



SUSTAINABILITY TODAY

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energy | water | waste | recycling | sustainability

Delta launches String PV Inverter M125HV Series



Delta, a global leader in power and thermal management solutions, announced today it is launching its new 1,500 Vdc string solar PV inverter M125HV series alongside a broad portfolio of energy-saving lithium-ion battery energy storage solutions at Intersolar Europe. The M125HV is designed to optimise the productivity of solar PV power plants as it features industry-leading peak efficiency up to

99%, 125kVA of maximum output power, active cooling, and an electromagnetic interference (EMI)-proof design.

The new M125HV series string inverter for commercial applications; Delta's new flagship inverter model, the 3-phase M125HV series, offers a maximum of 125kVA output power, active cooling, and industry-leading peak

efficiencies of up to 99%. These high-power and high-efficiency string inverters are ideal for maximizing the return on investment from large commercial and ground-mounted photovoltaic plants with megawatt-sized solar arrays. Key features include:

- ▼ 1,500 Vdc input voltage
- ▼ Up to 20 strings via fused inputs

- ▼ Electrolytic-capacitor-free for a service life of 20+ years
- ▼ Remote control and monitoring options
- ▼ Die-cast IP65-rated aluminum chassis and wiring box
- ▼ All-in-one design with built-in DC switches and AC and DC surge protection

www.delta-emea.com

Recycled Plastic Innovation



Omnia (CS) Ltd have been awarded an Innovate UK IDP14 grant to further develop a unique lightweight sandwich panel core material utilising recycled plastics and polymers called LiStP.

core material for use in automotive, commercial vehicle and the built environment sectors.

The plastic waste is UK sourced and the project will develop a continuous process for UK manufacture of the multi-application, high compressive resistant, thermoplastic sandwich panel core material. This business model can then be licensed internationally.

"Further to a successful IDP12 project we have built a strong team to ensure end to end supply chain support. We not only want to maximise the use of redundant plastic waste but to lightweight vehicles in support of the Governments zero emission goals," stated Jonathan Richards from Omnia.

For further information contact Dr John Weightman: john@foresight-innovations.com.

Together with their consortium partners Foresight Innovations Ltd (commercialisation partner), Tata Technologies (computer aided engineering partner), National Composite Centre (process partner), Exeter University and Polymer Industries (recyclate and circular economy partners), the 18 month £1M project will further develop a unique lightweight

Flow measurement technologies



Available to download from OMEGA's website is the company's flow measurement brochure that includes details of products, together with selection guides.

Products featured include the FMG600 Series of electromagnetic flowmeters, the FDT-40E Series of clamp-on ultrasonic energy flowmeters, and the FMA-LP2600A low pressure drop gas mass flow controllers for clean gases.

In addition, there is an article called 'Applying ultrasonic level sensors in ultrapure water tanks': www.omega.com/technical-learning/ultrasonic-

level-sensors-in-ultrapure-water-tanks.html

Since its inception in 1962, OMEGA has grown from manufacturing a single product line of thermocouples to an established global leader in the technical marketplace, offering more than 100,000 state-of-the-art products for measurement and control of temperature, humidity, pressure, strain, force, flow, level, pH, conductivity and automation. OMEGA also provides customers with a complete line of data acquisition, electric heating and custom engineered products.

Freephone Sales 0800 488 488 (UK ONLY)
T +44 (0)161 777 6611
sales@omega.co.uk
www.omega.co.uk/about/register/UK_Flow_Register.html

DRAVO'S NEW RANGE OF HIGH EFFICIENCY HEATERS

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Rhosili Road, Northampton, NN4 7LZ
Tel: 01604 707022
www.dravo.co.uk - sales@dravo.co.uk



Think you can't evaporate with low temperatures? Think again...

When treating wastewater, sludge and digestate, it can often be beneficial to also reduce the volume of material or increase the solids content: either to reduce the volume of material to cut storage, handling and disposal costs; or to produce material with distinct properties. Traditionally drying or evaporation has been used, but these methods require large amounts of heat, and therefore energy.

Energy efficient evaporation
For many types of effluent, low temperature evaporation can be a very energy efficient alternative method of water removal. Where process temperatures are 85-90 deg. C, low temperature evaporation combines a vacuum to reduce the boiling point of the liquid to be removed, with traditional evaporators based on heat exchanger technology. Where the temperature of the effluent or digestate falls below the necessary temperature, it can often be increased via heat exchangers, utilising surplus heat from heaters and CHP engines.

Heat exchangers from HRS are capable of recovering heat from other sources, such as



the heat left from the CHP engine or from pasteurisation, and using this as the basis for an evaporation system can further improve overall process efficiency. Additionally, using a vacuum in the system to reduce the boiling point reduces the amount of energy required even further.

Combining systems into a multiple-effect evaporator allows larger quantities of water to be removed for the same initial heat input. Each evaporator is held at a lower pressure than the previous one with the vapour boiled off in one vessel heating the next, so only the first vessel requires an external source of heat, which can be taken from another

process elsewhere or generated specifically.

Selecting the right heat exchanger
The type of heat exchanger used will depend on the products being treated. HRS produces a number of suitable models, including the K Series for materials such as wastewater, and the Unicus Series (which contains a self-cleaning scraper mechanism) for thicker effluents and digestate. These heat exchanger models can also be used in mechanical vapour recompression (MVR) or thermal vapour recompression (TVR) evaporation systems.

The ultimate use of HRS heat exchangers for low temperature evaporation can be found in the HRS Digestate Concentration System (DCS), which uses multiple evaporation effects to increase the solids in liquid digestate three- to four-fold. Whether you want to minimise effluent and digestate volumes using the DCS, or simply reduce them in a more energy efficient way, HRS Heat Exchangers has a low temperature evaporation solution to achieve the required results.

T 01923 232335
www.hrs-heatexchangers.com

Evolving the utilities industry

Utility Week Live together with edie Live represents the UK's leading exhibition examining new technologies and product solutions that are transforming and disrupting the utilities industry. With a focus on interactive seminars, talks and Think Tank inspired interactions, the event aims to create solutions and exhibit key products that turn disruption and turbulence in the utilities industry into 'thriving business as usual' in a brave new digital world.

This year's event, held on the 22-23 May was a resounding success with 3,000+ utilities professionals, 500+ product and service solutions along with 200+ speakers in attendance; and next year's exhibition promises to be even bigger.

Thanks to a new venue hall at the NEC in Birmingham (Number 3) and with an improved floorplan, Utility Week Live 2019 on the 21-22 May will have new show features, an innovative show theme, along with ambitious plans for the scope and scale of the show.



This is our pick of the best exhibitors from this year's show, listed here in alphabetical order: Barley Communications, Cloud KB, Gallagher Security, Helistrat, Monarch Partnership, Radio Detection, The Energy Innovation Centre and Wearable Tech. Further details can be found on this page and a half.

If you're interested in attending next year's event then head on over to the website listed below or alternatively if you'd like to speak to someone regarding exhibiting your service or products to the thousands of visitors call the number below.

T +44 (0)1342 332097
www.utilityweeklive.co.uk

Cloud KB launches innovative commissioning application for Smart Meter installation

Energy sector software specialists Cloud KB has extended its MATS (Meter Asset Tracking) suite of systems for meter operators by releasing an application for Android devices that combines real-time job validation with an ability to commission SMETS2 devices.

The application has two key features that makes it truly innovative. Firstly, it validates removed and installed meters as the work is in progress. Secondly, it connects to the DCC for SMETS2 commissioning via whichever DCC Adapter the meter operator's supplier is working with.

And, of course, the application may be used for SMETS1 and non-smart meters as well.

Cloud KB's CEO, Kevin Bird, says the new application will dramatically improve the quality of worksheets returned from the field. "Armed with Cloud KB's new commissioning application, meter operators can reduce exceptions and inventory mismatch, increase dataflow accuracy and job turnaround, and be ready for SMETS2."



Summary

Cloud KB has been delivering software solutions to the energy sector since 2010. This latest application extends the MATS suite to provide full functionality from inventory management to job completion and dataflow creation.

Contact

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sales@cloudkb.co.uk
www.cloudkb.co.uk

The Energy Innovation Centre (EIC)

The Energy Innovation Centre (EIC) is an independent, globally established not-for-profit organisation that provides an established route to market for innovative ideas and technologies. Working in partnership with eight electricity, gas and water distribution partners and the Energy Systems Catapult, they bridge the gap between industry and SME innovators – creating access to those difficult to reach areas such as: funding, projects, people, and ideas, allowing greater exploration of operational challenges and the discovery of innovative new ways of working that deliver tangible savings to consumers.

The EIC has a vision which reaches far beyond the creation of new or improved utility systems and is passionate about driving social progress, improving the quality of people's lives and securing a safe, affordable and sustainable future



for future generations. Delivering on this vision in 2017/18 has enabled the EIC to broker energy investments to the value of approximately £4.8m and to generate 34 new innovation projects: 14 electricity, 17 gas and 3 cross-utility.

T 0151 348 8040
enquiries@energyinnovationcentre.com
www.energyinnovationcentre.com

Perimeter protection enters the boardroom



Water regulator, Ofwat, published its final methodology recently for PR19, the forthcoming price review, which sets out its

expectations and requirements for water companies preparing their 2020-25 business plans.

Its assessments challenge the water companies to 'step up' on great customer service, long-term resilience, affordability and innovation.

Also, for the first time, PR19 and the methodology will directly challenge and force water companies to regard reducing its vulnerability as a crucial investment.

Too often in the past, organisations have seen security purely as a measure for protecting their facilities and more recently on data and software, but rarely on people.

Done well, security should be about appropriate risk management against both cyber and terror as well

as more traditional threats that actually provides the opportunity to improve customer service, increase business efficiency and reduce costs.

Gallagher Security has found that perimeter protection is best planned as part of an integrated solution, which includes physical, electronic and human measures.

Having layers of security from the outside in allows security personnel to respond to any attempted security breach at each layer.

To find out more about protecting against vulnerabilities through an integrated security solution visit security.gallagher.com

Contact

T 02476 641234
Info.eu@security.gallagher.com
<http://Security.gallagher.com>



Radiodetection's range of Network Rail approved products



With more than 45 years of experience, Radiodetection is a world leader in the design and development of equipment to locate buried utilities.

Radiodetection's equipment is used by utility companies to help install, protect and maintain their infrastructure networks.

Complexity of the rail network

Subsurface utility infrastructures are growing denser and more complex, with areas around railways having particular challenges. An increasing number of electrified segments, both above and below ground, make detection within these highly congested areas difficult, especially when faced with the usual time constraints.

Network Rail now accepts Radiodetection Cable Locators and Transmitters

All Radiodetection C.A.T4®, RD7100® and RD8100® cable and pipe locators, as well as the Genny4® and Tx range of Transmitters, are now accepted for use on the national rail infrastructure in Great Britain, managed by Network Rail. The products have all passed Network Rail's stringent 2017 standards for use on the rail network, with comprehensive tests covering safety, electromagnetic compatibility (EMC) and exposure to electromagnetic fields (EMF).

To discover our Network Rail accepted product range visit www.radiodetection.com

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SPX

Don't leave your security matters in the dark

To shed some light on how a Gallagher security solution can help call 02476 641234.

security.gallagher.com

Simplifying sustainability for your business



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Our in-house consultants guide organisations at every stage of the sustainability journey. You have a partner from initial engagement and review through to Board-approved carbon reduction initiatives and ongoing monitoring and targeting. By working with us to produce

embedded Sustainability Plans, companies proactively improve their performance while showcasing success to stakeholders and customers.

Our policy experts provide leadership in designing and implementing industry-specific strategies across the sustainability spectrum, incl.: Travel, Waste Management, engagement, and Sustainable and Ethical Procurement plans. As an Associate Partner of The Planet Mark™, we certify our clients' success with an internationally-recognised sustainability accreditation.

Contact
T 0208 835 3535
www.monarchpartnership.co.uk

Wearable Tech

We are all familiar with the way that the internet has changed the way we communicate, work, socialise and play over the last two decades. The internet is now generating the beginnings of a second seismic shift – the explosion of the Internet of Things ("IoT") which will fundamentally change your workplace as well as your home. Just as you are connecting more and more "things" to make your home connected, and your car connected, so has begun the connection of everything in the



industrial workplace so that it can be monitored and regulated – pulled by two key drivers – the desire to increase productivity and improve health and safety. Wearable Technologies Limited is a UK company which has developed an end to end connected worker platform aimed at large industrial enterprises wishing to improve worker safety.

It has competencies in embedded washable electronics, garment manufacture, web, cloud and application software development so as to put in a position to deliver a flexible device manufacturer agnostic platform which can be integrated into enterprise customer's existing business and processes, using your existing sensors and devices where required.

T +44 (0)1455 563000
www.wearable.technology

Helistrat



Helistrat is one of the UK's leading environmental consultancies and implementation managers, helping numerous blue-chip brands to benefit from more sustainable and circular business models. Unlike conventional waste management contractors, who build a proposition around their infrastructure of vehicles, plant and labour, we develop our solutions around your business ensuring they optimise environmental, commercial and social value.

Sustainability is at the heart of everything we do, our consultative approach analyses the complete waste cycle – from product production to disposal. This

ensures your business is 'future-proofed', benefiting from optimum performance throughout your supply chain. Imagine a reduction in packaging, shipping and storage costs and the resulting efficiencies and cost-savings they could deliver.

We also understand the need to quantify success and demonstrate return on investment. Our data analysis & reporting gives you full visibility of how efficiently your services and resources are being managed, with quick, interactive, and real-time reporting also available. We also continually interrogate this data looking for valuable insights to drive further cost savings and environmental improvements.

For more information please email enquiries@helistrat.co.uk give us a call on 0023 9312 1314 or visit our website www.helistrat.co.uk

Curiosity the key to successful sustainability communications

Barley Communications ran one of the busiest advice clinics at this year's edie Live, with over 30 organisations booking one-to-one sessions with the agency's experts on behaviour change and communications. That's quite a feat for a relative new kid on the block.

From its beginnings in 2016, Barley has rapidly established an award-winning sustainability communications practice.

They've been behind extensive media coverage of high profile campaigns including Hubbub's Square Mile Challenge to recycle coffee cups and Borough Market's

launch of their drinking fountains. This year Barley has gone on to win new briefs for LWARB, City of London Corporation and NLWA to promote waste reduction and recycling campaigns across London. Meanwhile their work with Hubbub has seen them raise the profile of initiatives to tackle litter and food waste from Kent and East Anglia to Oldham and Leeds.

Barley Partner Sam Williams puts their success down to curiosity, "Our wonderful team of highly experienced PR professionals is united by a fascination with human behaviour. Once we've defined the audience for our campaigns we like to really



understand what makes them tick – what are their interests, motivations and concerns? That way we can share these important messages around sustainable lifestyle choices in a way that will resonate and inspire change."

www.barleycommunications.co.uk

Wind Energy News



Evaluating the structural integrity of assets within the Wind Energy, Infrastructure and Oil & Gas Sectors

MISTRAS is a leading "one source" global provider of technology-enabled asset protection solutions used to evaluate the structural integrity of critical energy, industrial and public infrastructure. Our services and solutions are delivered to provide customers the ability to extend the useful life of their assets, improve productivity & profitability, comply with government safety and environmental regulations and enhance risk management operational decisions.

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Case Studies

LinkedIn

Local company are now the largest environmental drilling company in the UK

Dragon Drilling are a local company who are now the largest environmental drilling company in the UK.

They specialise in installing water and ground source heating boreholes for all domestic and commercial applications from private home owners, farmers, holiday parks, social housing companies as well as self-builders and large building companies.

Chairman Geoff Ellison explained, "This year's drought has brought an unprecedented number of calls from all over the UK from people and organisations who need their own private water supply. Many calls were from people who had previously considered having a borehole to replace their well, spring or other private water supply but limped through the season and not had the issues with no water that they were suddenly faced with this year."

"We also had calls from private individuals and businesses who have decided that they need to look ahead and harness their own resources. High water users such as dairy farmers are increasingly eager to have their own supply.

Being pro-active rather than reactive is definitely the way forward for those who have an unreliable water supply.

Grants for farmers have been available via the Farm Connect Grant on the Welsh Government Website and a number of farmers have made use of that funding in recently completed projects."



Heating your property is also something that Dragon can help with. They drill boreholes for Ground Source Heating – a renewable energy with an excellent payback from the Government's Renewable Heat Incentive (RHI) for both domestic and commercial applications.

"Ground Source Heating is not as popular as biomass, solar or wind power but is an increasingly used replacement system when homes and businesses are looking to divert away from fossil fuels. It is a sustainable use of the earth's natural resources which can provide heating as well as cooling for buildings," explains Andrea Ellison, one of Dragons Directors and also an executive officer of the industries' trade body, the Ground Source Heat Pump Association.

"A few metres below the ground's surface, the temperature is constant (approximately 110C) all year round. A ground source borehole makes use of the earth's constant temperature using a heat pump which converts and transfers energy for hot water and heating using radiators or under floor heating systems. There is no need for large amounts of land as each borehole is only about 6 inches in diameter.

The cost of installing a ground source heating system is variable but in most cases the RHI should reimburse that initial financial outlay. Ground source heating systems work most efficiently when used in under floor systems, this makes installation in new build properties particularly attractive. However, ground source heat pumps can also be used in existing properties using radiators or retro-fitted beneath

the floor or even in the wall. Continued growth has resulted in Dragon expanding their office facilities at their Graig Lelo site near Corwen, to cater for new members of staff, which now number over 30. They continue to sponsor and support local organisations such as Ruthin Town Football Club, Bala Rugby Club and the Mill Nursery.

For more information call Dragon Drilling (Water & Energy) Ltd on 01824 707777 or visit their website at www.dragondrilling.co.uk or visit our stand at the Flint & Denbigh Show.



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