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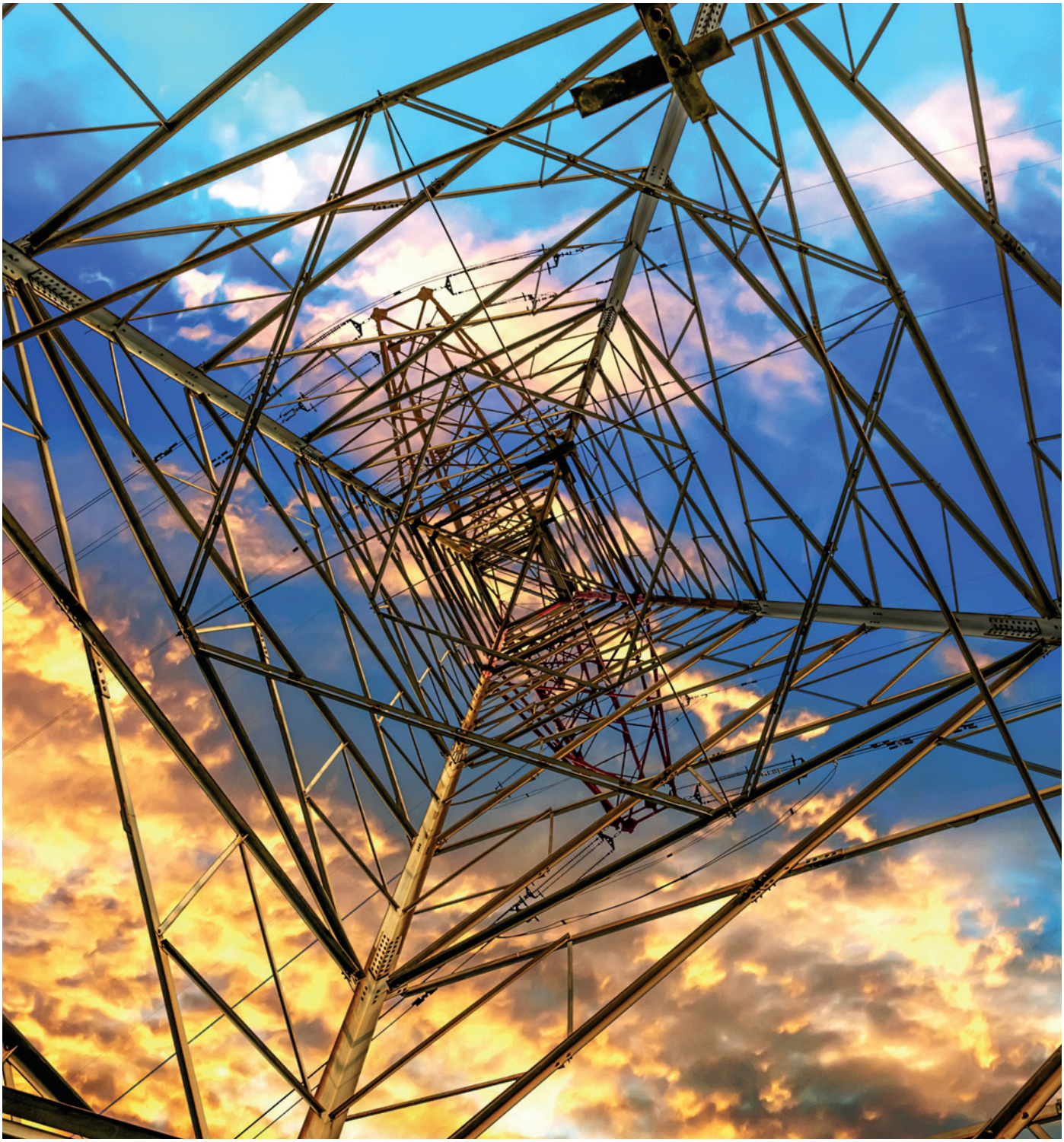

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RIELLO ELETTRONICA riello ups

EDITOR: Elinore Mackay 020 8319 1807
elinorem@electricalreview.co.uk

PRODUCTION MANAGER
Alex Gold 020 7933 8999
alexg@sjpbusinessmedia.com

SALES MANAGER
Sunny Nehru 020 7933 8974
sunnyn@sjpbusinessmedia.com

ACCOUNT MANAGER
Amanda McCreddie 020 7933 8972
Amanda@electricalreview.co.uk

PUBLISHER
Wayne Darroch

PRINTING BY
Buxton

Paid subscription enquiries
Tel: +44 (0) 1635 879361
electricalreview@circdata.com
SJP Business Media
Unit K, Venture House, Bone Lane,
Newbury, RG14 5SH

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New President for the ECA

Electrical engineer Malcolm Crofts of DH Crofts Ltd has been elected ECA President. During a long career at Crofts, he has held a variety of roles at the company becoming managing director in 2000.

Crofts began his career as an apprentice at Crawley College in West Sussex, and worked as an electrical engineer for 15 years before moving up to run what has become a growing electrical engineering business.

Commenting on his appointment, Crofts said: "As someone who is passionate about improving the engineering and electrotechnical services sector, I look forward to working with ECA's staff and members, our partners, and Government, to tackle these issues head-on. I will also look to further raise the positive profile of our industry."

He takes over the Presidency from Mike Smith of SES Engineering Services, who has played a key role in bringing together many of the industry's bodies. This included a number of leading electrotechnical bodies who are now sharing Rotherwick House, London with ECA.

ECA CEO Steve Bratt added: "We are very pleased indeed that Malcolm Crofts, a great advocate of our industry, has become ECA's new president. The ECA team look forward to working with Malcolm to further enhance the status of ECA, and the wider engineering services sector.

"On behalf of ECA's staff and members, we are very grateful to Mike Smith for his active support and engagement with the issues facing the industry, and his achievements over the past year as ECA President."

Accidents at work are no longer just waiting to happen

The 2017 accident incidence rate (AIR) for reportable accidents is less than 10% of what it was in 2001, the latest JIB Survey of Accidents at Work has revealed. This impressive statistic highlights the continuing commitment from electrical contractors to reduce accidents in the workplace, following the JIB, ECA and Unite the Union's major industry-wide 'ZAP' safety initiative which launched 17 years ago.

JIB and ECA members contributed to the survey, which covered a sample size of almost 12,000 operatives. Of the 17 reportable injuries, there were no fatalities and none of the injuries were due to contact with electricity. However, 11 were the result of falls or trips at height or at ground level.

According to Paul Reeve, ECA's Director responsible for health and safety: "These excellent safety statistics are the lowest ever recorded in our industry. Even so, it's clear that accidents linked to work at height and housekeeping remain the main site safety issues.

"ECA, working with industry partners and Unite, is currently chairing a working group (part of HSE's recently-constituted 'Managing Risk Well' Group) that aims to reinvigorate concise, good practice advice on work at height. We aim to produce practical outputs that will help designers, clients, managers, supervisors and operatives to tackle the causes of this persistent category of site accident."

The JIB is an impartial organisation that sets the standards for employment, welfare, grading and apprentice training in the electrical contracting industry. Our work is targeted at improving the industry, its status and productivity.

Our membership comprises the UK's largest electrical contractors to the SMEs who make up the bulk of our members. Together, they benefit from a 'one-stop-shop' which takes care of employment matters, a comprehensive health and benefits scheme, and unique access to markets other contractors cannot reach.

In setting the standards for training, competence and terms and conditions of employment, the JIB has helped its members to maintain stability in the workplace and offer employment conditions that attract, train and motivate the best operatives.

To read the survey results in full, visit the website at: www.jib.org.uk/jib-accident-survey

Cheap electrical jobs are a false economy

It is estimated that 16 million consumers lose an average £750 after fixing dodgy electrical work. And the charity Electrical Safety First has just launched a major consumer campaign to highlight the need for people to use registered electricians – with research showing putting cash before competence is a false economy. The findings show that a staggering £2.4 billion has been spent correcting substandard work across the UK.

Research by Electrical Safety First found a disturbing number of consumers would seriously consider hiring an unregistered electrician for electrical work such as rewiring a house, or installing a new consumer unit, as if it saved money. Almost 1 in 3 (30%) admitted they'd choose an unregistered electrician for a cash saving.

When asked how significant the saving would have to be for them to use an unregistered professional, more than a third (36%) of respondents said they'd be happy with an average saving of £50. More alarmingly, some would be prepared to risk the electrical safety of their homes for a saving of £5 or less. Yet these relatively small savings are completely overshadowed when compared to the price of correcting electrical work. Electrical Safety First found consumers can potentially pay out as much as fifteen times the amount they had initially hoped to save.

Nearly a third of UK adults (31%), the equivalent of 16.4 million people, have had to fix poor quality electrical work on at least one or more occasion, with an average repair bill of £750. The charity estimates that around £2.4 billion has been spent correcting substandard work across the UK.

"We regularly receive queries from the public about how and where to find an electrician to carry out work in the home", explained Martyn Allen, Technical Director at Electrical Safety First. "We recommend all electrical work is carried out by a registered electrician who will have the knowledge, skills and experience necessary to ensure work is undertaken safely and effectively. To do that, all they have to do is visit: https://www.electricalsafetyfirst.org.uk/find-an-electrician/choosing-an-electrician/."

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How digitalisation of the electric motor will impact on maintenance

An information paper from WEG covers the growth in influence of IIOT and, with the digitalisation of the electric motor, the impact this could have on the maintenance sector of UK industry. The WEG paper entitled: How digitalisation transforms the role of the maintenance professional which is available now, free to download at www.wegms.com.

The easy-to-read paper covers the rising trend of the smart factory, its global potential and the use of the Industrial Internet of Things (IIoT) to connect sensors and other devices to collect real-time data to provide transparency. It looks at one of the major areas impacted by this trend, predictive maintenance, where IIoT and big data analytics are being used to increase production efficiency and reduce downtime and it covers how maintenance jobs will evolve.

The paper addresses the question of 'Will you be home for dinner' by looking at the current cost to industries of unplanned downtime and how by using IIOT technology it is possible to mitigate against the business impact of breakdowns and develop the role of those working on maintenance teams.

Siemens to expand its software framework by acquisition

Siemens is acquiring J2 Innovations (J2), a California-based software framework provider for building automation and IoT, headquartered near Los Angeles.

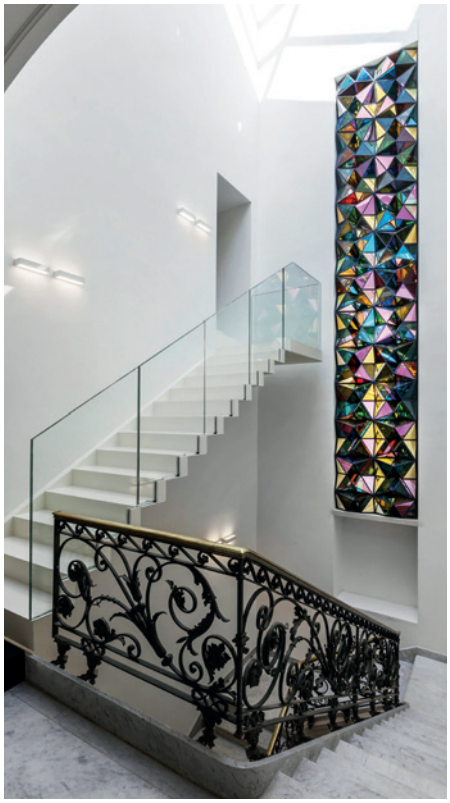
The company has been a successful player in the Internet-of-Things (IoT) software business for 10 years, building a reputation in the US and internationally with its FIN (Fluid INtegration) Framework technology. Both parties have agreed not to disclose financial details and the transaction is expected to close by the end of May 2018.

"J2 Innovations stands for speed, agility and a state-of-the-art software framework that made the company successful," said Uwe Frank, CEO of Siemens Building Technologies Control Products and Systems. "This move complements our growing digital portfolio and will help us to become the leading driver of digital transformation by offering even better IoT solutions to our customers."

Through the acquisition the two parties are planning to further expand J2's OEM business globally, with new hires in the US and new offices in Europe and Asia. To maintain its agility, J2 Innovations will be managed as an independent legal entity and wholly-owned subsidiary of Siemens Industry, Inc.

"Together with a strong partner like Siemens, we are well equipped and excited to take J2 and the FIN Framework to the next level," said Jason Briggs, President and CEO of J2 Innovations.

FIN is a next-generation software framework to operate, monitor and control equipment and automation systems for small to large buildings. It works as seamlessly on a tablet and a smartphone as it does on a desktop and is deployable in embedded systems, servers and the cloud.



Siemens Building Technologies is heavily investing in secure digital products and solutions to drive the digital transformation of buildings and the building industry, with 80,000 connected buildings and 400 million data values analysed per day.

"It takes 20 years to build a **reputation** and 5 minutes to ruin it. If you think about that, you'll do things differently."

Warren Buffett

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GOSSAGE

OLD KING COAL

I am enormously impressed by the efforts of energy and climate change Minister Claire Perry- recently elevated to attend Conservative Cabinet meetings – to try to halt the burning of coal. She has created a new international body called the Powering Past Coal Alliance, membership of which by a Government commits it to ensuring that after 2025, there will be no further coal-fired power stations built in the UK.

To date, she has been joined by the Canadian Government. But sadly for her, not that many others. Good news however regarding another possible use for the brown stuff. A new company from Germany's biggest lignite mining region, North Rhine-Westphalia, has developed a procedure that turns the brown coal traditionally used as a fossil fuel into a high-output fertiliser for plants. While conventional humus production - where organic matter slowly decays into fertile soil - may take several years, the company Novihum apparently converts lignite into humus granulate within just a few hours.

All this is a far cry from the position of 35 years ago. I have before me a copy of the Daily Telegraph of Jun22 1983. It includes a major back page story about the then epicentre of UK manufacturing, Imperial Chemical Industries, concerning its decision to convert yet another factory (the Winnington soda ash works in Cheshire) to running entirely on coal. It followed a similar fuel switch at the nearby works at Lostock. It was stressed that this had been entirely prompted by receiving a grant for 25% of the costs of transferring to coal. Who funded this? Why, the Conservative Government, in power at the time.

THE PLAY IS THE THING

Having trouble obtaining overt enthusiasm for your proposed new power station? Then take a leaf out of the portfolio of the Entergy company. It has been seeking to build a new gas fired power plant in deepest Louisiana.

Following conventional practice, the relevant local government authority- in this case the New Orleans city council- arranged public hearings for local people to make their views known about the desirability (or otherwise) of this new power plant. It just so happened that the rooms chosen for these hearings were always rather small. It is now alleged that Entergy arranged for a cohort of local actors to attend early for each meeting, to show support for the gas-fired power plant.

An investigative news site called The Lens has spoken to several professional actors. Each of whom say they were paid a minimum of $60 per head - with $200 given for a speaking role - to attend a public hearing. They were instructed to show loud support for Entergy's power plant proposal, and to express vehement disagreement with anybody who questioned its desirability.

Following these hearings, the new plant was duly approved this March.

In response, a coalition of green groups has filed a law suit to reverse the plant's approval, claiming that community members opposed to the plant were turned away from the meetings due to lack of space. Meanwhile the various paid supporters of the plant were allowed in early to the hearings. I am sure it is entirely coincidental that the plant is due to be built on an acknowledged floodplain in a primarily Vietnamese, Black and Latino neighbourhood.

FOR PFI, NOW READ SOLAR

Barclays Bank has become embroiled in a fresh mis-selling scandal, after the Financial Ombudsman Service found evidence that some householders were misled into taking out loans to put solar panels on their roofs.

The ombudsman has received about 2,000 complaints in the past year from households who were typically told the panels would "pay for themselves" and could cut their bills. In fact, the loan repayments often exceeded the income and savings they made from the panels.

Investigations had found "evidence of pressure sales techniques, and misleading sales literature or representations by the salesperson". Three-quarters of the complaints related to panels sold on credit from three lenders: Barclays Partner Finance, part of Barclays Bank; Shawbrook Bank, a smaller lender; and Creation Consumer Finance, part of BNP Paribas.

Although the sales were made by solar companies, consumer credit laws put the banks that provided the loans on the hook for any alleged mis-selling. Typical finance agreements were for £14,000.

Many complaints are still being processed. But the ombudsman has confirmed that its adjudicators, who give the initial verdict on cases, have upheld complaints against all three lenders. The exact number has not been disclosed.

The ombudsman said it was "telling the credit providers involved to put things right" and was "beginning to see many consumers receiving offers from the lenders to settle these complaints". Many of those to whom panels were allegedly mis-sold were either "retired or approaching retirement" and some were "left in financial difficulty", the financial ombudsman said. One customer was left £1,000 a year worse off.

About 900,000 UK households have installed rooftop solar panels since 2010 when the government introduced subsidies to support their deployment to help meet renewable energy targets.

Solar panel companies offered various financial models, but a common method was to encourage households to buy the panels on credit from a partner lender. Households were often told that the subsidy income, combined with the savings from buying less electricity, would more than cover the loan repayments. In certain cases, this proved to be false.

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Smart grid learning & development

There is no denying that the power grid is undergoing the most significant change at the most rapid rate since its inception. The convergence of digital technology with the electrical grid is presenting previously unimagined opportunity for grid operators, new market players, consumers and society as a whole. However, with this change comes significant challenges around upskilling existing technical teams to drive implementation at the speed that regulators demand, as well as attracting and retaining new digitally savvy talent to inject the fresh thinking required to drive the smooth and cost-effective integration of new technologies into legacy infrastructure.

At Phoenix Forums we facilitate rapid learning and development for smart grid technical teams. Our programmes of content-heavy implementation focused conferences and seminars provide the in-depth insights that smart grid teams need to drive the implementation, operation and maintenance of new technologies. Time and again we see individual specialists and cross-functional teams come to our forums with a combination of excitement and trepidation at the implementation task at hand and leave with exponentially greater insights and an awareness that empowers them to drive investment decisions and implementation action with greater confidence and ease.

These are peer-to-peer exchanges. They are immersive and focused toward progressive outcomes that affect rapid change and embed new ways of working, through the perfect alignment of people, processes and new technologies. We regularly hear success stories around how our forums have helped participants sharpen their business plans, speed up board approval, secure new resource, and propel their teams into action at a rate previously unimagined.

We believe this magic happens due to the perfect alignment of our intentions as a learning provider with that of our participants' as pioneering change-makers. Our formula is simple and yet highly impactful. The combination of our objective audience research, in-depth technical content, end-user driven speaker selection, and well facilitated networking, provides a buzzing environment where participants are stimulated to think deeply and laterally, to open up fully and express their real-world issues, to challenge the technology innovators and the status quo, and to be receptive to new partnerships and alliances that will compound their efforts and drive deployment at the speed of the digital age.

We turn the learning formula on its head. In our world the participant is king. Perhaps the most significant tool we have in shaping our events to so closely meet participants' learning needs in such a timely and mission critical way, is our programme research methodology. Based primarily on depth interviewing we uncover both the seen facts, figures, issues and challenges, as well as feel the emotive blocks and hurdles around participants' perceptions of their strengths, weaknesses, opportunities and threats, both on an individual and organisational level. Our focus is firmly on the next 12 months. We understand the pressures that smart grid teams face today and appreciate that these pressures are only set to intensify in future. Our starting point when shaping a new programme is always the question: what do our participants need to do differently today to drive exponential results in the next 12 months?

A case in point is our IEC 61850 Global 2018 programme. Now in its 5th edition, this end-user driven IEC 61850 forum is like no other gathering of IEC 61850 experts in the industry. Chaired by Christoph Brunner, Convenor of TC57 WG10, this forum complements the working group activity, interoperability testing gatherings, and supplier-led training programmes.

At this forum the end-user is placed centre stage and their voice is heard loud and clear. Through a series of implementation focused case-studies we bring clarity to the confusion surrounding the basic building blocks of this complex standard,

challenge standardisation activity and influence the direction of new product development activity, to ensure a three-pronged alignment of standards with products and utility needs.

Utilities and suppliers come together in equal numbers and the content-driven programme as well as the networking activities provides a level of insight, mutual understanding and appreciation that is bonding and leads to more rapid new product development and field deployment than previously experienced in this niche.

These programmes are immersive, often exhaustive, and always outcomes focused. Participants tell us that the most useful take-aways include:

1. Deep technical insights – the implementation focused sessions provide a depth of technical information sharing, that allow participants to clearly foresee just how technology choices will impact on implementation and operational efficiency, well in advance of investment decisions being made and deployment action being taken

2. Extensive benchmarking – hearing from 14-20 utilities over a two-day timescale provides an immersive experience with a depth and breadth of real-world experiences that significantly enhance business plans, bringing new concepts to life and driving board approval with speed

3. Influencing standardisation – when direct working group participation is not an option our programmes provide the perfect opportunity to have the end-user voice heard and their influence felt through an indirect but highly effective channel for driving standardisation progress in favour of end-user needs

4. Influencing technology innovation – far from simply being on the receiving end of technology innovations, our forums provide the opportunity for end-users to influence the direction of new product development and ensure their ongoing fit with real-life techno-commercial needs

5. Forming partnerships and alliances – through a series of facilitated networking activities we enable participants to get to know potential partners in great depth and on multiple levels, providing a sound spring board for post-event relationship building

THE PARTICIPANTS' VIEWS:

"The conference has really expanded my knowledge of IEC 61850 which will allow me to inform my colleagues and assist our DNO/DSO based approach to outlining our smart network strategy." Sean Stack, Substation Standard Engineer at UK Power Networks

"IEC 61850 Europe helped me understand all the elements of 61850 across the board. The workshop was extremely useful on a technical level with the conference filling in the gaps on how to use it." Andy Ward, Technology Projects Manager at Northern Power Grid

"A very useful time, open exchange of ideas and information. Excellent real-world presentations." Allan Wales, Distribution Systems Specialist at SP Energy Networks says

HOW TO GET INVOLVED:

For this year's IEC 61850 Global 2018 forum we are inviting a more global participation, through the speaker line-up, through audience participation, and in the exhibition area. To find out how you can be involved in this or any other Phoenix Forums smart grid technical forum, contact: Mandana White, Director at Phoenix Forums, on mandana@phoenix-forums.com

Phoenix FORUMS

BRIGHTER FUTURE TODAY

Compliance and Emergency Lighting

In 2005 The Regulatory Reform (Fire Safety) Order was introduced in England and Wales as part of government legislation, Peter Adams, Support Services Manager at Mackwell explains what it means to the electrotechnical sector.

The Regulatory Reform (Fire Safety) dictates that, to ensure the safety of occupants, tenants or workers within commercial premises, a responsible person or persons is to be appointed to carry out initial and on-going regular risk assessments. Requirements set out in the order include measures for the provision of safe means of escape. The order also states that for premises including emergency routes and exits, that these should be correctly signed. If the routes and exits are determined as requiring illumination, they must be provided with emergency lighting of adequate intensity. This will ensure safety of all occupants in the case of failure of their normal lighting supply. Other countries including Scotland, Ireland as well as countries across Europe have their own legislation as do various Countries across Europe and the rest of the world.

LEGAL REQUIREMENT

Together with fire alarms, smoke alarms and sprinkler systems, emergency lighting is a legal requirement once the risk assessment deems that the provision of it is necessary. Failure to provide it may eventually result in prosecution including fines and even custodial sentences. For this reason, it is not difficult to appreciate how the design, implementation and on-going compliance of an emergency lighting scheme may be considered an unenviable task resulting in a heavy burden for the appointed 'responsible' or 'competent' person or persons as described in the RRO (Regulatory Reform Order).

Fortunately, there are numerous legislative bodies whose role amongst other things is to provide advice, guidance and safety recommendations on the design and provision of reliable and compliant emergency lighting.

These recommendations are detailed in documents such as British Standards (BS) or European Norms (EN or Norme Européenne). Indeed, many of these standards are harmonised across Europe and include essential material to ensure conformance to legislation.

THE STANDARDS

The catalogue of standards or harmonised standards which may impact emergency lighting are too numerous to detail in this article but the list below provides more than a good starting point for designers, specifiers, consultants, electrical contractors and installers alike.

BS 5266-1:2016 – Emergency lighting code of practice (UK only)
Part of BS 5266, this element provides guidance on areas that should be considered in the design, installation and wiring of emergency lighting systems, in order to ensure the safety of people in commercial and non-residential premises in the event of a failure of the normal lighting supply. BS 5266 should be referred to in conjunction with the following standards:

BS EN 50172 (BS 5266-8) – Emergency escape lighting systems
This standard specifies the provision of illumination of escape routes in the event of failure of the normal supply. It also specifies the minimum provision of emergency lighting based on the application of the premises.

BS EN 1838:2013 – Lighting applications, emergency lighting
This European standard specifies the minimum lux levels for emergency escape and standby lighting systems installed in premises where they are required. It applies mainly to locations which can be accessed by members of the public and occupants such as workers or students.

BS 5499-4:2013 – Safety signs: code of practice for escape route signing
This British standard gives guidance and recommendations on the provision of signage for escape routes as part of an Emergency Lighting design.

BS EN 60598-1:2015 – Luminaires, general requirements and tests
This standard details and specifies the tests and checks required to ensure the safety, correct functionality and performance of luminaires which include electrical light sources. It covers classification, electrical and mechanical construction, correct marking and photobiological parameters to name just a few.

BS EN 60598-2-22:2014 – Luminaires for emergency lighting, general requirements and tests
This standard mirrors the above but for Emergency Luminaires in particular. Some of the tests and checks in this standard are more stringent than those in part 1 due to the safety critical nature of emergency lighting.

BS EN 61347-2-7 – Particular requirements for battery supplied electronic control gear for self-contained emergency lighting
This standard lays out the safety requirements for battery supplied control gears for emergency lighting.

BS EN 62034 – Automatic test systems for battery powered emergency escape lighting
This standard specifies the performance and safety requirements of components included in automatic test systems for use with emergency lighting systems.

SAFETY CRITICAL

Emergency Lighting is safety critical resource which is a requirement within commercial and other non-residential premises which include access for members of the public, workforces, students and people who are elderly and may be infirm.

When designing and implementing an emergency lighting scheme, there are many factors which must be considered but the fundamental overriding objective is to ensure the on-going safety of the persons detailed above. The acknowledgement and use of the various standards listed above as an aid will help to guarantee compliance.

It is important to note however that like most systems which are reliant on electrical power, quality and longevity of components and shelf life of consumable items on-going compliance can only be guaranteed by effective testing, maintenance and replacement.

Peter Adams is support services manager at Mackwell Electronics
+44 1922 742 145
www.mackwell.com

18th Edition RCDs – are you confused by types A F and B

In the UK, residual current protection may be installed without much consideration for the nature of appliances and loads connected downstream of the RCD, this can affect the operation of the RCD. Here we offer some guidance on the changes called for in the 18th Edition

Appliances used in domestic, agricultural and commercial premises, including certain types of washing machine, induction hobs, LED lighting and pumps can produce residual currents that are not compatible with type AC RCDs. The general safety guidance given in the 17th Edition for RCDs, is no longer appropriate for many appliances and loads connected in these installations.

Consequently the 18th Edition Wiring Regulations will be updated, to align with the existing Electrical Safety Standards already adopted in other countries. This will include additional guidance on the use of specific Types of RCD, based on the characteristics of the residual current produced by the appliance and its load.

TERMINOLOGY

The Regulations use the generic term RCD for devices that can detect residual currents and are suitable for fault disconnection. Many customers and even manufacturers use the term RCD, when they are talking about an RCCB. We all do it from time to time, but it is worth verifying which product format the customer is referring to e.g.

The 18th Edition Regs recognises four RCD formats as follows.

RCCB: Must be used with MCB for overcurrent and short circuit protection

RCBO: Residual current + MCB protection for final circuits only

CBR: Residual current + MCCB for non-domestic loads >100 A

AFDD: RCBO + Arc Fault protection for final circuits only (NB: some manufactures may not offer all the functions in 1 device)

TYPES OF RCD

The 18th Edition includes new guidance on the use of specific types of RCD for All installations. Regulation 531.3.3 refers to the use of AC, A, F and B Type RCDs, along with the details of the associated residual current limits. This information is summarised in the table below.

When dealing with customers, get into the habit of verifying the Type of RCD. To meet the standards, manufacturers must use standardised pictograms (see Table) to indicate the distinct types of residual current that can be detected by the device.

TRANSIENT RESISTANT

Switching on specific appliances or a combination of electrical loads such as LED lighting can produce electrical transients in the order of several 1000 amps for a very short duration. These transients can cause nuisance tripping of standard non-delay Type AC and A RCDs. To overcome this problem, RCDs including 30 mA devices, can be manufactured with transient resistant features- see right hand column in the table. Type AKV, F, B and EV RCDs can withstand a fast transient <3 kA / 20 µs. e.g. the Regulations recommend the use transient resistant RCDs, if the circuit contains surge protection devices (SPDs) on the load side of the RCD. ▶

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SELECTIVE/TIME DELAY

These devices have extended tripping times and a transient resistant feature as standard, to enable discrimination in circuits where more than one RCD must be connected in series. For reasons of safety, the standards do not allow 30 mA devices with time delay characteristics, as this would exceed the tripping time required to prevent electrocution. Selective RCDs are available in Type AC, A and B versions.

ASK THE RIGHT QUESTIONS

Specifying or ordering the wrong products can be very costly and time consuming for installers. You may not realise that the incorrect product has been specified, until you reach the point of testing the installation. Use this 6-point check list to save you, time, money and heartache at later stage.

1. WHICH RCD FORMAT?

RCCB, RCBO or CBR
Check available ratings and characteristics before designing the installation.

2. RATING IN AMPS - MAXIMUM CONTINUOUS CURRENT?

RCCBs with higher current ratings can be used, if a lower rating is not available.
RCBOs, CBRs, AFDDs; select based on current + characteristic (like an MCB)

3. NUMBER OF SWITCHED POLES?

RCCB: 2 or 4 pole
RCBO: 1, 2 or 4 pole
AFDD: 2 pole (domestic)
CBR: 4 pole

4. RATED RESIDUAL OPERATING CURRENT IN MA?

< 30 mA People / Additional Protection
< 300 mAFire Protection
>300 mA Fault Disconnection only

5. ANY OTHER INFORMATION RELATING TO THE APPLICATION?

Selective / Time delay characteristics for 100 mA or greater
Any specific requirements relating to the Location / Application?

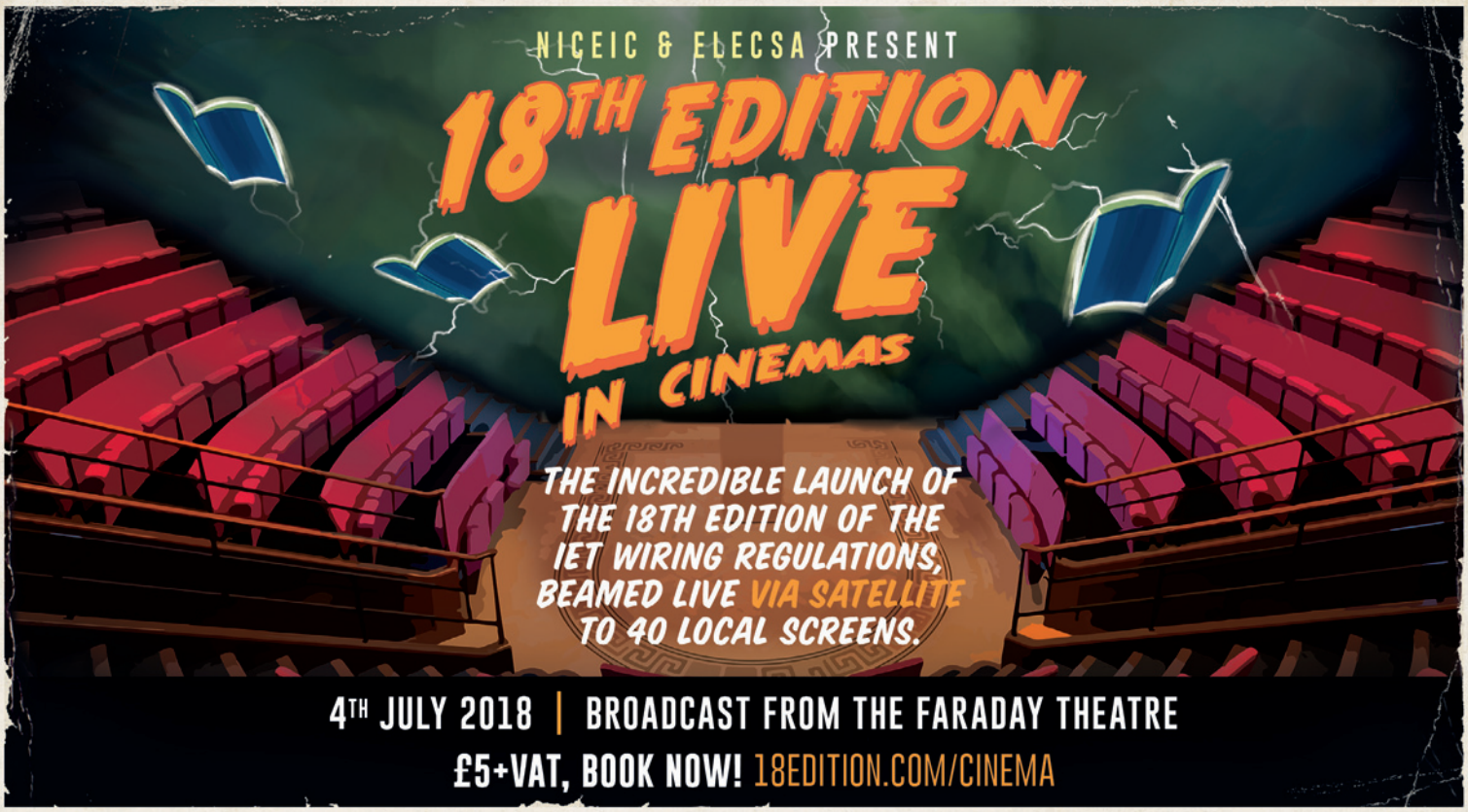
6. TYPES OF RCD?

See table
Do not assume it is Type AC / What types of load are connected to the supply.

The new Regulations incorporate existing electrical safety standards, which recognise the need to verify the selection of the RCD, based on the residual current characteristics of the appliance or loads connected to the installation. This approach has the benefit of future proofing the Regs regarding protection sp as new appliances are introduced to the market, the selection of the RCD will be verified with reference to the residual currents that may be generated by the appliances. The manufacturer of the products you sell, should be able to offer technical support for specific applications. ER

For additional information on RCDs principles and selection, download Doepke Techpub-16.
www.doepke.co.uk/download/Techpub-16

EQUIPMENT	Inverters [1] Heat Pumps HVAC etc.	Inverters Heat Pumps HVAC etc.	Lighting [1] Control Systems	Solar/Wind [1] Generation	Electric Vehicles [2] (EVCP) Mode 2 & 3 [3]
RCCB	Single phase	Three phase	Single phase	Single or three phase	Single or three phase
Type A	✔	✘	✔	✔	✔
Type AKV	✘	✘	✔	✘	✔
Type F	✔	✘	✘	✘	✘
Type B	✔	✔	✔	✔	✔
Type EV [4]	✘	✘	✘	✘	✔
Selection notes Doepke/CLA 1/16	1. Selection based on equipment technology & installation. (see manufactures instructions) 2. Selection based on the Make & Model of the vehicle to be charged. 3. Mode 4 requires Type B RCCB. 4. EV applications only / similar to AKV + Trips if smooth DC fault current > 6mA				



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City & Guilds training for data communications

When Duncan Lindsay set up Networks Centre as a distributor supplying end-to-end Network Infrastructure in 2005, it was in the belief that the industry was lacking a distributor that truly served the regional market as a one stop shop for all requirements.

When Networks Centre set up shop, there were existing distributors doing a good job, but aside from supplying product and limited technical support, they didn't really provide a knowledge centre under one roof without partnering in some way.

Achieving this goal did not happen overnight but as the company grew in size, Networks Centre got to a position where the vision could be realised, and they were able to provide the facilities to create a dedicated training facility at their HQ in West Sussex, close to Gatwick Airport.

Having created the space, technical director Keith Sawyer was given the task of implementing a range of training courses that provided real value to customers. A side benefit to the business was that course attendees would also see the operation of Networks Centre first hand, something that installers would not normally do. It all helped to build a closer customer partnership. Soon it was realised that it wasn't only Networks Centre customers that were interested in attending training, but professionals right across the datacom industry spectrum and from all parts of Europe.

This has led to the evolution of training content to serve different facets of the market. The training centre caters for everything from bespoke supplier product training lasting only a few hours to advanced network cabling installation and design training courses, underpinned by major training bodies such as City & Guilds and BICSI. Running their own training facility gave Networks Centre flexibility ▶

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Phone: 07712 325 838


Melvin Kurankye
London Sales
melvin@ventilux.co.uk
Phone: 07717 835 998


Thomas Farmilo
Scotland Sales
thomas@ventilux.co.uk
Phone: 07715 213 989


Tyrone Campbell
Northern Ireland Sales
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that was not possible to achieve when outsourcing and enabled the company to be more responsive to customer needs.

Few will need any introduction to City & Guilds. They are a global leader in skills development, providing services to training providers, employers and trainees. The organisation works across multiple sectors meeting the needs of today's workplace. Each qualification is valued by employer's worldwide, helping professionals develop abilities for career progression.

It is a natural progression for electrical engineering companies to widen their skill base into datacom networking infrastructure. Whilst electrical contracting and networks infrastructure have two very different sets of specifications and knowledge required, there are commonalities at a practical level and the environment within which installation takes place. There is also linkage of specifications. For example, the electrical 'bible' The 18th Edition Wiring Regulation, BS 7671 references to BS6701 (Telecommunications Equipment and Telecommunications Cabling – Specification for Installation, Operation and Maintenance).

The starting point for those wishing to take up network data cabling is City & Guilds 3667-02 101. This is a one-day course so avoids the need for a major commitment before knowing if it's going to be something to pursue. Nevertheless, this course is a recognised qualification for those entering the telecommunication industry or seeking to validate existing skills. Participants learn about the different types of structured cabling including Cat5e, Cat 6, Cat6A and higher bandwidth copper cabling systems. Participants also have the opportunity to learn about fibre optic cabling, in particular, single mode and multimode fibre. City & Guilds 3667-02 101 is the ideal grounding before a bigger commitment to training. This course in conjunction with follow on courses is also required to qualify for a CSCS/ECS card.

Holding training courses on the same site as Networks Centre's other facilities means there is never any shortage of test equipment and the range of cables, tools & components required to facilitate training.

For more information on Networks Centre's training academy and its many courses, call 01403 754233 or email enquiries@networkscentre.com.

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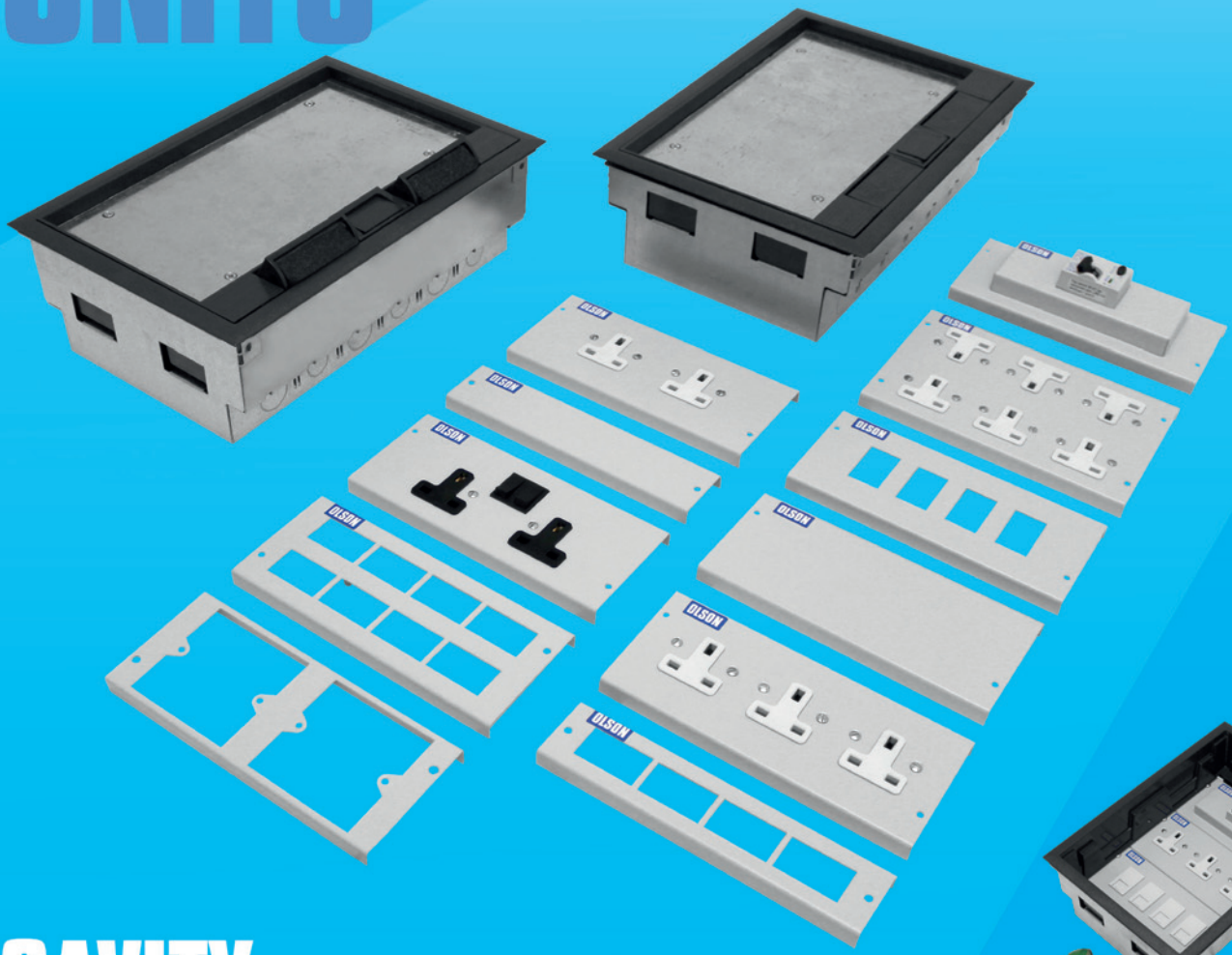

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Make room for the new B.E.G. DALI LINK STARTERSET – Simple to install and easy to control

Lighting controls specialist B.E.G. has launched one of the simplest single-room DALI scene solutions on the market which can easily be controlled via an app on a Bluetooth device.

The new B.E.G. DALI LINK STARTERSET is the latest building automation product to be released by the German manufacturer which is ideal for small offices and meeting rooms as it contains all the components that are required to control and set scenes for DALI enabled lights.

This practical starter pack includes three easy-to-use products – the super-flat B.E.G. PD11 occupancy multi-sensor, a four-way pushbutton interface to access lighting scenes and the DALI power supply which is connected to the light fittings in the ceiling. The B.E.G. DALI LINK STARTSET is available from selected electrical wholesalers. A video has been released on YouTube so electrical professionals can see just how easy it is to install and commission.

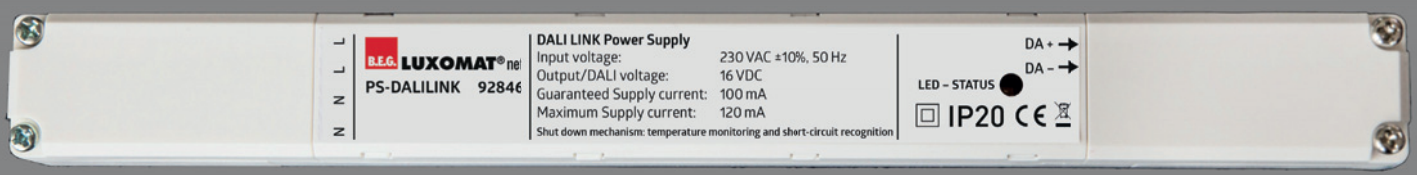
The B.E.G. PD11 is a flush fitting occupancy sensor with a thickness of less than 1mm and is hardly visible once it has been fitted into the ceiling. It provides intelligent lighting control by reliably detecting brightness and movement in the room within an area of up to 9m.

The innovative pushbutton interface is combined with a suitable retractable switch, or scene plate. It houses a Bluetooth interface, which allows easy programming via a smartphone or tablet device using the free B.E.G. DALI LINK App.

The app contains a protected area which allows the installer to securely and intuitively commission the DALI LINK STARTERSET and allow the levels to be automatically queried and displayed. The end user can activate pre-set scenes at any time, with up to 16 scenarios pre-installed, or to even create their own. The lighting can also be conventionally switched and dimmed as required.

The DALI LINK solution allows more than just scenes to be set up and controlled. A guide light function can also be created to reduce dark spots, or to allow the lights in adjacent areas and corridors to be on at a dimmed level. This ensures a controlled pool of light follows users.

All DALI lighting groups, the push button interface and sensors (including slaves) use just one single pair cable, to connect, so making it easier for electricians to install. Additional sensors can be connected in the DALI line as slave devices, so extending the area coverage. The system is expandable, with the STARTERSET controlling up to 25 Dali lights, and six control devices.



Additional B.E.G. parts can be ordered to increase the capacity of the system, including a scene switch plate, or more sensors to increase the area coverage. The offset regulation offers the possibility to control up to two lighting zones. This feature can be used by end users to create a structured lighting level which takes the daylight into consideration.

An orientation light function can also be activated and, operates after the follow-up has been achieved. It limits the light level of the connected lights, so ensuring safety critical areas are never dark, while still offering substantial energy cost-savings.

B.E.G. Director for UK & Ireland, Paul Jones, said: "We're really excited about the launch of the new B.E.G. DALI LINK STARTERSET single-room solution. It is easy to use and enables the end user to control room lighting and scene selection via the pushbutton module or individually at a touch of a button from a compatible smartphone which can result in substantial energy savings.

"The DALI LINK STARTERSET enables the user to set the environment to whatever lighting scene is required and it is ideal for use in small offices or meeting rooms. The starter packs enable electrical wholesalers to offer an 'off the shelf' single room lighting solution in potentially sizeable quantities to electrical professionals who can install it for end users quickly and effectively."

beg-luxomat.com

Does digital dependency dictate a doomsday scenario?

The digitisation of critical industries is transforming economies around the world. But as we become ever more dependent on digital infrastructure to enable economic progress, the consequences of failure and outages becomes potentially more catastrophic. Emiliano Cevenini reports

Agile technologies are being used to distribute energy from locations closer to the homes and businesses being supplied

To achieve economic progress, it has become clear that one sector in particular underpins the success of every other industry: utilities. Whether the result of a natural disaster, terrorism or a simple human error, a significant period of downtime in the energy grid could grind the economy – and society as a whole - to a complete halt.

MEETING ALL NEEDS

We're all heavily reliant on the utilities sector, and ironically, it is this reliance that presents a real challenge. This sector touches almost every part of our daily lives – from lighting to internet and transportation. Indeed, a 2017 Vertiv report concluded that the high performance of the utilities industry is essential for the smooth running of our daily lives.

With a diverse customer base spanning the consumer to large enterprises, many organisations in electricity, gas and nuclear are in the midst of change, in terms of how power is created and distributed. It's not just about a single sector responding to new pressures, but the modernisation of the framework that underpins the success of every other industry and of the entire economy. These changes and the resulting impact are far reaching, and go beyond just keeping the lights on.

Political pressure is a key driving force behind this. Governments around the world are increasingly pushing the agenda of smart energy management to both commercial bodies and citizens. Back in July 2017, the UK government unveiled its plans to deliver a 'smarter more flexible energy system' that will give businesses and citizens greater control over their ▶

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energy use. For such programmes to be delivered successfully, substantial changes need to be made to the current power distribution model. These changes will ultimately depend on the performance of the industry's digital infrastructure.

SMART CHANGE FOR SMARTER UTILITIES

Moving from traditional models of service delivery to digital methods is made even more complex by the dispersed nature of utilities infrastructure. The sector as a whole is characterised by both digital and physical systems, distributed across national and international territory, and these need to work together to supply critical resources.

But it's not just the physical management of change from analogue to digital resources that is going to prove difficult. The model by which the sector operates is fundamentally shifting too. Traditionally, the generation and distribution of energy has stemmed from a central point, being channelled far and wide to all corners of the country. Yet, the advent of smart energy and the smart grid is necessitating a shift to a more decentralised approach.

Today, a range of agile technologies are being used to distribute energy from locations closer to those homes and businesses they are serving. With connectivity at the core of this new model, utilities will become major proponents of the edge computing approach. As well as the provision of services, these distributed hubs will also become the source of vast quantities of data.

As a result, the focus on smart energy is providing organisations with the opportunity to use the data now at their disposal to deliver personalised offers to their customers and a more reliable service across the country. According to McKinsey, the digital optimisation of the utilities industry could see profitability improve by 20 to 30 percent. But this new approach raises key considerations for Infrastructure and Operations (I&O) professionals. Digitisation makes security, reliability and redundancy more important than ever, core capabilities that I&O teams must balance with the pace of change that is being driven by customer demand.

INFRASTRUCTURE NEEDS FOR SMART UTILITIES

The new distributed energy model and smart grid technology are going to be central to both maintaining the critical supply of power throughout the country today and shaping the smart cities of tomorrow. Unsurprisingly I&O teams will be at the heart of this change.

Reliability and redundancy - The toolkit of the utilities firm is changing in a big way. This array of new devices and machines will depend on the provision of power to operate consistently, and the data they produce must be consistent and trusted. There will be intense pressure on technology professionals to predict the chances of any disruption to the service under both normal and more extreme conditions - as seen for example in eastern North America this winter.

While service disruption is hardly an accepted factor today, the changing demands of a digitised era will diminish any consumer or corporate patience when it comes to outages. With more data available, errors and poor risk management will become more visible, creating tighter SLAs against which I&O teams will need to deliver.

Securing resources - The greater our dependency on digital infrastructure, the more important it becomes to ensure security at every level. Utility companies are going to have increasingly complex networks, with edge computing hubs managing operational activity and service delivery. In addition to cybersecurity and avoiding digital breaches of the technology infrastructure, it will be essential to continue to maintain physical security. Tech pros will need to depend on enclosures positioned in remote areas, as well as a spider's web network pulling data from a vast geographical spread. The fusion of data protection, physical security and changes in digital infrastructure will prove a complex but critical success factor in the sector.

Data centres as energy grid partners – Additionally, data centres can act as an important partner to the energy grid. Although it's known that the ICT industry, including data centres, globally consumes more than 3 percent of all energy available, with new technologies, data centres have the potential to act as a battery storage. By design, data centres are heavily over power provisioned. It is a safe assumption that actual power consumption tends to be lower than a data centre's maximum power capacity. As a result, data centres could conceivably, with the help of a smart energy model and today's agile technologies, back feed to the grid whenever the grid needs to respond to increased demand. Such an approach means that it may not always be necessary to rely on traditional sources of energy to respond to a change in demand.

A LIGHTBULB MOMENT

Many of us may not think of the complexity that lies beneath the surface when we are adjusting our smart meters and enjoying the trappings of cheaper and more convenient energy supplies, yet I&O teams certainly need to. Few industries are undergoing the kind of complex transformation and challenges that currently confront the utilities sector.

Given how increased digitisation has led to critical industries becoming even more interdependent upon each other, managing digital transformations correctly is one of the biggest challenges I&O professionals face today. Get it wrong and the lights could go out. Get it right, and the future is bright.

Emiliano Cevenini is vice president, power sales and business development for Vertiv in Europe, Middle East and Africa (EMEA)


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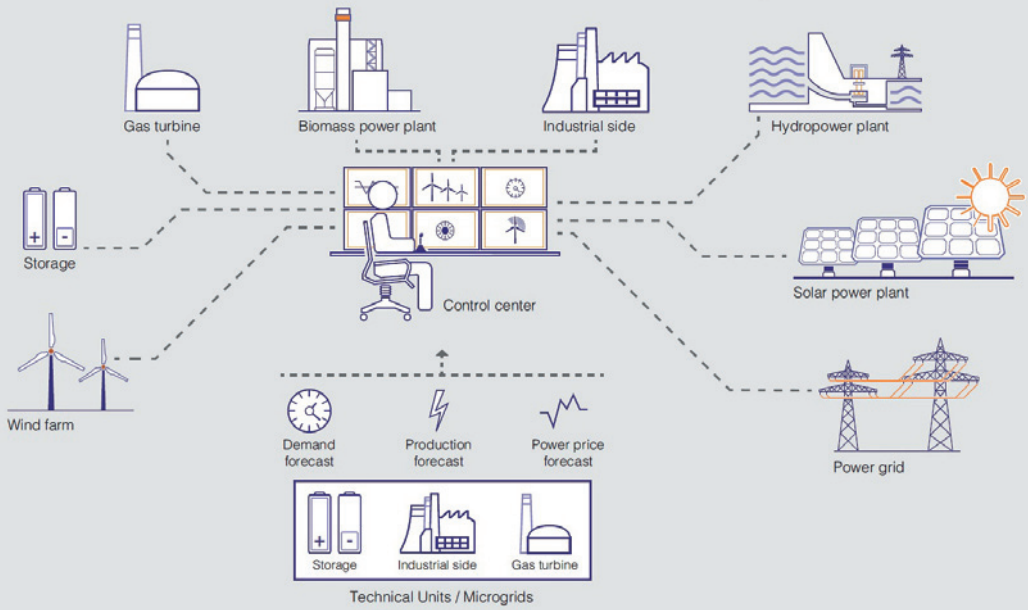
Providing a platform for virtual power plants

Adrian Timbus explains how digital technology will enable the creation of virtual power plants (VPPs) that are set to play a significant role in the global energy transformation.



All stakeholders in the global energy sector are now facing a number of challenges that are driving the need for grid transformation. These include significant increases in the penetration of renewable energy, as well as other distributed resources such as combined heat and power (CHP), aging infrastructure, threats to cyber security and business model disruption. At the same time, spending on new infrastructure must be justified by a swift return on investment, customers demand total security of supply and excellent service and the workforce is suffering a skills shortage as older, experienced personnel approach retirement age.

The result is an increasingly complex operational environment in which generation is shifting from bulk, centralized and well controlled power plants to distributed and weather-dependent generation. Moreover, deterministic and well-defined load profiles are becoming volatile with reverse power flows due to the emergence of roof-top solar panels, energy storage systems and e-mobility 'behind the meter.'

These changes require a shift from load-following control to demand integrated within system operations, and from rigid operating regimes based on historical experience to more flexible approaches that adjust constantly to real-time data.

Handling this level of complexity requires new digital technologies that harness the capabilities of cloud computing and artificial intelligence, along with higher bandwidth, higher speed communications and better sensors.

To enables grid operators to harvest the full benefits of digitalization, ABB has pulled together all the necessary architecture and key applications under the ABB Ability™ ecosystem. This provides a scalable, open and all-connected digital platform to support growth and enhance control and optimization.

MAJOR GROWTH

One area where ABB Ability is already making a significant impact is in virtual power plants (VPPs) that bring together many geographically dispersed power generation resources – of all sizes - under central control and optimization. Almost all generation and storage technologies can form part of a VPP – from biogas and biomass, through CHP, wind, solar and hydro, to diesel and fossil-fired plants. Energy storage facilities can also be incorporated into a VPP. Any type of energy storage technology can be applied, including batteries, thermal storage, compressed air or pumped storage.

VPPs, also known as virtual power pools (VPP), are fast becoming a driving force in the power industry, due to rising demand for energy and the global adoption of renewable energy resources. There is an escalating need for VPPs that combine multiple, geographically dispersed production units into a single optimized entity that can plan and adjust production dynamically and trade intelligently on the energy market.

POOLING AND TRADING PRODUCTION

VPP operators can pool and trade production from thousands of small-scale generators, including individuals, businesses and municipalities. As well as offering the scale and flexibility to participate in the electricity market, VPPs also serve other ▶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applications as well. For example, municipalities can optimize and manage their electricity, steam and heat production from multiple sources and buy and sell energy when prices are advantageous.

Energy-intensive industries that generate their own electricity are also realizing the benefits of VPPs. By combining production planning, energy management and energy trading they can reduce their energy costs by 5-10 percent, without changing production targets or delivery deadlines.

And conventional multi-unit power plants can improve their flexibility, reduce fuel consumption and lower their carbon dioxide emissions by pooling the units internally to optimize the performance of the plant, much as a virtual power plant.

CENTRAL CONTROL AND OPTIMIZATION

The goal of a VPP is to operate its pool of units optimally and cost effectively and to generate maximum revenues for its participants by bidding informedly and smartly on the energy trading market. ABB has combined the expertise, hardware and software that cover the entire scope of VPP operations into ABB Ability Energy Optimization for Virtual Power Plants. It provides central control and optimization, links energy sources with markets, performs day-ahead and intra-day forecasting, and issues and updates commitment schedules to pool participants. The technology is highly customizable and scalable, enabling VPP operators to rapidly expand from a few units to thousands, seamlessly and without interruption to operations.

OPTIMIZING EUROPE'S LARGEST

ABB's VPP optimization solution has enabled Next Kraftwerke in Germany to aggregate the production of 5,500 small- and medium sized biogas, solar and wind energy assets into a VPP that has the scale and flexibility to participate in the country's lucrative ancillary services market. The solution collects plant production and grid balancing data, performs real-time optimization calculations, and determines the production schedules for each power plant to ensure that grid stability is maintained, and plant constraints are observed.

Ancillary grid services are measures that transmission system operators (TSOs) use to maintain a balance between demand and supply. Imbalances can be caused by the failure of a large power plant or large-scale over-production by intermittent energy sources like wind farms.

If an imbalance occurs, ancillary service providers like Next Kraftwerke receive a command from the TSO to increase or reduce output either immediately or within minutes of the command being issued (known as 'minute and secondary control'). In the case of Next Kraftwerke's virtual network, the command is received and acted on in real time by the ABB solution. As well as Germany, the VPP delivers ancillary services to grid operators in Austria, Belgium, France, Netherlands and Poland. In 2016, the Next Kraftwerke VPP handled the trading of 10 TWh of energy.

BALANCING PRODUCTION

Stadtwerke Trier is a municipal energy company for the city and surrounding area of Trier, Germany. It supplies electricity, gas, drinking water and district heating to the municipality, treats wastewater and operates the public transport system.

The utility generates electricity from a diverse range of sources: wind power, solar photovoltaic, biomass, CHP (both large-scale conventional and micro CHP). Its energy network includes battery storage and electric vehicle chargers and is set to include a 300 MW pumped storage plant by 2020.

With such a high proportion of intermittent renewables in its energy system, Stadtwerke Trier required a smart energy management system to balance production with consumption and reduce the amount and cost of balancing the power it buys.

The ABB solution optimizes production, balances it with consumption and is equipped with weather and load forecasting tools and intra-day trading functionality. It has the scalability and flexibility to seamlessly integrate new generation units, storage devices and vehicle charging stations without disruption to operations.

Thanks to its energy management system and the use of digitalization to integrate and manage municipal assets, Trier has become a recognized leader in smart city development.

REDUCING COSTS

Many large industrial plants, such as cement, steel, pulp and paper have their own power generation units - often a combination of conventional and renewable sources - as well as heat production and energy storage devices. Through a combination of production planning, energy management and energy trading they can minimize energy costs and maximize energy revenues without impacting production targets or delivery schedules.

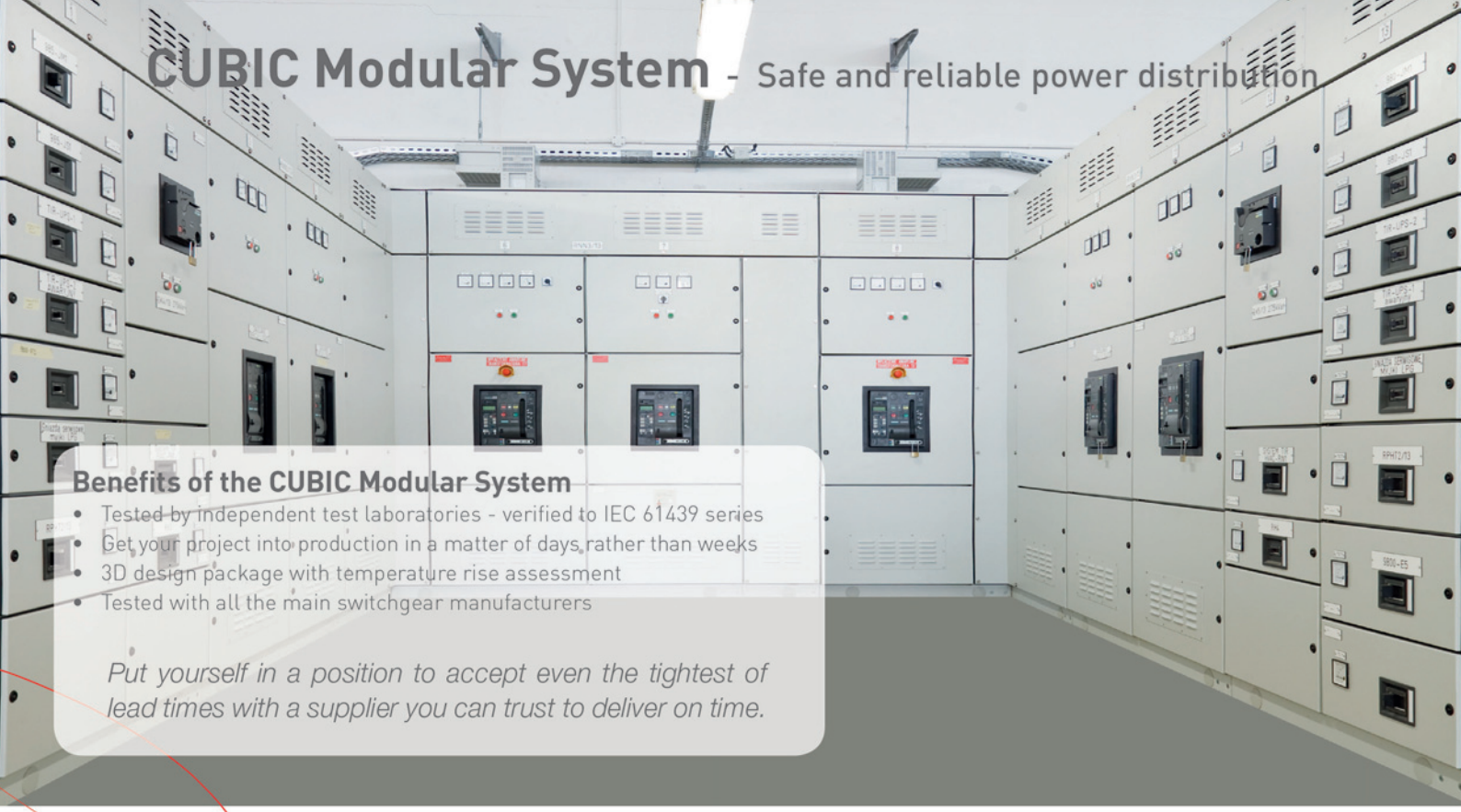
This entails coordinating onsite power and heat generation with the supply needs of the production process and, if the site is connected to the grid, dynamically optimizing energy consumption in response to price signals and availability indicators.

Using weather and load forecasting and day-ahead and intra-day planning, production can be increased when energy prices are lowest and decreased when they are highest. Alternatively, surplus energy can be generated and traded when prices are most favourable.

Two installations, one at a steel plant in Italy and another at a pulp and paper mill in Sweden, have already demonstrated reductions in energy costs of up to 10 percent, thanks to smart energy management and production planning

As grid operators face a more complex environment, with the need to integrate new technologies, new players and new ways of doing business, digitalization represents perhaps the single greatest opportunity to help ensure success. VPPs based on the ABB Ability platform are just one example of how digitalization is paving the way to energy transformation. ER

The Author
Adrian Timbus is Technology and Solutions Manager, Smart Grids and Wind Power at ABB



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Raising standards, protecting lives

With the protection of lives and property now a major issue in the UK for the safe development of the next generation of modern buildings, the choice of cabling which powers the safety features has come under increasing scrutiny. Cables expert Graham Turner examines the issues.

The requirement for continuity of power in new complex modern public buildings in which large numbers of people move about has never been more important in the event of a real fire.

Ultimately, this means choosing the most relevant cabling and electrical accessories which will continue to operate under fire conditions.

With power for lighting and fire alarms, the fire and rescue services can use the information gathered to evacuate people quickly, confident that they have found all the people in the building.

Without power, they are literally scrambling in the dark without good information upon which to make their rescue. The continuity of power will also ensure that sprinkler or water mist systems can continue to operate where they exist. In commercial buildings, there may also be smoke evacuation fans which help to enable safe evacuation.

At the start of a project, the most appropriate cabling should

be specified as part of the electrical system rather than at the end of a project. Fire alarms may be digital, with loop systems which will provide information for fire and rescue services across individual areas and floors.

At the same time there are new designs, materials and products continually coming on to the market for major projects, and with it an increasing need for the various parties involved to work closely together to make sure they get it right.

For some buildings, it is crucial to select the highest quality products to meet the most rigorous third-party tests and real-life fire scenarios.

These include environments such as hospitals, schools and care homes where older people and children move about.

For instance, specifiers looking at new large public sector projects such as hospitals should refer to BS 8519 for the electrical supply, and the most relevant cabling system.

This Code of Practice specifies that the type of system selected during the design phase 'should be derived from a detailed process of consultation with the relevant authorities' and that 'the design should be agreed at an early stage.'

> **As the review has progressed, it has become clear that the whole system of regulation is not fit for purpose**

The decision-making process for cable selection relevant for life safety and firefighting systems is clearly defined here.

This covers three categories ranging from 30 minutes to 120 minutes fire survival time. Categories 1 and 2 cover means of escape for 30 minutes and then 60 minutes respectively, and these cables are tested in accordance with the relevant codes.

Category 3 for firefighting to 120 minutes refers to power and control cables meeting the 120-minute test according to the relevant standards. It should be emphasised that only Mineral Insulated Cable (MIC) or an enhanced cable meeting the requirements of BS7846 F120 will meet this criteria.

For clarity, BS 8519 does not take precedence over BS 5839 for alarm systems and BS 5266 for emergency lighting.

The best practice under Business Information Modelling (BIM) and all best practice of fire safety engineering methods should be observed in conjunction with project partners.

There have been concerns over a number of years around the fire protection regime for new buildings expressed by the architects and designers themselves. The Royal Institute of British Architects (RIBA) points to the delays to Approved Document B with regard to the relationship of Building Regulations to changing design and construction.

RIBA is anxious about creating an Approved Document which together with related British Standards provides a very comprehensive but highly complicated regulatory framework.

The architectural group is also concerned about the impact of the Regulatory Reform (Fire Safety) Order 2005, in particular the introduction of a regime of fire risk self-assessment and the repeal of fire certificate legislation overseen by the local fire authority.

It also says it is worried that the lead designer - architect or engineer – is no longer responsible for oversight of the design and the specification of materials and products from start to completion of the project, with design responsibility often transferred to the contractor and sub-contractors, and no single point of responsibility.

RIBA says the virtual disappearance of the role of the clerk of works or site architect and the loss of independent oversight of construction and workmanship on behalf of the client is a further issue for concern. In essence, RIBA believes that future proposals for the fire safety regulatory regime should be informed by the specialist fire safety expertise of relevant professional organisations and groups, and also take full account of this wider set of construction industry regulatory, practice and process issues.

As the inquiry into Grenfell unfolds, it is clear that Part B of the Building Regulations for fire safety will come under further scrutiny, especially where projects may have been compromised in the past for whatever reason.

Dame Judith Hackett, who is leading the Grenfell inquiry, sums it up: "As the review has progressed, it has become clear that the whole system of regulation, covering what is written down and the way in which it is enacted in practice, is not fit for purpose, leaving room for those who want to take shortcuts to do so. What is initially designed is not what is being built, and quality assurance of materials and people is seriously lacking."

AEI Cables provides a full range of cabling products through its Total Fire Solutions service with the support of its parent company Ducab based in Dubai, with the design, manufacture and supply of MIC, Firetec Enhanced or Firetec Power depending on specific needs. The company believes the electrical industry supply chain should increasingly work together to get it right. There can be nothing more important where lives and property are at stake. ER

Graham Turner is with AEI Cables
0191 410 3111
www.aeicables.co.uk

A ONE CLICK WONDER

The AOne app is a smart home and light commercial platform which enables full control of lighting spaces including dimming, scene and scheduling functions via handheld devices or remote controllers from a mobile phone anywhere in the world.

Aurora Group is an international, LED lighting organisation specialising in the design, manufacturing and distribution of innovative, smart energy-saving solutions. Meet product experts and discover their AOne app on Aurora Group's stand at this year's Building Tech Live, part of UK Construction Week 9-11 October 2018 at the NEC.

Aurora Group • 01727 836611
www.auroralighting.com

UPS HAS COMPACT RESILIENCE

Borri Italy has released its latest three phase, transformer free uninterruptible power supply (UPS) solution. Offered exclusively in the UK by its specialist partner Power Control Ltd, the new 30 – 40kW UPS systems are ideal for smaller sized data centres and server room facilities.

The Ingenio Plus units feature Green Conversion Technology, which enables them to achieve industry leading efficiency with 1.0 output power factor.

The product is a front access UPS with built in battery solution also has a compact footprint.

Power Control • 0800 136993
www.powercontrol.co.uk

VIDEO DOOR STATION ACCEPTS 10,000 USERS

ESP has introduced a new version of its Aperta Multiway Video Door Station, with the new model now boasting proximity fob entry for up to 10,000 users. The station is an IP55 rated metal multiway outdoor station complete with the colour video camera and built in keypad for apartment calling, code unlocking and proximity reading.

The product supports up to 32 apartments in one system, requiring only 2 wires throughout, with all outdoor stations and monitors powered by a single power supply. It features a high resolution colour camera and LED caller illumination.

ESP • 01527 515150
www.espuk.com

LUMINAIRE FITS MANY STYLES

The aRise-26 is the only commercial bollard with variable throw distances, orientations, luminous flux, correlated colour temperature, and control options. The eased square design ensures it fits within many styles of architecture.

The absence of visible hardware creates a clean and confident fixture, while the twist-and-lock base adds stability. The curved faceplate offers a "no glare" feature for pedestrian comfort.

Holm is a Hunter Industries company with more than three decades of engineering expertise and will be exhibiting at this year's Building Tech Live, part of UK Construction Week 9-11 October 2018 at the NEC. Arrange a meeting to see this product at www.buildingtechlive.co.uk

Holm • +1-844-200-4656
www.holmlighting.com

FREE LIGHT CHECK OFFER

Beha-Amprobe is offering a complete set of light check adapters free to purchasers of a ProInstall-75-UK multifunction installation tester. The ProInstall-75 is a tool for verifying the safety of electrical installations in domestic, commercial, and industrial applications. The five Light-Check Adapters offer safe testing of all standard light points.

Offer closes June 30th.

Beha-Amprob • 01603 25 6662
www.beha-amprobe.com

ELECTRICITY FOR PRESTIGIOUS OFFICE SPACE

Wieland Electric has supplied a variety of its gesis pluggable systems for the supply of lighting and power throughout 15 Bishopsgate, part of the Tower 42 estate in the heart of London. The prestigious building offers 57,000 sq. ft. of office space arranged over the ground and six upper floors, in addition to 22,000 sq ft of retail space at ground level that edges the re-landscaped public areas. The new BREEAM 'Excellent' and EPC A rated building utilises Wieland's gesis pluggable systems to supply power to the LED lighting and general power to the building, including the 4 pipe coil air conditioning units.

Wieland Electric • 01483 531213
www.wieland.co.uk

NEW GLOBAL HQ FOR CENTIEL

Swiss-based UPS manufacturer, Centiel has announced it aims to quadruple production volumes with the development of a new manufacturing facility located in Lugano, Switzerland. The new factory will become the company's global headquarters and will house R&D, production, final test, sales and marketing, logistics, finance in addition to quality control of all Centiel's UPS solutions.

Centiel • 01420 82031
www.centiel.co.uk

DOWNLIGHT SUITES LIMITED VOID DEPTH

The Inceptor Pico FG from Scolmore is a fire rated fixed integrated LED downlight which offers a cost-effective LED solution whilst producing an excellent light output for the power utilised. It is ideal for installations where the void depth is limited and fire rating is required.

Pico FG features fire ratings of 30, 60 and 90 minutes and is supplied with a pre-attached fly lead rather than terminals to make installation quick and easy, thus saving time on the job by the installer.

It is also compatible with Scolmore's new Insulation Support Clip, which allows installers to lay thermal insulation directly over the Inceptor Pico. The Insulation Support Clip creates a 20mm air space above the driver which allows air to circulate and cool.

The fitting is IP65 rated and, with an energy rating of A+ and an L70 LED lifetime of 20,000 hours, it requires zero maintenance and offers low energy consumption for the lifetime of the product.

Scolmore • 01827 63454
www.scolmore.com

BATTERY GIANT PROMOTES FROM WITHIN

James Hylton has been appointed managing director of GS Yuasa Battery operations in the UK. He was promoted from the commercial director role he took on in November last year having been general manager - sales & marketing at GS Yuasa Battery Sales UK Ltd since 2011. He has been with the company for over 12 years and has been in the battery industry for 22 years.

The company is the UK market leader for industrial, automotive and motorcycle batteries and offers some of the best recognised battery products and related accessories.

GS Yuasa Battery Sales UK • 01793 833594
www.gs-yuasa.eu

ENCLOSURE REDUCES CONTAMINATION RISK

Rittal's Hygienic Design System enclosures combine the features of their Hygienic Design Compact enclosures with a modular, bayable configuration. They deliver a flexible and hygienic solution that protects installed electrical and electronic equipment, even in washdown areas.

The addition of standard accessories from Rittal's TS 8 range, plus the flexibility afforded by baying, as well as the ability to swap the door handles, gives users a solution that can be tailored to suit even complex control systems in production clean rooms.

The system enclosure eliminates dead space and dirt traps, which reduces the risk of both direct and indirect cross-contamination.

Rittal • 01709 704000
www.rittal.co.uk

TUNABLE LIGHTING CONTROL

Lighting has a profound effect on the human body and affects how we all feel and function; adjusting light intensity can create energising, relaxing and productive lighting modes. This promotes feelings of well-being and even increases productivity for people who spend large parts of their day indoors under artificial light by mimicking outdoor lighting conditions.

Carlo Gavazzi's has launched a DALI Gateway, the SB2DALIT8230, which supports the latest trend in commercial lighting – the possibility to adjust the colour temperature in addition to controlling the light level. The colour temperature can be adjusted automatically in such a way to mimic the circadian rhythm, by changing the LED's colour temperature from warm white (2700K) all the way to cool white (6500K) over the course of the day.

Carlo Gavazzi UK • 01276 854110
www.carlogavazzi.co.uk

LI-ION BATTERY FOR HIGH ENERGY APPLICATIONS

Saft has launched Xcelion 6T-E, a high energy lithium-ion (Li-ion) battery capable of providing double the useful capacity of lead-acid batteries in the same footprint. The 24V battery is designed for applications such as military vehicles, rail, marine and hybrid gen sets that require higher levels of storage capacity and longer silent watch periods.

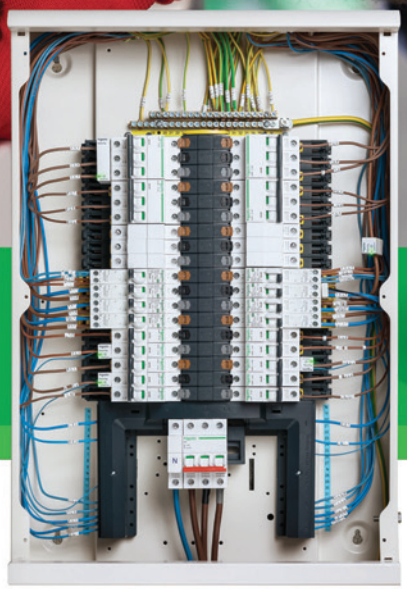
The high energy capacity and cranking capability provide stationary and other power systems with a superior battery solution that need longer run times at lower rates. The 80Ah, 2.1kWh Li-ion battery weighs 20 kg. It uses Saft's Super-Phosphate technology, which offers enhanced safety with exceptional lifetime reliability and stable internal resistance, the company claims.

Saft Batteries • +33 1 58 63 16 60
www.saftbatteries.com

Acti9

Isobar P

Quick smart solutions



Acti9 Isobar P distribution boards now offer new and unparalleled reliability, protection and simplified installation whilst building on our existing market leading Isobar solutions.

Through over a quarter of a century of market leading innovations, Isobar distribution boards have come to represent a premium level of performance.

Our latest addition, Isobar P, further enhances this reputation by launching the first plug-on neutral & functional earth RCBO.

- **Time saving** due to the quick and simple plug on technology
- **Fast and efficient** due to absence of functional Neutral and Earth wires to unravel and straighten
- **No need to cut**, dress or terminate any functional wires

schneider-electric.co.uk/isobar-p

Life Is On | Schneider Electric