


5-2022

Building Services Engineering May/June 2022

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building services engineering



Hevac Group
bought by
Wolseley

Simon Oakland



Getting
to grips with
EV chargers

Jess Smyth



Managing the
construction
energy cycle

Alan Hore



CIBSE AGM
sets bold
agenda

Sarah Callaghan

No smart cities if we don't have smart buildings

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Chillers

IT Cooling

Heating

Ventilation

Controls

Automation

Robotics

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Contents

EDITORIAL

A time for honesty and integrity

Given the proliferation of commentary across all media formats on rising costs, inflation, product shortages and transport delays, everyone is fully aware of the challenges the industry faces. Much of what is happening is out of our hands and, even with the best will in the world, cannot be controlled.

However, what we can control is how we react to these challenges. Industry behaviour now will determine not just how we cope in the short-term, but also into the future.

It's now more important than ever for everyone involved in AEC to engage responsibly and with honesty. This is already being done via the various professional bodies and industry associations but, to be truly effective, it must happen at the daily interface level.

The challenges the industry currently faces will only become a crisis if we fail to act with integrity and support one another through them.



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In part two of our look at how to deliver intelligent buildings, Brian Coogan and Stephen Weir assert that really smart buildings don't just satisfy ... they inspire!

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BIM BREAKFAST BRIEFING AT ENERGY SHOW

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Enabling energy management in AEC

At the recent SEAI Energy Show a panel of BIM experts was challenged to explain how, while digitalisation of AEC is now recognised as the way forward to realise net zero energy and carbon buildings, BIM is the enabling tool that will make it possible.



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FROM ASPIRATION TO ACTION

Towards NetZero Ireland

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As we seek to be carbon neutral by 2050, what we need now is to move from aspiration to action, to insightful design, appropriate technology, knowledge sharing, data analysis and imagination. The *Towards NetZero Ireland Awards* were devised to drive that process



NEWS AND PRODUCTS

PM Group to design Boehringer Ingelheim

PM Group has been charged with the detailed design of a 12,000m² chemical innovation plant project in Germany. This new API facility within the existing campus in Ingelheim will incorporate the latest technologies, processing capability and automated processes.



PM Group has been working closely with Boehringer Ingelheim on the design since September 2020 and completed the basic concept in 2021. It aims to complete the detailed design in Q4 2023. It is expected that the new facility will be fully commissioned in 2025.

Key to winning the project was the deep technical expertise and experience of PM Group's teams which includes professional advisers, process design, structural engineering, project management, construction and commissioning.

GeoServ moves

GeoServ, the natural resource and geological consultancy company headed up by Ricardo Pasquali, has moved to Rathnew.

GeoServ, whose areas of expertise include geology, geothermal energy, groundwater/hydrogeology and environmental geology, offers a range of geological, geothermal, hydro-geological and energy-related services for a wide customer base, locally and internationally.

The new address is Unit 26, The Village Mill Enterprise Park, Rathnew, Co Wicklow, A67 W252.

Contact: Ricardo Pasquali, GeoServ. T: 01 525 2023; M: 087 772 9343; E: rpasquali@geoservsolutions.com



Howdens, the UK trade supplier outlet, has opened the first of six planned trade outlets for Ireland in Stillorgan Industrial Estate, Dublin 18. The company offers thousands of products directly to trade professionals, including kitchens, worktops, appliances, doors, joinery, flooring and hardware.

In addition to the Sandyford depot, Howdens will also open depots in Ballyfermot, Ballymount, Glasnevin, Swords and Bray in 2022 and early 2023. Andrew Livingston, CEO (pictured), said: "What makes our business model so successful is the powerful combination of locally empowered depot management and a dedicated supply chain that can deliver our Irish customers an always in-stock offer."

Europump's industry statement

Europump, the influential body which represents 16 national pump associations in 12 EU member states and four non-member states, has lent its considerable support to an important industry statement relating to European trade agreements.

The focus of the EU 2021 trade policy review was to create an open and assertive trade policy. Since then, several proposals aimed at creating a level playing field have been put forward and updated, but progress has been somewhat limited. The co-signatories of the joint statement want to stress the importance of openness, particularly regarding the bilateral "Free Trade Agreements" agenda.

In this context, Europump – along with 23 other trade associations – presented two key recommendations. The first presses the EU to ensure that free trade agreements enter into force as soon as possible, while the second urges an expansive EU bilateral trade agenda to support competitiveness at an international level.

Skills shortage also impacts MMC

A recently-published report, *Modern Methods of Construction: Defining MMC Business*, by Construction Professionals Skillnet, reveals that half the companies (54%) using modern methods of construction (MMC) don't believe the right skills are currently available in Ireland.

MMC is an umbrella term for different types of construction which involves significant portions, or all, of the building being manufactured in a factory setting and joined together on-site. It encompasses modern construction technology and methodologies that improve productivity, particularly off-site construction.

While a relatively new way of doing construction, it is increasing in importance globally. In Ireland there are over 100 companies involved in MMC, but tellingly, only 27 currently provide complete housing solutions to the Irish construction sector. Download the full report at: <https://cif.ie/wp-content/uploads/2022/04/pdfcompressor.zip>



Pioneering for You



ISAR MODH/SCe

New high efficiency booster set range

Wilo Ireland's new ISAR MODH/SCe cold water booster set range has been launched to coincide with the latest changes to the ErP regulations, and incorporates our new Wilo-Medana stainless steel horizontal multistage pumps.

With an increased hydraulic performance from 2-72 m³/h and pressures up to 7 Bar, the new range comes complete with fully automated controls via variable speed drives and with standard features for BMS connectivity included.

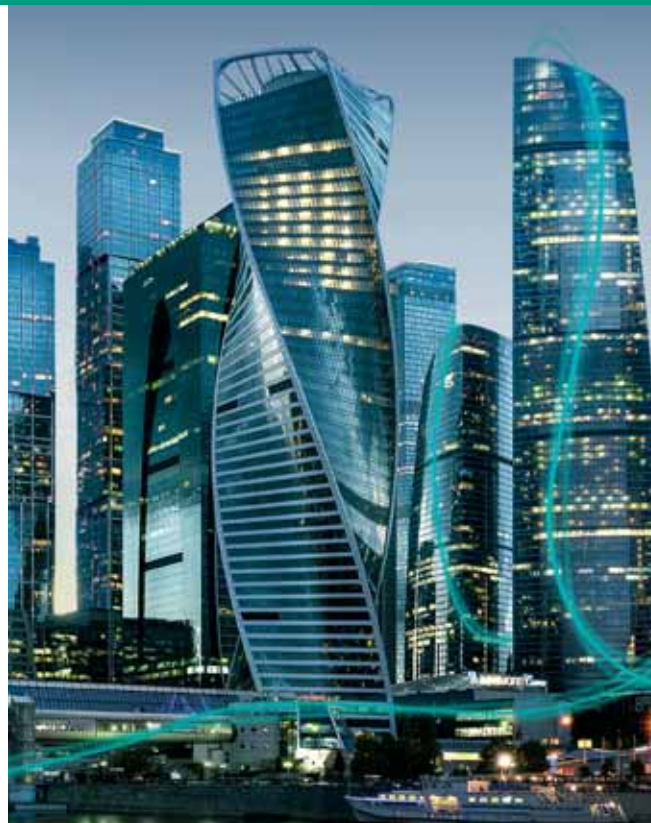
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- f* Compact dimensions

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NEWS AND PRODUCTS

Octabuild Awards now all-Ireland

The Octabuild Builders Merchant Awards, the competition to recognise excellence in the builders' merchant trade, has moved to an all-island format for 2022.



In addition to the coveted Regional and Octabuild Awards, there are five specific category awards to recognise excellence in the areas of Business Management, Customer Service, Sales and Marketing, Community Outreach and Sustainable Business, while a Rising Star Award will recognise upcoming talent in the industry.

The independent judging panel for the 2022 awards comprises Liam O'Gorman, a former board member and Chair of Octabuild; Joe Harlin, former Business Development Manager at Wavin, and Mark McCaffrey, who has recently

retired after 33 years as Managing Director of P McDermott & Sons (Omagh).

Further details at www.octabuild.ie/awards

Pictured are Liam O'Gorman, Chairman of the panel of assessors with Ray Molyneaux, Chairman, Octabuild at the recent announcement of the 2022 awards.

First grid-scale solar project

Millvale solar farm, developed by Neoen, is now delivering electricity into the national grid. It is located close to Ashford in Co Wicklow and has a generation capacity of 8MW.

The farm occupies 25 hectares and has 33,600 solar modules. This is enough to power approximately 3,600 homes every year and avoid 4,800 tonnes in CO2 emissions.

This is the first of many solar projects to reach commercial operation under RESS 1 – the Renewable Electricity Support Scheme – and the first of almost 600MW of solar generation capacity secured in the auction. If you also include wind projects, this is the third project to reach commercial operation under RESS 1.

Wavin RootSeal breakthrough

Wavin, the long-established innovator in the use of underground and overground pipe and fittings, has developed a new technology to provide added protection from trees that may be planted close by in residential areas.

Called RootSeal Technology, it repels tree roots and enables drainage systems to be future-proofed by using a naturally-sourced inhibitor to harmlessly repel tree roots and to reduce the risk of damage and upheaval.

The inhibitor is embedded in an easily-identifiable, green-coloured, seal that acts like a natural force-field. It deters roots from penetrating the pipe fittings while reducing the intensity of root growth around the socket and seal.

See wavin.ie/rootseal



<https://arrow.tudublin.ie/bsn/vol61/iss3/1>

Daniels elected ICEL Chair

Alan Daniels of P4 Ltd has been elected Chair of the ICEL Council. ICEL is the industry committee for emergency lighting and a division of the Lighting Industry Association (LIA).

Alan has been part of the emergency lighting industry for over 40 years, during which time he has played an active part in the development of standards for emergency lighting in the UK and Europe.

Taking up his tenure as Chair, Alan said: "ICEL's ethos should continue to be to promote best practice in the development, manufacture, distribution and use of emergency lighting products and systems."

The ICEL Council meets four times a year and consists of 15 members who serve for a term of four years. After this, a selection of Council members automatically retires, providing an opportunity for other ICEL members to stand for election.



Mostra Convegno rescheduled

Mostra Convegno has been postponed and will now take place from 28 June to 1 July 2022. With 90% of the exhibition area booked and over 1,400 exhibitors NOW confirmed, it promises to be a major industry event.

Exhibition days remain the same – from Tuesday to Friday – as does the defined exhibition layout. The new schedule will be widely communicated VIA all promotional channels in Italy and abroad,

See <https://mcexpocomfort.it/>

NEWS AND PRODUCTS

Roadmap to decarbonisation

The Irish Green Building Council (IGBC) has published a draft roadmap to decarbonise Ireland's built environment across its whole life cycle. The report looks at the impact of the built environment and construction across its whole life cycle and at projections up to 2030.

The draft roadmap shows construction and the built environment are directly responsible for 37% of Ireland's emissions, the same as agriculture. This is made up of about 23% operational emissions associated with the energy we use to heat, cool and light our buildings. A further 14% of the emissions are embodied carbon emissions from the production of construction materials, transport of materials, construction process, maintenance, repair and disposal of buildings and infrastructure. With 400,000 new homes scheduled to be built by 2030, there is a risk to blow the construction and built environment carbon budget if embodied carbon emissions are not rapidly addressed.

Pat Barry, CEO at IGBC said: "Given Ireland's ambitious construction and renovation programme, addressing embodied carbon emissions is urgent. Even before the first occupant of a new building ever steps inside this building vast amounts of CO₂ are produced, but what is not measured cannot be reduced. A first step therefore is to mandate measurement of embodied carbon in new buildings".



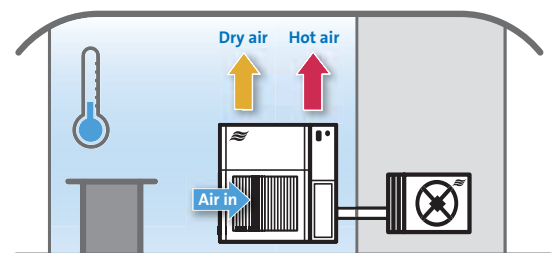
Rosemarie Mac Sweeney, #buildinglife Project Manager with Eamon Ryan, Minister for the Environment, Climate and Communications and Pat Barry, CEO, Irish Green Building Council (IGBC) at the launch of the Irish Green Building Council's roadmap to decarbonise Ireland's built environment.



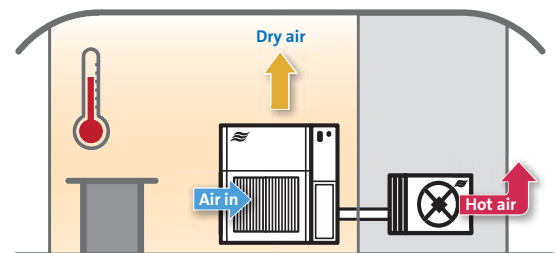
DEHUMIDIFIER WITH EXTERNAL CONDENSER

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NEWS AND PRODUCTS

BTU Results, Old Conna

Sponsor:

Mueller Europe, Conor Lennon.

Overall Winner:

Colm Kerr, 36pts.

Class 1:

Winner: Dermot Ryan, 35 pts.

Runner Up: Martin Duffy, 34pts.

Class 2

Winner: Frank Lynch.

Runner-Up: John White.

Class 3

Winner: David Lambert.

Runner-up: Brendan Coughlan.

Front 9: Jason Warnock.

Back 9: Steve Jones.

Visitors Prize: Tony Higgins.

Eurofluid sponsored

Matchplay draw:

F Lynch v J Lavelle: D Lambert v C Lennon; J Warnock v D Lynch; B Coughlan v S Kiernan: C Kerr v T Fitzpatrick; C Ryan v J White; M Duffy v S Jones.



Conor Lennon, Mueller with Brendan Coughlan.

Diamond Air Conditioning moves

Diamond Air Conditioning has moved to extensive new premises located at Cube House, Unit 1 NW Business Park, Blanchardstown, Dublin 15, D15 NYH4. Incorporating a full suite of modern offices, the new building's interior has been purpose-designed to ensure delivery of an even more expansive range of sales, support and technical back-up services. It is also immediately adjacent to Cube Logistics who are Diamond Air Conditioning's nationwide delivery partners.

Contact: Diamond Air Conditioning. T: 01 636 3131; E: info@diamondair.ie; W: diamondair.ie



Confidence to office market

Latest research from JLL, tracking Dublin's office market, indicates confidence has been restored to the market in the face of the hybrid model becoming a part of the foundation of the modern workplace. Over 1.18m sq ft is currently reserved with 23 requirements for space of 50,000+ sq ft.

Occupiers, who were initially expected to downsize, are now opting to keep and expand on their existing stock due to shifts in attitudes. The office is now seen as a communal area, primed to be a space for collaboration, and a respite from the "work from home" model. Sustainability will be a key issue for both landlords and tenants. The office is now part of a company's brand and is tied in with its sustainability targets.

This has led many to flock towards high-quality space which weighed favourably towards Grade A space with take-up of 90% Grade A, 8% Grade B and 1% Grade C. As the pandemic remains fresh in the mind, high-quality office space is also in demand as occupiers seek spaces that are capable of being Covid-19 compliant with contemporary spacing and ventilation systems.

Nominations open for AEMT Awards

The nomination process for the 2022 Association of Electrical and Mechanical Trades (AEMT) awards programme is now open. The awards acknowledge the skill, effort and dedication of people and businesses serving the sector and comprise eight categories: Product of the Year; Project of the Year; Service Centre of the Year; Supplier of the Year; Contribution to Skills & Training Award; Rising Star Award; Diversity in Engineering Award; and Lifetime Achievement Award.

Entries are being sought for any company, product, application or individual involved in the supply, installation, service, maintenance and repair of industrial machinery technology such as electric motors, drives, pumps, fans, gearboxes, generators, transformers, switchgear, and ancillary equipment.

Individuals can put forward entries for themselves and their company, or nominate others they believe merit recognition. Nominations close on Friday, 9 September 2022 and can be made directly at www.aemtawards.com



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NEWS AND PRODUCTS

Condair dehumidifier with external condenser

The Condair DC-N is a new condensing dehumidifier with an external condenser unit that can dry an area without the risk of overheating. Traditional condensing dehumidifiers introduce heat to a room from their built-in condensers when they dry the air. The Condair DC-N's external condenser allows the heat generated during drying to be remotely exhausted, similar to a split air conditioner.



Damien Power, Condair's Area Sales Manager for Ireland, commented: "Condensing dehumidifiers dry the air by creating a cold surface upon which moisture in the air condenses and drips to drain. This process generates heat, so the dry air leaving the dehumidifier can be several degrees warmer than the humid air entering it. For some projects, this added heat can cause an issue. However, by introducing fresh air, moisture can enter the room, making the humidity control less effective.

"The Condair DC-N is the ideal solution in these circumstances. When the room is cold and below the required temperature, the dehumidifier's on-board condenser introduces heat as well as drying the air. Then when the room's temperature set point is reached, the remote condenser activates, ejecting the heat externally rather than into the room. This allows a room to remain sealed, therefore providing efficient drying, while achieving the ideal internal temperature and humidity." Damien concluded.

Contact: Damien Power, Condair Area Sales Manager, Ireland. T: 091 507 120;

E: ie.sales@condair.com

<https://arrow.tudublin.ie/bsn/vol61/iss3/1>

Calpeda appoints Bishop

Andrew Bishop has been appointed Technical Sales Manager, Calpeda Pumps (Ireland). New Zealand born Andrew has lived in Ireland for 22 years and has held various industry positions as a qualified tradesman and in management.

He has 25 years experience in industrial sales, his roles including industrial hose and fittings, mechanical seals (barrier systems), bearing protection, pharmaceutical pumps and now the world of water.

"I'm really excited to join Calpeda," says Andrew, "especially given its strong family ethos, great people, top-quality products and can-do attitude."



CIBSE YEN 5-a-side returns

CIBSE YEN, in partnership with Unitherm, is delighted to announce the return of the annual 5-a-side football tournament. This year's competition will take place in the National Indoor Arena on the 20 July from 6pm to 9pm. The current holders, PJ Duffy & Sons, are keen to be the first team in CIBSE ROI history to successfully defend the most coveted award in the building services industry, which is of course the CIBSE YEN 5-a-side trophy!

JV Tierney has already confirmed its place and team members are anxious to go one further than their extra-time defeat to PJ Duffy & Sons the previous time around in the 2019 final. Previous winners Hevac are also confirmed to play. With star player Paul Deveraux recently completing rehabilitation from a recurring knee problem, this makes them firm contenders for this year's prize.

Food and drinks will be provided at the venue and presentations will be made directly afterwards. There are still some spaces available so, if interested in entering a team, please contact CIBSE YEN Chair, Ryan Loney on ryan.loney1@outlook.com.



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Tel: 00-353-1-8612200

Fax: 00-353-1-8612203

E-mail: info@calpedaireland.com

Legacy of English family to live on

As the recent sale of the Hevac Group companies, along with Heat Merchants and Tub & Tiles, to Wolseley marks a new beginning (see page 33), it also signals the end of the English family involvement in the building services engineering sector. Established in 1974 by John English, Hevac was not just part of what was then a fledgling market segment, but rather a leading force that helped shape how it evolved.

While Hevac developed into a multi-million euro turnover operation over the years, John – and later his daughter Carol and son Seamus, both of whom took over the reins after his death – continued to retain that “family” atmosphere and ethos. Indeed, it was this which attracted many to join the company. It is also reflected in the number of long-serving employees still with the company.

That said, and like all good families, hard work and initiative was also encouraged. It is no surprise to learn that many of those now running their own businesses in the sector, or working in senior roles for other companies, received their grounding at Hevac. While sorry to lose them, John – and later Carol and Seamus – were genuinely supportive of those who struck out on their own ventures. Participation in CPD events and involvement in industry bodies and institutions was also supported.

While it was John who established the foundations and built a very strong and stable platform, Carol and Seamus devised and implemented the second phase of its development. Under astute their stewardship Hevac, and sister companies Tube Company, Origen and Polytherm, gradually evolved from being heating and plumbing suppliers to leading players in the emerging energy and sustainability sector, repeating the

leadership cycle set in train by their father 45 years before.

Apart from the product portfolio, they also enhanced the back-up service. This included a dedicated technical and design support team of in-house

engineers, CAD technicians and system specialists, a first for a distributor in the industry.

A major milestone for the company was the acquisition of Heat Merchants Group which now has 31 Heat Merchants branches and 12 Tubs & Tiles showrooms throughout the country, and is supported by a central warehouse and distribution hub based in Athlone. At the time this was perceived as perhaps a brave foray into the merchant sector but, as time has proven, it was an astute investment and one that saw the pioneering spirit and abilities of John perpetuated by Carol and Seamus. They have now taken the decision to depart the sector for pastures new and, while they will both be missed, the legacy of the English family will live on in to the future. ■



Carol and Seamus English.

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BIM BREAKFAST BRIEFING

Enabling energy management and control for the construction sector

At the recent SEAI Energy Show, a panel of BIM experts (see inset) was challenged to explain how, while digitalisation of the construction process is recognised as the way forward if we are to realise net zero objectives, BIM is the enabling tool that will make it possible. In this special report by *Building Services Engineering* we capture the essence of their deliberations, and the conclusions drawn.



Alan Hore,
Facilitator

As with all new processes and technologies, there is a learning curve for those involved. Hence the panel took a unique approach to the challenge by addressing how BIM can be used to harness all four primary quadrants of the energy cycle – *Plan*: Potential Energy; *Design*: Embedded Energy; *Build*: Operational Energy; *Operate*: Sustainable energy.

This paper outlines the experts' input, experiences and opinions on how BIM can best be utilised, and how the various challenges posed can be addressed by utilising BIM to manage and minimise energy aspects of construction.

As Chair for the session Dr Alan Hore outlined the urgent challenge of decarbonising the construction industry stating: "This morning we will look at how BIM can be used to control energy across the

complete built environment lifecycle. The sector accounts for 39% of all energy-related CO2 emissions when adding building construction industry emissions. Global building floorspace is projected to double by 2060 and only 3% of investment in new construction is green and efficient. The sector has been locking in high emissions for decades and we need to do something about this urgently. The only way to tackle this is aggressively, and across the entire building lifecycle, and BIM is an ideal vehicle to achieve this."

BIM is a key part of the fourth revolution (digitalisation) of the AEC industry and an enabling tool for a cleaner and more sustainable built environment. This fact has been recognised by the European Commission and a number of H2020-funded projects, including BIMCert, are focusing on providing training frameworks and supports in order to upskill the industry.

This article, following previous publications from BIMcert, will provide additional summarised insights on how BIM can actively contribute to improving building stock and making the AEC industry more focused. It also addresses how the sector can more effectively achieve sustainability and energy efficiency goals and targets, and

Speaker line-up

Facilitator: Dr Alan Hore, Head of Quantity Surveying, TU Dublin; Michael Curran, Chairman, CIBSE Ireland and Head of Building Services, Energy & Utilities, NUIG; Michael Earley, RIAI BIM Champion and BIM Manager, DAA; Dr Avril Behan, Project Director, Build Digital and Senior Lecturer, Faculty of Engineering and Built Environment, TU Dublin; and Joseph Mady, founder and Managing Director, Digital Construction Technologies (DCT) and BIM Champion, CIF's Mechanical & Electrical Contractors Association (M&ECA).

why upskilling the industry is a key requirement.

What exactly is BIM?

Although increasingly more adopted and recognised by the industry, there are still some who do not fully understand or recognise the significance of BIM. Thus we provide a simplified explanation from the UK’s *National Building Specification* “... BIM is a process for creating and managing information on a construction project across the project lifecycle. One of the key outputs of this process is the Building Information Model, the digital description of every aspect of the built asset ...”

We can describe Building Information Modelling (BIM) as a method based in modern digital technology. Its strength is in its ability to spatially and temporally connect structured information (databases) from a wide variety of sources via a 3D model data that can be logically queried to support full construction lifecycle decision-making and processes. These models are the foundation of enriched digital twins when linked with auxiliary tools and processes that can, among other things, be used to support sustainability trends in the construction sector.

Why BIM upskilling is necessary

There are increasing requirements for energy efficiency competencies and applicable skills, resulting from European decarbonisation and sustainable energy strategies.

Therefore, solving the problem of skills development for sustainable energy required by the construction sector, and stimulating demand for sustainable construction and a skilled energy workforce, is closely connected to the upgrading of the BIM skills of construction



“By harnessing the capacity of the building sector, many countries can cut emission rates cost-effectively and achieve energy savings of more than 30%, according to the United Nations Environment Programme.”

professionals and workers across all disciplines.

As a sustainable energy supportive technology, BIM is a vital tool for reducing the carbon footprint in the construction sector. It is the backbone of the new “informed” way of working

in the construction sector, triggered and targeted by digitilisation and equipped to manage the “full energy content” of construction. Such is the impact of BIM that the EU has supported, promoted and developed several policies and initiatives to foster digitalisation in the construction sector. These include *inter alia* the *Strategy for the sustainable competitiveness of the construction sector and its enterprises* (2012), the *EU BIM Task Group* and the upcoming *EU Digital Construction Platform*.

Digitilisation and the use of BIM in the construction sector are in their infancy in some regions so now is the time to promote their adoption to proactively and effectively reduce the carbon footprint and environmental impact of construction. BIM provides the data for monitoring and management of a building’s energy consumption and this data

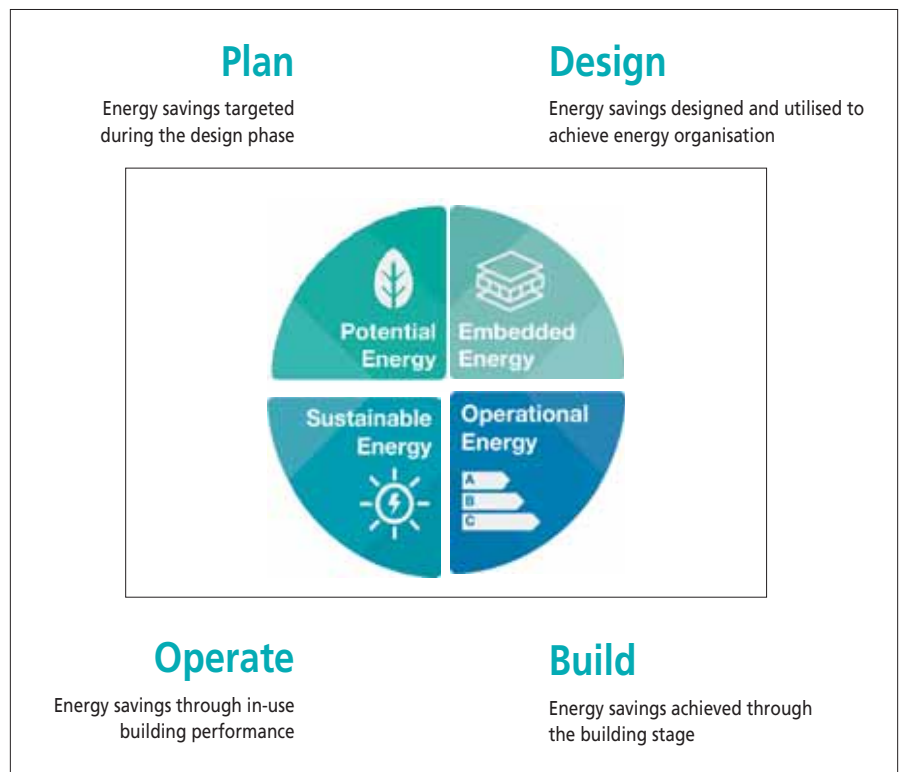


Figure 1 – Using BIM to manage the energy cycle in construction.

© Image property of BIMcert 2019

can be used as information to make informed decisions on how best to manage the entire energy cycle of a building.

There are four segments within the energy life cycle in construction – potential, embedded, operational and sustainable energy. These four segments combined account for all the energy used in the complete construction lifecycle. They are mutually dependent and, as a result, cannot be considered separately. Decisions and actions are not mutually exclusive; decisions made within one segment have significant impacts across the entire energy circle. See Figure 1.

BIM-based energy modelling provides several benefits, including more accurate and complete energy performance analysis in early design stages, improved lifecycle cost analysis, and more opportunities for monitoring actual building performance during the operation and sustaining phases.

In addressing the audience at the start of the session, Eamon Sheils from SEAI highlighted the importance of taking a holistic and innovative approach to dealing with the challenges of climate change. He stated: “We cannot hope to meet our ambitious targets for 2030 and beyond without using every available tool at our disposal. SEAI, in our role to drive action in this area, recognise the potential of BIM to play a significant part in meeting this challenge. The ability to consider the sustainability of a building over its whole lifecycle and beyond, at its very inception, is the best way to ensure that we do not create adverse impacts from our national stock into the future. The ongoing monitoring of building performance is another essential aspect which we at SEAI would fully endorse.”



1. Potential energy – targeted during the design stage

Planning and designing

In addressing the primary energy quadrant section of the session Michael Earley, RIAI BIM Champion and BIM Manager, DAA stated: “Every organisation that is responsible for planning, delivery, management and operation of building and infrastructure assets needs to establish a vision for sustainability which is executed through policy, strategy, management systems and guidelines. The execution of sustainability must be embedded in all phases of the delivery of a built asset, from assessment and need through to operation. BIM is a very important tool which allows building assets to be analysed and documented in a collaborative manner that is necessary to achieve a cohesive approach to the sustainable delivery of projects.”

Energy savings are planned and targeted during the design phase. The intent is to utilise BIM tools to proactively reduce the gap between predicted and actual building performance. BIM can be used to model buildings and sequentially perform multiple analyses, enabling energy performance prediction that can be applied to compare design alternatives, allowing for an improved final decision.



Michael Earley

BIM the enabler – This involves using BIM as an enabler of effective collaboration between design disciplines and reducing performance disparity from conception. The BIM collaboration method and tools allow for more efficient coordination and avoidance of errors. This leads to a more efficient construction process, avoiding wastage and contributing to decarbonisation during this phase.

Fast and accurate processing – BIM software, based on the 3D data-enriched model, allows for simulations such as solar paths, solar gains, thermal behaviour and testing of M&E systems. Those, allied to other digital technologies such as cloud computing, AI and machine learning, are already – and will increasingly – allow testing and evaluation of several design options until we find the best solution.

The design stage will improve as BIM allows for better-informed decisions by cataloguing and predicting the future behaviour of the building more accurately with a data-based process.

Visualisation of energy loads – BIM tools allow us to analyse the model, enriched with the correct input of data, as well as to calculate and graphically visualise/represent the loads and performance of the building. They allow an easier, clearer and more direct interpretation and understanding of design choice and changes impacting building performance.

Performance ratio comparison – BIM tools additionally facilitate quantification (5D) which, when allied with simulation tools, permits a better-informed cost versus performance ratio comparison. That helps make informed decisions about the feasibility of design options, as well as comparison of the predictable energy savings and

linked cost savings during the operational phase against the investment that is required in the construction phase. This is of the utmost importance to clearly illustrate that sustainability and energy efficiency are not only environmentally necessary but can also be profitable.

Full lifecycle approach – BIM involves a full lifecycle approach in the AEC industry, and the model is a digital twin of the built asset. BIM simulation tools enable the establishing and planning, from the inception/design phase, of a roadmap towards the most efficient way to run the building in the future.



2. Embedded energy – targeted during the construction stage

Building

Joseph Mady, Managing Director, Digital Construction Technologies (DCT), presented on Section 2 of the energy quadrant, the design stage that encompasses embedded energy. He opened his part of the presentation stating: “We need to fundamentally change our approach to how we design our buildings to ensure that we are building now for the future with ‘building to disassemble’ at the core of our methodologies.”

BIM is recognised as a tool to support the visualisation of a building’s energy performance. It covers sequence and schedule of construction aimed towards the application of sustainable construction materials and techniques, with minimum waste of energy and materials.

This enhanced approach using the BIM 4D (time scheduling simulation) and 5D (quantification) tools, allows for more efficient project management in the



Joseph Mady

construction phase, coordinating the works better, reducing construction time, avoiding clashes and coordinating the delivery of materials to site.

BIM virtually recreates not only the building but also the full site and its operations, enabling better preparation and coordination before any work commences. Using the 3D BIM model integrated with VR and AR technologies, site work can become more efficient and faster.

BIM-based digital design and visualisation also permits the better use, planning and site delivery of pre-fabricated components. In addition, data-rich BIM product catalogues can justify and enable an increased use of local materials. Using digital scanning, combined with BIM processes, integrates different digital data inputs and outputs into new digital workflows applied to construction.

This is a significant benefit of the 4th revolution, of which BIM is an integral part. For example, in the case of an existing building, a digital survey allows measurement of key hotspots requiring energy efficient improvements. BIM design can simulate and predict how to improve these, and how to implement advancements during the construction phase. During and after construction this can be re-measured, reusing the digital scanning techniques, and compared to the BIM model data to verify

and reduce the gap between predicted design performance and built performance.

If we account for all this, it becomes evident that the reduction of waste – for example the carbon footprint of material transport and extra material required in case of clashes and amendment, in addition to surplus energy spent on installation and construction – is better achieved using BIM tools. Additionally, this improves construction quality and brings the predicted and actual energy performance in buildings even closer.



3. Operational Energy – targeted during the operation/service stage

Operate

Dr Avril Behan, Project Director, Build Digital and Senior Lecturer, Faculty of Engineering and Built Environment, TU Dublin led the presentation on Operational Energy.

She began by saying: “Skills matter ... the construction sector must look to foster a digital culture that encourages continuous learning, agile development and innovation.

“With pioneering projects such as ARISE and BIMcert, the digital transformation of the sector is well underway. With enhanced skills across the workforce we can close the design performance gap and significantly control the operational



Avril Behan

energy performance of buildings. BIM is the “golden thread” that permeates all the energy quadrants and provides a visibility and control mechanism enabling carbon reduction at each step in the construction process. We face significant challenges in tackling climate change with buildings ‘generating’ 39% of annual global CO₂ emissions. To address this, we need a workforce with suitable digital skills to reduce the embodied and operational carbon footprint in the sector.”

Energy savings achieved through the building operation stage are monitored and managed on a continuous basis with lessons learned fed back to design teams for future projects. The practicality of implementing BIM is evident as it assists performance management through effective data management in building operations by supporting the interlinking of data environments (for example through BIM-supported energy management system of buildings). Effective energy management reduces the energy consumed while also maintaining occupants’ health, safety and comfort conditions.

BIM is utilised to improve existing processes aimed towards sustainable use of energy. Smart buildings and smart buildings’ usage are combined. Digital sensors and their monitoring platforms are connected to the building’s BIM digital model, the Asset Information Model. The engagement of wider public stakeholders (occupants and users) into a standard action of improving buildings’ energy performance is essential. Occupant behaviour and lifestyle choices in otherwise identical homes can vary energy performance by a factor of two or three times. Thus, education of building users and the further development of positive

reinforcement interventions are essential to achieving the goals that BIM creates a platform to achieve.



4. Sustainable energy targeted during the end-of-life

Operate – Sustainable energy

Closing the energy circle and addressing the Sustainable Energy quadrant, Michael Curran, Chairman, CIBSE Ireland and Head of Building Services, Energy & Utilities, NUIG said: “In NUI Galway we value our campus as a ‘living lab’ that allows our students, researchers and staff to develop new technologies and ideas, mechanically and digitally, to help us achieve our ambitious carbon reduction targets. This will be achieved by using BIM tools, giving us better asset management, preventive maintenance scheduling, efficient use of energy, retrofits, reconstruction and renovation. It will also facilitate the enhancement of lifecycle management, allowing us to meet the targets set by our campus community.

Michael demonstrated that the four quadrants were inextricably linked in addressing the energy challenges in construction. He highlighted that, in connection, all four quadrants can be addressed using BIM as the common language of construction, a method of enabling an easier way of achieving



Michael Curran

energy savings through the lifetime of the building.

Smart decisions made in the early design stage of construction, including the selection of materials with high recyclability and least carbon footprint when demolished, are part of not only reducing the embedded energy content of a building (construction), but also making buildings more sustainable (re-use of materials).

BIM is the tool that will help close the loop of energy and materials in a building’s lifecycle. *Finis coronat opus.*

Energy for demolition or recycle/reuse is a constitutive part of the lifecycle energy of a building and, although in less amount, can still have a significant contribution to overall environmental performance. All materials and products, especially those with high insulation properties, may require substantial energy and carbon effects for recycling or disposal. EPDs (environmental product declarations) of building envelope materials are incorporated as non-graphical information in the BIM model and used by various stakeholders and professionals in the supply chain.

In the near future, BIM models (with the help of AI prediction) will integrate the future use and re-use of buildings into design. This will facilitate the easier change of use and refurbishment processes while reducing the energy requirements for demolition and the materials used in connection with new builds so that true circularity can be achieved.

A huge amount of building stock is already available globally. BIM can be used to analyse and find effective, sustainable and feasible ways to re-use those buildings, reducing the need for new builds. Simulation of energy performance using digital technology – BIM

models and simulation – can further help justify sustainability-focused decision-making. BIM provides accessible, spatially-connected and easy-to-visualise data, including on the effectiveness of renewable energy systems, convincing the most sceptical and enabling further improvement and implementation towards our sustainable future.

Conclusion

Paul McCormack, Innovation Manager with Belfast Metropolitan College and the ARISE Project Co-ordinator, summarised the session stating: “BIM is the language of construction. With BIM we now have a digital tool that encompasses the entire built environment while enabling all operators to communicate effectively on a global basis.

“In the past, the different sections of the sector did not, or could not, communicate fully because of obstacles including different operational standards, language and geography. As a result of this, there were design/performance gaps resulting in poor performance and energy standards. BIM provides all of those operating within the four sectors of construction – Plan, Design, Build and Operate – with a platform within which to work in cohesion, communicate effectively and, as a result, achieve control over the four energy quadrants – Potential, Embedded, Operational and Sustainable.

For the first time in the built environment, we now have the tools to integrate all parts of the construction cycle, maximise energy savings and really control the CO₂ emissions of construction.”

As we move forward, there is a need for construction techniques, policy formulation and policy implementation to be integrated into a balanced and coherent system delivering sustainability



Eamon Sheils at the podium with (seated) Alan Hore, Michael Earley, Joseph Mady, Avril Behan and Michael Curran.

across the entire construction supply chain. In the EU’s *Energy Roadmap 2050*, BIM is the most effective supportive technology for sustainable energy, reducing carbon footprint and increasing the energy efficiency in the construction sector.

BIM is a tool. It is one of the key enablers while the digital environment is the medium. It is the people who can make and implement the change. A tool is only as good as its operator.

Considering the importance of digitalisation, BIM is the new *modus operandi* of the AEC industry. It is the key method to help the industry achieve the energy efficiency and de-carbonisation targets required to tackle the existing threat of climate change. Upskilling the industry professionals operating in this new reality is paramount.

How do we facilitate this upskilling? The ARISE project (<https://www.ariseproject.eu/>) is developing a learning framework and associated materials based on a “system thinking approach” that will deliver better results in energy efficiency than traditional methods. This is a holistic methodological approach, based on training the industry from the ground up and including:

- BIM awareness and impact on AEC industry efficiency and benefits;

- The principles of BIM collaboration to help the various stakeholders to become less fragmented;
- Essential IT and digital skills to integrate professionals in this digital framework (especially blue collars);
- More specific subjects aimed at specific construction roles, pairing BIM skills with role requirements such as 3D modelling, 3D authoring for designers and 6D BIM simulation for designers, 4D BIM for contractors, project managers, etc.
- All the training and subjects are encompassed and interlinked within a sustainable environmental approach and context.

Training is broken down into bite-sized information, in order to facilitate progressive upskilling of the industry, across all sectors. It is delivered via blended methods, further facilitating the adoption by professionals and SMEs that operate in an already time- and budget-constrained context.

ARISE is ensuring that the construction sector has the data and tools required to operate in a more “informed” manner to optimise construction through comprehensive deployment of sustainable energy skills. ■

References

1. United Nations Environment Programme, accessed 12th July 2019.

EXHIBITION REVIEW



Award Winners

Overall Winner

NZEB Training – WWETB.

Best Energy Efficient Product

Winner:

QAHV – Mitsubishi Electric.

Commended:

Aeroseal – Spectrum Engineering.

Best Innovative Product

Winner:

MIXIT – Grundfos.

Highly Commended:

HS48 – Crystal Air PCM.

EnergyElephant Platform – EnergyElephant.

Commended:

SportsArt G690 – Expert Leisure.

Best Lighting Product

Winner:

Cree Sirius – TaskLED.

Commended:

Enterprise – Verde Energy Group.

Best Renewable Product

Winner:

HVO Biofuel Grant Vortex – Grant Engineering.

Best Services Provider

Winner:

NZEB Training – WWETB.

Highly Commended:

METAC Training – METAC.

RetroKit Platform – Retrokit.

Commended:

EPC – Lawler Sustainability.

Symphony Energy – Symphony Energy.

Appetite to engage at Energy Show makes for excellent event

The recent return of the SEAI Energy Show to a live event in the Main Hall of the RDS proved a major success with the unique exhibition/seminar/demo formula making for the perfect networking forum. Exhibitors and visitors alike were buoyed by the occasion with the level of positive interaction confirming that, despite

rising costs and supply issues, the industry is definitely thriving.

The level of engagement between the 4000 plus visitors and stand personnel was very productive with exhibitors projecting business sales of €110 million. Meanwhile, the capacity attendance at the BIM Breakfast Briefing, the NIAI insulation seminar



WWETB – Michael Curran, Chair CIBSE Ireland and an awards' judge with Kevin Lewis, John Cassidy and Michael O'Brien, WWETB and Ciaran Byrne, Director of National Retrofit.

Compact with
Style Vertical

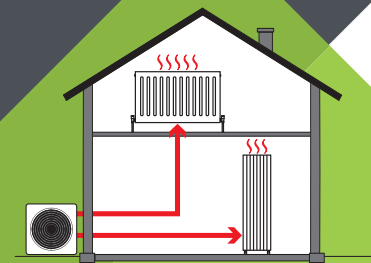


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The level of engagement between the 4000 plus visitors and stand personnel was very productive with exhibitors projecting business sales of €110 million.

and the retrofit demonstrations clearly illustrated the industry appetite for knowledge and information within the sector, and the willingness of all to share their experiences and learn from one another.

The “lighting tunnels” on the LAI Pavilion proved very popular while the dedicated Product of the Show Awards stand was the major starting

point for many visitors on their tour of the show.

Being the first significant live business-to-business event for the sustainable sector in a number of years, there was a certain level of anxiety and trepidation as to how it would unfold. However, as it turned out, it was one of the best shows since the first Energy Show in Dublin in 1996.



Verde Energy – Alan Clarke and Denis Hadzialic, Verde Energy Group.



Spectrum Engineering – Brian O’Connell and Craig Barbour from Spectrum Engineering with Mona Duff, one of the judges and Ciaran Byrne, Director of National Retrofit, SEAI.



Expert Leisure – Susan McEntegart and Bernard Delaney, Expert Leisure.



Mitsubishi Electric – Sean Campbell, David McConnell and Ray Buckley, Mitsubishi Electric.



Metac – Ursella Dunphy, METAC Training with Ciaran Byrne, Director of National Retrofit, SEAI.

EXHIBITION REVIEW



Crystal Air – Don Hoban, Conor Murray, Domnick Ward and John Valentine, Crystal Air with Ciaran Byrne, Director of National Retrofit, SEAI.



EnergyElephant – Joe Borza and Eoin Mulvey, EnergyElephant.



Grant Engineering – Niall Fay and Barry Gorman, Grant Engineering.



Lawlor Sustainability – Joe Durkan, SEAI and an awards' judge with Jason Smith, Filipe Azevedo, Laura McMahon and Nicola King, Lawlor Sustainability.



Grundfos – Brian Hennessy, Liam Mc Dermott and Shane Fleming, Grundfos with Ciaran Byrne, Director of National Retrofit, SEAI.



TaskLED – Marco Ligasacchi, Cree, with Gearoid McKenna, TaskLED.



Retrokit – Susan O'Flaherty, Xavier Dubuisson and Shay Kavanagh, Retrokit.
Published by ARROW@TU Dublin, 2022



Symphony Energy – Edward Barrett-Shortt, JP Johnson with Sean Johnson, Tom Ascough and Sean Ascough, Symphony Energy and Mona Duff, an awards' judge.

Our products ...

Carrier Air Cooled Chiller



Jacir/Gohl Cooling Towers



Clint Turbocor Premium Efficiency Air and Water Cooled Chillers



Vertiv/Liebert Close Control Units



Carrier and Novair Air Handling Units



■ Carrier Water Cooled Chiller



■ Vertiv/Liebert Adiabatic Free-Cooling Chiller

■ Carrier VSD Screw Premium Efficiency Air Cooled Chiller



AIR CONDITIONING IRELAND LTD



■ Vertiv/Liebert Indirect Evaporative Cooling Unit



■ Lu-Ve Dry Air Cooler

... speak for themselves

(for everything else, speak to our staff)

New national construction awards programme

Towards NetZero Ireland awards programme

Towards NetZero Ireland is a new national construction awards programme devised to encourage and reward the industry in striving to establish new coordinates for sustainable design in Ireland. As we seek to be carbon neutral by 2050, what we need now is to move from aspiration to action, to insightful design, appropriate technology, knowledge sharing, data analysis and imagination.

These new awards will help drive this critical objective by recognising those who show leadership in striving for net zero buildings. The awards are open to building owners, developers, architects, engineers and managers of buildings who demonstrate significant progress along the path towards net zero energy and carbon neutrality.

State Architect, Ciaran O'Connor, is Chair of the panel of assessors, while the other judges include Michael Curran, Chairman, CIBSE Ireland; Mona Duff, Senior Manager at International WELL Building Institute (IWBI); Paul Martin, Programme Manager, Technical Standards Development, SEAI and John Macken, Associate Director, O'Mahony Pike Architects.

Submission requirements can now be viewed at: www.netzeroawards.ie

Declarations of interest must be declared by Friday, 3 June 2022, with full submissions due no later than Friday 10 July 2022. ■

<https://arrow.tudublin.ie/bsn/vol61/iss3/1>

JUDGING PANEL

Ciaran
O'Connor



Michael
Curran



Mona
Duff



Paul
Martin



John
Macken



TOWARDS
NetZero
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CONSTRUCTION
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The HVAC system can account for up to 30-60% of your building's energy consumption. Upgrading your AHU with a simple retrofit of FläktGroup's EC Fan Wall can bring you energy savings of up to 50% – probably the easiest way to significantly reduce your building's carbon footprint!

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The FläktGroup chillers, heat pumps and 4 pipe units can be selected flexibly and are suitable for a wide range of applications. Air-cooled units for outdoor installation and water-cooled units for indoor installation are available.

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- 1 unit for heating + cooling

Help buildings adjust to changing demands

Digital approach to optimise water management



What we want from our buildings is evolving. Drastic changes in the way we live and work have been driven by the rise in remote working against a backdrop of tightened budgets and soaring energy prices. Here in Ireland this is being compounded by new regulations on energy performance for new-builds, and the requirement for upgrades to heating, cooling and ventilation systems for extensive renovations of buildings older than 15 years¹. But how can buildings adapt to meet new demands without compromising performance or using energy excessively at peak times? The answer lies in digitalisation, says *Kevin Devine, General Sales Manager, Xylem Water Solutions Ireland*.

A digital approach has the potential to optimise water and energy management of buildings in all phases of the life-cycle. From the design stage onwards, digital solutions provide significant improvements to systems' operation to adjust to these new patterns and save energy and costs, both from the ground up and with retrofitted components.

Predicting performance

Buildings being designed to serve today's needs must be flexible in the face of ever-changing circumstances, and these fluctuations demand the capacity to predict and model the way each system will act. Building Information Modelling (BIM) allows planners and consultants to build a virtual simulation to forecast

how the system will act by collecting, managing and exchanging information from assets like pumps. It will also ensure building systems are optimised from the moment they begin operating. This digital twin can identify areas where energy and water savings are available to plan a resilient building from the ground up by allowing the selection of the correct product for its application, for example, by not oversizing systems that consume too much energy.

Coping at peak times

Coping with surges in demand for water supply is a huge challenge faced by building managers who need to stabilise related water pressure. Smart solutions not only provide a supply of water tailored to the consumer's needs, but offer the ability to interact with building management systems. Fully automatic booster sets can guarantee a stable water pressure during unexpected peaks, while ensuring the lowest energy consumption



to meet stringent new regulations.

Better monitoring

As demand differs from expected use, it is essential that clean water use can be fairly apportioned within future-proofed buildings. The latest meters remain accurate over a long operational life and come with in-built connectivity which is vital for future building needs. New cloud-based device alarm software can provide online operational status and early warnings for connected devices to power smarter decision-making. Other new digital tools available can help building systems operate smarter by using round-the-clock monitoring to offer insights into the energy consumption and performance of assets.

Rising to the challenge

Digitisation, enabled by the Internet of Things (IoT), can transform how key assets operate in the water lifecycle across all phases of our buildings, thereby enabling building systems to rise to the challenge of new demands like how we use water within our homes or public buildings, as well as the challenge of tighter energy performance. Crucially, these technological solutions can be tailored to the needs of every building at the design stage in order to anticipate change, bringing increased reliability and efficiency with no concession on reliability or cost to provide more sustainable buildings that are fit for the future.

Contact: Kevin Devine, General Sales Manager, Xylem Water Solutions UK & Ireland. T: 087 757 7411; E: kevin.devine@xylem.com; www.xylem.com/en-ie ■

References

1. <https://www.seai.ie/business-and-public-sector/>

Sustainable Heating & Cooling Solutions



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Best practice, engineered indoor air quality

Indoor air quality has always been a feature of building services engineering design, but it has now shifted centre stage as our understanding of its significance has grown. It is no longer merely about basic comfort levels. Today it includes considerations such as occupant wellbeing, energy efficiency, sustainability, regulation compliance and even product circularity.

Consequently, indoor air quality specialists need to be multi-faceted with a portfolio of technologically-advanced products and in-depth engineering skills. Diamond Air Conditioning is one such company.

Principals Graham McCann and Michael Clancy have a wealth of experience and proven track record in the heating and air conditioning sector, and they lead a large team of highly-qualified engineers who help deliver project-specific heating and air conditioning solutions. Having doubled in size in recent years, the forecast is to do so again over the next five years.

An added strength is the partnership relationship Diamond Air Conditioning shares with its key suppliers. All are market-leading, global manufacturers with vast portfolios of innovative products (see panel insets). They also have extensive R&D and technical divisions that provide general advice or support on particular queries.

Taken together, this makes for a formidable force that sets Diamond Air Conditioning apart. When it comes to delivering future-proofed, indoor air environments incorporating heating and air conditioning solutions, it has no equal.



Diamond Air principals
Graham McCann and
Michael Clancy.

Operations management

Because of the many strands now involved in modern-day projects, operational control and management is vital to ensure the best possible outcome.

Such is the importance of this role that Diamond Air Conditioning has a dedicated Operations Manager in the person of James Goldrick. James has extensive experience in this area and understands the complexities involved in project management. He liaises seamlessly with clients and dealers on all project sizes, trouble-shooting where necessary and resolving the various challenges that can arise, be they technical or logistical.



Design and technical support

Correct system design and product selection is critical to the success of any installation and Diamond Air Conditioning's engineers provide a comprehensive range of support services. When presented with a set of project drawings they advise on the best engineered solution and are on hand to give technical advice and guidance as the project proceeds.

This service covers all types and size of application, from domestic through to commercial, and includes everything from pipework layout and product location, right the way through to final commissioning. This also includes full technical support which extends to on-site support where necessary.

Products and parts availability

At Diamond Air our project team is busy quoting replacement Sanyo outdoor VRF units. The new Panasonic VRF outdoor units are a direct replacement for most existing indoor Sanyo units and can be easily switched over with no disturbance to existing indoor systems. As an added bonus, they come with up to a 7-year warranty.

Additionally, Diamond Air Conditioning has teamed up with *Revolut Business* for a faster, more convenient way to order spare parts or any of their extensive product range. So, no problem if you're not an existing customer ... simply call 01 – 636 3131.

With over 200 pallets of stock in its Dublin warehouse, customers can rest assured that whatever their order, it will be picked and processed by logistics partner Cube Logistics for same day pick-up or next-day nationwide delivery.



Engineer training

Diamond Air Conditioning runs a continuous training programme for engineers and installers, ensuring they are kept fully-informed of all the latest technology updates.

This support is complemented by on-site commissioning assistance for both Lennox and Panasonic, in addition to a technical phone line for engineers with live video chat.



Panasonic ... bringing nature's balance indoors

Panasonic is one of the world's premier heating and air conditioning companies with a vast portfolio that provides multiple-choice solutions for all application types. Renowned for the development of innovative products and advanced technologies, its latest breakthrough – the acclaimed nanoe™ X – is truly unique and brings the benefits of hydroxyl radicals to bear indoors.

Abundant in nature, hydroxyl radicals have the capacity to inhibit pollutants. They are unstable molecules that readily react with elements like hydrogen, capturing them. Thanks to this reaction, hydroxyl radicals have the potential to inhibit the activity of pollutants, breaking them down and neutralising their unpleasant effects. This naturally-occurring process has major benefits that improve indoor environments.

By creating hydroxyl radicals contained in water, nanoe™ X technology significantly boosts their effectiveness. This technology is now incorporated across the Panasonic portfolio.



Sonniger air curtains

Sonniger is a leading supplier of modern, ecological equipment for industrial heating that includes air curtains and water fan heaters.

Latest addition is the new GuardPro range which boasts modern design and strong technical features. These industrial air curtains are designed to minimise heat-loss in high-traffic areas, the modular design enabling coverage of wide openings.



These industrial air curtains are designed to

Scan QR code with your mobile phone and place GUARD 3D model in your live virtual reality picture!



Installations include large retail outlets and showrooms, factories, industrial warehouses, garages and workshops.

Roof tops re-imagined

Lennox is a leading worldwide provider of climate control solutions for air conditioning, heating and refrigeration. The company portfolio includes mini splits, light commercial, VRF, residential, commercial and indoor air quality. The latest new product is the Lennox Model L roof-top unit featuring the revolutionary Lennox® CORE Unit Controller and advanced variable-speed technology.



In addition, premium diagnostic features reduce installation, service and maintenance to provide the lowest total cost of ownership in the industry.

PRICE LIST



Split system quick reference



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Wilo-Energy Solutions

Energy audits key to carbon and energy savings

With governments pledging to reach net zero emissions in the short-term, there is mounting pressure on companies to detail how they will move to a low-carbon future. Against this backdrop, Wilo is highlighting the importance of energy saving audits to help them do just that.

By carrying out a detailed site survey, Wilo can demonstrate to clients how they can significantly reduce energy usage and carbon emissions, in addition to operational costs.

Wilo has been campaigning for energy efficiency for decades now, especially as a high percentage of pumps used worldwide is considered technologically outdated. As a consequence of this, there are enormous potential savings in replacing old uncontrolled pumps with modern high-efficiency pumps.

Hence the introduction of *Wilo-Energy Solutions*, an initiative that involves the early replacement of still-functioning but uncontrolled pumps with Wilo high-efficiency pumps. Besides the clear environmental benefit, there are also other advantages such as a significant reduction in energy costs, future security, supply security and hygiene security.

Wilo is currently working on multiple sites, both in Ireland and worldwide, helping companies get closer to the EU 2050 net zero carbon

target. Derek Elton, Managing Director, Wilo Ireland says: "We have been working for some time now with various clients and institutions right across the country who are committed to sustainability. In doing so, we see a growing understanding among them of the energy saving

and carbon reduction potential our energy audits offer, and a significant uptake of our energy solution upgrades on existing pumping plant following such surveys."

Wilo's energy audits involve a full test and verification of existing plant to validate both the cost and energy/carbon savings that clients can achieve, and to demonstrate in particular the hidden carbon and energy saving opportunities most building owner/operators have within their grasp. Something as simple as replacing old booster sets or HVAC pumping equipment can make a significant difference.

In addition to these savings, Wilo provides clients with peace of mind through a service and maintenance program designed to maintain system efficiency while, at the same time, ensuring that the company meets its sustainability goals.

"The scale of the potential energy and carbon savings must not be underestimated," concludes Derek. "Pumps across the world account for about 10% of the global energy consumption, and around 90% of today's installed pumps are outdated and inefficient. So, it's important to demonstrate just how simple it can be to make very worthwhile changes. The government's net zero pledge is now at the forefront of most operators' minds and, if they can reduce carbon emissions and energy expenses while gaining a return on investment, it's a win-win for all."

For more information on the *Wilo-Energy Solutions* initiative simply visit: <https://wilo.com/ie/en/Service/Energy-Solutions/> ■

Left: Stratos Giga high-efficiency circulator.



Sophisticated technology solutions

Panasonic presents innovative Aquarea EcoFlex with nanoe™X

The latest addition to the Panasonic Aquarea range is the new Aquarea EcoFlex, an innovative flexible space heating, space cooling, cleaner air and domestic hot water system designed for a greener future. Panasonic has developed the sustainable and efficient Aquarea EcoFlex to provide a 2-in-1 solution by connecting an air ducted unit with Panasonic's nanoe™X technology and an air-to-water Aquarea heat pump.

This hybrid system delivers energy efficient space heating, cooling, cleaner air and heat recovery hot water. The heat pump uses unique technology to drive its systems. This offers heat recovery for DHW along with air conditioning operation, bi-heating and non-stop heating. It does this while delivering optimum performance efficiencies and energy savings, in addition to producing very low CO2 emissions.

Panasonic's Aquarea EcoFlex delivers cool or warm air through the ducted unit, and hot water to radiators, underfloor heating and DHW, depending on the installation. The 7.1kW capacity adaptive ducted unit – with nanoe™X generator Mark 2 – allows both vertical and horizontal installation. It has a low noise operation down to 22bd(A) and a compact body of just 250mm high, as well as a

built-in water drainage pump.

Recognising the importance of keeping a well-maintained system, Panasonic has ensured the Aquarea EcoFlex is simple to maintain, with easy access to hydraulic parts thanks to a straightforward door-opening mechanism. It also has an improved water filter, ensuring a superior dust removal capacity for less frequent filter cleaning and maintenance. A buffer tank is not required for the EcoFlex, further reducing space, cost and installation time.

Innovative nanoe™X technology

Panasonic's nanoe™X provides an outstanding solution for any environment. The sophisticated technology utilises hydroxyl radicals which inhibit the growth of five types of pollutants. These include various bacteria and viruses, allergens, moulds and certain hazardous substances, as well as odours. This naturally-occurring process improves the protection inside a room 24/7 and makes it a more pleasant place to inhabit.

The slim 600mm x 598mm body of the indoor unit means it perfectly complements any kitchen interior, utility room or laundry space, while the built-in 185L water tank offers excellent capacity. The Aquarea EcoFlex also comes with built-in wi-fi as standard, with wi-fi adapters included for instant connectivity via Panasonic Comfort Cloud App. This enables smart control and energy consumption monitoring, and ultimately energy savings. It can also be connected to the Aquarea Service Cloud, enabling installers or service partners to manage customers' heat pumps remotely.

Panasonic's U-Vacua technology

Utilising Panasonic's innovative U-Vacua insulation technology, the high-performance vacuum insulation panel has very low thermal conductivity in a thin design. U-Vacua's impressive performance saves space while increasing the energy efficiency of any solution that requires low energy loss from heat transfer.

Contact: Walter Stephens.

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Eamonn Kent. T: 087 439 4032;

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Wolseley acquires Heat Merchants and Hevac businesses

Wolseley UK has recently acquired the Heat Merchants, Tubs & Tiles and Hevac heating, plumbing, tiling and bathroom businesses. They have combined revenues of approximately €150 million and employ over 400 people in 47 locations in the Republic of Ireland.

The transaction also takes in other successful brands within the group including Tube Company of Ireland, Polytherm Heating Systems, Origen Energy and Aluminox.

All jobs will be retained, and it is also planned that the individual brands will be retained. While the acquisition is subject to clearance from the Irish Competition and Consumer Protection Commission, there is no obvious reason why it should not be approved.

Heat Merchants, which focuses on the heating and plumbing sector, has 31 branches across Ireland, together with a central warehouse and distribution hub in Athlone. Support services offered include technical design and specification, installer training, commissioning, warranty and after sales services. The commercial division manages a variety of light commercial and multi-residential projects. It holds a well-established position in the Irish market with a 42-year business track record.

Tubs & Tiles is the largest tile and bathroom retailer in Ireland with 12 showrooms nationwide, along with an established ecommerce channel. In addition to retail sales, it is a key provider to hotels, leisure, retail and

multi-residential developments in the commercial sector.

Hevac Ltd specialises in heating systems to the commercial, industrial and residential sectors. Its capabilities include large industrial steam systems, underfloor heating, district heating and renewable energy solutions. It is Hevac policy to engage with customers from the project concept stage right through to project delivery.

Simon Oakland, CEO Wolseley UK, commented: "This is a very exciting announcement for Wolseley as it acquires Heat Merchants, Tubs & Tiles and Hevac, all well-known brands in Ireland providing a local and personal service, which Wolseley will further build

“

The new ownership will allow us to contribute the appropriate resources and skills to further invest in Hevac and leverage Wolseley's broader operational capabilities.



Simon Oakland, CEO Wolseley UK.

on. Wolseley itself is undergoing an ambitious growth strategy through business acquisition and this latest announcement is a key part of this."

Shane Colleran, Director, Heat Merchants Group said: "This transaction and change to Wolseley ownership could not have been better timed. It will allow us to build on the momentum we have generated over recent years and enable us to invest in the significant market opportunities in Ireland. There has been a considerable increase in activity to address the current housing under-supply in this country, coupled with the continued development of commercial and industrial infrastructure, and this transaction will allow us capitalise on these developments."

Garrett White, Director, Hevac added: "We are incredibly optimistic about the substantial opportunities presented by this acquisition. The new ownership will allow us to contribute the appropriate resources and skills to further invest in Hevac and leverage Wolseley's broader operational capabilities. We are very excited about the future and the chance to further accelerate our growth with Wolseley." ■

HVO biofuel Grant Vortex wins 'Best Renewable Energy Product' at SEAI Energy Show 2022

Grant's HVO biofuel compatible Grant Vortex condensing boiler was awarded "Best Renewable Energy Product" at the recent SEAI Energy Show 2022. Renowned for highly-efficient, innovative heating technologies and a commitment to reducing carbon emissions, this award is the company's first major recognition for the HVO biofuel compatible Grant Vortex boiler. Grant was also recognised for its innovation in *The Irish Times* Innovation Awards 2021, where the same product was a finalist in the sustainability category.

<https://arrow.tudublin.ie/bsn/vol61/iss3/1>



Grant Vortex boiler house 26kW model.

Above: Grant Vortex Module 26kW.

The HVO was developed following an investment of over €250,000 in R&D which aimed to devise a solution to help rural and hard-to-heat homes reduce their carbon emissions, and help prevent homeowners from incurring the high cost and subsequent disruption to daily life of deep retrofitting.

A trusted brand for home heating for over 40 years, Grant continues to demonstrate its commitment to sustainable and innovative product development. Founder Stephen Grant said: "We are delighted that our HVO biofuel compatible Grant Vortex boiler received the Best Renewable Energy Product of the Show award at the SEAI Energy Show. Our breakthrough in the research and development of HVO-ready condensing boilers has led the way for us to transform largely into a renewable heating company, and we continue to lead the industry in designing and manufacturing heating

technologies that offer a low carbon and sustainable home heating solution for homeowners throughout Ireland”.

Hydrotreated vegetable oil (HVO) is an advanced renewable diesel biofuel derived from 100% renewable waste fats and vegetable oil. While it is a relatively new fuel to Ireland, in Europe and the UK it is used for marine and public transport, and to power generators. The HVO currently available in the UK and Ireland is manufactured from 100% renewable and sustainable waste derived from raw materials and is certified via the International Sustainability and Carbon Certification (ISCC) scheme.

Stephen continues: “Over one million liquid fueled homes on the island of Ireland could be decarbonised by installing an HVO biofuel compatible Grant Vortex boiler, especially those that are off the grid and have poor thermal efficiency. The cost of updating an existing boiler would be approximately €500 when matching and changing to a new biofuel burner. However, this could be substantially less if the boiler is already biofuel compatible.”

Niall Fay, Director of Grant said: “Using 100% HVO for heating will help meet Ireland’s carbon emissions target and result in an immediate carbon reduction of approximately 87%. Using this, or a percentage blend of HVO with kerosene, will enable rural and hard-to-heat Irish homes transition to a renewable green alternative from 100% kerosene at an affordable cost and with minimum disruption to their home lives. In terms of renewable heating, using 100% HVO could provide a more sustainable way to heat existing homes than a heat pump.”

Grant is a member of OFTEC, the trade association for the liquid fuel heating sector and David Blevings, the OFTEC Ireland manager said: “This is a very positive step and it reinforces our belief that biofuels have a key role to play in reducing emissions in the home heat sector. We have

“

Over one million liquid fueled homes on the island of Ireland could be decarbonised by installing an HVO biofuel compatible Grant Vortex boiler.



Grant Vortex utility 26kW model.

continually advised Government that the introduction of biofuel as a replacement for kerosene is a viable option and should be part of Ireland’s future energy mix.

Replacing kerosene with HVO is a seamless transition for existing liquid fuel users and a simple option for Government to reduce carbon emissions in the off-grid sector. If Ireland’s 700,000 or so oil-fired homes were to switch to HVO tomorrow, the annual carbon emissions from the liquid fuel sector would drop from about 3.7 million tonnes to 488 thousand tonnes per annum. This substantial saving is available today, not in 10 years’ time.”

Grant’s overall portfolio of heating technologies currently includes HVO biofuel compatible condensing boilers, air to water and air source heat pumps, condensing wood pellet boilers, solar thermal panels, underfloor heating, hot water cylinders and aluminium radiators.

Visit www.grant.eu for more information. Follow Grant on Facebook and Twitter @GrantIRL, Instagram @Grant_IRL and Grant Engineering ULC on LinkedIn ■



Ciaran Byrne, SEAI Director National Retrofit with Niall Fay, Director and Barry Gorman, National Renewables Sales Manager, Grant and Mona Duff, Senior Manager of the International WELL Building Institute and one of the Awards’ judges.



gas safety solutions

Flamefast has been manufacturing and supplying high-quality, cost-effective gas safety solutions for over 40 years. It is synonymous with safety and reliability, the high level of engineering and technical support provided being equally important. Thanks to its long-standing trading partnership with C&F Quadrant, these benefits are available throughout Ireland, the additional input of the C&F Quadrant engineering team providing project and application advice at local level. Whatever the gas safety requirement, C&F Quadrant has a Flamefast solution.

See the full range at:

www.flamefast-gas-safety.co.uk

GasMonitor

16-channel gas detection system

The GasMonitor is a low-cost, high-specification 16-channel gas detection panel designed for use with the Flamefast Gas Sensor (FGS) range. Installation costs are minimal as any combination of sensors from the FGS range can be connected by simply wiring in parallel.

The communication interface allows all sensor information to be displayed on the panel, including gas type, concentration status, alarms and calibration data.

The relay outputs allow the unit to be connected to external systems or alarm beacons while the latching and failsafe facilities, combined with the additional device interfaces, offer the flexibility to cover any application.



Key features

- 16-channel monitor;
- Clear LCD indication;
- Auto-reset following power failure;
- Fire alarm test bypass timer;
- Additional interfaces for thermal links, ventilation systems, remote emergency stop buttons and fire alarm systems;
- Alarm 1, Alarm 2 and fault relays;
- Selectable relay latching function;
- 5-year warranty.



Dublin: +353 (1) 630 5757

Belfast: +44 (28) 90 36 55 55

Flamefast Gas Sensor (FGS)

BACNET, 0-10V, VFC (24V AC/DC)

The Flamefast Gas Sensor is one of the most versatile gas sensors available on the market. With an analogue and relay output, as well as a BACnet MS/TP interface, FGS can connect directly into most third-party controllers or to any of the Flamefast range of gas safety systems.

The plant room safety systems are BMS integrated in a large proportion of modern buildings and the FGS has been designed with this in mind. It can be treated like any other field sensor as the latching facility allows direct integration with the primary safety circuit.



The broadband Pellistor and infra-red hydro-carbon sensors can be calibrated to suit most combustible gases with an option to factory calibrate and rename the sensor for the specific gas. There is also a full range of toxic gas sensors, including H₂S, HCN and many more.

Key features

- 24 AC/DC power supply;
- Pre-calibrated;
- Traffic light LCD readout;
- Volt-free contact output;
- Latching function with reset input;
- Analogue output;
- Simple configuration and calibration;
- Calibration and "end of life" reminders;
- Mounts onto any standard single-gang junction box or conduit box.

Gas Solenoid Valve

This Class A direct-acting, normally closed gas solenoid valve can be used in conjunction with any GasGuard panel for low-pressure isolation, proving and interlocking systems. The twin port design (excluding half inch) allows easy installation of the Flamefast pressure transmitter or CPI switches. Any valves larger than 4" are electro-hydraulic with an integrated CPI switch as standard.

Key features

- Power supply 230VAC;
- Body material aluminium;
- Internal material aluminium;
- Media temp -10°C to 90°C;
- Seal NBR;
- IP rating IP54;
- Approval CE, EN161R.



GasGuard

The GasGuard gas proving system is designed to meet the requirements of IGEM/UP/11 Edition 2 for educational establishments and is a BS6173:2009 and IGEM/UP/19 compliant ventilation interlock. It is ideal where appliances are not fitted with flame-failure devices.

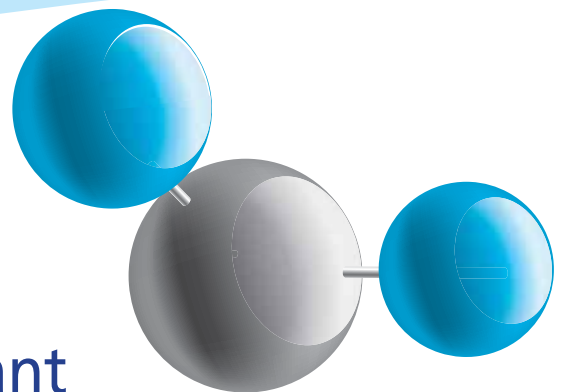
With a backlit LCD, the GasGuard provides a clear indication of any issues with external devices such as ventilation systems, and will provide details of gas pressures and gas sensor levels.

Key features

- LCD indication and instructions;
- No commissioning required;
- 24VDC auxiliary power output;
- Gas, CO₂ and ventilation system interface;
- High accuracy pressure transmitter;
- Built-in time delays.



Excellent products supplied
and supported by C&F Quadrant



CIBSE Ireland AGM

Institution confirmed as major force in building services

Attendees at the recent CIBSE Ireland AGM in Dublin were left in no doubt as to its pivotal position in building services engineering in Ireland as various speakers detailed the extensive programme of events implemented over the last 12 months. The leadership role CIBSE Ireland now takes in the affairs of the industry is well recognised and it was fitting that so many milestones were reached in a year that saw one of our own, Dr Kevin Kelly, lead the Institution worldwide as President.

All positions within CIBSE Ireland are voluntary and it's perhaps because of this, if not despite it, that the extensive programme of events is so professionally delivered. There is a common sense of purpose, unity and cohesion that is the envy of other CIBSE Regions, not to mention the many professional representative bodies within the sector who have paid executives.

Included in the events of note over

the last 12 months were the following:

- CIBSE Ireland Committee meeting with special guest Dr Kevin Kelly, President of CIBSE worldwide;
- Lunch with Ruth Carter, the newly-appointed Chief Executive of CIBSE, Hywel Davies, Technical Director, CIBSE, Dr Kevin Kelly, CIBSE President and a number of special guests.
- A social evening to mark and acknowledge Dr Kevin Kelly's achievement and to honour his being appointed CIBSE President;
- A technical evening with Hywel Davies, Technical Director, CIBSE where he outlined the many changes likely to result from the Grenfell fire;
- CIBSE Officers presented keynote inputs to various seminars and workshops during the two-day SEAI Energy Show 2022. This included a leadership role in the BIM Breakfast Briefing and the hosting of the Women in Engineering event;

- Chair Michael Curran attended the President's Dinner in London and various RLC committee meetings;
- Special lunch gathering for members in Ireland who achieved chartered status;
- Leadership role in the EIFI and M&ECA Task Force reviewing the impact of materials, products and skills shortages;
- Joint mentoring initiative between ASHRAE Ireland and CIBSE Ireland.
- Establishment of a Heat Pump Working Group; a BIM Modelling Working Group; Women in Engineering Working Group and a Sustainability/Carbon Working Group.

Apart from technical leadership, CIBSE Ireland also delivers a social and networking programme. This includes the forthcoming CIBSE YEN field trip; CIBSE YEN 5-a-side football tournament; the CIBSE annual golf outing and, of course, the CIBSE annual dinner. All in all it is a massive programme and all credit to the officers and committee who make it happen. ■

Below: Among the attendance at the CIBSE Ireland AGM were – Standing: Ryan Loney, Dirk Coetzee, David Regan, Michael McDonald, Michael Callan, James Cullen, Adam Fleming, Samreet Singh, Paul Martin and Pat Lehane. Seated: Stephen Weir, Sarah Callaghan, Michael Curran, CIBSE Ireland Chair, Mona Duff and Kevin Kelly.



CIBSE Ireland Committee 2021/2022

CIBSE promotes the career of building services engineers by accrediting courses of study in higher education. It also approves work-based training programmes and provides routes to full professional registration and membership, including Chartered Engineer, Incorporated Engineer and Engineering Technician. Once you are qualified, CIBSE offers you a range of services, all focused on maintaining and enhancing professional excellence throughout your career. CIBSE members in Ireland are represented by an active Regional Committee, which is involved in organising CPD events, technical evenings, training courses, social events, awards, etc.



Get Involved with CIBSE Ireland

- Visit our website www.cibseireland.org
- Join our LinkedIn Group ... CIBSE Ireland
- Join the committee
- Contact: CIBSEIrelandContact@gmail.com



Systemair is available online anytime and anywhere!

Systemair has an online range of powerful tools to assist you in the selection of fans for all applications. With a few clicks you can search EC, Twin, Axial, Roof mounted, Low profile & Kitchen fan ranges and export the critical information you need to specify or propose a fan. Each PDF shows SFP, electrical details, dimensions, duty points, noise criteria and a list of associated accessories. Our online fan selector is easy to use offering concise fan selections in seconds.

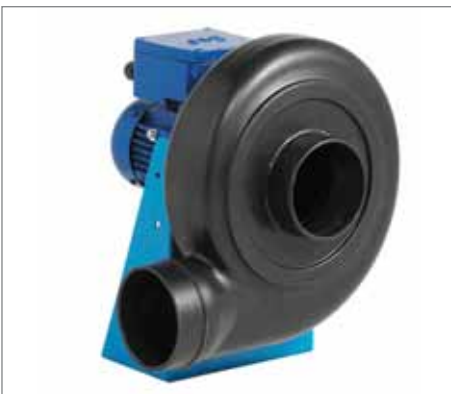
Take a look for yourself by scanning the QR code:

You can find this and much more useful and interesting information on

<https://www.systemair.com/ie/>

<https://arrow.tudublin.ie/bsn/vol61/iss3/1>







EV chargers – how to meet planning and Part L requirements

Given the emphasis on the use of electrical vehicles and, as a consequence, the impact this has on planning applications/ approvals, the regulations surrounding the provision of EV charging points is very much to the fore for electrical engineers. Among the questions being asked are what is to be included for Part L compliance and furthermore, what is required to comply with the planning criteria. This dilemma encompasses all types of developments, from commercial to residential and public realms. Here *Jessica Smyth, electrical engineer, Axiseng Consulting Engineers*, highlights the key areas to be addressed and suggests possible solutions.

To begin with, a key area that is often misinterpreted is the percentage of spaces required for Part L compliance compared to that required as part of planning. Part L outlines that a carpark containing more than 10 spaces must include at least one charging point and <https://arrow.tudublin.ie/bsn/vol61/iss3/1>

also include for infrastructure for at least one in every five spaces to ensure future charging points can be installed. This generally translates to 10% of all spaces to cover Part L requirements.

Most developers are familiar with the 10% requirement to include for EV



Jessica Smyth, electrical engineer, Axiseng Consulting Engineers.

chargers, but there are points that can be overlooked. The 10% of EV bays to cover Part L may not include the planning requirements, which may require a further 10% to ensure compliance. Planning also requires the inclusion of further future-proofing to the site, such as ducting or containment to each space for 100% coverage. A reason to install the ducting to all spaces from the design stage, other than ease for future installation, is the direction from planning authorities with regard to renewables versus fossil fuels.

Encompassing all spaces gives great flexibility for clients and system providers.

Another item to be aware of is possible EV charging requirements within LEED or BREEAM, as this can impact the design of a development. Some of these requirements include the need for installed chargers to have a minimum output of 7kW to ensure that vehicles receive a balanced input from the chargers. In some cases vehicles do not receive full capacity while others receive a smaller trickle from their unit. One option is to include a smart dynamic load-balancing EV charger that can monitor the supply and disperse it evenly to each vehicle as it is connected to the charging system.

Credits can also be earned in BREEAM if the electricity for the chargers uses less than that of a fossil fuel equivalent. To help ensure this section of the BREEAM credit is achieved, SEAI has issued a document highlighting the advantages compared to fossil fuels. *A Guide to Electric Vehicles* outlines the running costs and emission comparisons. This can be issued as part of the BREEAM documents and allows this credit to be achieved.

Case study example

A recent large residential development has been designed to include for all elements to achieve Part L compliance and all additional requirements under planning conditions. The provision for EV charging is 20% of all carparking with 100% infrastructure installation. An additional planning condition is for the inclusion of EV bike chargers throughout the carpark.

The proposed system consists of wall-mounted charging units, each with one charging port, with the units operating collectively as an EV managed system. This managed system enables the regulation of the distributed power to the wall units and thus ensures minimum levels of power are provided to meet demand. A system like this offers many user-friendly features such as a mobile app for users, operation/network maintenance and installation servicing.

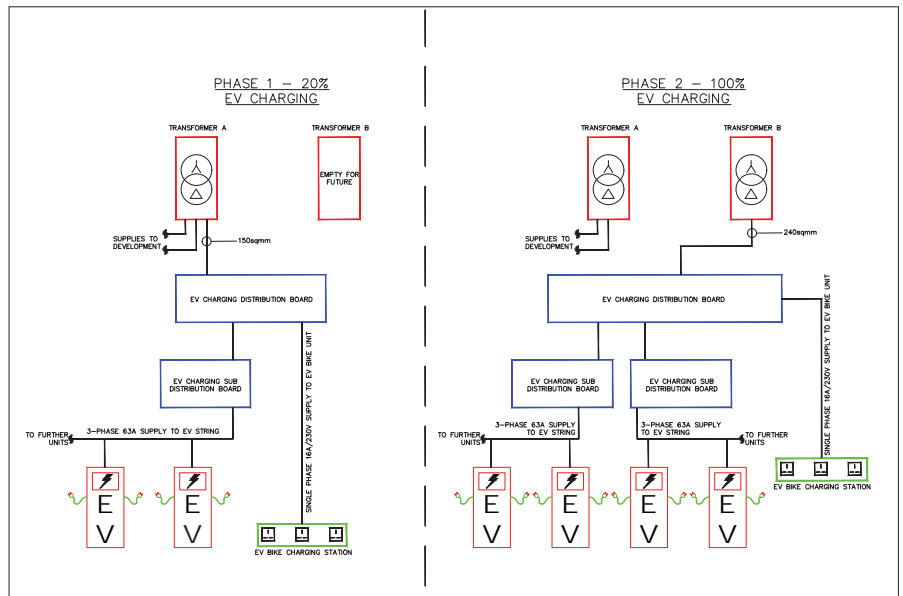


Figure 1 – EV charger plan for Phase 1 and Phase 2.

The range of EV chargers specified is a smart system which includes the smart dynamic load balancing technology and ranges from 1.4-22kW, as supplied by Infinite Energy. The system balances both the load and phase of the units and one circuit can run up to 25 chargers. The tenants of this development can register for this service through a registration app which allows them to start charging. A key fob is also available for ease of use and can be specified by the client.

The EV bike chargers specified for this development comprises a unit which includes three childproof standard sockets with the supply to the unit provided by a 230V/16A supply.

The development has a large basement carpark spread beneath a number of blocks and is being carried out over two phases. The provision within Phase 1 is for 12 carparking bays and three accessible bays to have installed EV chargers with cable containment infrastructure in all bays. The provision within Phase 2 is for 100% of car parking bays, and accessible bays, to receive EV chargers.

The future-proofing of this installation includes the space for expansion of the main distribution board and a temporary connection from a transformer until the Phase 2

transformer has been installed (see Figure 1). The strategy for this is to feed 20% from the existing Transformer A which in turn will feed dedicated EV charging sub-distribution boards throughout the space. These dedicated boards will also feed the EV bike charging units. All ducting for the 20%, as well as the future 80%, will be included during the construction of Phase 1.

Once the construction of Phase 1 has been completed and Phase 2 is underway, containment will be included to Transformer B to each sub-distribution board within the carpark. Once Transformer B is made live, the connection from the boards to Transformer A will be disconnected and the new connection from Transformer B will become live. Transformer B has been sized to include the required output for 100% EV charging within the development. The dedicated boards can be expanded as required when the non-EV spaces have the EV units installed.

Obviously, the solution described here relates directly to the planning and Part L compliance requirements for this specific development but, as a general case study, it clearly illustrates that dedicated pre-planning will ensure all challenges in relation to EV chargers can be met. ■



S&P Ireland for the complete ventilation package

Sabik heat recovery ventilation systems

The Sabik series is a range of domestic MVHR units with high-efficiency counterflow heat exchanger (up to 92%) and low consumption EC motor. The units assure a continuous and balanced ventilation system, extracting moist stale air from the wet rooms and, at the same time, introducing tempered and filtered fresh air to the habitable rooms. The optimised design allows compliance with the highest standards, assuring a very low leakage level, high thermal insulation and a minimal sound level. The integrated humidity sensor allows for automatic tracking of the indoor humidity and proportionally adjusts the fan speed.

The unit contains, as standard, ISO coarse 65% (G4) filters in the supply and extract airflows to clean the incoming air and protect the heat exchanger. For higher air quality an optional Pm1 70% (F7) filter can be supplied.

An integrated 100% bypass can be activated either automatically or manually. The bypass is particularly useful when the indoor temperature is higher than outdoors and free-cooling is preferable.

INSTALLATION FRIENDLY

Sabik is a versatile range with features for easy installation, including airflow direction paths that allow for alternate on-site configuration of duct routing.

A range of accessories means the end-user can tailor the functions of the system to specific requirements.



DESIGNED FOR AN EASY INSTALLATION



Touch screen
Remote (wired) touch screen display panel.

Functions:

- Easy control
- Speed settings
- Manual bypass
- Boost activation
- Automatic mode activation
- Dirty filter alarm



Connectair
Through the optional SPCM module, the unit can access Connectair, S&P's IoT that provides access to a new way to enjoy your ventilation.



Installer friendly
Simple access to all the components.



SABIK SPECIFIC ACCESSORIES



SPCM
Communications module.



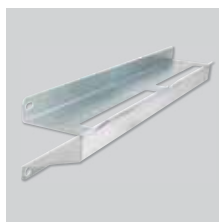
SABIK F
Filter replacement sets G4/G4 and G4/F7.



SABIK-PH
Preheating coils can be integrated into the equipment. Plug&Play.



SABIK-VOC
VOC probe can be integrated into the unit. Plug&Play.



SABIK-WMC
Wall spacer bracket.



SABIK-NEMBUS-SF
Constant flow module that can be integrated into the unit. Plug&Play.

Innovative new partnerships

Heat pumps and radiators ... working side-by-side



Eastmount, a new-build housing development on Chapel Road in Delgany, close to Greystones in County Wicklow, is proving that new renewable heating systems and radiators make excellent partners.

The development by D-Res Properties will provide 74 new three, four and five-bedroom homes with open-plan living and featuring high levels of insulation, air to water heat pumps and Stelrad's *Compact with Style* radiators. In total, around 850 radiators will be installed at Eastmount.

"This is an excellent example of exactly why radiators are fully compatible with modern renewable heating systems," says Stelrad's



Stelrad's Compact with Style radiators and air to water heat pumps are featured throughout the development at Delgany.

Head of Marketing, Chris Harvey. "If you believed all the hype you'd expect to see underfloor heating with heat pumps but, particularly

in Ireland where things are a fair bit ahead of the UK, we see a pairing of heat pumps with radiators. The fact is that, when radiators are correctly sized and installed in homes with high-quality insulation, they deliver excellent heating performance.

"An air to water heat pump is very different technology to a traditional boiler-driven heating system but, once specifiers and installers understand that and play to a heat pump's features and benefits, the lower temperature heating system can deliver more than adequate heating and hot water. In addition, such systems offer lower heating bills and lower emissions alongside higher energy efficiency – it's a win, win solution for new home builders, and for specifiers, installers and ultimately the home owner."

Stelrad's *Compact with Style* radiators are sleek and attractive and are far from simply being a heating appliance. They add significant smartness to the rooms in which they are installed with the subtle vertical-lined casings matching the attractive décor to make for a striking interior.

See "Fit for the Future" at www.stelrad.com to find out more about radiators partnering with heat pumps, or T: 0844 543 6200; E: marketing@stelrad.com Alternatively, see regular updates from Stelrad on Twitter @Stelrad and Facebook @StelradRadiators. ■



New development at Eastmount in Delgany, close to Greystones, Co Wicklow features Stelrad's *Compact with Style* radiators.
<https://www.bes.com/insights/2022/05/11/bsen-071522/>

Reducing a building's carbon footprint

Replace and refurbish for immediate energy and cost savings

In today's volatile and somewhat uncertain world, and with energy costs now at an all-time high, it is certainly the time to look at reducing these costs where possible. With HVAC being 30-60% of the overall energy costs of a building, immediate reduction of these is a priority for all facilities managers, building owners and landlords to ensure building efficiency and carbon footprint reduction.

Covid-19 has also put the spotlight on air quality in the workplace and its significance to staff performance and absenteeism. Having the best and most efficient ventilation system can pay substantial dividends, both in terms of energy savings and staff morale within the working environment.

Enhancing air quality in the workplace while reducing energy costs is a top priority for the FläktGroup Service team. Each project is treated holistically with a view to providing not just the ventilation

equipment required, but also the full system solution. This process includes project design, provision of a warranty/extended warranty, and comprehensive service back-up to ensure the continued operation of the ventilation system at its optimum performance level throughout its lifespan.

Key benefits offered

Return on investment (ROI) – FläktGroup engineers can do a survey on the current installed equipment and advise on the payback for replacing or retrofitting ventilation equipment;

Reduction in energy bills – By upgrading or replacing old equipment, clients can anticipate instant reductions of often more than 30% in energy usage;

Sustainable solutions – Sustainable solutions ensure compliance with corporate social responsibility (CSR) and lowering greenhouse gas emissions is a big part of this reduction in carbon footprint. All

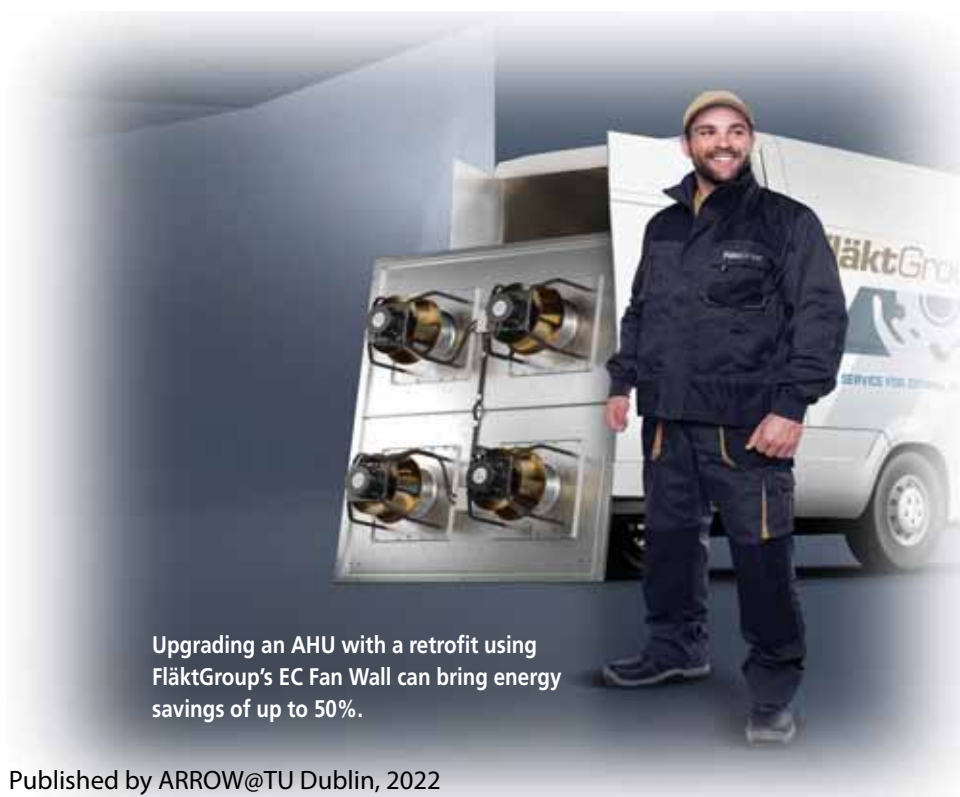
FläktGroup HVAC refrigeration equipment, such as chillers and heat pumps, now comes with zero or low greenhouse gas (GHG) refrigerant options to reduce carbon emissions.

Key ways to reduce energy costs

- Replacing old inefficient chillers with new and more efficient inverter or turbocor solutions brings about immediate cost savings and increases longevity, redundancy, and thus offers piece of mind. Installation or retrofit of a FläktGroup Integra 4-pipe system eliminates the need for boilers and chillers and provides a total energy solution with massive energy cost savings. Integra provides both hot and cold water production through the installation of one single unit;
- EC fan wall upgrades for older air handling units – immediate savings of up to 50% are derived with the FläktGroup EC fan wall solutions. This is one of the easiest ways to reduce a building's carbon footprint;
- Replacing old CRAC units with new inverter-controlled free-cooling options from the FläktGroup MultiDenco range will bring about immediate savings, especially as these units normally run 24/7. Recent project replacements have shown payback in as little as two years and continued annual savings thereafter for their installed lifetime.
- Retrofit of heat recovery systems in older AHUs brings about immediate savings on heating bills of up to 75%;
- The FläktGroup BMS Team can advise on optimising airflow and air quality monitoring by including controls upgrades and retrofits for HVAC equipment;
- "Before and after" metering and analysis of data shows where the savings are being made with upgraded or replacement equipment;
- By providing a tailored solution FläktGroup optimises the indoor environment.

With offices in Dublin and Cork and a nationwide team of service engineers, FläktGroup offers comprehensive support across the entire country.

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Upgrading an AHU with a retrofit using FläktGroup's EC Fan Wall can bring energy savings of up to 50%.

Oriented towards savings in energy

Pump pressure groups made simple

Whether it is commercial applications, industrial buildings or housing, pressurisation groups are ideal for increasing water system reliability, or where greater system power is required, to guarantee maximum comfort in terms of quantity and water pressure.

Calpeda has always been to the forefront with innovative solutions to tackle this challenge and its new Mèta e-idos 2-pump variable speed pressure booster system with integrated control is a huge advancement.

“Some factors are critically important when choosing a pressurisation group,” says Andrew Bishop, Technical Sales Manager, Calpeda Pumps (Ireland), “and key among them are energy saving, design simplicity and system cost containment. When designing a pressurisation group with several pumps in parallel, a control panel to which all the pumps are connected is usually necessary. It is the control panel which, when it identifies a pressure variation, activates the pumps according to how it was programmed. Our new 2-pump booster sets are future-proofed in this respect as all E-idos pumps are already equipped with a pressure sensor.

“A further bonus is that the pumps used in the battery only need to be hydraulically connected to create an immediate situation of redundancy ... when the pumps are connected at the same pressure threshold, one starts when another one stops. The simple hydraulic connection also helps keep the system pressure constant.”

Redundancy or connected thresholds are not the only methods for making the best use of pairing several e-idos pumps. Without using wiring and various types of group manager, two systems have been perfected that

make it possible to insert the concept of cyclicity into group operation. When speaking of cyclicity in the case of pressurisation groups, reference is made to the same average operation time of all the pumps over a given period, so that wear is distributed evenly.

In the case of the e-idos groups, cyclicity can be managed easily by selecting one of the pre-programmed methods – synchronisation or random – from the programming menu. In both cases just set the same start and stop thresholds, in other words those of the general system, for all the pumps.

In the event of power failures or if the supply is stopped simply for maintenance, the cyclicity conditions reset automatically. If,

instead, the random mode is selected, the starting and stopping of each pump is delayed by an interval that is calculated randomly by the algorithm, with the number of interventions of each pump being distributed in a statistical manner.

The electronics built into the pumps are strategic, even when designing pressurisation groups. It is evident that no external control system means fewer costs and smaller spaces, in addition to notably simple programming and use. Also, every e-idos pump already has its own built-in check valve.

“Finally, a consideration on energy saving,” says Andrew. “Pressurisation groups, being designed specifically to handle partial loads, are naturally oriented towards savings in energy. In the case of e-idos groups, and especially the new 2-pump booster sets, this aspect is amplified by the notable energy efficiency that characterises each e-idos pump.”

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SEAI Energy Show Product Awards

QAHV wins 'Best Energy Efficient Product' award

Fresh from receiving their "Best Energy Efficient Product" award for the QAHV air source heat pump at the recent SEAI Energy Show in the RDS, *Building Services Engineering* caught up with Sean Campbell, David McConnell and Ray Buckley on the Mitsubishi Electric stand to ask them what was so special about QAHV.

Already installed in a number of prestigious projects throughout the country, QAHV utilises CO₂ as a refrigerant and was designed to provide energy efficient sanitary hot water for high-demand commercial applications.

Why use CO₂?

CO₂ is a natural, non-toxic, non-flammable, high heat transfer refrigerant with a GWP of just 1. CO₂ (R744) has several unique physical properties, one of which is that the critical point is low at 31.1°C @ 73.9 Bar. The CO₂ refrigerant in the QAHV operates above this critical point and operates in a transcritical cycle.

What is a transcritical cycle?

Transcritical cycle is where the working fluid operates above the critical point with the critical point being defined as the point beyond which the gaseous and liquid phase is the same density and vapour will not condense or change phase. CO₂ is cooled but does not condense at the gas cooler outlet, while heat is rejected into the water by cooling or de-superheating the CO₂ vapour at supercritical pressure in a unique counter-flow gas cooler.

Is QAHV WRAS approved?

QAHV delivers hot water via an indirect method using either buffer

stores or plate heat exchangers. As such, the system will not have potable water flowing through it and does not need WRAS approval. The indirect method also helps to protect the unit's plate heat exchanger from poor water quality and scale issues.

Best application type?

The ability to provide highly-efficient, high-temperature sanitary hot water is the QAHV's key value. Large companies in prestigious landmark buildings have a massive demand, as indeed do Government buildings, hospitals, hotels, leisure centres, student accommodation and similar applications. QAHV is therefore ideal for their needs.

What about carbon savings?

Many blue-chip companies have already published strong carbon reduction targets as part of their Environmental, Social & Governance (ESG) principles and QAHV is tailor-made for this purpose. QAHV can produce low carbon sanitary hot water highly efficiently, with the carbon reduction dramatically increased in applications where there is a high demand for hot water. Typically, the QAHV will provide a seasonal efficiency of 3, which means a carbon saving of 78%, even when compared to a gas boiler with an efficiency as high as 98%.

Does QAHV qualify for BREEAM points?

The impact of refrigerants is undertaken through credit POL 1 in BREEAM and there are three credits up for grabs here. Two are available by default if the GWP of the refrigerant is under 10 and another credit if the unit is hermetically sealed. The QAHV meets both of these criteria and so can achieve all three credits.

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Ciaran Byrne, Director of National Retrofit, SEAI with Sean Campbell, David McConnell and Ray Buckley from Mitsubishi Electric, and Joe Durkan, awards' judge and Programme Manager, SEAI.

Spotlight on 'Intelligent Buildings'

'Smart Buildings' don't just satisfy ... they inspire!



Brian Coogan,
Ethos Digital



Stephen Weir,
Hereworks

In the second of two articles looking at intelligent buildings, Brian Coogan, Ethos Digital and Stephen Weir, Hereworks, detail how the new roles of Digital Building Consultant (Ethos Digital) and Master System Integrator (Hereworks) help deliver smart, intelligent buildings.

<https://arrow.tudublin.ie/bsn/vol61/iss3/1>

At its core, a building's main function is to provide a structurally-sound and environmentally-controlled space in order to house and protect its occupants and contents. A building serves several basic societal needs, including shelter, security, privacy, storage and space to comfortably live and work.

But the world is changing, and new and existing buildings must accommodate these changes. To put it simply, issues like climate change and water shortages, paired with energy challenges and enhanced occupant

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The future of intelligent buildings is an exciting space where the possibilities are endless to develop and implement, not only intelligent buildings but intelligent cities.

demands, need to be taken into consideration for the built environment of tomorrow.

A future with intelligence

So, how do we ensure that the buildings of the present and future will continue to meet these societal needs and allow for any additional needs we could incur? Enter the “Smart Building” – an essential answer to the growing challenges we will face ahead. Smart buildings offer a critical solution to the evolving needs of occupants and the environment. Smart buildings promise to deliver the following:

Lower lifetime costs – By investing in digital resources, smart buildings will be the most cost-effective because time and capital was spent at the beginning. Building performance will effectively reduce costs and thus prevent the building from becoming a stranded asset.

Healthier buildings – The overall health of a building’s environment is a crucial priority for occupants today. Studies have shown that occupants are more comfortable in an environment that they can understand and control. Smart buildings are continuously gathering data and assessing how the space can be healthier for its occupants, while also providing a platform for occupants to share their needs for the environment.

Wastage reduction – Smart buildings have the ability to continuously assess the building’s performance, meaning excess and waste within can be identified and eliminated. In turn, this will be more cost-effective and more sustainable for the environment.

Meeting sustainability goals – In a truly Intelligent space, the building’s performance can be assessed through a sustainability lens. With the upcoming legislation on EU Taxonomy and EPBD regulations, this is more important than ever before. Building owners will soon be required to disclose their emissions and incorporate renewable energy into their buildings to truly become net zero.

Enhanced user experiences – With the constant monitoring and assessment of the building’s environment, it is tailored to the user’s needs and preferences.

Higher productivity – Because a smart building can cater to users’ needs, studies show that, with an environment users can understand and control, comes greater comfort and capability for higher productivity.

Data equates to power

With data comes power ... smart buildings are continuously collecting and analysing data, which can then be shared and utilised in future applications.

Overall, an intelligent building delivers these outcomes through:

- leveraging the latest tech advances that allow the building to operate as one ecosystem;
- during the design stage, having greater user experiences (UX) and understanding of how the building will be used;
- applying intelligent automations that react in real-time aligned to real-world happenings;
- continuous monitoring providing insights aiding continuous optimisations;

- user feedback loop ensuring the continuous evolution of the building's operations and services.

Building for the future

To make intelligent smart buildings a reality takes a considerable amount of collaboration, planning and management of the implementation. They require highly-collaborative implementation with smart building design involving many parties connected through the Digital Building Consultant (DBC). These parties should include the project stakeholders, client IT and information security (InfoSec) teams, business management, base-build design team, fitout design team, general contractor(s), Master System Integrator (MSI), sustainability and wellness consultants, commissioning agent.

The detailed planning and technical project management is undertaken by the DBC who has expertise in determining the user experiences (UX) to be designed for, the workplace technologies best suited to support these requirements, the data generated by the building systems and workplace technologies, and how these can be used to deliver sustainable, wellness, productivity and optimisations outcomes.

Also critical is the technology foundation required to support the aggregation of the data on-prem, the transfer of the data to the cloud, the cloud structures required to secure, store, manage and integrate the data, the development of MSI specification and the required MEP technical guidance documents, along with the technical project management to ensure success through each construction stage and throughout to commissioning.

Furthermore, it is important that the building tuning phase post-completion enables greater data-driven decision-making based on the real-time

performance of the systems and happenings within the it.

The implementation of the digital design and management across the trades is undertaken by the MSI. The MSI brings project management expertise, along with the software, network, controls and MEP system knowledge and skills to successfully integrate the systems (via the designed for technology foundation) and the migration of the building system data (utilising a building ontology schema) into the cloud. Thereafter, the deployment of the analytical and maintenance management tools, supporting the facilities management operations, completes the process.

Some critical elements of the MSI role are:

Smart buildings offer a critical solution to the evolving needs of occupants and the environment.

- (1) device qualification that ensures all IP devices connecting to the network are secure;
- (2) management of the system suppliers such as BMS, lighting, fire alarm, etc.

By implementing a truly intelligent space via a highly-collaborative implementation process, we can better understand a building's use and optimise the conditions in the space. For instance, depending on the number of people using the building at any one time, we can direct them to a part of the building that will be comfortable. We can also close specific areas when they are not busy and design appropriately-sized workspaces for the agile environment. This provides a human centric space where employees feel inspired rather than simply satisfied.

'Smart' is best choice

Overall, the benefits of smart buildings result in saving energy, streamlining building management and preventing expensive equipment failures. While the upfront cost to build is higher than average initially, over the long run, smart buildings cost less than

conventional buildings over time as a result of how efficiently they run. The added benefits of increased safety and a higher quality of life for those inside make smart buildings the best choice for the future.

The future of intelligent buildings is an exciting space where the possibilities are endless to develop and implement, not only intelligent buildings but intelligent cities. This sharing of information between buildings will develop a truly human centric space. ■



Lightsolutions ...

Energy saving and emergency lighting retrofit specialists

Established in 2005, Lightsolutions is one of Ireland's leading providers of emergency lighting solutions, providing full project analysis and design support services, as well as the required integrated products and systems.

It plays a pivotal role in Ireland's emergency lighting sector, especially given that it is a legal requirement that all public premises are in full compliance with IS3217:2013, the emergency lighting standard issued by the NSAI.

Managing Director David Vaughan is a highly-acclaimed expert with a wealth of experience and technical

know-how. He is a CPD lecturer with Engineers Ireland, a Director of Lighting Association Ireland (LAI), a member of the Industry Committee for Emergency Lighting (ICEL) and the LAI representative on the LightingEurope Emergency Lighting Subgroup.

David leads a team of fully-qualified and certified emergency lighting engineers who devise tailored solutions for both commercial and industrial projects, be it new-build or retrofit. They also carry out general lighting maintenance and repairs, both in-house and on site. Using this wealth of expertise, Lightsolutions provides comprehensive turnkey solutions that include project analysis, design support, product supply, system commissioning, and tailored after-sales service and maintenance packages.

Lightsolutions also supplies a full

range of emergency lighting products, including exit signage and escape lighting for every application. All products are manufactured in compliance with EN60598, are ICEL approved and can be supplied with DALI control gear for remote monitoring.

As leading experts in emergency lighting systems and LED lighting retrofit solutions, Lightsolutions contributes significantly to the EU's sustainability and product circularity objectives. Typical retrofit solutions supplied are IP-rated or bespoke luminaires across various industry sectors. Clients come to Lightsolutions when they have difficulty sourcing replacements, or when they want to keep current fittings for aesthetic reasons. In doing so they reduce their energy costs, minimise wastage and ensure they will not suffer from obsolete parts availability in the future.

This service is further reinforced by sister company ECG which provides a comprehensive range of fittings, lighting control gear and spare parts. Included are ballasts, emergency lighting batteries, emergency LED drivers, emergency modules and sensors.

Uniquely, Lightsolutions also provides an overnight lighting service for the conversion of existing light fittings to emergency operation, covering the full range of LED fittings. Luminaires are converted integrally using the latest LED emergency electronic control gear, thereby converting the existing LEDs or adding in a stand-alone solution. All conversions are in compliance with ICEL 1004.

Lightsolutions has completed many prestigious projects, including LED retrofits to OPW buildings, the Alto Vetro apartments and Obertstown prison, along with emergency lighting systems at Google Velasco, Spencer North, Aviva Stadium and Sport Ireland National Indoor Arena.

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Lightsolutions carried out medial on-site emergency lighting works and certification at the Marker Hotel, Dublin.

Light+Building Autumn 2022

Goal is electrification and digitalisation

Due to rapidly rising prices for gas and oil and the need to secure the supply of raw materials, the subject of energy supply has taken on a whole new urgency. Now, more than ever, the promotion of sustainable energy generation, the reduction of consumption in buildings and the expansion of electro-mobility are central building blocks on the way to achieving the energy turn-around objectives set by the EU.

Concepts for the networked and intelligent city of the future – the smart city – already exist. At its heart is the safe and efficient networking of people, places and infrastructures. Since space in cities is limited, it must be used optimally.

However, the basis for smart cities and consequently an efficient and secure energy supply is the electrification and digitalisation of the infrastructure. Once this step has been achieved, the economic use of wind and sun as sustainable energy sources (smart grids) and the coupling of sectors are possible.

Key factor is innovation

Technological developments and innovations enable completely new approaches to solutions that are now absolutely topical for politics and society. The invention of the lithium-ion battery was decisive for the development of sustainable electromobility. The economic use of wind and sun as regenerative energies is only possible through technical excellence in generation, transmission and distribution ("smart grid"). Of central importance to this is the further development of information and communication technology. In the "final development" of a smart city, people, places and infrastructures will be networked with each other.

<https://arrow.tudublin.ie/bsn/vol61/iss3/1>



Design-oriented luminaires are now commonplace.



Interior lighting features all manner of shapes/styles.

Smart buildings make smart cities

Smart buildings are the basis of a smart city. This is where residents spend a large part of their time, either living ("smart home") or working in functional buildings ("smart building"). Through comprehensive networking, the data from the numerous sensors ensures, among other things, lower energy consumption.

According to the German Electrical and Electronic Manufacturers' Association (ZVEI), intelligent building automation

can reduce energy consumption and CO₂ emissions by 30% to 40%. Self-learning systems enable the intensive involvement of building users, for example, by controlling lighting, air conditioning and heating according to demand. Also, security systems can be implemented that not only detect dangers such as fire or burglary, but can predict them.

Smart lighting a building block

Another important part of the energy-saving potential is lighting. The arrival



Exterior lighting/street lighting is a vital component of the networked IoT.

of LED luminaires meant a giant leap forward for lighting technology as LED units save up to 80% of energy compared to conventional luminaires. Smart lighting also has a strong influence on people's wellbeing and sense of security. By adjusting the temperature of the light and light colour of LED luminaires, individual scenarios can be realised that increase wellbeing and productivity ("human centric lighting").

On a larger scale, LED street luminaires can form the backbone of a smart city. Equipped with WLAN, charging function for e-cars, emergency call button or sensor for traffic and weather measurement, they are an important component of the networked IoT.

Smart mobility with e-charging

Many cities have long suffered from gridlock and high pollution levels. New mobility concepts are therefore



LED technical developments make for innovative designs.

the basis of future smart cities. In addition to intelligent traffic management and networking of transport modes, the intensive expansion of electric mobility is the key to this.

While all the signs are pointing to growth in the registration of electric vehicles, there is still a need to catch up in the expansion of the necessary charging infrastructure. In the smart city, sufficient charging points must be available that are coupled with intelligent charging management. Ideally, the latter is integrated into an intelligent power grid ("smart grid") that provides regenerative energy economically and independently of time. This will avoid overloading of the infrastructure.

Conclusion and outlook

The challenges of the future, such as urbanisation and climate change, can only be solved with forward-looking concepts and innovative ideas. Smart cities are no longer a vision but are already being implemented. As early as 2014, the EU named 240 European cities that are pursuing more or less advanced smart city concepts.

In order to move beyond individual measures and pilot projects to efficient solutions, an intensive exchange between all stakeholders is necessary, both at national level and internationally.

Smart cities will only become a reality if the political decision-makers, urban planners, building operators, architects, consulting engineers, specialist planners, installers, in conjunction with citizen representatives, exchange ideas and work out viable solutions together.

Light + Building Autumn 2022

Light + Building Autumn 2022 in Frankfurt am Main offers an ideal platform for this important exchange. Here the focus will be firmly placed on concepts for building automation, smart cities, intelligent neighbourhoods and energy management, as well as advanced e-charging infrastructure and networked security.

It will take place from 2 to 6 October 2022 and will be accompanied by the Light + Building Digital Extension from 2 to 14 October 2022. ■

THE OBTUSE ANGLE



PAT LEHANE



SEAI awards recognise rigour

Applications for the SEAI Energy Awards 2022 are now open. This year there are 11 categories, the more detailed segmentation making it easier to make a submission.

These awards bring a very positive contribution to the energy and carbon debate as they incentivise and reward best practice.

Underpinning their value is the rigour of the adjudication process and the requirement for evidence-based data to support all claims made.

Wellness ethos at Ethos

Top marks to Greg Hayden and the management team at Ethos Engineering for the vast programme of wellness initiatives it has undertaken. It includes everything from the 9-day fortnight through to tea and chat sessions, the “step into summer challenge”, hybrid working and a “WELL Performance Rating” scheme.



Overseeing the programme is the Ethos Wellness Committee which holds weekly meetings to plan and execute wellness initiatives for company-wide involvement. It is a space open to all Ethos team members and, judging by its success to date, appears to have total staff buy-in.

Tony McKinley moves after 25 years!

Wow, who would have thought it? Congratulations to Tony McKinley who has joined Eli Lilly & Company after nearly 25 years with Jacobs Engineering in Dublin.



Tony has extensive pharma experience (filling/biotech/API/tabletting) and has been lead engineer on projects for HVAC, utilities, building drainage, fire protection and BMS. He has worked mainly in Ireland but also the UK, USA and Belgium.

Apart from work, Tony recently cycled from Dublin to Clonakilty (320km) in the “Cycle for Brother Kevin” event to raise much-needed funds to support homeless people in Dublin. Donations can still be made up to 14 June 2022. See details at www.idonate.ie/TonyMcKinley

Endless talk is meaningless

While I appreciate the need for knowledgeable experts to discuss all matters relating to energy and carbon reduction initiatives, I do wonder at how we go about this process.

Anyone tune in recently to the Oireachtas discussion/debate on the Energy Performance of Buildings Directive? If not, you can get the transcripts. Not that I recommend it ... reminds me of the phrase “Nero fiddled while Rome burned”.

Of course we need debate but not just for the sake of it. Also, the participants must be qualified experts in the matters under discussion, and represent those at the industry coalface who are charged with making things happen. What we need is informed decision-making that is actioned, not more waffle and procrastination



ACEI Awards

Congratulations to all the mechanical and electrical consultancies shortlisted for this year's ACEI Engineering Excellence Awards. They include RPS, Homan O'Brien, O'Connor Sutton Cronin, Mott MacDonald, Varming Consulting Engineers, Ethos Engineering, Tobin Consulting Engineers and Barret Mahony Consulting Engineers.

The awards winners will be announced at the ACEI Awards Dinner in the Shelbourne Hotel on Friday, 2 September 2022.

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