improve the efficiency of their trips

In doing so, they use fewer resources, reduce driving time and significantly improve environmental impact; all planned by the transportation team in a much shorter time.

Waste-Oriented Features

We thoroughly understand the waste and recycling market, having worked with commercial waste companies - in sectors from oil and battery collection to hazardous biowaste - and with NGOs and

local authorities to evaluate local waste collection policies.

Optrak's specialisation in the waste sector is built into the product; with volumetric modelling for customised, multi-compartment vehicles, loading factors for multi-stream product collection and flags for hazardous product types. Suitable for planning on a daily basis, over a week or more strategically, including creation of milk rounds, Optrak can be used by skilled planners to significantly improve an organisation's operational efficiency.

At RWM 2019 we were a finalist in the SME Innovation category for our services and gave talks on the potential of local authority commercial waste collection optimisation.

SME-Specific Offering

Optrak has been successfully deployed its product with organisations ranging from 10 to 10,000 vehicles but has in the past year started working with UK government grant scheme supporting 40% of eligible deployment and solution costs for SMEs. Qualifying businesses can save on consultancy, deployment and year one licence costs, supporting the evaluation of its distribution models and introduction of efficient systems into the organisation.

With SME waste collectors vulnerable to changes in government policy focusing on the environmental impact of their businesses, and from larger organisations

who are already leveraging logistics packages, improved routing and evaluation of operations can help them stay competitive and grow their business. Optrak is here to help deliver on that process, driving 30 years of logistics experience into your operations to maximise your efficiency.

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Delta Fire

Delta Fire specialise in firefighting products and fire suppression solutions to multiple industry sectors around the world. One of their specialist areas is within the waste, recycling and bio-mass sectors where the need for 24 hour unmanned fire protection has been accentuated in recent years by the rise of catastrophic waste fires posing significant threat to people, property and the environment.

Working closely within this unique sector for many years has enabled Delta to accumulate a deep understanding of our client's needs, both in terms of asset protection and Environment Agency/Insurer compliance.

Delta's Robotic Monitor Systems comprises fully integrated 316 stainless steel oscillating fire monitors linked to a state-of-the-art PLC cabinet running technologically advanced software. Operation can be activated remotely via a tablet or smart phone or manually via a joystick providing multiple coverage for any size site. Combined with either integrated thermal imaging cameras or flame detectors Delta can provide a complete turnkey solution ensuring 24/7 protection to our clients.

Delta's specialist technicians are pleased to offer free of charge site surveys on request.

For more information on Delta's waste and recycling fire suppression solutions please contact sales@deltafire.co.uk or visit their website at www.deltafire.co.uk



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3D printing is now driving the sustainability agenda

Critics of 3D printing, or additive manufacturing, have long cited the technology's reliance on plastic filament as the primary print material, and it would seem that – with the global focus on reducing plastic wastage – they have a point.

Or do they? Has 3D printing now reached a maturity level where it can not only support the sustainability agenda, but actively drive it? From on demand local product manufacture that is set to eradicate huge swathes of an energy sapping international supply chain to global collaboration on innovative products and the adoption of recyclables at every stage of the process from concept to delivery, 3D printing is heralding a new era of sustainable, energy efficient production.

More critically, Paul Croft, director of 3DGBIRE and Ultimaker GB and Founder of the Create Education project argues, the portability and low cost of 3D printers is now opening the door to the next generation of innovative thinkers who will use the technology in tandem with tools



such as Artificial Intelligence to create extraordinary solutions to many of the pressing environmental issues.

Additive Value

3D printing has provoked excitement and trepidation in equal measure. Proponents of the technology have cited a world of new possibilities for all industries, lowered transportation costs and environmental impacts, reduced waste, and minimised reliance on corporations by enabling the maker movement. Certainly, additive manufacturing demands significantly less raw products than traditional subtractive manufacturing processes.

However, it is also true that early additive manufacturing techniques, particularly for top end industrial products, are very energy intensive. In addition, its reliance on plastic filament – many of which cannot be recycled – has enabled sceptics to argue that the societal, political, economic, and environmental impacts of the technology have not yet been studied extensively.

But both the technology and the industry have evolved hugely in recent years. Filaments are getting stronger, resolutions are improving, and a wider variety of materials can be printed with additive manufacturing, including metals. The result has been a raft of innovations in areas such as airplane and engine manufacture where the development of lighter components (lightweighting) has enabled very significant reductions in energy



consumption, providing considerable support in meeting targets for cutting fossil fuel usage.

Local on demand

It is the way in which additive manufacturing can be deployed, however, that is fundamentally changing ideas about sustainability and putting 3D printing at the

front of the sustainability agenda. Desktop 3D printers are helping small companies prototype and manufacture at low costs with increasing quality while industrial 3D printers, once almost exclusively used for prototyping, are being rolled out on production lines. Furthermore, collaboration is being enabled globally through the creation of additive manufacturing standards, providing a chance for organisations of all sizes to cost effectively innovate and work together.

Critically this standardisation is driving the creation of filament that can be used at every stage of the process, from prototype through to production, enabling companies to leverage the growing options for recyclable filaments throughout the production cycle – whilst also gaining the economic benefits that are essential to competitive yet sustainable operational strategies.

The low cost and footprint of 3D printers is also, in my opinion, providing a chance to radically change the way products are manufactured and delivered – especially for spare parts. Rather than manufacturing in bulk in the Far East and transporting at huge environmental cost to Europe for expensive storage within a warehouse, using a 3D printer parts can be created on demand. This is already being explored within difficult to access locations such as oil rigs (with obvious benefits) and fleets such as



the Dutch navy 3D printing spare parts on the go.

Reducing the energy consumption associated with mass production, transport and distribution by embracing local, on demand additive manufacturing could and should deliver very significant long term benefits and is a model that plays strongly into the sustainability agenda.

There are so many motivated individuals who are now using 3D printing to make positive changes, to demonstrate how the world can address its sustainability challenges. The fact is that 3D printing is not the problem: it is a mature, portable and accessible global technology that is providing a chance to solve our problems.

T 01257 228411
www.3dgbire.com



Baling Solutions Company of the Month

Delivering innovative baling solutions for the recycling industry

Sustainability Today is proud to announce that Middleton Engineering has been selected as our Baling Solutions Company of the Month, for its expert manufacture of baling presses for the recycling industry. Boasting over 40 years of experience, Middleton Engineering has a sound understanding of the industry's demands, and is dedicated to researching ways to improve waste baling solutions across the world.

Established in 1975 by Ashley and Joan Middleton, the company initially specialised in the design and production of equipment for the horticultural peat processing industry. As its reputation and knowledge base grew, Middleton Engineering expanded its services to include waste processing, developing

and manufacturing a range of baling presses for the recycling industry.

These machines range from having a 70 ton to 120 ton press force, and go into distribution depots such as Tesco for the baling of cardboard and plastic. With unrivalled expertise, Middleton Engineering's team of design engineers use the latest 3D design software, with a CNC machining department, large fabrication facilities, service workshops and an expansive storage department, housing over 20,000 spare parts.

"We produce a brilliant, British machine," said Joan. "We carry 99.9% of spares for all the machines we produce, and we can also manufacture many spares for foreign machines. Customers mainly purchase these because they

are cheaper, but then discover that spares are slow to obtain and import duty is expensive. We just need a drawing with full measurements, and we will produce the part you need.

"We also manufacture conveyors, on floor, in floor, chain and slider bed to suit any machine," Joan continued. "We have just supplied a distribution depot with a new machine and have refurbished their old machine so that it now looks as good as the new one."

Middleton Engineering manufactures the full chassis and all components for its machines, including cylinders and electrical cabinets, as well as producing drum screens for the wastewater industry and sending food waste to methane plants. In addition to this, the company produces hydraulic cylinders for the rail industry, as well as numerous special and one-off parts. One of its latest machines is the tyre processing baler, which bales the complete tyre without cutting or shredding. This is a requirement to ensure that the tyres can be sold to Japan to produce fuel.

"We offer the full package," Joan explained. "As well as the manufacture and installation of our machines,



we also offer continual servicing and maintenance of all our products throughout their lifetime."

Without a doubt, Middleton Engineering has an enviable reputation for high quality work, excellent services and design innovation, cementing the company's status as a major supplying force within the recycling industry, both nationally and worldwide. If you would like to find out more information on everything Middleton Engineering has to offer, head to the website or get in touch using the contact details below.

Contact
T 01458 860264
sales@middletonengineering.co.uk
www.middletonengineering.co.uk



Addressing real challenges in the electrical testing market



Metrel is one of very few companies that develops and manufactures its products at a single location in Slovenia, starting with design and ending with final assembly, quality control and calibration. From its UK office in Epsom, Surrey, Metrel UK supplies its leading range of measuring and testing equipment to customers across the country, as well as providing repair, adjustment and calibration services.

Metrel's extensive range of instruments offer innovative solutions for testing and measuring, ensuring its equipment is easy to use, intuitive and future proof. Many of Metrel's products are software based and use touchscreen technology, addressing the real needs and challenges of end users to create a range of products that will enhance the user experience.

Without a doubt, Metrel is committed to solving the issues workers face every day. "Right now lots of electricians own, and use daily, testers that are capable of storing their test results but find the feature too complicated and long winded to use, because they need to make notes about which circuit and board each relates to which location in the tester's memory," said Brendan Beaver, the UK Manager of Metrel. "They prefer to fill a copy of a certificate by hand and then make a fair copy either in their best handwriting, or by typing it up in a computerised certificate when they get home. What a waste of their time!"

Metrel understands that engineers need to be able to do their testing and save the results and notes on their tester without needing pencil and paper, so that it is ready to send to the depot or to quickly download. This kind of functionality is not available when a conventional LCD screen is the only thing available, as found on an ordinary multi-function tester.

With the introduction of dot-matrix displays from Metrel, an increasing number of users of multi-function testers like MI3152 and MI3155 are realising the advantages of being able to make notes using the touchscreen's full keyboard, eliminating the need for pencil and paper. What's more, the on-board fuse table and connection help screens allied with the pass and fail indicators to give the operator confidence to pass the results to storage.

Metrel's new memory management system is unique. Also benefiting from the dot-matrix touchscreens, it allows the operator to visualise the installation, highlighting components with a coloured icon, which makes it easier to post the results to the correct circuit without writing anything down. This simplicity is continued when the results are downloaded quickly and easily into an 18th Edition certificate via the USB port.

Metrel also offers a dedicated repair service and expert technical support, working with distributors and partners to offer solutions to any problems, to ensure its products are being used correctly and to their full potential.

T 01924 245000
info@metrel.co.uk
www.metrel.co.uk



From waste heat to hot water

Industrial refrigeration systems with air-cooled condensers waste energy by emitting energy to the ambient air, according to SWEP, a supplier of compact brazed plate heat exchangers. By installing a desuperheater, much of this waste energy can be converted to hot water, with a wide range of applications, believes the company.

Brazed plate heat exchangers (BPHEs) are an integral tool that allow extra heat to be extracted from the refrigeration

system. A BPHE, called a desuperheater, is inserted between the compressor and the condenser. This enables the BPHE to extract the heat from the gases or liquids before it goes into the condenser to be condensate (the liquid collected by condensation).

Installing a BPHE helps to increase efficiency levels to achieve the demanding recent EU Ecodesign Directives that cover high temperature process chillers. Evaporators can

operate at a range of temperature levels to meet the required demands for a variety of refrigerants.

BPHEs offer copper brazing as standard but also stainless steel & nickel as alternative brazing materials to meet the demands for various corrosive fluids.

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ON SHORE WIND OFF SHORE WIND INDUSTRIAL MARINE

Lanes drainage data will help people get on their bikes

Drainage teams from Lanes Group plc are carrying out a major programme of sewer cleaning and surveying in support of a £21million plan to reduce congestion and air pollution in Cardiff. The drainage works are needed to prepare for the introduction of the city's first dedicated cycleways and other road and public transport improvements designed to clean up the Welsh capital's air. The computer-generated image above shows what one of the proposed cycleways, in Lloyd George Avenue, will look like.



condition of every manhole.

The Lanes teams are gathering a wide range of survey data for Cardiff City Council to make sure drain and sewer modifications comply with new sustainable drainage regulations introduced by the Welsh Government. Under the regulations, all new buildings and structures must have sustainable drainage systems (SuDs). They reduce the risk of rainwater overwhelming the sewer system, causing flooding and increasing wastewater treatment costs.

The sewer cleansing and surveying work is being carried out during night shifts across designated sectors covering the route of the cycleway across the centre of the city. Data captured includes GPS locations for all points of interest in the drainage systems. The Lanes teams are also using the latest drainage survey software, called WinCan VX, to log data on the design, dimensions and

The new SuDs regulations for all new developments came into force in January 2019. Around 163,000 properties in Wales are at risk of surface water flooding. The Welsh Government says using SuDs will reduce flood damage by up to 30%.

The segregated cycleways in Cardiff city centre will form part of a wider initiative called the Cardiff Bay Cycle Way. The council is also working with the Welsh Government to introduce electric buses to reduce diesel pollution, which is known to be particularly bad for health. The city council says the new cycle way will help Cardiff comply with UK-wide clean air regulations, improve road safety, reduce reliance on car travel, encourage healthy living and create a more pleasant urban environment.

T 0800 526 488
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New data loggers detect water losses early

Thanks to systematic monitoring of the network with Herman Sewerin's SePem® data loggers, you can reliably identify existing leaks and catch new ones early on – much faster than with conventional methods.

In practice, many months often go by before the size of the damage is great enough to produce a flow volume that can clearly be identified as a leak. SEWERIN'S SePem® 100/150 can report the leak after just one night.

The SePem® 100 data loggers with integrated aerial are perfect for mobile use in the water pipe network. They are placed on fittings at measuring points in a specified section of network and record the level for a programmable period of time during the night. The measurement data is transmitted to the SePem® 01 Master by radio. Noticeably high measurement values indicating a leak are immediately flagged up by an audible signal. The data loggers are then successively inserted in other sections of the network until the whole network has been checked.

The SePem® 150 data loggers are designed for the stationary monitoring of water supply networks. They have an external aerial and are permanently fixed to fittings. The SePem® 150s record the minimum level every night for a programmable period of time. The locations are periodically patrolled, for instance daily or weekly, when the noise loggers send their data telegrams to the SePem® 01 Master.



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Industry breaking low carbon natural material



Within this issue of Sustainability today we have chosen Pollywood as the recipient of our Construction Material Company of the Year award for its revolutionary product Pollywood. Pollywood Ltd was established in 2011 by Steve Crighton. Steve developed Pollywood – an eco-friendly, low carbon natural material which will have an extensive range of structural and non-structural applications. Pollywood is light and versatile and boasts a better strength to weight ratio than steel.

"Our aim is to develop, patent and commercialise Steve's invention, and we've identified over 180 potential uses for Pollywood in 13 sectors of the economy, including producing strong and quickly erected buildings. Currently, we are focusing on creating Pollywood Utility Poles to replace harmful creosoted line poles, which are critical to the robustness of the UK electricity network," explained Quentin Kopp, Chairman.

Gaining rapid recognition from the industry, Pollywood has made strong relationships with organisations including Northern Power Grid the electricity distributor for the North East, Yorkshire and Northern Lincolnshire and the Energy Innovation Centre. Through ongoing development and support, Pollywood has been able to develop a new power pole – the Pollywood Utility Pole, producing a non-toxic and sustainable power pole. While Pollywood has a huge number of potential applications for a multitude of different industry sectors, Pollywood is focused upon developing the replacement for creosoted power line poles for the electricity distribution industry.

"We were approached by the Energy Innovation Centre," Quentin explained, "who work with the electricity, gas, water distribution companies and now Network

Rail to identify and develop innovations to solve any operational problems they have. We presented to their innovation panel and have been supported by Northern Powergrid, a Distribution Network Operator, to develop a replacement for the creosoted pole."

The benefits of using Pollywood as opposed to Creosoted poles are numerous: cutting manufacturing time; much lower lifetime costs; and producing low carbon emissions are only a few of the



Typical problem with pressure treated poles

potential capabilities of Pollywood. "As well as this, Pollywood boasts a number of advantages over other products which are competing to replace creosoted poles, including those made from Glass Reinforced Plastic (GRP) and steel. These are produced on high carbon routes which require large amounts of water." Quentin said. "Pollywood uses wood very efficiently, coming from FSC approved sources where at least two trees replace

each tree used. Our process also uses very little electricity and minimal quantities of water. NAREC have made a preliminary evaluation, which found that we had 10% of the impact of a conventional wood pole."

In terms of sustainability, Pollywood offers a range of eco-friendly properties. "The concept of Pollywood was founded on sustainability." Quentin explained that, "If all power poles were made from Pollywood, we could save 90,000 trees every year, because each tree can produce a number of poles where current methods produce one pole per tree," Quentin continued, "It also takes a lot less power to transport our materials. Based on an analysis of the CO2 and NOx produced to ship poles from Baltic area forests, it is almost 12 times more harmful to the atmosphere than shipping Pollywood's raw material from the same ports. This is a huge benefit to the environment, as well as offering savings in production costs."

The clear potential of Pollywood has been identified by multiple organisations within various industrial sectors. "As we have not yet secured our patent, we have been extremely careful to not raise expectations." Quentin said. "That being said, throughout the last two years we have reached the consciousness of an array of people who are aiming to lightweight their products with an eco-friendly product, including automotive and aerospace, who have asked us when Pollywood will be available?"

Pollywood's manufacturing process, enables the company to make to order and despatch within a week of ordering. This eliminates the need for Distribution Network Operators to store poles as contingency to enable them to respond to major weather events. Orders can be placed and responded to effectively with replacement poles in line with these sudden peaks of demand.

Pollywood is very customer focused and is set up on a set of beliefs of offering more than just a marketed product, but providing a personal solution made for its customers. "What we are offering is a made to order service. We work with clients as a partnership, developing the right solution for their needs. We are focused on how we can improve production for our clients and create value for everybody," Quentin stated.

A few notable recent developments for the company, Pollywood is being supported by the ERDF funded Sunderland University Sustainable Advanced Manufacturing Programme to produce a



full Finite Element Analysis. Pollywood also attended the Low Carbon Networks & Innovation Conference, which took place on 30–31 October. "One of the things I noticed while at the Low Carbon event was that there were no innovations other than Pollywood making a step change in carbon footprint," Quentin said. "Steve even challenged the event project managers to create an award at the next show for the best low carbon reduction solution."

Speaking with Quentin about how the company feels upon receiving our award, he told us that the company is "immensely proud and grateful for the recognition. I feel it just shows that even though we have not yet begun sales, that we are being recognised for our potential."

In terms of the immediate future for Pollywood Quentin expanded that "Currently we plan to deliver on our promise to the Energy Innovation Centre, to gain a good position to market the product after we demonstrate its capabilities and worth to the Industry. Utility pole safety standards are exacting, because they are climbed by employees and failure would expose them and the public to potentially fatal risk. We believe that working with our partners like Northern Powergrid, we can meet these high standards. This will enable us to provide performance metrics to meet the most demanding construction or other requirements.

For any more information, please see the details featured below.

Contact
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