

3-1-2017

BS News March/April

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Recommended Citation

(2017) "BS News March/April," *Building Services News*: Vol. 56: Iss. 2, Article 1.
Available at: <https://arrow.tudublin.ie/bsn/vol56/iss2/1>

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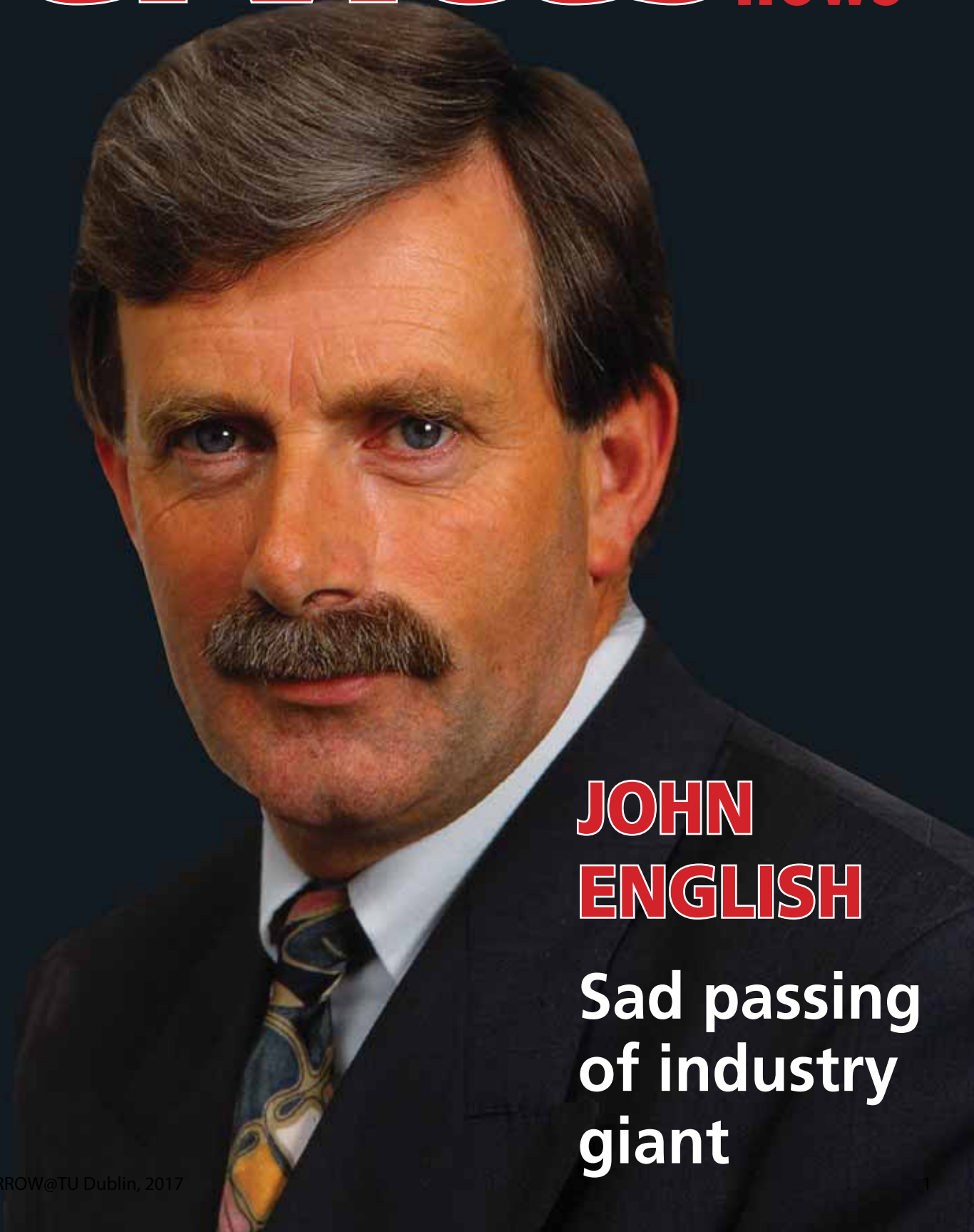


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ISSN 0791-0373

March/April 2017

Building Services news



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ENGLISH**

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of industry
giant**

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Deep retrofit gets under way

SEAI has announced the start of a major new initiative called deep retrofit that presents the building services sector with an unprecedented business opportunity. However, just what does it mean?

The idea with deep retrofit is that rather than upgrading isolated parts of a house, the whole home should be assessed as a system, looking at how energy is used and retained. Modelling software enables all aspects of building fabric, air tightness, ventilation and renewables to be assessed.

How the different recommendations might interact with each other and how solutions can be precisely tuned will also be considered.

SEAI will host an inaugural National Deep Retrofit Conference on 21 June at the Aviva Stadium, Dublin. Put the date in your diary.

Building Services news

ISSN 0791-0878

Published by:

Pressline Ltd, Carraig Court, George's Avenue, Blackrock, Co Dublin.

Tel: 01 - 288 5001/2/3 Fax: 01 - 288 6966

email: magazine@buildingservicesnews.com

web: www.buildingservicesnews.com

www.pressline.ie

Publisher and Editor: Pat Lehane

Advertisement Director: Joe Warren

Origination and Design:

Pressline Ltd. Tel: 01 - 288 5001

Subscription: One Year – e70

Printed by: Swift Print Solutions (SPS).

© All editorial contents and all advertisements prepared by the publishers, Pressline Ltd.



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Lighting Association Ireland has recently unveiled a new informative website.

NEWS AND PRODUCTS

Heat Merchants 'Best Managed Company'

Heat Merchants Group was recognised as one of Ireland's "Best Managed" companies for the second consecutive year at the recent Deloitte best managed companies symposium and gala awards.

The award was presented following a lengthy judging process in which the complete performance of a business is assessed, moving beyond finances to such areas as operational excellence, strategy, and human resource processes.

Managing Director, Alan Hogan said: "We are honoured to be recognised as a Deloitte Best Managed Company for the second year and it is a testament to the continued commitment and contribution of each and every member of the team to ensuring the strength and resilience of Heat Merchants Group".



Paul Kane with his Heat Merchants colleagues Alan Hogan and Michael Ryan pictured with the award.



Core promotes Eivan Ferris

Eivan Ferris has been promoted to the position of Projects Engineer with Core Air Conditioning. Eivan has worked with Core AC in its service department since 2007 and is now responsible for overseeing the successful completion of all projects, from sales right through to final hand-over.

Contact: Eivan Ferris, Projects Engineer, Core. Tel: 01 – 409 8912; email: eivan@coreac.com

Keith Brazill joins RED Group Design

Keith Brazill has been appointed Senior Design Manager at RED Group Design. Keith is a chartered engineer and has experience working on a wide range of projects within multi-disciplinary engineering consultancies in Ireland and the UK. He is also regional representative for the CIBSE Ireland Limerick Region.

The Red Group has been providing electrical and mechanical design, installation and maintenance services to clients across the industrial, commercial, retail and entertainment sectors in the greater London area for over 15 years. Some of Red Group's key clients include Papworth Hospital and Arsenal Football Club.

Recently the company relocated its Building Services Design HQ to Nenagh, Co Tipperary from where Red Group now offers mechanical, electrical, sustainability and BIM consultancy services to clients in Ireland and the UK.

Contact: Keith Brazill, Red Group Design. Tel: 085 133 1571; Email: keith.brazill@redel.co.uk



Peter Church remembered

The Peter Church Memorial Golf Outing is a joint initiative between Peter's wife, Louise, their daughters Megan, Olivia and Laura, Reg Farrell and Lighting Association Ireland.

Peter's reach and influence extended far and wide within the electrical industry and, while renowned and respected for his business acumen, he is also remembered for his generosity of spirit and the friendships he forged.

This outing is the perfect opportunity for his many industry friends and colleagues to remember Peter and to commemorate his life. At the request of Louise and the family it is being organised as a charity event, the objective being to raise funds for LauraLynn, Ireland's Childrens' Hospice, Leopardstown and Our Lady's Hospice & Care Services, Harold's Cross.

Venue is The Castle Golf Club in Dublin and the date is Friday, 22 September 2017. Format is a four-ball team event with a shot gun start at 2pm so that all participants finish at the same time. This will be followed by a full buffet meal, the presentation of prizes, a raffle and the charity presentation. Main prize is donated by Louise and the girls.

It is €600 to enter a team (to include golf and buffet) with sponsorship opportunities of €100 per tee box.

To enter a team contact: Deborah Fitzpatrick at 087 – 273 7878, email: deborah@fantasylights.com or Christine Mulhall. Tel: 01 – 452 4182; email: christine@switch.ie



NEWS AND PRODUCTS

MHI Controller RC EX3

The new MHI Controller RC EX3 is now available from Diamond Air Conditioning. It incorporates many new features and benefits, including:

- Different setting can be allocated to two of the main buttons;
- "Favourite setting" function. This is memorised and activated and is set with two choices with a touch of a button away;
- Indication of indoor unit capacity – this allows user to see the indoor unit capacity in kilowatts;
- Increased internal/external outputs – data can be easily retrieved and read with this new function;
- Indication of room temperature – this can now be read on the controller itself;
- Improved visibility – the screen is much clearer now in comparison to the previous controller.



Contact: Contact: Michael Clancy (087 – 262 0701) or Graham McCann (087 – 950 9402),
Diamond Air Conditioning. Tel: 01 – 636 3131;
email: info@diamondair.ie; www.diamondair.ie

Lochinvar high efficiency water heaters

Euro Gas Ltd now offers Lochinvar's wide choice of high efficiency water heaters providing installation flexibility with hourly water outputs ranging from 76 to 9,912 litres of hot water per hour.

All models across the range employ condensing technology which can provide savings on energy consumption and carbon emissions. It includes instantaneous, floor-standing and storage types: Ecoshield, Ecolnight and Ecocharger.

These water heaters are designed on the principles of low storage and fast recovery and, when compared to indirect hot water systems, offer savings on energy consumption.

Contact: Euro Gas.
Tel: 01 – 286 8244;
email: sales@eurogas.ie



Ecoknight high efficiency water heater



CONDAIR DL

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performance



The new Condair DL is an in-duct adiabatic humidifier that offers the level of humidity control normally only available from steam humidifiers, but with the low energy performance and evaporative cooling benefit of a cold water system.

It also incorporates many anti-microbial features that make it one of the most hygienic humidifiers available.

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NEWS AND PRODUCTS

Condair close control adiabatic humidifier

The new Condair DL in-duct adiabatic humidifier offers the accurate humidity control normally only available from steam humidifiers, but with the low-energy performance and evaporative cooling benefit of a cold water system. It also incorporates many anti-microbial features that make it one of the most hygienic humidifiers available.

The Condair DL is a hybrid humidifier that combines spray and evaporative technologies to maximise moisture absorption and provide humidity control at $\pm 2\%$ RH. A water treatment system provides pure water to a grid of nozzles located inside the duct. The nozzles spray towards a ceramic droplet separator, which has the dual

action of preventing aerosols from travelling down the duct and offering secondary evaporation through its porous surface. This increases efficiency of the system with 95% of the spray water evaporating during both processes.

The Condair DL offers both the control accuracy of electric steam humidifiers and extremely hygienic operation but without the high electrical energy costs. By pre-heating the airstream prior to the Condair DL with gas-fired heating, the same volume of moisture can be absorbed by the air as steam humidification provides, but at one third the energy cost due to the economy of gas. If a building's waste heat can be used for the pre-heating process, the humidification energy savings are even greater.

As with all adiabatic humidifiers, the Condair DL also offers the additional benefit of evaporative cooling during the warmer months. As 1kg of absorbed moisture provides 0.68kW of evaporative cooling to the air, the Condair DL can provide over 680kW of cooling per hour from as little as 1kW of consumed electrical energy.

Contact: Damien Power, Condair Area Sales Manager for Ireland.
Tel: 091 – 507 120; 0044 7802 669819;
email: damien.power@condair.com

SEAI energy data portal

SEAI has unveiled an interactive energy data portal (www.seai.ie/energy-data-portal) where visitors can now explore Ireland's energy use since 1990 and bring trends and insights to life.

The visualisation tool uses data and figures from SEAI's energy statistics and projections, and provides visitors with an easy interface to investigate energy use across different fuels and sectors of the economy such as households, industry, transport, public and commercial sectors.

Home energy saving kits

Kits to help householders better understand their energy use and reduce their bills can now be borrowed free-of-charge from all Dublin City public libraries.

The six tools in the kit address key areas of energy use in the home – space heating, hot water and electricity consumption – and can identify common issues such as lack of insulation, poor ventilation and the appliances that might be driving up electricity bills.

The Home Energy Saving Kits are available to borrow from all of Dublin City's 21 public libraries. For a full list of these branches, and for further information, visit www.codema.ie/energysavingkit.



Gerry Caldwell, Managing Director of Codema with Denis Naughten TD, Minister for Communications, Climate Action and Environment, Jim Gannon, SEAI Chief Executive Officer and Margaret Hayes, Dublin City Librarian.

Kingspan cycle for care

Sports journalist and former professional cyclist Paul Kimmage has called on cycling enthusiasts nationwide to join him and his daughter Evelyn (pictured) on a 600km challenge sponsored by Kingspan to raise funds for The Irish Hospice Foundation.

Kingspan has sponsored this event for nine years and last year CEO Gene Murtagh participated. Several Kingspan employees will again lead the way, pedalling from Porto to Lisbon from 25 June to 1 July 2017.

Starting in Porto and staying in historic towns along the way to Lisbon, participants will be supported throughout the journey by a full back-up team. Flights, accommodation and full board are included and full details can be found at www.hospicefoundation.ie.

Contact: Linda Pearson, Irish Hospice Foundation.
Tel: 01 – 673 0045; email: linda.pearson@hospicefoundation.ie





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NEWS AND PRODUCTS

Galway NUI remembers Alice Perry

A ceremony to mark the official naming of the Alice Perry Engineering Building took place at NUI Galway recently. Alice (inset), a graduate of the then Queen’s College Galway, was the first woman in Ireland or the UK to earn a degree in engineering in 1906.



The naming of the building is the culmination of a series of activities focusing on equality and diversity in engineering at NUI Galway’s award-winning engineering building. The series also includes the introduction of the Máire Brazil Scholarship. This scholarship will encourage and support talented female students to develop careers in engineering.

Professor Peter McHugh, Dean of Engineering and Informatics at NUI Galway commented: “This is a fantastic development for engineering at NUI Galway and a clear demonstration of our commitment to equality of opportunity, education and career development. It is most appropriate that we should name the engineering building for one of our most notable and pioneering alumni”.

2018 HVAC & Refrigeration Show

The HVAC & Refrigeration Show is the new name for the event formerly known as the ACR Show.

Taking place every other year, the ACR Show was first held in 2012 as the UK’s only dedicated air conditioning and refrigeration show. Heating and ventilation sectors were included for the 2016 event and, following the success of this new format, the name change to HVAC & Refrigeration Show was decided on.

For more information visit www.hvacrshow.com

€5 million deep retrofit scheme announced

Denis Naughton, TD, Minister for Communications, Climate Action & Environment (pictured), has introduced a multi-annual scheme to provide financial support to people who want to upgrade their homes to an “A” rating on the Building Energy Rating (BER) scale. The allocation of €5 million to the scheme this year will fund major energy efficiency upgrades to homes and low carbon heating systems.



The €5 million scheme will be administered by SEAI and will make funds available on a rolling basis to community groups, local authorities and energy agencies. It is open to any group that can pull together groups of people who want to invest in a major energy efficiency improvement to their home. Under the scheme an individual homeowner will be able to get up to half the cost of their energy efficiency upgrade supported by the SEAI.

Minister Naughton told *Building Services News*: “Deep retrofit is a significant upgrade to bring a home as close as possible to Nearly Zero Energy Building (NZEB) standards. People live in a wide variety of homes across a broad swath of locations and we need to develop a range of solutions that will work for everyone. That is the objective of the new scheme.”

Details of the scheme are now available on the SEAI website: <http://www.seai.ie/Grants/Deep-Retrofit-Programme/>

Aramark appoints Phillips



Aramark, the property management and facilities company has appointed Louise Phillips Managing Director of Property. Louise now leads a team of 120 people with responsibility for the management of over 28 million sq ft of buildings, with a combined rent roll of €325 million per annum.

Introducing the NEW KXZR 3-pipe system from Mitsubishi Heavy Industries...



- ✓ Improved energy efficiency and in mixed mode;
- ✓ New expanded line-up from 8HP to 60HP;
- ✓ Additional Hi-COP combination 16HP to 36 HP for increased energy efficiencies;
- ✓ Improved EER's and COP's compared to the previous model.
- ✓ Additional Hi-COP combination;
- ✓ Improved heating capacity in low ambient temperature;
- ✓ Improved cooling capacity in low ambient temperature;
- ✓ Improved and newly designed branch control boxes.



Diamond Air Conditioning Ltd,
C5 Bymac Centre, Northwest Business Park,
Blanchardstown, Dublin 15. Tel: 01 - 636 3131;
Published by ARROW@TU Dublin 2017
Email: info@diamondair.ie, www.diamondair.ie



Our Technologies, Your Tomorrow

IGBC publishes National Renovation Strategy recommendations

The Irish Green Building Council (IGBC) recently published recommendations towards version 2.0 of the National Renovation Strategy. This follows an extensive consultation process. Here *Shay Kavanagh of Fuinniv Independent Consulting* outlines the scale of the issue in existing buildings, as well as the recommendations and risks identified by the IGBC.



The consultation process

The Energy Efficiency Directive requires EU member states to generate strategies

Existing dwellings: a long way to go

Over the last number of years, Ireland has progressed regulations for new dwellings towards the Near Zero Energy Building (NZEB) requirements for 2020 set out in the *Energy Performance of Buildings Directive*. While not there yet, Part L isn't far off the mark for new dwellings. New non-residential buildings are soon to catch up following the recent launch of the *Interim NZEB Specification for New Public Sector Buildings*, and forthcoming developments on non-residential Part L.

However, the elephant in the room is the existing building stock. SEAI's latest *Energy in Ireland* report shows that the residential sector alone is responsible for around a quarter of Ireland's primary



Figure 2: Commercial buildings workshop (SOURCE: IGBC)

energy usage and energy-related CO₂ emissions. Even with a substantial number of grant-funded upgrades, SEAI's BER statistics show that around half of BERs for dwellings and non-dwellings still have a rating of D or worse. D rated buildings would typically consume three times more energy than A rated buildings. This gets worse for E, F and G BERs.

every three years to stimulate energy efficiency renovation in buildings. Ireland's first was in 2014, and the next is due from the Department of Communications, Climate Action and Environment (DCCAE) in April 2017. The Horizon 2020 funded *BuildUpon* project aims to develop these renovation strategies across Europe with the long-term goal of achieving a "fully decarbonised built environment that delivers a better quality of life for all". IGBC, in conjunction with DCCAE, ran 14 workshops with 190 key stakeholders from April 2016 to February 2017, the objective being to reach a consensus on final recommendations targeting this ambitious goal.

Detailed workshop reports are available at www.igbc.ie/buildupon/. The events first

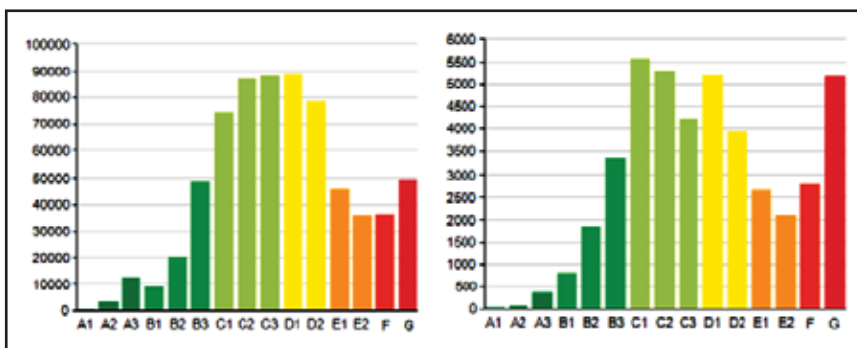


Figure 1: Number of BERs per grade for dwellings (left) and non-dwellings (right) (SOURCE: SEAI)



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focussed on buildings across all sectors, followed by a series of smaller workshops to refine the recommendations. The final workshop was held in January 2017. The workshops generated open, yet structured, discussion and debate among stakeholders. This enabled a shared understanding of the impact and ease of implementation (or not!) of a wide range of financial, social and technical issues, enabling IGBC to prepare the final set of recommendations.

Having attended several of the workshops, I can see that stakeholders' input forms the backbone of the recommendations document. The excellent event facilitators and the novel approach of visually capturing an outline of the workshops each day helped engage attendees throughout this intensive process.

Risks

There are several risks to the success of the strategy, such as:

- Lack of investment in upskilling of construction supply chain;
- Lack of investment in communication;
- A non-functioning housing market;
- Lack of cross-party political buy-in;
- Changing demographics and economics;
- Future technological changes.

Conclusions

DCCAIE is due to publish the completed *National Renovation Strategy* by the end of April 2017 and we'll hopefully see actions to follow. The IGBC recommendations outlined (right) have potential to have an enormous impact on Irish building stock and credit is due on the work done so far. However, a lack of either quality, finance, engagement or political will can scupper what is a huge opportunity for Ireland. Deep renovation will not only reduce energy usage and CO₂ emissions, but can have significant benefits on health, comfort, job creation, local collaboration and building longevity. This is the start of that process! ■

Summary of Renovation Strategy Recommendations

Recommendation	Detail
1. Develop a comprehensive national framework	A cross departmental approach is needed with nine government departments referenced. National and local initiatives must be connected. At a project level, all phases (from design through to end-users) must engage with each other.
2. Provide long-term certainty	A stable framework provides certainty. Introduce national targets complemented by local targets and interim performance targets and tracking.
3. Invest in deep renovation now	Invest now to avoid fines in 2021. Introduce legislative changes and financial incentives. The private rental sector is identified as problematic and is discussed in the recommendations. Extension of the Accelerated Capital Allowance scheme is recommended.
4. Make deep energy renovation desirable	Boost awareness of deep renovation benefits through a comprehensive communication plan making energy efficient buildings an assumed and aspired standard. Government and public sector leadership and clear political commitment are required. Community approaches can leverage action locally.
5. Facilitate deep energy renovation	Make quality energy upgrades more accessible with clear, comprehensive guidance and standards. Facilitate project evaluation to quantify environmental, social and economic impacts. Encourage BIM/BEMS in large projects. Use masterplans for retrofit projects. Develop a network of skilled, trusted local intermediaries.
6. Make sure we have the right skills	Embed building physics – including for traditional buildings, risk evaluation, BIM and consumer interaction – into training across the industry. Incorporate a comprehensive section on upskilling in the National Renovation Strategy.
7. Set the right standards	High standards build consumer confidence. Introduce statutory standards for construction workers/professionals, as well as deep retrofit performance standards. Update all regulations/standards to our decarbonisation objectives and remove inconsistencies. Consider introducing standards and minimum requirements in a number of areas such as indoor air quality, energy performance in public sector leases and private sector rental and minimum energy performance in renovations/extensions. Extend DECs to all commercial buildings.
8. Develop quality data	Make anonymised data more accessible to inform the Strategy and help it adapt to change. Coordinate research on existing building stock, occupant behaviour and deep renovation co-benefits.
9. Collaborate and engage	Implement the Strategy in a transparent and inclusive way. Its publication marks the beginning rather than the end of the process.

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Let's Solve Water

New 3-pipe system from Mitsubishi Heavy Industries

The new “KXZR” 3-pipe heat recovery outdoor units from Mitsubishi Heavy Industries will be available shortly on the Irish marketplace. Similar to its 2-pipe sister Model KXZ, the new KXZR features improved EERs and COPs thanks to a new multi-discharge compressor which optimises the pressure control during operation. There is also a new concentrated winding motor. These features have led to increased seasonal energy efficiencies, especially in partial load conditions.

Furthermore, the new outdoor units feature a new divided heat exchanger which dramatically improves cooling capacity in low ambient temperatures. This increases the operation without anti-frost operation down to -5°Celsius.

A first for MHI is the introduction of a “Continuous Heating Capacity Control” (CHCC), patent pending, for the 3-pipe units. This increases the heating period of the outdoor unit and reduces the mandatory defrost operation to a minimum. This new control ensures, and dramatically increases, comfort for the user during defrost operation.

Another key feature is the new software on the outdoor unit PCB. This now also automatically selects the most energy efficient modus during “mixed mode” (both heating and cooling demand at the same time), with maximum COP’s of 9.0.

Key features and benefits

- New expanded line-up from 8HP to 60HP;

Right: The new MHI “KXZR” 3-pipe heat recovery series from Mitsubishi Heavy Industries.

- Improved EERs and COPs compared to the previous model;
- Improved heating capacity in low ambient temperature;
- Improved cooling capacity in low ambient temperature;
- Improved and newly-designed branch control boxes.

There is now a variety of different indoor units, with connection capacities ranging from 50 – 200% depending on the outdoor unit. This ensures maximum feasibility and installation flexibility.

“We’re very excited by the new MHI “KXZR” 3-pipe heat recovery series”, says Graham McCann, Diamond Air Conditioning, “as its improved EERs and COPs, in addition to its applications flexibility and performance excellence, will help deliver high-performing, energy-efficient solutions”.

Contact: Michael Clancy (087 – 262 0701) or Graham McCann (087 – 950 9402), Diamond Air Conditioning. Tel: 01 – 636 3131; email: info@diamondair.ie; www.diamondair.ie ■

- Additional Hi-COP combination 16HP to 36HP for increased energy efficiencies available for the first time;



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Addressing the building performance challenge



Malcolm Anson, President of the Building Controls Association (BCIA) shares his thoughts on the current state of play of building controls in the industry and suggests we must do more to meet the building performance challenge. (See also www.bcia.co.uk)

Never before has it been so important to ensure that commercial properties meet the stringent guidelines on energy efficiency. The emphasis on sustainability, CO2 emissions, current building regulations and impending new legislation all demonstrate the importance of building management control systems.

The upsurge in demand for smart building technologies focusses on reducing CO2 emissions and increasing the lifetime performance of a building. Controls are integral in meeting the building performance challenge.

Considerable energy savings can be achieved by simply installing controls which are not already present and making sure they are set, operated and maintained correctly.

Furthermore, building controls allow users to optimise their service and improve overall comfort and safety in an energy efficient manner. This, in turn, minimises running costs and prevents the unwanted or out-of-hours operation of equipment.

For example, incorrect application of boiler controls can add 15-30% to fuel consumption compared to a well-controlled system. The cost savings from controls should not be underestimated. Fitting a full set of controls to an older heating system which previously had none can save over 15% on energy bills.

Undoubtedly, there is still a lack of understanding and awareness on building controls and the advantages they can bring. For instance, it was highlighted at the 2016 Building Services Summit in the UK that there is no commercial incentive at the start of the construction chain.

Think about the first stages of the building cycle. The client meets with the design team and the opening discussions usually centre on making sure the exterior of the build is visually attractive or unique in some way.

The hot topic of building controls needs to be explained and put into place right from the outset, with the client made aware of the considerable value and benefits that the building

energy management system (BEMS) can bring.

What most people don't realise is that 80% of the costs of a building in operation relate to building services. With the right tools installed, the long-term performance of the building will be significantly better and cost savings will be achieved. As a result, end users can make a sizable return on their investment which is something that needs to be more widely recognised.

Another factor we must consider is that while the right controls may be in place, they need to be correctly used for savings to be fully extracted. This is where training is so essential for both engineers and end users.

We live in a world where technology is constantly evolving and therefore we must stay on top of the latest technologies available. We can all play a role in this by sharing our knowledge and expertise, particularly across linked sectors.

Attracting younger people to work in the industry is also crucial in making sure the future of building performance is a bright one. We currently face a skills shortage and a lack of younger people employed in the sector, so it is vital we are pro-active and encourage the next generation to want to know more about the building management and controls industry.

It is vital that everyone in the building cycle shares the same vision and end goal, despite their own vested interest. With fresh perspectives, an investment in training and by working in unison, we can offer the industry sustainable building performance for the long-term. ■

Total Systems Integration from Fläkt Woods



Fläkt Woods Controls Division is active in the commercial, retail, healthcare, educational, high-tech and pharmaceutical sectors. Aside from the typical BMS solutions, it also provide controls solutions across a range of areas such as car park ventilation, stairwell pressurisation and smoke control systems.

www.flaktwoods.ie

FläktWoods
A FläktGroup Brand

Total Systems Integration from Fläkt Woods

Fläkt Woods Controls Division is a long-standing Systems Integrator (SI) with over 30 years direct experience in the area of building energy management systems (BMS) and control solutions. Many of these are web-enabled and allow clients access to their site while on the move via Smart phone or tablet.

Partnering with the leading suppliers in the industry, Fläkt Woods' multi-system approach ensures that the most appropriate solution is found for each specific project. Nationwide coverage is assured as, apart from its headquarters in Dublin, the company also has a strong local regional presence via its Cork and Belfast offices.

System integration

With the introduction of fully-packaged solutions to the Fläkt Woods' portfolio of ventilation equipment, the controls division takes an active role in the design,

selection and commissioning of this class-leading product range, ensuring first-rate commissioning of the controls as well as seamless integration with the BMS.

On the broader systems integration front Fläkt Woods building management systems facilitate a choice of integration options over a variety of protocols including Modbus, KNX and M-Bus for Fieldbus integration. The expertise and experience of the Fläkt Woods team also extends to BACnet IP and MS/TP. These open protocols enable monitoring and control of all types of equipment including air handling units, chillers, boilers and switchgear.

To ensure continuing delivery of the highest-quality service, members of the Fläkt Woods Controls Division team undergo mandatory training and development courses, including those delivered via the Fläkt Woods Academy of Excellence. This extensive online portal covers a wide range of products and engineering solutions that keep team members fully *au fait* with the company's own current and new product offerings, as well as the latest industry trends.

Project applications

Fläkt Woods Controls Division is active in the commercial, retail, healthcare, educational, high-tech and pharmaceutical sectors. Its primary focus is on the Irish marketplace but it has

also recently completed a number of prestigious projects abroad.

Aside from the typical BMS solutions, Fläkt Woods also provide controls solutions across a range of areas such as car park ventilation, stairwell pressurisation and smoke control systems.

Design/manufacture of MCCs

Fläkt Woods Controls Division also provides custom design, manufacture and rigorous testing of Irish-built motor control centres (MCCs) catering for solutions across the building services market. MCCs are built to the required standards such as EN61439, EN60204 and frequently undergo factory-acceptance testing (FAT) prior to dispatch.

Other services and benefits

Other services, system solutions and benefits provided by Fläkt Woods Controls Division are:

- Bespoke graphics packages mirroring site equipment;
- Software engineering undertaken by fully-trained personnel;
- Full client demonstration and training for installed systems;
- Design and construction of motor control centres;
- Selection and supply of specialist devices;
- Full on-site configuration, testing and commissioning of the BMS;
- Client handover, demonstration and training on installed systems;
- Monitoring and control of on-site utilities such as electricity, oil, gas, water, diesel;
- Lighting control including occupancy detection.

Contact: Martin Dunne,
BMS Controls Manager, Fläkt Woods.
Tel: 01 – 463 4633;
Mobile: 086 – 266 1937;
email: martin.dunne@flaktgroup.com



Fläkt Woods Controls Division delivers total systems integration solutions across all applications.

Myson Smart control technology

Baxi Potterton Myson has been distributing Myson radiator controls and radiators for over 40 years and has just unveiled its latest controls portfolio of programmable and touch-screen models that cater for virtually all applications. Details are as follows.

Myson's programmable room stat range comes in a choice of white, chrome or black with advanced features such as the smart-start setting. This varies the start-up times to ensure that the building achieves temperature by the required time. It is continually learning the temperature rise requirement, delaying the start-up of the system, therefore saving energy during milder weather. Main features and benefits are:

- Easy to programme with three adjustable temperature settings;
- 2-in-1 programmable thermostat with 24-hour or 7-day (installer set-up option);
- Backlit display with easy to follow instructions;
- One-hour high-temperature boost button;
- All 24-hour temperature settings shown on display;

- Volt-free 2-wire connection, ideal for combination boilers;
- Holiday override 1 – 99 days ;
- Oil/gas boiler setting;
- Load compensation;
- Lockable keypad.

A mains supply version of the MPRT is also available (no batteries required).

Myson Touch

The Myson Touch ranges delivers room temperature control with four adjustable timed periods for each day – morning, day, evening and night. If activated, the second timed channel can also control the on/off times of hot water.

Alternatively, the second timed channel can be used for a second heating zone



Myson Touch wifi-controlled smart programmable thermostat

when used in conjunction with a room thermostat such as the Myson MRT1.

There is also an optional setting of one or two zone control (programmable room temperature control and timed hot water control if required).

Main features include:

- Smart Start technology;
- 24-hour, 5/2 day or 7-day programming;
- Up to four time and temperature period settings per day;
- Temperature over-ride, hold and holiday functions;
- Lockable keypad function;
- Temperature range limit facility;
- Frost protection;
- Compact size;
- Volt-free contacts.

Control Packs

For the convenience of installers and specifiers, Myson provides a range of control packs to suit standard types of heating systems, from fully-pumped flow share and zoned systems, to unvented hot water storage systems. The attractive control packs are designed to give exactly the right combination of controls to make the central heating system work more efficiently.

Contact: Baxi Potterton Myson.
Tel: 01 – 459 0870;
email: sales@potterton-myson.ie



Myson programmable room thermostat

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Mitsubishi Electric makes a world of difference in controls

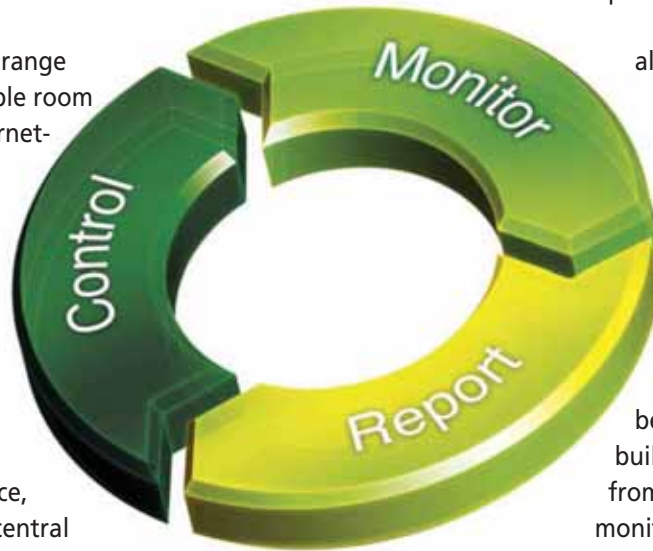
Increasing energy bills, the need to reduce carbon emissions and a raft of challenging legislation are driving the demand for increased energy efficiency in buildings. While the building services solutions installed to meet this criteria are very important, even more essential is managing and controlling these heating, cooling and other building services' functions.

Mitsubishi Electric has

developed a comprehensive range of control devices, from simple room controllers to advanced internet-based systems that can monitor, analyse and run entire estates. These advanced environmental systems really can make a world of difference, an added feature being that it is now much easier to retrofit new controls into existing premises. For instance, Mitsubishi Electric's newest central controller will talk to its oldest City Multi unit using MELANs (Mitsubishi Electric Local Area Networks).

"Good controls will benefit any application, large or small", says Richard Sherlock, Mitsubishi Electric. "However, with the huge choice of control systems available, careful consideration must be given to identify the correct control for each situation. The ability to respond to different building requirements is particularly important for air conditioning and heating systems, and we have solutions to cater for every need".

For smaller premises, a simple control system with a remote controller and simple on/off scheduling will be sufficient to achieve the optimum combination



of comfort, running costs and energy efficiency. However, in a large building such as a hotel, a much more sophisticated control system is needed to implement more intricate control strategies. "Fit and forget" is no longer an option if we are to deliver greener,



Richard Sherlock

more energy efficient and more economical buildings. Monitoring and reporting capabilities are also increasingly requested by clients, and very often required by legislation and building regulations.

"Variables such as user habits, energy consumption patterns and outside temperature can now be used to inform system management and control", continues Richard. "Delivering the right information to the right people at the right time helps to speed up interventions and to reduce undue energy use. Based on predictive algorithms, interventions can even be made automatically to ensure optimum performance at all times".

Mitsubishi Electric controls also offer a high degree of flexibility, not only in new buildings – which have seen advanced controls becoming almost standard – but also in existing premises, where they can make a real difference to energy use. With wireless technologies, retrofitting has become much simpler and older buildings can benefit enormously from better controls. Power monitoring capability is possible on AE and EW models with BACnet protocol built into the AE200 and EW50 units and activated as additional charge.

"Moreover", concludes Richard, "air conditioning, ventilation and heating units are not the only systems in a building. To ensure they work effectively and in conjunction with other building services such as lighting, security, power and fire systems, Mitsubishi Electric's range of BEMS interfaces allow complete control and monitoring integration.

"At Mitsubishi Electric, we put you in total control".

Contact: Mitsubishi Electric.
Tel: 01 – 419 8800;
email: sales.info@meir.mee.com;
www.mitsubishielectric.ie ■

Data centre boom shows Dublin plugging into a powerful sector

Availability of power may be a challenge but things are looking generally positive for Ireland's status as a leading location for data centre investment, writes Grainne Rothery. Her excellent analysis of the data centre marketplace appeared in the *Sunday Times* on 26 February last and it is reproduced here with their kind permission.

In a quarterly report on European data centres published recently, CBRE described Dublin as being "undoubtedly" the main challenger to Europe's four major Flap markets (of Frankfurt, London, Amsterdam and Paris) for collocation, or the supply of data centre space. Current collocation companies with facilities in Ireland include Digital Realty, Equinix and Interxion.

The report also noted Dublin's clear position as the premier location in Europe for "hyperscale" self-build schemes, namely the centres developed by organisations like Facebook, Amazon, Google and Microsoft.

CBRE's analysis of collocation deals in Dublin suggests there was around 40MW of take-up in 2016, making it the third best-performing market in Europe last year, behind Amsterdam and London. In addition, CBRE estimates that another 38MW of self-build IT power delivered by hyperscale companies went live last year.

Garret McClean, Executive Director, CBRE, noted that deals done in data centre space tend to be measured by power rather than physical size.

An estimated 85% of all data centres in Ireland are located in Dublin. "It's easier to

access power and the fibre there so that's been the landing point for most of the data centre companies" said Mark Gillett, Business Development Manager, Mission Critical at PM Group, which provides data centre design and construction management services, mainly to hyperscale companies.

In the main, the centres have tended to locate along the route of the T50 fibre network in areas such as Clonsaugh, Ballycoolin, Grange Castle, Profile Park and Citywest.

Another big attraction for investors in this area is Ireland's geographic landing point for US companies coming into Europe. "A lot of the large cables that come in and feed into the Flap markets land in Ireland," said McClean. "Ireland is the first point of call from the US".

Those cables include the Hibernia Express transatlantic cable, which runs from Nova Scotia, via New York to Cork, and went live in 2015. It provides the lowest latency (fastest speeds) between the US and the EU. The \$300m (€284m) Aqua Comms transatlantic fibre network, AECConnect, which runs from Long Island in New York to Killala in Co Mayo, also went live last year.

Another point in Ireland's favour is the climate. "The free air cooling is optimum", said Colm O'Mahony, Energy and Mission Critical Director at PM Group. "In other jurisdictions, we might need to cool that air".

The strong cluster of tech and collocation companies already present is also driving further activity. "People look at that when they're making investment decisions and they see there's a critical mass there," said Gillett. "That brings with it skills in terms of the labour force able to service it."

Power is one area where there are some concerns. "Dublin has reached capacity and significant infrastructure needs to be put in place to develop more sub-stations," said Woody O'Neill, Divisional Director, Industrial Agency, JLL. "There's a lag between demand and delivery in terms of power and it's currently putting one or two projects on the back foot".



Google's Data Centre in Grangecastle.



Artists impression of the new €190 million Facebook data centre in Clonee.

"Grange Castle is home to a number of data centres that have pretty much eaten up all the available power", said Gavin Butler, Industrial Director at Savills. "As things stand at the moment, my understanding is that there isn't any capacity in terms of power supply in that locality but it is being upgraded and improved. There will be more power provisions in the locality over the short term".

Data centre developments do not start until there is certainty around power.

centres are in development, including Microsoft's \$1bn expansion of its Grange Castle campus. The project will include four centres and a total of 70,000 sq m of space. In Clonee, Co Meath, Facebook is spending €200m on a 31,000 sq m facility. According to Facebook Chief Executive Mark Zuckerberg, the centre will run on 100% renewable energy and be one of the most advanced and energy-efficient data centres in the world.

In Athenry, Co Galway, a legal challenge

tapped into these brownfield locations".

Amazon, for example, bought the old Jacob's biscuit factory on Belgard Road in Tallaght in 2015 and is understood to be redeveloping it as a data centre. The company has bought a number of other facilities in Dublin with a view to turning them into data centres. It has already converted a Tesco distribution centre in Greenhills Industrial Estate into a 22,300 sq m centre.

Going forward, Ireland's data centre sector could benefit from Brexit, particularly if the UK opts not to adopt the EU General Data Protection Regulation.

Helping matters may well be a submarine fibre-optic cable system running from Cork to Lannion, which is set to be the first direct subsea cable between Ireland and France. In January, the company behind the project, Ireland-France Subsea Cable, announced a partnership with Tiger Infrastructure Partners to finance IFC-1, which is scheduled to go live in 2019.

Back in Dublin, O'Neill expects a more limited supply of brownfield sites for data centres in future.

"There's certainly emerging strong demand in excess of what we've seen before, particularly from the collocation operators. We're seeing new entrants on the larger scale and the talk on the street is that it's all gangbusters going forward, albeit we have yet to see that translating into significant deal size". ■

THE SUNDAY TIMES

Know your times

"If a site is under construction, power is available", Butler said. "But if anyone's looking to develop a greenfield site at the moment in that area, the power isn't there today. That said, the power supply to the area is being upgraded so it will be there".

As data centres require a huge amount of investment in comparison to other industrial buildings, companies generally want to buy rather than lease properties. "If someone is spending €1m on a property, chances are they're spending ten times that on the fit-out", said Butler. "So it makes sense for them to own the building too so they're in complete control of their destiny".

At the moment, a number of large

is now holding up work on Apple's planned €850m data centre, which was first announced in February 2015 and got approval from An Bord Pleanála last summer.

In some cases, hyperscale companies opt to convert existing brownfield sites, a trend that has had quite an impact on the industrial market in recent years. "Without the data centre users there would be a considerable overhang in brownfield secondary and tertiary industrial stock", said O'Neill.

"Manufacturing plants would have had good power provision to them. Now that they're closed, there's power sitting in the area unused and that's why companies have



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Quality and Service

MSS Building Services Ltd is Ireland’s leading supplier of mechanical and electrical building services support systems. It is an Irish-owned company with a long-established reputation dating back to 2001 for service excellence and the quality and scope of its product portfolio.

Directors Billy McDonald and Darren Kiely have extensive experience in the sector and, under their guidance, the 44-strong team delivers an unrivalled service that has seen MSS become synonymous with building services management support systems, not just in Ireland, but in the UK, mainland Europe and further afield.

There are two divisions in the MSS business – MSS Building Services Fabrication and MSS Building Services Distribution. Together they represent a massive strength and offer engineered, quality-driven, products and system solutions that embody value-for-money along with long-life performance, installation efficiencies and on-site labour-savings.

“At MSS the trading relationships we enjoy with our customers are genuine partnerships that work for the benefit of all”, says Director Billy McDonald. “We look forward to strengthening those into the future while, at the same time, welcoming new partners on board”.

Meet the Sales Team



MSS Sales Team – Helen Dunne with Joey Glynn, Des Smith, Ger Clooney and Sorcha Kiely.

MSS Fabrication Facility



MSS Fabrication is housed in a purpose-designed 15,000 sq ft facility incorporating state-of-the-art fabrication machinery and using the latest manufacturing production processes.

The team of highly-trained and fully-qualified operatives ensures that stocks of standard product items are always in plentiful supply, while bespoke sizes and configurations can be manufactured on planned or even to short lead times.

Apart from problem-solving and delivering fit-for-purpose solutions, the MSS bespoke cutting and fabrication service also eliminates the risk of hidden costs from on-site fabrication errors.

Benefits include:

- No need to cut on site;
- No hot works permit required;
- Reduced on-site labour and materials waste;
- Lead time tailored to suit works schedule;
- All products packed and labelled.

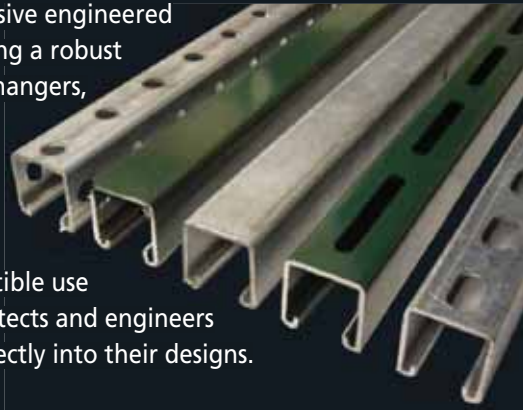
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Over time, the Unistrut brand has evolved from a simple connection concept to a comprehensive engineered building and support system featuring a robust line of channels, fittings, fasteners, hangers, pipe clamps and accessories.

Adaptation and innovation are a critical part of this process, hence the availability of the most specified and highest-selling items for compatible use in BIM modelling. This enables architects and engineers to incorporate Unistrut products directly into their designs.



MSS and Unistrut offer a 10-year guarantee with the Unistrut complete system (terms and conditions apply)

Engineered solutions

With more and more projects requiring customised solutions to manage the mechanical and electrical services, Willie Murphy, BSc, provides engineering-led design support. As a fully-qualified engineer Willie understands the intricacies and complexity of building services and can liaise directly with the system designer and installer to help devise the most appropriate solution.

Apart from his engineering knowledge, Willie is fully *au fait* not just with the standard product ranges in the portfolio but also with the infinite possibilities having an in-house fabrication facility entails. This means that all project challenges – no matter unusual – can be met and satisfied.

Project solutions comprising a mix of standard and bespoke systems devised by MSS are commonplace, while some of the more intricate designs involving innovative breakthroughs are becoming industry standards.

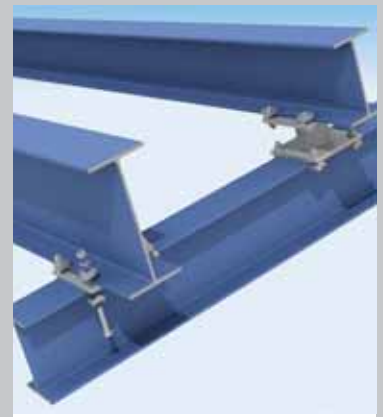
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Mupro support systems

MSS Distribution and Trade Counter

MSS Distribution, operating out of a 26,000 sq ft facility in Ballymount, Dublin 24, represents the general supply side of the business and is Ireland's leading supplier of mechanical and electrical support systems for all applications. The brand portfolio is extensive and includes quality market-leading products and systems that are highly-innovative and designed to deliver total solutions while saving on installation time, labour costs and on-site activity.



Grzegorz (Greg) Twardowski, Trade Counter Manager.

Complementing the portfolio is a team of fully-qualified and experienced personnel who are available for consultation and advice, no matter what the project size.

This includes the trade counter team who are on duty from 7am to 5pm, Monday through to Thursday, and 7am to 3pm on Fridays. All pre-ordered items and loads are ready for collection on arrival.



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Ballymount Cross Industrial Estate,
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Pictured above are Krzysztof Ciupak, Damien O'Brien, Mark Herbert, Anecito Jamisola, Francis Gray and Darren Ellis. Missing from the picture is Gary Best and Noel Fogarty.

MSS has its own in-house fleet of nine vehicles and company-employed drivers who are site-oriented, have PPE and Safe Pass accreditation, and are fully RSA compliant.

The delivery service is tailored to suit customers' needs with out-of-hours site drops by prior arrangement. This service applies to all customer sites throughout Ireland, in addition to those in the UK, Europe and further afield.

Seaside warmth thanks to Aquarea H Generation

St Marnock's Bay in Portmarnock is an exclusive development of three and four-bed quality, A-rated, homes being developed by Ballymore. Located close to the famous Velvet Strand beach in Portmarnock, these homes feature levels of energy efficiency that far exceed the average home.

An array of features combine to ensure lower energy usage and higher levels of luxury. Structurally, high levels of insulation are incorporated in the walls, floors and roofs to provide a greener home and a more sustainable way of living. The same high standards apply to the heating system with Panasonic's new Aquarea H Generation air to water heat pump being specified throughout. It provides domestic hot water and efficient heating, serving wall-mounted radiators, and heated towel rail in bathrooms.

The new H Generation range for Aquarea comes in small capacities, specifically designed for low energy homes, and can achieve an impressive COP of 5 (for the 3,2 kW). Thanks to the system's high degree of technology and advanced control, it can maintain a high capacity and high efficiency, even at -7°C and -15°C.

The Aquarea's software is optimised to the requirements of low-consumption homes in order to maximise energy efficiency. Whatever the weather,

Aquarea can work even at -20°C.

The new H Generation range is also WiFi enabled for remote control and monitoring via the Aquarea Smart Cloud. This is much more than a simple thermostat for switching the heating system on or off. It is a powerful and intuitive service for remotely controlling the full range of heating and hot water functions, including monitoring energy consumption.

Aquarea H Generation is also installer-friendly with the outdoor unit's design increasing the ease of installation. Other features include:

- Controller located on the front of indoor unit;
- Easy access to parts;
- Easy to install as all piping is twin zone for upstairs and down;
- Remote control with full dotted wide screen and new functions;
- Compact design;
- Water filter (easy access and fast-clip technology);
- Stop valve;
- Flow sensor;
- 3-way valve-ready (optional CZ-NV1 in internal space);
- Automatic air purge valve;
- Display of the compressor frequency;
- Easy remote control set up;
- Frontal electrical connections.

"The St Marnock's Bay development is the perfect application for the new Aquarea H Generation air to water heat pumps", says Vincent Mahony of Panasonic Ireland. "Heat Merchants and ourselves worked very closely with system designer Jonathan Kirwan of JAK Consulting Engineers and Niall Gaffney of Gaffney Mechanical on the project and the result is an exemplary solution that is the perfect heating and hot water template for homes of this high-quality calibre".

Contact: Vincent Mahony, National Account Manager, Panasonic Ireland. Tel: 087 – 969 4221; email: vincent.mahony@eu.panasonic.com or Shane Duffy, National Commercial Heating Manager, Heat Merchants. Tel: 087 – 914 8826; email: shane.duffy@heatmerchants.ie ■



Shane Duffy, Heat Merchants with Vincent Mahony, Panasonic Ireland, Niall Gaffney, Gaffney Mechanical and Jonathan Kirwan, JAK Consulting Engineers.

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Wilo lays cornerstone for digital future

Wilo Group confirmed the direction of all future product development at the company recently with the laying of the cornerstone for its ultra-modern “smart factory” in Dortmund, Germany. “We are building the digital factory of the future now”, says Derek Elton, Managing Director, Wilo Ireland.



Derek Elton, Managing Director, Wilo Ireland

“Being a leader in innovation”, says Derek, “we have deliberately introduced the term ‘digital pioneer’ to emphasise our commitment to the digital age, and to incorporate that into our full product line-up. It is also an important factor for sustainable development.

“Apart from leading to high-performing, digital-age products and pump solutions, this development will also make for total traceability of all components feeding in to the manufacturing process. Moreover, it will mean we can communicate directly with all pumps in the field”.



Wilo-Stratos GIGA-D – double efficiency

High pump output does not necessarily entail high costs or a highly complicated installation. With the Wilo-Stratos GIGA-D, Wilo offers a highly-efficient double pump developed with a close eye on the requirements and needs of installers and consultants.

Especially in double pump design, the standby pump always offers the highest possible operational reliability for the entire system. Due to its energy efficiency and small amount of space required compared to a solution with single pumps, the Wilo-Stratos GIGA-D is very well suited to a proactive pump alteration of existing uncontrolled pumps.

The HED motor of the Wilo-Stratos GIGA-D can be as small as a third of the size of some conventional asynchronous motors with the same rated power. This not only improves its

performance, it also makes handling easier during installation or replacement.

IE5 efficiency class

The high-efficiency EC motor with efficiency class IE5 according to IEC 60034-30-2 is the most stringent class defined today. “We achieve optimum output utilisation with the help of EC motor technology”, explains Derek Elton, Managing Director, Wilo Ireland. “Power losses due to the rotor can thus be avoided almost completely. In parallel operation both pumps are also controlled in an optimised way for efficiency”.



wilo



Wilo-Stratos MAXO – new era in pump technology

The unveiling of the pioneering Wilo-Stratos MAXO at ISH in Frankfurt recently sets new standards in system efficiency and user-friendliness. It once again demonstrates Wilo's leadership in innovation, something that was confirmed when the new unit received the "Design Plus" award at the show. It also bears testament to the fact that Wilo Group's annual spend on R&D is in the region of 5% of total turnover.

The Stratos MAXO is the world's first true smart-pump. Its new "Green-Button-Technology" combines proven handling with new and optimised functions, creating a completely new level of user-friendliness. In addition, it is even simpler still to install.

Its high degree of connectivity makes it an extremely flexible solution when it comes to integration into a wide range of applications. The analogue and digital interfaces, which are still an optional feature only available via IF-Modules for the Stratos, will now come as standard for the Wilo-Stratos

MAXO. The latest communication interface – Bluetooth – enables it to be directly connected to mobile devices, while "Wilo Net" offers a new standard interface for connectivity among Wilo products, making the control of multiple pumps possible.



Wilo-Stratos MAXO sets new standards in system efficiency and user-friendliness.

Additional CIF modules offering seamless integration into the world of bus-systems are available. In the future, it will be possible to operate and control the pump via a custom-

developed app that will read out the pump data and, for example, make it available for system optimisation purposes.

The application-guided configuration of the "Set up Guide" offers intuitive handling and outstanding user-friendliness. It is also the pump offering the highest system efficiency on the market, thanks to the optimised and innovative energy efficiency functions such as "Multi-Flow Adaptation" and "No-Flow Stop", along with an outstanding $EEL \leq 0.17$.

New control modes ensure flexible and perfect adaptation for all applications. Setting a constant target temperature or constant differential temperature makes the operation of the pump and the overall system even more efficient. The target temperature control of the circulator also assists with the prevention of legionella infestations in the warm-water pipes.

The Stratos MAXO-Z is also ideal for specific hygiene requirements, as it automatically recognises a thermal disinfection program being carried out and supports the rinsing of pipes by increasing its output to the maximum. The Wilo-Stratos MAXO is available as a single or double pump and as Wilo-Stratos MAXO-Z for drinking water applications.

JOHN ENGLISH – AN APPRECIATION

The recent death of John English marks a major milestone in Ireland's HVAC sector. He was one of the pioneers of the industry as we know it today, and not just a player but someone who shaped and influenced its development down through the years.

His drive and business acumen set him apart from many of his contemporaries, and his personality was such that he engaged with people in a way that they too benefited from these strengths, and were encouraged to realise their own potential.

He was a very strong and at times forceful character but his leadership skills meant he brought people along with him, people believed in him and bought in to his ideas and the company philosophy. Indeed, it is no surprise that many of those now running very successful businesses in the sector were "students" of John and "graduates" of the Hevac regime.

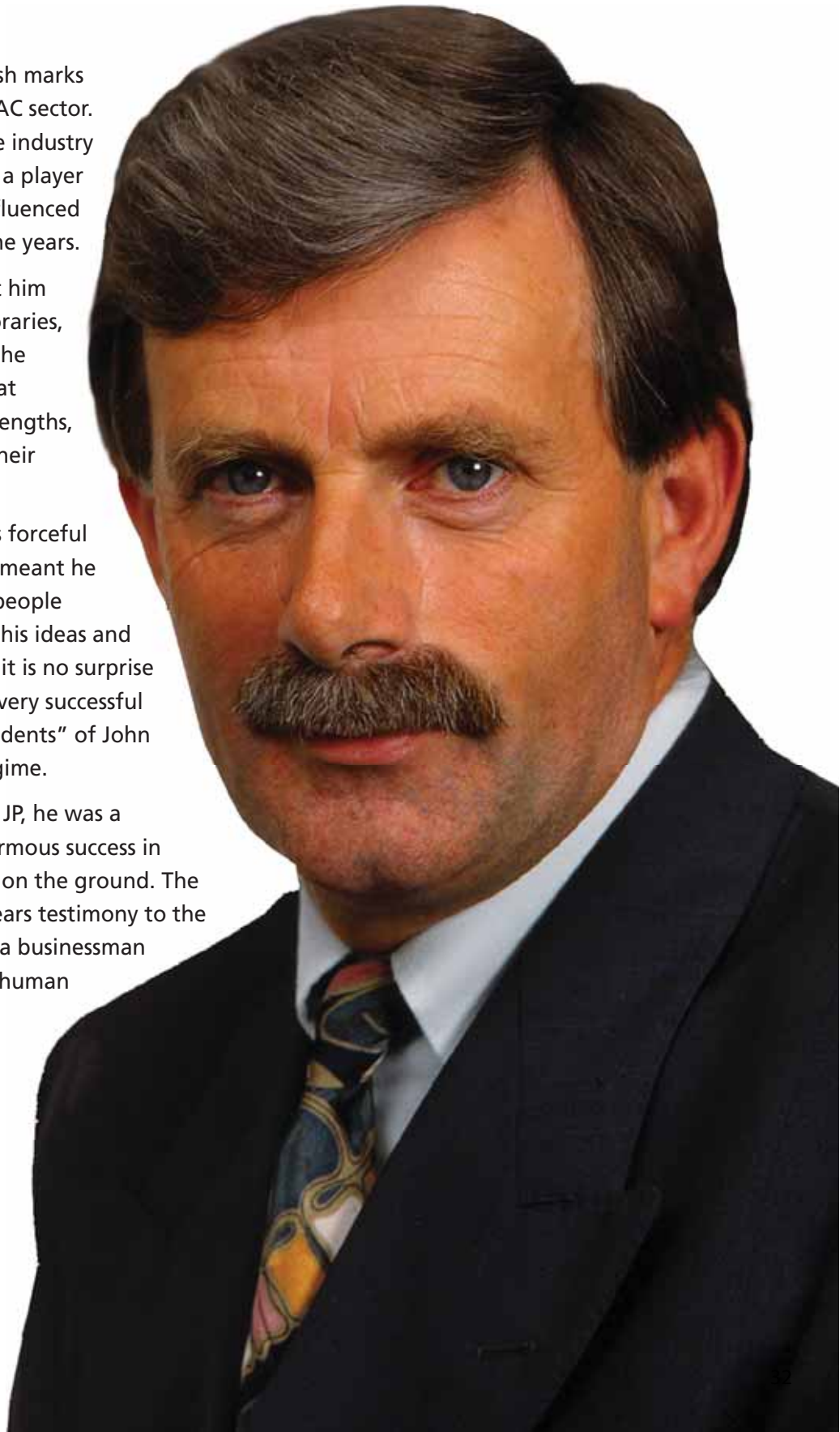
Known variously as John, Sean or JP, he was a unique man who, despite his enormous success in business, kept his feet very firmly on the ground. The massive turnout for his funeral bears testimony to the mark of the man, not so much as a businessman but more as an incredibly decent human being who personally touched all who came into contact with him.

It is impossible to capture the essence of John English in the space available here but the three personal memories we have included do go some way to doing that.

Ar dheis Dé go raibh a anam.

Pat Lehane

<https://arrow.tudublin.ie/bsn/vol56/iss2/1>



Incredibly generous with his time

I first met John when we played hurling together at Under 14 level and, over the years as we progressed up through the various age groups to minor level, we developed a strong and lasting friendship.

This friendship not only continued but strengthened as we became adults and began to make our way in life. In fact, there was a time when we used to meet regularly in London when I was working there and John would be over on business.

It was during this period that we conceived the idea for the Tipperary Supporters Club and the incredible success of this initiative cemented our enduring lifetime friendship. We met regularly on Club business and of course travelled extensively together to matches all over the country.

John – or Sean as he was to me – was extremely generous. He sponsored teams at all levels and was always very supportive when it came to fundraisers such as the many golf classics we organised. However, even more important was that he was incredibly generous with his time and always available to help solve a problem, or simply to be there and listen. Not a day goes by when I don't think of him.

Don O'Mahoney

Wanted nothing in return

I met John in 1986 when I was the Tipperary hurling manger and John was one of the founding members of the newly-established Tipperary Supporters Club. Back then county board resources were thin on the ground ... we had not a shilling to buy a hurley or a sliothar.

Right from the outset the Tipperary Supporters Club was a huge success. Throughout my time in charge of the Tipperary hurling team we went from the doldrums to winning five Munster Championships and two All Irelands. Without the Tipperary Supporters Club that would not have happened. John English typified the type of people we had on board ... GAA people at heart who, like John, gave it their all and wanted nothing in return.

John and I became firm friends. From meeting up regularly at meetings and fund-raising events, and of course travelling to games, this relationship extended to our wives also. As a result Nancy and I and John and Martha became very close and indeed they both joined us on the many Tipperary team trips abroad.

There were times over the years that I went to John for support and advice on various matters, both personal and re the team, and he was always very generous with his time. I did not always like the answer I got but he was always right.

Nor was it just about friendship. John was the type of man that you genuinely respected, something which extended to all the players, at every level, who were lucky enough to come into contact with him.

He will be missed by everyone he touched.

Babs Keating

You aspired to be like him

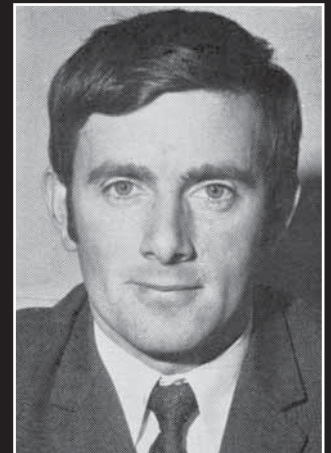
The John English I knew was an old-style gentleman ... and a very kind and gentle man. He was also an incredible businessman, a tough task master but a very supportive and fair one. He was a strong leader but it was not a case of his way or nothing. He always encouraged your input.

I worked for him for 42 years and not a day went by that I did not look forward to going to work. Under his guidance I enjoyed a wonderful career path at Hevac, being given more responsibility and more senior roles as time went on. I was fortunate in that I worked very closely with him, especially when it came to facts and figures. He loved statistics and had an incredible grasp of the finer details at a time when computers were nothing like they are today.

His attention to detail was amazing and he had his finger on everything. He did not hide away in his office but instead spent his time on the floor. This was not in an intrusive way though. From the most junior to the most senior staff member, he treated everyone the same. He knew the role they played in the company but also knew them personally. He regarded Hevac as one big family.

He had a wonderful personality that rubbed off on all who worked for him. He inspired an incredible loyalty in people and you always wanted to do your best for him. Look at me, 42 years later and still here.

Evelyn Carroll





Core Air Conditioning Ltd is the sole distributor for Carrier and Liebert commercial, industrial and computer room air conditioning products in Ireland. It also supplies the full range of Mitsubishi Electric, Lu-Ve Contardo and Jacir Air Traitement equipment and can now offer a full package of air conditioning and process-related products.

Core combines this product portfolio with excellent technical support and a highly-qualified service team that, in addition to commissioning and trouble-shooting, also delivers customised maintenance packages. These ensure the optimum performance of installed systems, prolong equipment lifespan, and prevent the consequences of system failure or total shut down.

Core's service agreements are highly-flexible and are designed for each individual installation. After a thorough site survey, the right combination of options is selected for each particular facility. In addition to service, repair and planned maintenance, diagnostic and proactive recommendations for improvement are also provided, along with emergency response.

Core's team of service/maintenance engineers have wide-ranging experience across all HVAC equipment, covering all brands, and so offer all-embracing comprehensive solutions.

The key elements of the service selection process, and the actual service packages that result, are detailed here.

JOIN THE 'CORE AC CIRCLE OF SERVICE'

› Planned Maintenance

Core's planned maintenance service is the ultimate in long-range preventive maintenance. It includes the necessary multi-year preventive maintenance items that are performed at intervals greater than one year (those items that are in addition to the annual recurring items such as every three, five or 10 years). Major disassembly to repair, or replace, internal parts and rotating assemblies as a result of normal wear is included.

› F-Gas Inspection

Under the European Fluorinated Gases Regulations (EC 842/2006), Core Air Conditioning can carry out inspections on all equipment, irrespective of brand, to ensure regulatory compliance. All engineers are F-Gas approved and qualified to carry out leak checks and issue the proper paperwork confirming obligations have been met under EC 842/2006.

› Repair Service

Repair Service may consist of a service order to repair or replace a component. It can include equipment overhaul, rebuilding, non-destructive testing or analysis of fluids and tubes. Various repair services can be stand-alone or combined with any of Core's other services.

› Full Preventive Maintenance

This includes all the inspection maintenance services, plus pre-scheduled recurring annual tasks which may require disassembly for preventive maintenance, as part of Core's major maintenance service. Minor repairs, motor testing and leak testing are also carried out.

Core Air Conditioning Ltd
 Unit A6,
 Centrepoint Business Park,
 Oak Road, Clondalkin,
 Dublin 12
 Tel: 01 409 8912
 Fax: 01 409 8916



www.coreac.com



Service Team – Dave Clarke, Service Manager with Jenny Courtney, Service Coordinator and Fintan Brewster, Technical Manager.

› Monitoring Service

With chillers, a problem is not always present when an engineer is on site. Core offers a unique service on Carrier equipment called PC Data Collection Tool (PCDCT). With PCDCT, the Carrier chiller is monitored for 24-hours or more, and all parameters are recorded at 2-second intervals. Technicians at Core and Carrier then study this and recommend any changes to improve the operating efficiency of the system. It can also indicate problems that may arise before they lead to catastrophic failure. The customer is then left with a blueprint of the operation of the machine.

› Inspection Maintenance

Inspection, logging and adjustments of equipment are part of Core's basic minor maintenance service. This service may require minimal disassembly such as oil and filter changes and includes a report, complete with service recommendations. On Carrier and Liebert equipment this also includes any software upgrades recommended by the manufacturers.

› Predictive Maintenance

This non-destructive testing service covers oil analysis, water system analysis, alignment checks and calibrations that may be combined with the minor or major maintenance. This can help prevent chiller failure and help eliminate equipment downtime. Because oil analysis can identify the wear-and-tear of a chiller, if conducted on a scheduled basis it ensures the chiller delivers reliable performance for years.

› Invaluable Database Record

Core maintains a complete database of all tests, and results, performed on a system and equipment. This provides invaluable information to help

Service

- › 24/7/365 emergency cover
- › Factory-trained engineers
- › Spare parts
- › Nationwide coverage
- › All equipment and brands

Survey and Analysis

- › Equipment evaluation
- › Detailed reports
- › Customised service contracts

Non-destructive Testing

- › Oil and water analysis
- › Motor insulation testing
- › Thermographic testing
- › Ethylene and propylene glycol

optimise ongoing performance, and also helps identify possible future problems. It is a key component of predictive maintenance.

› Emergency Service

Because Carrier and Liebert units – and other leading brands of equipment – serve critical systems where downtime is an expense as well as an inconvenience, Core offers a 24-hour emergency service on all of its maintenance contracts. Average response time from call receipt is two hours for the Dublin and Cork areas and under four hours nationwide. Core engineers carry stocks of the most commonly-used parts but also have 24-hour access to express parts delivery for less common items. Repairs are completed day or night, to return equipment to normal operating condition as quickly as possible.

› Motor Insulation Testing

Motor failures are usually caused by motor winding breakdown, so Core engineers conduct regular motor insulation testing. This identifies insulation deterioration before failure occurs and so allows for planned, and budgeted repair. Meg-ohm testing is used to identify weak spots in motor windings or the presence of potentially-damaging moisture. It also avoids labour-intensive disassembly.

Grundfos celebrates Magna 3 birthday at the Guinness Storehouse

When Grundfos introduced the Magna 3 pump range five years ago it represented a pioneering development in pump technology and led to a new industry benchmark for others to emulate. The cutting-edge features Magna 3 incorporates were so highly-innovative they brought a new approach to pump specification and selection.

Now, five years later and with 3.5 million units installed worldwide and thousands of those in Ireland, Grundfos Ireland recently held a major celebration in the Guinness Storehouse in Dublin to mark its success.

It was an evening of fun and entertainment with 160 contractors, consultants and other specifiers enjoying a sumptuous meal, great craic and much networking and socialising well in to the early hours of the morning.

Magna 3 pumps make up the full range of small, medium and large circulator pumps fitted with permanent magnet motors, integrated variable speed drives incorporating advanced functionality and communication technology. While the technology is highly sophisticated, there

is nothing complicated about the installation, set up, settings or operation. The contractor installs the pump and leaves it on the factory setting, Autoadapt.

The Magna 3 will automatically analyse the heating system, find the optimum setting and then continuously adjust its operation to changes in demand. The result is optimum comfort and minimum energy consumption.

In addition, Magna 3 pumps are extremely flexible and reliable, have low noise levels, long life and no maintenance requirements. They are fitted with radio and IR communication and are the first pumps to be capable of communication and monitoring through smart phones and tablets. They also communicate with BMS via communication cards.

The Grundfos Magna 3



Revellers enjoying the 5th birthday celebrations for the Grundfos Magna 3 in the Guinness Storehouse recently.



All Magna 3 pumps exceed the EuP 2015 requirements and incorporate the Grundfos Blueflux® motor technology.

The Magna 3 range is designed for circulating liquids in the following sectors:

- Heating systems;
- Air-conditioning and cooling systems;
- Domestic hot-water systems;
- Ground source heat pump systems;
- Solar-heating systems.

Contact: Grundfos Ireland.

Tel: 01 – 408 9800;

email: info-ie@grundfos.com

www.grundfos.com ■

Magna 3 benefits include:

- The first "Smart Pump" incorporating Intelligent control modes;
- Low energy consumption;
- AUTO_{ADAPT} function minimising energy consumption;
- FLOW_{LIMIT} and FLOW_{ADAPT} functions limiting maximum flow;
- Built-in differential-pressure and temperature sensor;
- Heat energy meter function;
- Smart user interface with TFT display;
- Control panel with installation and operation wizards;
- Work log history;
- Intelligent and simple system optimisation;
- Multi-pump function;
- External control and monitoring enabled via internal modules;
- Unrivalled Grundfos reliability.

'IDEA' TO PROMOTE IRELAND'S DISTRICT HEATING

District heating is a well-established technology in many EU countries where it has been providing affordable and sustainable heat for decades. Countries from north to south of Europe such as Denmark, Sweden, Austria, Finland, Germany and Italy supply district heating to millions of people each year and the markets are growing.



There are a combination of reasons for this development and here *David Connolly, Associate Professor at Aalborg University in Copenhagen* (pictured above), briefly outlines eight key factors.

District heating can:

1. Supply sustainable heat;
2. Reduce energy consumption;
3. Reduce carbon dioxide emissions;
4. Reduce energy costs;
5. Create local jobs;
6. Increase the use of renewable heat;
7. Increase the use of renewable electricity;
8. Improve energy security.

There are not many technologies available today which can make such claims and yet, these are not just claims in the district heating industry, these are proven facts with decades of evidence. In this article I will present some of this evidence to help justify these claims and afterwards, I invite you to visit the homepage of the newly-established Irish District Energy Association (IDEA) at www.districtenergy.ie to keep up to date on future district heating activities in Ireland.

Claims 1-3: District heating uses sustainable heat to reduce energy consumption and carbon dioxide emissions

The foundations of district heating can be found in one very unique form of energy: excess heat. Excess heat is defined here as heat that is currently a by-product from power plants, industry or waste incineration. None

of these processes are designed to produce heat, but they just happen to do so while producing their main product, be it electricity, food, steel, or waste treatment. Every country in Europe has a large number of these plants and Ireland is no exception. In a peer-reviewed study from 2014, it was estimated that Ireland produced approximately 100 PJ/year of excess heat in the year 2010^[1]: that is enough to supply the heat for almost two million "average" homes in Ireland (Figure 1).

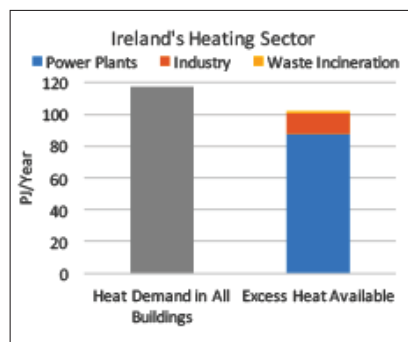


Figure 1: Excess heat compared to the heat demand in buildings in Ireland for the year 2010^[1].

The same study also estimated the total heat demand in all buildings in Ireland today, which includes the residential and the services sector, is almost 120 PJ/year. This means that Ireland currently has enough excess from power plants, industries and waste incineration to heat over 80% of the buildings in the country. To use this heat,

district heating networks must be put in place in urban areas.

By doing so, district heating can connect this excess heat that we currently throw away to the buildings where the consumers need it. This excess heat already exists today, so it is not a new energy demand: it is an inefficiency in our current energy system that can be used to avoid the consumption of fossil fuels to heat our buildings, which I define here as sustainable. As a result, when district heating systems are put in place, a new sustainable heat source (i.e. excess heat) reduces the consumption of gas/oil in existing boilers and therefore also reduces our carbon dioxide emissions.

Claims 4-5: District heating can reduce heating costs and create more jobs

An article like this is not sufficient to explain all the costs of a district heating system. So, here I present the overall concept and if you require more information, then visit the Heat Roadmap Europe website for a wide range of videos, reports and maps that cover this topic: www.heatroadmap.eu.

Consumers that use natural gas or oil for heating will spend most of their money on fuel, since the boilers themselves are relatively cheap. For example, a typical home could install a boiler for €3000 that will last for 15 years but, each year, the same home would typically spend approximately €1000 buying fuel for the boiler. Therefore, over the 15-year lifetime of a boiler, a typical consumer will spend over five times more on fuel than on the boiler.

However, consider the situation for district heating. The fuel (i.e. excess heat) is mostly valued at zero today, since most of it is simply wasted. This means that the fuel component of district heating should be much lower than for existing boilers like oil and natural gas. However, district heating will require a new network to be constructed to gain access to this cheap fuel, so for many people, the key question becomes: how much will the network cost?

One guiding price we can look to is the typical price that Denmark pays to develop district heating networks. This is reported by the Danish Energy Agency in one of its technology data sheets, where the price is linked to the heat density of the area where the pipe is being developed^[2]. Heat density (TJ/km²) is the amount of heat consumed each year by consumers (TJ) within a certain area of land (km²). The higher the heat density, the more attractive it is to build a heat network,

since you get more income from heat sales over a shorter distance, which effectively means you get more heat sales for each metre of pipe you install.

Using the prices reported by the Danish Energy Agency for an area with a heat density of 120 TJ/km², I have estimated that a typical home in Ireland would need to pay less than €500/year to cover the cost of the district heating network over its 40-year lifetime. Of course, this will require a large upfront investment as the network needs to be built from the start, but this is much lower than the annual cost of buying fuel for an existing gas or oil boiler (which is usually over €1000 per year). Although there is no value on excess heat today, suppliers will charge something if it is delivered to a district heating scheme in the future (i.e. once a market is created).

However, considering the gap between the cost of the district heating network (€500 per year) and the fuel required for a fossil fuel boiler (€1000 per year), it should be possible for excess heat suppliers to make money while consumers save money at the same time. To make this happen, suitable policies, regulations and standards will need to be put in place to create long-term certainty for the sector, which will be one of the primary objectives for IDEA: www.districtenergy.ie.

In this calculation, I have assumed that district heating will be developed in areas with a heat density over 120 TJ/km². Some readers may question if a heat density from Denmark is appropriate for the Irish climate. The short answer is yes and the evidence is available in numerous heat atlases prepared by Codema, the Dublin energy agency, in 2015 and 2016. One such thermal atlas is presented here in Figure 2 for Dublin City Council as an example, where it is clear that large parts of Dublin City have heat densities which exceed 150 TJ/km² (orange and red areas)^[3], so these are ideal places to start implementing district heating networks today. Therefore, Danish costs should act as a reasonable benchmark for Irish district heating networks once there is long-term certainty for the industry to grow.

A very important side-effect from the transition to district heating will be more domestic jobs. From the simple example presented here, it is clear that most of a consumer's expenditure for existing oil and gas boilers is spent on fuel. Since Ireland currently imports almost all of this fuel, most of this money leaves Ireland and has a very negative effect on our trade balance: approximately €6 billion/year is currently spent on fuel imports^[4].

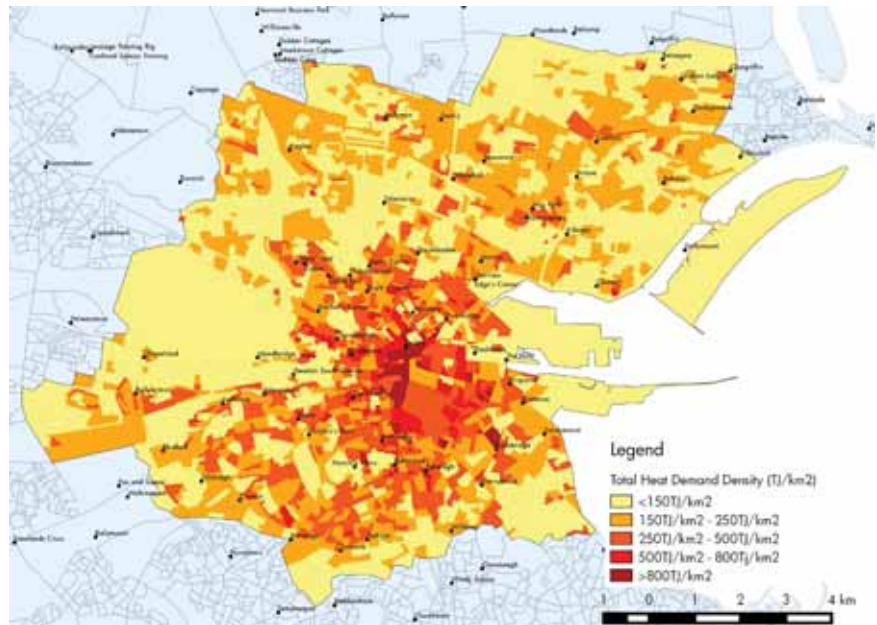


Figure 2: Heat atlas for Dublin City Council^[3].

“ District heating networks will not only facilitate more renewable heat, but they can also accommodate more renewable electricity.

In contrast, for the district heating system almost all of a consumer's expenditure is spent locally to either build the pipe network, replace the boilers with substations, or to pay the local heat supplier.

The impact of this is very evident as you pass through many Danish towns where you will see a local “district heating plant” where local people are employed to supply heat to the surrounding area. I previously outlined the impact of this for Ireland in a scientific paper called “Green Plan Ireland” which is freely available online: www.dconnolly.net/GreenPlanIreland. It is not only about “how



Figure 3: Solar thermal district heating plant in Silkeborg, Denmark^[5].

much" we spend on our heating, but "where" we are spending our money for heating. When district heating is implemented, the "where" becomes much more local, thus creating more Irish jobs.

Claims 6-8: District heating facilitates more renewables and improves energy security

One of the major benefits of district heating is its flexibility. In the same way that electricity can be generated from a variety of sources and delivered to the electricity grid, heat can also be produced from a variety of sources and delivered to a district heating grid. For example, renewable heat is regularly produced today for district heating systems using bioenergy, solar thermal, and deep geothermal plants. Denmark has installed over 1.3 million sq m of solar thermal panels for district heating^[6], including the 156,694sq m plant that was opened in Silkeborg this year (Figure 3).

Since this heat is produced in a central plant, it is relatively easy to change the heat supply compared to natural gas boilers for example. Converting individual natural gas boilers to an alternative heating fuel like biomass would require every individual consumer to actively change their heating system. In contrast, to convert a district heating network from natural gas to biomass only requires a small number of central heat suppliers to change their fuel supply, without the final consumers even noticing.

The impact of this is evident from the evolution of the Danish heat supply over the last few decades. As presented in Figure 4, the district heat supply in Denmark was almost entirely from oil in the early 1970s, but oil was almost completely phased out within 20 years between 1972 and 1992. In the last decade there has been a significant increase in renewable heating, especially from biomass, but you can expect solar to become more prominent as plants like Silkeborg begin to make an impact.

Having lived in an apartment connected to Denmark's largest district heating network for the last five years in Copenhagen, I can assure readers that as a consumer I have never noticed any change in fuel supply while these changes have been implemented. I cannot imagine that Irish consumers will be so fortunate as we transition from natural gas and oil to a

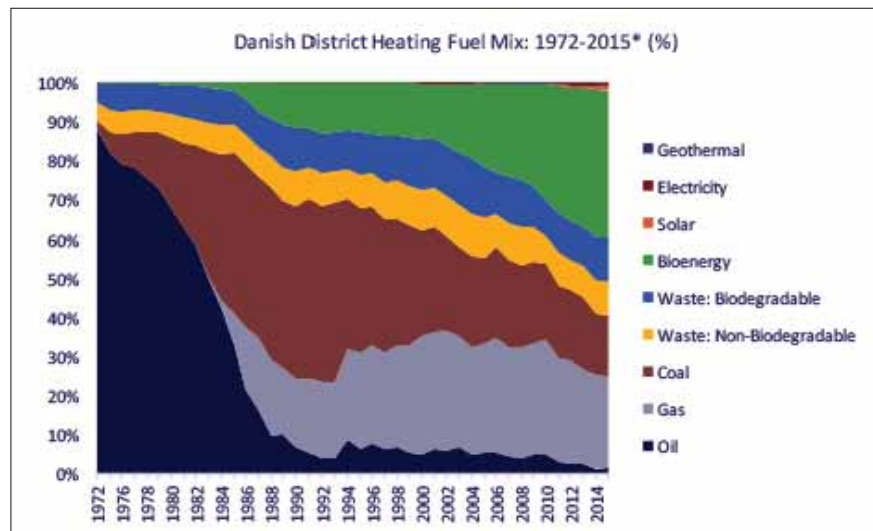


Figure 4: Fuel mix for Danish District Heating from 1972-2015^[7].

renewable heat supply without a district heating system.

District heating networks will not only facilitate more renewable heat, but they can also accommodate more renewable electricity. Thermal storage on a district heating system is approximately 100 times cheaper than electricity storage on the electric grid^[8], which is why Denmark has over 50 GWh of thermal storage and Ireland has less than 2 GWh of electricity storage. When there is excess wind power in Denmark, then large-scale electric boilers and heat pumps are activated to produce heat on the district heating systems.

If there is no demand for the heat at that specific time, then the heat is stored in the thermal storage facilities until a heat demand occurs. Wind power that would otherwise be curtailed is used to generate heat which can be stored for days if necessary in a thermal storage tank. An example of this from a Danish district heating system is presented in detail on the IDEA website (www.districtenergy.ie). Ireland currently imports almost all of its energy, so by accommodating more local renewable heat and electricity, district heating would reduce the need for energy imports and increase the use of domestic supplies, thus improving Ireland's overall energy security.

Summary

Conditions in Ireland are ideal to significantly expand district heating in the future and, most importantly, this is a technology that will improve the energy system both today and in a future context where we have high penetrations of renewable electricity and

heating. However, there is a major shortage of knowledge, skills, regulation and standards for district heating in Ireland at present. The aim in IDEA is to start providing these to mobilise the industry in the coming years. ■

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Solution-based ventilation from Hevac

Hevac is the exclusive stockist and distributor for Nuaire products in the Republic of Ireland. This partnership provides the Irish market with a complete ventilation service that starts with the project concept and includes design support, installation advice and training to ensure it is right first time.

Nuaire is a market leader in energy efficient commercial and domestic ventilation solutions, combining innovative products with world-class performance in quality, delivery and service. It has been designing and manufacturing ventilation products since 1966 and its fans and heat recovery units are installed worldwide in all manner of prestigious projects. Nuaire has extensive group resources and these are available to Hevac when devising project solutions in Ireland.

“We understand the many challenges designers and contractors face, and the regulations that must be met”, says Stephen Martin, Hevac Ventilation Manager, “and we provide a solution-based service

that is designed to make our customers’ lives easier, from start to finish”.

Part of this service includes the free Nuaire Fan Selector software. This is much more than an interactive catalogue designed to save time and improve workflow. It includes some really powerful built-in features such as:

- Volume and pressure converter tool;
- Flow rate calculator;
- Excel schedule builder;
- Tech-sub builder;
- Links to installation and maintenance manuals.

The free fan selector software allows accurate selection from Nuaire’s entire range of products. It is very easy to use and displays



AX axial fan

duty-specific information. Users can create fan schedules with all the relevant details, including links to CAD and BIM files.

Nuaire also has a dedicated BIM Team offering libraries of CAD/Revit/BIM files to a customer’s exact specification. Nuaire’s visually-accurate models offer collision detection through geometry, connection positions, weights and electrical loadings. Project-specific performance criteria and support for design, project management and building operations can be requested which will result in improved design efficiency.

Most of Nuaire’s Revit files are modelled using the “type catalogue” method. This gives a much more efficient workflow for the user and offers the entire range of units within a single parametric model file. Many of the models offer additional user-controllable features like the automatic addition of matched silencers, showing/hiding access clearance areas, among others.

To download Nuaire fan selector software or BIM files visit www.nuaire.co.uk/downloads.

Contact: Stephen Martin,
Hevac Ventilation Manager.
Tel: 01 – 419 1919;
Mobile: 086 – 418 0286;
email: vent@hevac.ie;
www.hevac.ie ■



XBC heat recovery units and AVT twin fans

HOW JONES ENGINEERING GROUP HAS EMBRACED LEAN CONSTRUCTION

by Simon Watson, Team Development, Jones Engineering

Anything you read about what actually makes a company successful always has its staff at the core. It's true that if you don't have good systems and processes in place, even with the best team in the world, you still only produce mediocre results.

The following quote from the Toyota Motor Company reinforces this statement:

"At Toyota we get brilliant results from average people managing a brilliant process. Others get average results from brilliant people managing broken processes."

With this in mind we at Jones Engineering, utilising our long history



Simon Watson

of training and developing people have fostered and implemented new ideas throughout the business in key areas which support our continued expansion. In doing so we have totally embraced the LEAN concept and find that it has considerably contributed to the development of both our employees and the company.

"A Better Way" – Suggestion box scheme

Our company has close to 2,500 employees each of whom is an expert in the daily operations they carry out. In order to harness all this expertise, we introduced a suggestion box scheme to allow them propose improvements in their own work areas. All suggestions are reviewed locally on each project and, for any that are implemented, the employee is rewarded with a gift voucher (we have had 32 winners to date). Every suggestion (successful or otherwise) receives a response and an explanation why it was either possible, or not possible, to implement. In order to further encourage this we introduced a monthly newsletter called *LEAN Times*.



“Success in business is all about people, people, people. Whatever industry a company is in, its employees are its biggest competitive advantage.”

Richard Branson

LEAN Times

Three years ago, when we introduced "A Better Way", we were receiving that many suggestions that we were struggling to respond in a timely manner to everyone who had contributed. In order to improve this process we then established the *LEAN Times*. Updating all staff across every project and office on a monthly basis has proved a great way of sharing new ideas, and celebrating the success and innovation of each of our winners. We have had 48 editions of our newsletter to date!



LEAN Steering group

In order to coordinate the introduction of innovations across Jones Engineering Group as a whole, we set up a steering group with a representative from each of the companies attending. This has given us another outlet for generating and sharing ideas and helps to ensure that all companies within the group develop simultaneously.

Continuing education

To start off our LEAN journey we recruited the help and guidance of an expert consultant. We ran multiple workshops designed to introduce various levels of staff to the fundamental principles of LEAN, and to raise peoples’ awareness of how to use these to make systems better.

We then realised that to be self-sufficient in this area we needed to increase our internal expertise. We looked for in-house volunteers who

were willing to undertake degree courses through third level institutions, as this would give us the flexibility to carry out improvements in areas where more confidentiality was required.

We now have successful graduates from both engineering and trade backgrounds, from different group



companies, giving us the desired expertise at different levels within the organisation.

To help promote education in the industry in general, Jones Engineering

has strong connections with LEAN Construction Ireland (LCI) and recently sponsored the latest LCI event at the Marker Hotel in Dublin’s Grand Canal Square. Representatives from all the major players across the construction industry were present.

The theme for the evening was “People are our greatest assets. How can we maximise their potential?”

Tom Parlon, Director General of the CIF, was MC for the evening and opened proceedings by inviting Jim Curley, Jones Engineering Group Managing Director, to deliver the welcome address. Richard Fitzpatrick, Chair for the LCI Leadership Group, then gave a brief update on recent LCI events to put the evening into context.

Keynote speaker was Philip Matthews, former President, National College of Ireland and international rugby team captain. Phillip reinforced the theme of the evening with his address and left us with the following summary: “If we don’t exhibit a sincere regard for our greatest assets, and if we don’t have a culture that supports and challenges our greatest assets to learn and contribute, then how are we going to compete with organisations that do?”

There were then three break-out sessions where with the delegates choose which one to attend based on the topic of their choice. Brief details of these were:

Breakout Room 1

Colm Sheils, Boston Scientific – Understanding and improving cultures on our operational excellence journey;



Philip Matthews, former President, National College of Ireland and international rugby captain with Jim Collins, University of Limerick LEAN Trainer, Colm Sheils, Boston Scientific and Kevin White, Jones Engineering.



"It is over 125 years since Harry O'Neil set up HA O'Neil Ltd, the founding member of the Jones Engineering Group. As a young man Harry travelled to Philadelphia, learned his trade and eventually returned to Ireland as a Master Craftsman. He appreciated from the outset that education, training and innovation would be key elements of future success.

"The core values of recruiting, nurturing and developing the best people have been a cornerstone of our Group's development. We are very much a people business in which opportunities are realised, challenges are met and success is driven by teams of some of the best people in the country.

"This has allowed our team to gain an expertise and knowledge second to none, positioning Jones Engineering Ltd as the 'go to' contractor."

Jim Curley, CEO Jones Engineering Group

Breakout Room 2

Rob Hughes, Jones Engineering – How Geo surveying has given us a systematic and coordinated approach;

Breakout Room 3

Kevin White, Jones Engineering – Cable spooling improvements providing reduced risk to project delivery.

Everyone then re-grouped in the main room for the final speaker, Jim Collins, University of Limerick Lean Trainer, consultant, coach and guide. Jim's talk was entitled: "The need to create a learning organisation to support sustainment and enhancement of a culture of continuous improvement beyond the initial wave of enthusiasm". After an inspiring address Jim left the audience with the following key message: "Projects will deliver

improvements and benefits. However, unless employees are developed and engaged in the journey, then improvements will not be sustained and the necessary problem solving-culture will not be embedded"

The event was a great success and, judging by the numbers present and the fact that each sector of the industry was represented, it is obvious that there is growing interest within the sector in how to make positive changes to the way we carry out our business.

BIM and Geo surveying

The many benefits of BIM to our industry have already been explained by people with a much better knowledge than I possess, so I'm not going to pretend to understand it all and fill these pages with waffle. What

I will say though is that since we have started using the BIM process for designing services in conjunction with 3D laser scans, we have seen much greater accuracy of design and much increased confidence from our trade teams to fabricate to these designs without checking everything in advance.

Our Geo-surveying Division provides a fast, efficient and reliable way for the trade teams to set out their work, knowing that they do not have to take into account discrepancies that may exist with finished floor levels or column sizes and locations. 3D laser scanning is also saving time for us by removing costly access systems required to survey areas prior to design.

Constantly ask why?

By empowering everyone within the company to ask why, we will continue to expose areas that can be streamlined, and identify systems that are not operating as efficiently as they could be.

Introducing change into an established industry like ours is a slow and challenging process but, if we take the view "If it ain't broke, don't fix it", we will not be around for another 125 years. ■



Richard Fitzpatrick, Chair, LCI Leadership Group with Tom Parlon, Director General, CIF and Jim Curley, CEO, Jones Engineering Group.

Glow-worm's Energy features at Hawthorn Gate

Hawthorn Gate is an exclusive development of two, three, four and five-bedroom A-Rated homes finished to an exceptional standard of specification. Located on the Maynooth Road within short distance of a variety of amenities in and around the Celbridge and Maynooth areas, part of the boundary walls for this development are the old stone walls for the nearby Castletown House.

As the build and insulation standards are of the highest quality, plumbing contractor Joe Blewitt looked for a similarly high-calibre boiler when choosing the heating and hot water system. His specification brief was for a leading-brand appliance that was well supported in the marketplace and included advanced features and benefits.



Having researched the marketplace he confidently chose the new Glow-worm Energy range of boilers from C&F Quadrant. This highly-innovative range was designed to comply with the latest ErP Directive. It incorporates advanced features and technology



Glow-Worm's energy combi boilers from C&F

that make for maximum performance, reduced running costs and long life. It is supported by the strength and reputation of the Glow-worm brand which dates back over 75 years.

For the Hawthorn Gate project the Glow-Worm Energy was the perfect choice.

The Energy system boiler range, with its attractive, modern design and compact dimensions, is available in a selection of outputs. For the Hawthorn Gate project the Glow-Worm Energy 25S was the perfect choice. This model comes with the option of a top or rear-mounted flue, giving it maximum flexibility, while the industry-standard DIN layout makes boiler swaps quick and painless. The large waterways on the aluminium heat exchanger also makes it the perfect retrofit solution.

Energy just requires simple water flush cleaning for the heat exchanger which means lower costs and no special cleaning tools. The patented

4-sided cooling reduces the stress on the heat exchanger which means longer term reliability.

Features and benefits of the range include:

- Top and rear flue options;
- High-quality automotive grade aluminium heat exchanger;
- High-efficiency modulating Grundfos pump;
- Compact dimensions;
- Modern LCD display;
- Ultra quiet;
- ErP ready;
- 5-year warranty.

The Energy range also comes with a choice of controls to manage water heating and temperature comfort levels in the way that suits each application. These range from simple, wall-mounted thermostats to wireless hand-helds, and the new MiGo which means the boiler and hot water can be controlled from a smartphone, any time, and from anywhere in the world.

Contact: C&F Quadrant.

Tel: 01 – 630 5757;

email: sales@cfquadrant.ie;

www.cfquadrant.ie ■

Lowara ecocircXL and XLplus manufactured in-house by Xylem

The ecocirc XL and XLplus range of single and twin-head, high-efficiency, circulators was designed from scratch by Xylem and is marketed under the Lowara brand. Available in cast iron or bronze for hot and cold water HVAC applications, this new range is manufactured by Xylem with quality assurance guaranteed in respect of materials used and processes employed.

The ecocirc XL is a highly efficient circulator that enhances commercial hydronics systems with superior quality and dependability. State-of-the-art hydraulics, advanced motor design, intelligent controls, and smart communication capabilities highlight expert engineering across a broad range of HVAC and plumbing applications.

“At Xylem we believe in products that do their job when expected”, says Austin Kennedy, Xylem Sales Manager, Ireland & NI, “and that are easy to install, commission, operate and service. When it comes to circulators, that means high efficiency, robust design and high precision manufacturing, in addition to well-thought through controls and communication”.

The ecocirc XL and XLplus are designed to deliver many years of trouble-free operation. Features and benefits include:

- Low cost of operation: Operation costs are kept to a minimum thanks to a high-efficiency ECM motor and hydraulics;

- With only four logically-placed buttons, it's easy to set up and operate the new ecocirc XL. Its advanced settings can be accessed from a PC, tablet or smartphone via built-in communication BUS or Wi-Fi (optional module);
- Dry-run safety: The built-in dry-run protection stops the pump and prevents damage if it runs without water;
- Flexibility: There are two analogue inputs for 4-20mA and 0-10V signals, and one temperature probe;
- Chilled water no problems: The electronics are separated from the pump to prevent condensation problems when pumping chilled liquids.
- Keep it hot: A moulded insulation shell keeps the temperature of the pumped liquid (and the surroundings) where it should be;

- Visible in dark plant rooms: Clear display with large figures and symbols makes it easy to read the values.

Contact: Kevin Devine, Business Development Manager, Xylem.
 Mobile: 087 – 757 7411;
 email: kevin.devine@xyleminc.com ■

Lowara CAD/BIM Centre

Also from Xylem is the Lowara CAD Centre where consultants can find 2D and 3D CAD drawings, as well as BIM models, for all of the company's water boosting and circulating pumps. This simplifies the work of specifiers who can now find the CAD files for most Lowara products in one place.

The CAD Centre is really user-friendly with icons for each product type that lead directly to the drawings. It also has a powerful search function so finding what you're looking for is quick and easy. The files can be either downloaded or shared via email directly from the CAD Centre.

See <http://buildings.xylem.com/tools-downloads/cad-bim/>



The ecocirc XL and XLplus range of single and twin-head high-efficiency circulators from Xylem.

DIT building services students triumph at awards ceremony

The room was certainly full of energy and ideas when the students took to the stage at the recent DIT Student Awards in Bolton St. Level seven student Emmet Doogan examined the viability of solar heating in the Irish climate, while Charlie Myles explored the application of thermal fluids in systems such as solar thermal farms and other high temperature applications.

However, it was Gregory Leonard who took first prize for his study on the role of building management systems. In his presentation Gregory took the audience through the complexities of Croke Park where grow lights and conferences rely on the BMS to keep the grass green and the buildings functioning successfully. His research included interviews with design consultants as well as facilities



Back Row: Seamus English, Managing Director, Hevac (awards sponsor) with Jim Rogers, Varmings; Paul Devereux, Hevac; Brian West, CIBSE Chairman; Charles Dunn, RPS; Brian Clare, DIT. Middle Row: Emmet Doogan, Level 7 Runner-up with Charlie Myles, Level 7 Runner-up; Patrick Flaherty, Level 8 Winner; Robert Ralph, Level 8 Runner-up. Front Row: Gregory Leonard, Level 7 Winner with Stephen Lyons Level 8 Runner-up.



management personnel on site, to give a very effective cross-industry view from design through to implementation.

Level eight student Stephen Lyons' paper was on his research into low-energy environmental design (LEED) standard by the US Green Building Council, with specific attention to lighting for offices. Stephen explored how LEED credits can be obtained from the lighting design while creating a better indoor environment using natural daylighting as well as energy efficient sources and suitable controls.

Robert Ralph investigated combined heat and power (CHP) units installed to reduce energy costs and improve the carbon footprint in the hotel industry. Matching thermal heat and electricity loads were reviewed, with cost benefit analysis undertaken that emphasised the benefit of financial incentives grant aid to provide an acceptable financial return on investment.

Patrick Flaherty scooped the top Level 8 prize with his presentation on the future potential of wind energy in Ireland, including case studies from the main wind farm installations in the country that demonstrated the financial success of the technology.

CIBSE Chairman Brian West and Seamus English from sponsor HEVAC presented the prizes, which included a welcome financial boost for the students who will become leaders of Ireland's building services industry in the coming years.

Brian Clare of DIT brought proceedings to a close and thanked the sponsor and CIBSE for their long-standing support of DIT building services students. ■

Mitsubishi Electric from Fridge Spares

Fridge Spares has long-standing trading relationships with many of its suppliers, including Mitsubishi Electric, and stocks the full range of Mitsubishi Electric M Series, Mr Slim, Multi-Splits, Lossnay and controls. In addition, it carries a comprehensive range of Mitsubishi Electric spares such as replacement compressors, filters, fans, unit covers, valves, PCBs and electrics.

In addition to a comprehensive range of brand-leading refrigeration and air conditioning products, Fridge Spares Wholesale is also a leading wholesaler of replacement parts and ancillary products.

Fridge Spares Wholesale is Ireland's leading specialist suppliers to the refrigeration and air conditioning sector with branch locations in the Republic of Ireland, Northern Ireland and the UK. It has been delivering a combination of quality products and quality services to the sector for 52 years with its branch outlets in Dublin, Cork and Belfast ensuring nationwide coverage in Ireland.

Fridges Spares offers ex-stock availability on the Mr Slim and M Series ranges along with technical support. Suitable for heating and cooling applications, the Mr Slim range combines efficiency and versatility that makes it ideal for use in environments such as offices, restaurants and shops.

The indoor units consist of four-way cassettes – ducted, floor, wall or ceiling-mounted – while the outdoor units include a

standard inverter model, highly-efficient power inverter unit, and improved heating performance Zubadan inverter models. All can be



Mr Slim ceiling cassette and outdoor unit

used with single, twin, triple or quad indoor unit combinations.

Mr Slim can also be used with air curtains to provide heating at building entrances, and allows connection to air handling units with the AHU interface.

The M Series comprises a multiple line-up with all models inverter-driven and available in both wall mounted and floor-standing units. The wall mounted units have extremely quiet sound levels and deliver economical air conditioning with high seasonal SCOP/SEER figures. Choose from Classic, Inverter, Zen or from the new R32 MSZ-LN range of designer wall units. These are available in black, white and red.

The high capacity floor mounted units are extremely versatile and designed for wall attached installation at floor level, harmonised to look good with all types of interiors. The auto swing vane allows the freedom to customise comfort according to preferences throughout the room, while the lightweight, compact design makes for easy installation.

As for the MXZ range of Multi-Splits, these can run from two to six indoor units each. The flexibility of the MXZ range means that the most suitable system solution that best matches room shapes and number of rooms can be devised. This makes it an economic answer while also delivering space-saving benefits.

Armed with the strength, quality and diversity of the Mitsubishi Electric product line up and its own stocking capability, technical expertise and nationwide branch network, Fridge Spares offers a multitude of air conditioning solutions to cater for virtually any heating and cooling application.

Contact: JJ Kelly, Fridge Spares.

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email: jjkelly@fridgespares.net;

www.fridgespares.net ■

Unlocking the savings from LEDs through a partnership model

Energy costs in a building make up a significant amount of the operational

costs for building owners. Unlike other cost lines though, they can be significantly reduced without compromising the occupant's experience through the use of smart low-energy technologies, writes *John Walsh, General*

Manager with ESB Smart Energy Services.



Upgrading a building's lighting systems to use LEDs offers just such an opportunity. LEDs can produce the same lighting output as a conventional lighting system (such as fluorescence) but consume significantly less energy (in some cases 70%). LED lighting is now a mature and proven technology, both in Ireland and around the world, and there are a large number of commercial and industrial buildings that have successfully retrofitted to this new lighting technology.

An additional benefit is that, as the fittings generate far less heat, they last longer and so also significantly reduce the maintenance requirements and costs. This effect helps to reduce the number of breakdowns and the lifespan of the lights which keeps the building brighter for longer and improves the customer experience.

Surprisingly for such a significant cost-saving opportunity, the wide-scale adoption of LED technology is still relatively limited in commercial and industrial buildings. When asked, building owners gave a number of reasons for this. They include:

- The capital required to carry out the upgrade is unavailable;
- The building owner doesn't feel they have the technical skills to procure and project-manage the installation of new low-energy lighting technologies;
- Lack of confidence that the business case will be delivered through the traditional tendering process as delivering energy savings can require a multi-functional approach to the project.

Partner with energy services company

One way to unlock this significant energy-reduction opportunity is to partner with an energy services company. The typical energy services company is a multi-function services provider delivering a range of energy management services (e.g., lighting and heating upgrades) to a building owner using the energy service company's finance for a service fee to the building owner. The service fee is generally less than the saving delivered by the project which makes it commercially attractive from day one.



The CHQ building at Custom House Quay, Dublin

This one-stop-shop approach to designing, delivering, managing and financing the project gives the building owner the ability to deploy new technologies (such as LED) without using their own capital. The energy services company may guarantee the savings through the life of the project which further reduces the technical and operational risk to the building owner.

To help them manage the savings over the life of the project energy services companies typically use a very structured approach when assessing the opportunities and will often look to deploy a structured energy management system (e.g., ISO 50001) with their customers.

ISO 50001 energy management system

ISO 50001 Energy Management System (EnMS) is based on the "Plan-Do-Check" management system model of continual improvement. The purpose of this standard is to enable companies to establish the systems and processes necessary to improve energy performance. The ISO 50001 model provides a framework for companies to:

- Develop a policy for more efficient use of energy;
- Fix targets and objectives to meet the policy;
- Use data to better understand and make decisions;
- Measure the results;
- Review how well the policy works;
- Continually improve energy management.



Interior mall at the CHQ building.

Strategically selected energy performance indicators, and the resulting metering, plays a critical role in the "plan and check" portion of the ISO 50001 process.

Lighting upgrade at no capital cost

When considering a lighting upgrade to a commercial property it is preferential to carry out a full lighting review as the original design conditions and property usage/space may have changed. For instance, in the case of the CHQ building on Custom House Quay in Dublin, a lighting layout was carried out in order to minimise the number of fittings, and to replace the existing T8

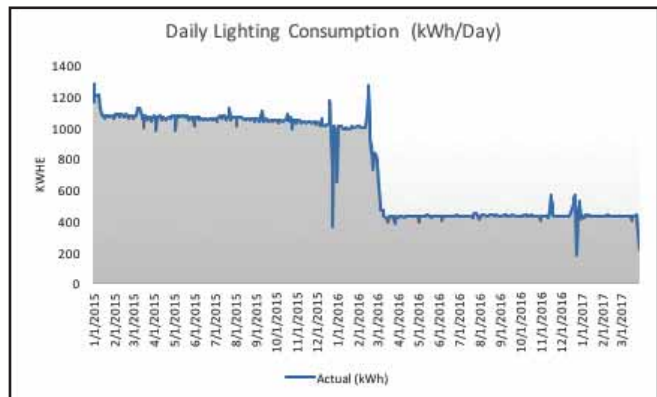


Figure 1: Energy reduction due to lighting upgrades

florescent fittings with more energy efficient LED fittings. Where appropriate an adjustment to lux levels was applied to ensure areas were not over or under lit. This resulted in an annual electricity reduction of 226,095kWh/Yr representing a 58% reduction which equates to approximately €27,131 annually (see Figure 1).

The installation and commissioning of this project took place over a two-week period with the work being carried out when the building was unoccupied so that day-to-day business was not interrupted.

To manage the project the CHQ building owners have partnered with the ESB to develop a "lighting as a service model" that allows the CHQ building team to upgrade the internal and external lighting in the listed building to LED at no capital cost. The ESB energy services team works in partnership with the CHQ building services team, and their preferred lighting partners, to retrofit the complex lighting scheme to LED. This ensures that the planned savings are delivered with the actual savings generated being shared between the building owner and the ESB.

This project allows the building tenants to immediately reduce their energy and maintenance costs, improve the look and feel of this unique building, benefit from guaranteed savings, and all with no capital cost. Now there's a win-win project!

Conclusion

To successfully deploy new low-energy technologies and ensure the business case is delivered requires new management systems and a cross-functional team. Energy services companies offer building owners an innovative way to guarantee the savings from such an approach, and to leverage the expertise of a specialised energy management team. This in turn allows the building owner to "derisk" the project and to guarantee immediate savings with no capital outlay. As with all partnerships though, the careful and strategic selection of an energy services provider is critical to the success of the project, so choose wisely! ■

John Walsh is the General Manager with ESB Smart Energy Services. ESB Smart Energy Services (SES) is a division of ESB Group which delivers managed energy and related financial solutions to business in Ireland and the UK. John has previous experience as the energy manager for some large multinational companies and in a number of innovative technology and business start-ups.



LIGHTING ASSOCIATION IRELAND

Lighting Association Ireland unveils new informative website

Lighting Association Ireland (LAI) was established in March 2014 to represent the collective views, regulatory requirements and commercial interests of all member companies and professionals engaged in every aspect of the lighting industry in Ireland.

Chaired by Gay Byrne

of Fantasy Lights Group, LAI's membership comprises a collaboration of people from various segments of the lighting industry, ranging from manufacturers and distributors through to wholesalers and retailers.

In addition, LAI offers affiliate membership to all others involved in lighting. This includes lighting designers, consulting engineers, electrical contractors, electricians, students and lighting sales staff.

Aims of LAI

- To promote the benefits of good lighting, especially in the built environment within the island of Ireland;
- To be at the forefront of developing lighting as an integral part of a low-energy and sustainable future;
- To establish and promote good practice in lighting design and engineering in all their facets;

- To provide a forum where people interested in all aspects of light and lighting can come together.

LAI has just unveiled its new website at www.laoi.ie. It represents an invaluable resource in relation to lighting and is now the "go-to" reference source for LAI members and non-members alike. Visitors will find a wealth of information related to lighting covering everything from new and existing lighting legislation through to industry best practice, training, and news on exhibitions, shows and events. There are also links to other key lighting-related websites.

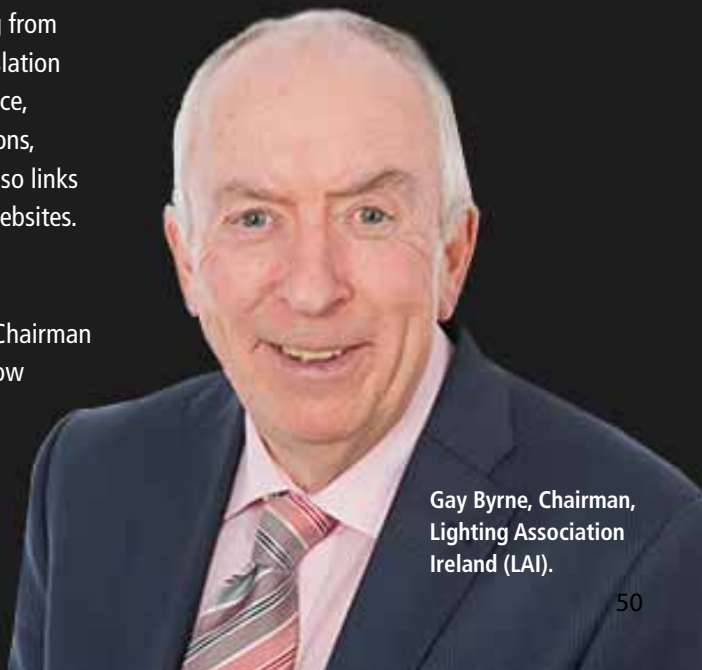
Vital ingredient

Commenting on the new site Chairman Gay Byrne says: "This site is now a vital ingredient in the armoury of LAI as it provides members, and the industry at large, with access to relevant information which will help

them make key and sound business decisions when specifying and installing lighting solutions.

"In the broader context LAI will also engage with the industry by way of seminars, CPD technical presentations and participation in relevant exhibitions. We recently participated in the SEAI Energy Show in the RDS within the Association Pavilion section. This proved a great success with LAI members and other lighting experts engaging with visitors, not just on Association matters, but also on technical, regulatory and specification issues relating to lighting".

See www.laoi.ie for full details. ■



Gay Byrne, Chairman,
Lighting Association
Ireland (LAI).



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