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BS News September/October

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Building Services news

The merits of modern boiler technology



■ A trip down memory lane



■ Reducing carbon bio fuels



■ Facing change with DWG



■ IPFMA annual



Seasonal efficiency

- Market-leading energy efficiency
- Winner of the Japanese Energy Efficiency & Conservation Award 2013

Flexibility built in

- 2-pipe heat pump or 3-pipe heat recovery from a single unit
- 100+ indoor unit combinations

Quick installation

- Lightweight and modular outdoor unit
- Piping lengths up to 1000m and improved height difference

Well connected

- H-Link II and CS Net Web for seamless connectivity with all leading BMS protocols

Comfort guaranteed

- Comfort protection function across the range eliminates cold draughts
- Low noise levels

Unique capacities

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Two pipe. Three pipe. Hi Efficiency VRF without compromise

Install Hitachi's new Hi Efficiency Set Free VRF and you're on to a winner. FSXNH offers two-pipe heat pump and three-pipe heat recovery options from a single compact, modular unit, allowing air conditioning requirements to be tailored to individual needs* – with future flexibility built in.

New FSXNH models range from 5HP to 36HP, and along with 100+ indoor unit and heat exchanger combinations - with nominal capacities as low as 0.6HP (1.7kW) - there's a combination to suit every installation, and all with market-leading energy efficiencies.

With Hitachi's new FSXNH, there's no need to compromise.

*requires CH Box

To find out more call Hitachi on **+353 1216 4406**

Email aircon.ireland@hitachi-eu.com or visit www.hitachiaircon.com

<https://arrow.tudublin.ie/bsn/vol52/iss5/1>

HITACHI
Inspire the Next

Opinion

Can we cope with an uplift?

While building services has been wishing for a business upturn for far too long, now that it has begun to happen (in some sectors at least), new challenges are emerging.

Companies that survived the construction industry collapse did so by reassessing their business plans, streamlining their management and operational structures and, more than anything else, by downsizing.

Many of those companies are now experiencing an uplift, not just in enquiries but in projects awarded. This is especially apparent in the commercial sector where renovation, refurbishment and replacement has resulted in a measurable increase in business.

Having downsized/trimmed overheads – especially staff numbers – some companies are now faced with the dilemma of being short-staffed. How about that for irony?

The challenge is, do they risk taking on extra staff? Even if they do, where will they find the suitable personnel? Far too many of the sector's best-qualified and experienced people are now working abroad.

How the industry responds to this, and other challenges related to this relative upturn in the economy, will determine the future of the business.

Building Services news

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A total of 21 teams participated in the recent CIBSE Annual Golf Outing scramble fun day held in Castleknock Golf & Country Club.



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NEWS AND PRODUCTS

Heat Merchants open new Sandyford branch

Heat Merchants has opened a new branch in Sandyford, Co Dublin, bringing the total number of branches throughout the country to 32. This heralds a turning point for the company as it marks the beginning of a new growth phase after some turbulent years for itself, and for the industry as a whole.



Alan Hogan, Managing Director of Heat Merchants with Shane Duffy, Regional Manager of Heat Merchants and Stephen Kelly, Branch Manager of New Heat Merchants Store, Sandyford.

Heat Merchants is an Irish-owned company and, since its acquisition in 2011, the focus has been on streamlining the business while refreshing and expanding the product range.

Alan Hogan, Managing Director, said: "we have committed to providing exceptional value and service to our customers, and so carry over 35,000 essential spare parts which means our customers can rely on us to enable them to get the job done right and on time. We have introduced an online system to allow registered customers to check stock in their local branches, and to place orders at any time from their computer, tablet or mobile phone".

Heat Merchants Sandyford is open to both trade and the general public and carries all leading heating and plumbing brands, plus stoves, bathrooms and showers. The new outlet is located on Birch Avenue in the Stillorgan Industrial Park, next door to Tubs & Tiles, a sister brand, which supplies bathroom, tiles and wood floors from 11 showrooms nationwide.

Recoup energy with Highway Wholesalers

Waste water heat recovery systems attached to showers are a proven and cost-effective way of achieving significant energy savings and Highway Wholesalers has now added the Recoup system to its portfolio.

The company offers a choice of three Recoup waste-water heat recovery systems to accommodate any application, from new-build houses and apartments, to commercial applications and retrofit projects.

All of the Recoup product range and three installation variations are SAP (Standard Assessment Procedure) 2009 Appendix Q listed in the UK, so can be modelled at any time. This is very significant as SEAI allows SAP methodology/ratings to be used in DEAP (Dwellings Energy Assessment Procedure) in assessing the BER (Building Energy Rating) for Irish homes.

Last year Highway Wholesalers shifted its focus to concentrate more on eco-friendly energy efficient household and commercial plumbing appliances. It began with the introduction of Pulse Eco Showers, followed by AQUABION® environment-friendly water treatment for limescale, and now continues now with Recoup Energy Solutions.

Contact: Barry Fleming, Managing Director, Highway Wholesalers. Tel: 051 – 872615; email: b.fleming@hwl.ie



Consultation on Energy Efficiency Directive

The Minister for Communications, Energy and Natural Resources, Pat Rabbitte, TD has invited members of the public and interested parties to send written submissions for consideration by the Department in response to the publication of a consultation paper on the implementation of the Energy Efficiency Directive in Ireland.

The consultation process will run to Wednesday, 13 November 2013. All submissions received will be published on the Department's website following the conclusion of the consultation period.

Submissions should be sent by email to energy.inefficiency@dcentr.gov.ie

BIM Gathering Conference to take place in Dublin

The BIM Gathering Conference – "Leveraging Building Information Modelling to Transform the AECO Sector" will take place in Dublin on 14/15 November.

This promises to be a very informative event for industry leaders, clients, planners, designers, contractors, and property and facilities managers. It will cover competitiveness, innovation, off-site, and lean and green construction.

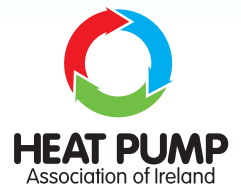
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NEWS AND PRODUCTS

REL wins UK industry award

REL Cooling Services was awarded first prize for Refrigeration Product of the Year at the recent RAC Cooling Industry Awards, held at the London Hilton, Park Lane. Over 700 attendees across 16 categories and from over 100 companies were represented at the function.

Over the last four years REL has worked on both the improvement of draft beer cooling quality and efficiency. Having been involved in the installation of beer cooling systems for over 25 years, REL was first to identify, understand and implement an integrated cooling system

that could reduce the running costs of refrigeration systems in pubs and similar establishments. With over 30% of all energy costs in non-food bar outlets being attributed to refrigeration equipment, REL recognised the benefits of a simplified low energy solution.

The REL glycol system works in a similar way to a traditional heating system. However, instead of circulating hot water around to the various radiators in the building, the glycol system circulates – 3.5°C liquid throughout the bar, cooling the beer cold room, beer lines, bottle

coolers, food cold rooms etc.

Although REL was given the award for the energy efficiency of the system, free hot water is also provided by its unique heat recovery system.

Pictured at the Awards presentation ceremony were Paul Haskayne, Lancer with Paul Duffin and David McDonald, REL.



Aermec 3-way valve kit

The new Aermec VCF_X4 3-way valve kit, which was specifically designed for 4-pipe fan coil units, only requires a single coil unit. Therefore, a single coil 2-pipe FCU can provide the same functions as a 4-pipe FCU with this valve kit, eliminating the need for 4-pipe FCUs.

Some of the obvious benefits are:

- Initial FCU cost saving;
- Initial 3-way valve saving;
- Space saving;
- Installation cost saving;
- Reduced install time;
- Eliminates need for a boiler.

Contact: Peter McMahon, European Industrial Chillers. Tel: 01- 825 5155; email peter.mcmahon@eicl.ie.

Priva BlueID and Standard Control Systems

Priva, the Netherland's premier BMS manufacturer has introduced its latest system, known as BlueID, at a presentation hosted by Standard Control Systems at its Dublin office.

Priva's purpose-built 20ft demonstration and training container was parked at the Standard Control's premises over two days and accommodated a continuous stream of consultants and end-users.

Novel features of BlueID include:

- Ability to "hot swap" I/O modules;
- Local I/O point override facility on the expansion modules;
- Small footprint that the system occupies (typically 40% of equivalent systems);
- Market-leading trend-logging capabilities;
- System narrative and the front-end graphics compile themselves as the software program is written, further reducing engineering time.

Commenting on the launch, Priva's UK & Ireland Managing Director, Anders Norén stated: "We have worked with Standard Control Systems on several high-profile projects, such as The Point Village and St Vincent's Private Hospital, and this latest product enhancement will serve to consolidate the well-established working relationship that exists between both companies into the future."

Contact: Sean O'Toole, Standard Control Systems. Tel: 01 – 429 1800; Mobile: 087 – 250 5571; email: seanotoole@standardcontrol.ie



Building your business requires trusted partners

Today, more than ever, good business is about mutually-beneficial and well-balanced trading partnerships. Creating, sustaining and growing such partnerships is a demanding process that, in addition to the delivery of quality products and services, requires informed communication. Existing and potential clients need to know about, and fully understand, what you provide. **Building Services News** is the means by which to do that. We are the partner that bridges that communications gap and helps you cement the partnerships that underpin your business.

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RIBA approved CPD training on improving efficiency in heating systems.

Stelrad, Europe's number one radiator brand, are now RIAI approved for CPD training in improving efficiency in heating systems.

Radical differences in performance and energy consumption can be made with innovative new radiator technology, and a 40 minute training session - counting towards your 35 hour annual CPD requirement - can be arranged for you on a one-to-one or group basis at your practice, at a time to suit you.

Architects are always looking for ways to reduce fuel costs and carbon footprint. This is an opportunity to learn about the latest developments in radiators, with a CPD training session led by a fully qualified specialist from Stelrad. To Book your CPD session, simply contact idealheating@davies.ie or contact Davies Heating Dept. on 01 8511700.

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- Quality product through design, component selection & proving



Also available in this range are the Imax Xtra & EvoMod



Davies Ltd, 150 Harmonstown Road, Raheny, Dublin 5. Phone: 01 8511700 Fax: 01 8511701
Email: idealheating@davies.ie web: www.davies.ie

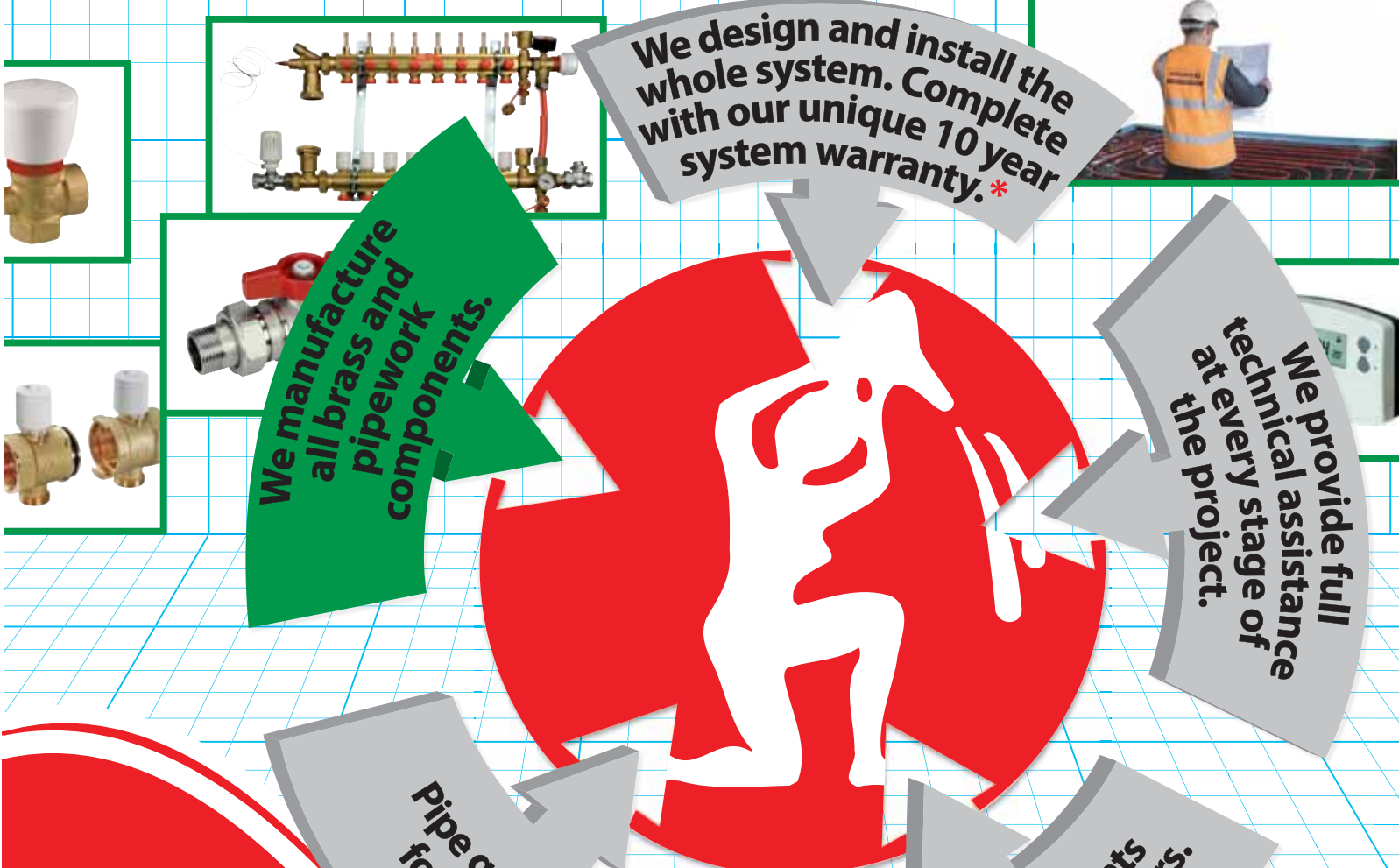
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NEWS AND PRODUCTS

Belimo Retrofit Globe Valve actuator and Quick Compact Valve (QVC)

As we went to press Paul O'Neill, Sales Manager, Belimo Ireland told *Building Services News* of two advanced new products now available from the company – the Belimo Retrofit Globe Valve actuator and the space-saving Quick Compact Valve (QVC) package.

The new-generation Belimo retrofit globe valve actuators provide everything required for the motorisation of different globe valves. They are equipped with a universal valve neck and valve stem adapter, suitable for use with valves from a wide variety of manufacturers around the world.



One hexagon allen key is sufficient for all installation and setting work. With the unique universal concept, installers save time, storage space and costs.

Features include:

- Travel ranges of up to 20mm available now, up to 50mm available in third quarter 2013;
- Multiple-voltage options (24V and 230V);
- Equipped with a universal valve neck and valve stem adapter, it can retrofit most globe valves from around the world;
- All MP and MF types can be parameterised with the Belimo PC Tool MFT-P or the handy Belimo service tool ZTH-GEN.

Click www.belimo.co.uk to watch a video of the easy installation.

The new space-saving QVC package sets new standards for room and zone solutions. It comprises a 2-way ball valve (DN 15) and an electromechanical rotary actuator, and offers the following advantages:

- No energy losses thanks to air bubble tight-closing valve in accordance with EN 12266-1;
- Simple lightning-fast, manually adjustable kvs value from 0.25 to 4.5;
- Rotary valve resistant to soiling and "force fit";
- Attachable handy actuator;
- Exceptionally compact overall structure for installation height of 110mm;
- Facilitates monitoring and maintenance with communicative MP actuators;
- White cover hood also available for the actuator.

The new Quick Compact Valve (QVC) is flexible, communicative and practical.

Contact: Paul O'Neill, Sales Manager, Belimo Ireland.
Tel: 086 – 245 2032; email: paul.oneill@belimo.co.uk;
www.belimo.co.uk

€13m spend on over 80 community energy projects

The Government will spend €13 million by the end of this year on over 80 community energy projects around the country, under Better Energy schemes administered by SEAI. The projects include energy efficiency upgrades to over 3,500 homes, 80% of which are classed as energy poor, and more than 290 public and community buildings.



Minister for Communications, Energy and Natural Resources, Pat Rabbitte, TD (right) made the announcement at one of the flagship projects, a partnership between Musgrave, its retail partners in SuperValu and Centra, and the GAA. The real innovation is that Musgrave and its retailers, as part of the overall Better Energy investment, will in turn part fund energy upgrades in the local community.

The project will see energy efficiency upgrades completed in 24 retail stores, including insulation and heating and lighting upgrades. Musgrave has selected 22 local GAA clubs as partners whom they will part fund to get similar upgrades, saving them in the region of €47,000 a year, which can be redirected into club development. Total grant support to this project is €520,000.

Minister Rabbitte said: "This collaboration between Musgrave and the GAA shows how local efforts can combine to deliver significant results in energy efficiency. The €13 million funding announced today is focussed on similar initiatives at community level supporting practical energy efficiency upgrades, making the properties warmer, more comfortable, and less costly to run. This is a key component of the future for retrofitting in Ireland."

Dr Brian Motherway, Chief Executive of SEAI said: "Energy retrofitting is worth hundreds of millions of euro and maintains thousands of valuable jobs. This type of partnership will be a key enabler for unlocking more opportunities in the future."

Radeco Energy Solutions

Radeco Energy Solutions is a heating control installation company specialising in multi-zone heating and thermal efficient heating.

For the commercial sector Radeco offers a fully-installed THZ system that can control multiple rooms from one central control point.

Meanwhile, the Radeco home system is used for domestic and small commercial installations such as nursing homes and the B&B sector.

Contact: Mick O'Toole, Radeco Energy Solutions.
Tel: 086 - 873 9085.

Always at the cutting edge of new design concepts and technology, Panasonic has just introduced a new range of radiators called Aquarea Air. This is a versatile climate control system delivering high levels of efficiency, especially when partnered with an Aquarea air source heat pump that delivers COPs of up to 5 (A7/W35).

Panasonic Aquarea Air high efficiency radiators

An added strength is that it is also suitable for use in conjunction with other-brand air-to-water heat pumps, and indeed wet central heating systems powered by conventional boilers.

This is a very timely addition to the Panasonic portfolio as it presents an ideal heating solution option, especially as a vast percentage of the increased market activity lies in refurbishment and replacement. When combined with an Aquarea Air (or other air to water heat pump), or a more traditional heat source, its versatility and flexibility means installers now have a very cost-effective, high-performing, energy efficient alternative to offer their clients.

Main features of Aquarea Air

Aquarea Air offers many benefits, the primary ones being as follows.

- Front panel heating with radiant effect;
- Only 35°C water temperature needed;
- High heating capacity;
- Heating mode;
- Cooling mode (if connected to a heating/cooling heat pump);
- Four fan speeds;
- Extremely compact – just 12.9cm deep;
- Touch-screen thermostat.

With an innovative layout of the ventilation unit and heat exchanger, the Aquarea Air's very slim and elegant design makes it a stylish alternative to traditional radiators.

The Aquarea Air fan is tangential with asymmetric blades and, with a large surface area heat exchanger, it enables high airflows to be achieved with



both low pressure loss and low levels of noise.

Unlike traditional cast radiators, the Aquarea Air requires a lower temperature on the incoming water circuit at just 35°C and, with exceptional ventilation efficiency, the motor uses considerably less energy, making it 32% more efficient than standard radiators.

Vincent Mahony, General Manager Panasonic Ireland explains: "The fan-assisted range of Aquarea Air radiators means the required room temperature can be achieved without the need for over-sized panel radiators which can be up to twice the size. Consequently, the radiators blend elegantly into any home. The innovative operating principle is based on the use of micro fans that have low power consumption, sending hot air from the heat exchanger to the inside of the front panel, heating it effectively."

Available in three sizes – 570W, 1188W and 1703W – the Aquarea Air is very easy to install and a major benefit with installation is that no overflow valve is needed as a 3-way valve comes as standard. The radiator has three operating functions, heating mode using the radiant effect; heating with radiant effect plus fan; and cooling only with the fan.

Contact: Vincent Mahony, Panasonic Ireland.

Tel: 01 – 413 5311; Mobile: 087 – 969 4211;

email: Vincent.mahony@eu.panasonic.com



Panasonic Aquarea Air high efficiency radiator



IPFMA Annual Conference 2013

Synopsis by Vincent Hickey, Chairman, IPFMA



Pictured from left (front row) are speakers Aidan O'Hogan, Chairman of Property Industry Ireland (PII); Luke Reaper of Behaviour and Attitudes and Lorna Byrne of Towers Watson. Back row (from left): Vincent Hickey, Chairman of the IPFMA and John Brophy, Conference Chairman and Vice-Chairman, IPFMA.

'Review, Renew, Remodel'

At the recent IPFMA Annual Conference 2013 held in the wonderful surroundings of Croke Park, we had a fantastic line up of presenters. Our conference committee team – led by John Brophy, who also chaired the event – did us proud by ensuring that the carefully-chosen presenters reflected the theme of our conference: *'Review, Renew, Remodel'*.

The conference was comprehensively attended by property industry delegates, some travelling long distances to be in attendance.

In an era when most of us, either personally or professionally, are experiencing challenging times, it was reassuring to know the complications that present themselves in today's business environment are being addressed, or being deliberated on, by other representative bodies and organisations with a long-term strategic view.

The assembly of presenters at the conference gave us an impartial and balanced awareness on how we might meet these challenges if we are to review, renew and remodel.

Our first speaker **Aidan O'Hogan** spoke about what is facing us in the commercial and residential sector in the not-too-distant future and said that if the emerging problems are not addressed we will soon face a housing crisis.

He pointed out that the current level of ghost estates had been used in the past as



Nick Leeson (centre), ex-Barings Bank trader and keynote speaker, pictured with Vincent Hickey Chairman of the IPFMA and John Brophy, Conference Chairman and Vice-Chairman of the IPFMA.



Above: Tom Dunne, DIT Bolton Street and past Chairman, IPFMA, with Mark Bourke, Landsdowne Partnership and Barra McCabe, Aramark.

reason for an oversupply of housing and the reluctance to re-energise a housing programme. However, he said that the reality was that there are very few ghost estates and certain areas around the country, particularly in Dublin and Cork, are facing a massive shortfall in family dwellings.

Lorna Byrne gave us an insight into, and examples of, optimising a company's greatest asset, its staff. She presented an in-depth look at what the work/life balance should be, along with practical examples of how companies can reward staff by way of "reward-strategy programmes", and also keep them engaged in their roles. She spoke at length on the value of employee engagement and communications.

Lorna cited the banking industry as an example of where staff had developed low esteem due to the stigma surrounding some financial institutions. She explained how, by reviewing, renewing and remodelling in this industry, confidence among staff in this sector

was returning with progressive results.

She also referred to what she likes to call the "Deal" for employees. This can cover such things as work/life balance, promotion, up-skilling etc. Essentially, she explained how rewarding an employee – not just financially – can motivate and encourage loyalty.

Luke Reaper presented a thought-provoking address on the cycles of change and behavioural attitudes in both Irish and global society. He referred to some very interesting trends within the marketing research carried out in Ireland and abroad and noted that, while some social networking sites receive negative exposure, social media marketing had increased overall.

Luke presented a very interesting example of the eminent closure of a public library and how a subsequent social media campaign delivered the positive result the campaigners were hoping for and saved the library.

Our keynote speaker **Nick Leeson** gave an

open and frank account of how he reviewed, renewed and remodelled his own life. He gave us a relatively detailed interpretation of his life leading up to what was one of the biggest banking collapses of all time.

Nick, who has been referred to as the original rogue trader, talked about how he was left unchecked to carry out some of the biggest risk-taking financial deals of the 20th century. He also gave us an insight into the financial markets in 1995 and his role in the collapse of Barings Bank.

He went on to talk about his eventual capture, and the prison sentence he received and served in a gang-ridden Singaporean jail.



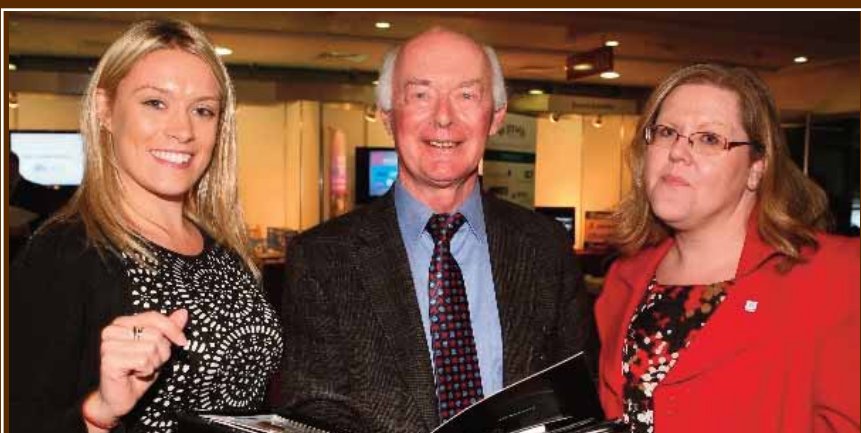
Seamus Carroll, Blackrock Shopping Centre with Damien Cusack, Colliers International and Stephen Martin, Acacia Facilities Management.



Brian Kelly of sponsors Mitte with Patrick Burke, Sherry Fitzgerald Lettings and Jerome O'Connor, DTZ Sherry Fitzgerald.

In conclusion he spoke of the importance of communication and engagement with your peers, and of how he considers empowerment to be the key to any form of resolution in life.

This year's conference proved one of the most successful to date, not just for the calibre of the speakers, but also for the networking opportunity it afforded delegates.



Emer Reilly and Alison O'Neill, both of Billfinger Real Estate, with Joe Wyse, Chairman, Wyse.



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Mark recommends an ECOFAN with every air heater. A combination of these products provides optimum comfort and good heat distribution within the room. It is known that hot air rises which means that an air heater requires more time to heat up a room. A thermostatically-controlled ECOFAN transports the warm blanket under the roof to the occupied area. As a result, the room heats up more quickly and gas consumption can, in some cases, be reduced by up to 30%.

The ECOFAN recirculating fan is available with various air displacements from 4,000 to 14,000 m³/h. The unit comes as standard with a reverse-operated room thermostat that switches on the fan when the area under the ceiling becomes hot. The ECOFAN can be used in construction halls, workshops, garages and logistics areas. Mark provides a full 2-year product warranty as standard.

Ecofan P140

Silent and low maintenance air distributor



The ECOFAN P140 is particularly suited to better distributing hot air in a room. Achieving better distribution of air can reduce heating bills.

The appliance is supplied with a 5-position control as standard. A reverse-operated thermostat can also be supplied as an option so that the unit is switched on automatically if the temperature below the ceiling rises.

Possible applications include

- Factories
- Schools
- Churches
- Shops
- Offices.

MDV Roof Fan

Roof fan for the right air balance



The Mark MDV roof fan is designed to extract contaminated air from rooms such as work spaces or construction areas.

MDV extraction fans can be combined particularly well with one of the supply units from the Mark range, such as the GCE/GC+/Rooftop.

The MDV is available with various air displacements, varying from 1,840 to 15,000 m³/h.

The unit is supplied with a radial fan as standard. The outer casing is made of zinc plating.

The MDV can be used in construction halls, workshops and welding areas.

MARK BV provides a full 2-year product warranty as standard.

MHR-L

Plug and play heat recovery unit



Increasingly high demands are being placed on the air quality in buildings. Multiple ventilation is often needed in order to comply with these demands.

A great deal of energy is lost when standard ventilation equipment is used. To counter the loss of energy, Mark has included a heat recovery unit, the MHR-L, in its product range. This unit is equipped with a cross-flow exchanger which has an efficiency of 90%. This means that 90% of the energy expelled is supplied to the fresh intake air. This high efficiency means that in many cases no after-heating is required.

The MHR-L heat exchanger unit is available for both internal and external use. Possible applications for the MHR-L include offices, schools, workshops and changing areas. The end-user of this heat recovery unit may be eligible for the EIA scheme (Energy Investment Allowance scheme), the ECA scheme in the UK, or ACA in Ireland.

Mark Éire manufactures heating, ventilation and air conditioning products for the Irish and export markets. No air volume is too big or too small. Mark supplies explosion-proof equipment, bifurcated equipment, plug fans, Ecofans and so on in all standard and bespoke equipment.

Advantages of the Mark Heat Recovery System for swimming pool ventilation

There are a number of advantages with the Mark Éire swimming pool heat recovery ventilation units. Some of these are the result of innovative custom designs to suit swimming pool areas, while others are down to the use of the latest most-efficient components and technology.

Mark's units are widely used in the leisure industry, not just in Ireland but throughout Europe.

The following is a list of components and controls technology Mark uses to ensure the most efficient units possible.

Motor and fan assembly

- Mark uses plug fans as opposed to outdated belt drive fans and can supply a detailed breakdown explaining the difference between both. But to abbreviate it, the new plug fans are directly driven from the motor and do not use belt and pulley drives. When the multiple efficiencies combine they give an efficiency that means the older forward-curved belt drive fans and motors operate at around 52%, while the new plug fan static efficiency operates at 63%. Immediately you can see the new plug fan assembly static efficiency is 11% higher than the belt-drive system.

- The other advantage of direct-driven fans is the low maintenance involved. There are no drive belts to wear and crack.
- With the implementation of the new ERP Directive governing motors, according to EN 60034-30 all new motors must comply with the IE2 or EFF1, the standard for high efficiency motors. Manufacturers can vary but the new motors are roughly 7% to 12% more efficient than older motors.
- With the use of inverter speed drives the system will only use the power that is required to get the job done. Take for example a situation where a 3kW motor is being used but the power required to get the job done is only 2.5kW. The inverter will change the frequency and only use 2.5kW, even though the motor is rated at 3kW. With the old belt-drive system this was achieved using a belt and pulley change but it was quite possible the system was still consuming 3kW. With variable speed drives it is easy to vary outputs to match the load or the conditions. It is impossible to give an exact figure on this until it is installed and set up but, over the lifetime of the system, it is quite significant.
- With the use of good technology and good quality controls Mark can further reduce energy consumption on both the electrical power for the motor and energy to heat the air. For example, Mark uses humidity sensors to monitor the amount of moisture within the pool space. As anyone involved in the pool industry knows, the moisture levels can drop within a pool space area during quiet spells and at night, due to non-disturbance of the pool water resulting in less water evaporation. When Mark's

humidity sensor detects this it sends a signal to the fan motors to slow down. This reduces the amount of air and hence reduces the electrical power consumed and the heating energy load. The level by which this can be reduced is very much dependant on the specific pool. One might ask why not switch the units off at night to save more electricity? This may not be possible due to excessive build-up of moisture within the space because of water evaporation but more so due to an excessive build-up of chloramines in the pool air.

Heat recovery block return air bypass dampers

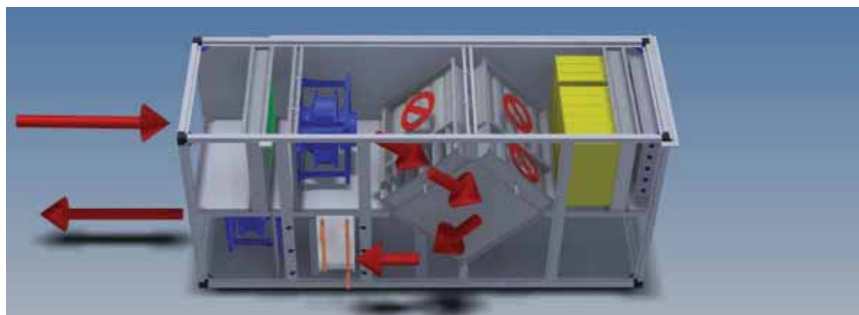
The principle of Mark's heat recovery system is as follows.

Fresh air is introduced from outside and passed through a filter to clean it. It then passes through a heat recovery block and a water-based heating coil for cold weather and into the pool hall.

On the extraction side Mark removes some air from the pool hall and passes it across the same heat recovery block. This transfers 90% of the heat energy into the fresh air stream.

In the event of the pool hall being quiet or during the night, Mark can reduce the amount of fresh air even further to save money. It also continues to automatically monitor the pool hall humidity which in turn regulates the humidity loss. In addition, it recycles 10% of the air if humidity is correct – see diagram below.

Mark uses no refrigerant gasses or compressors within its units which results in lower maintenance and less service.



unit air heaters • radiant heating • air handling units • heat pumps • bending machines



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Moving to a New World of Building Systems Performance

CIBSE ASHRAE TECHNICAL SYMPOSIUM IN DIT KEVIN ST CAMPUS, DUBLIN

Dates: 3/4 April 2014

CIBSE AND ASHRAE have received the largest ever number of abstracts for the annual Technical Symposium that will be held on 3/4 April 2014 at the Dublin Institute of Technology, Kevin St.

The abstracts received from around the world included a mix of academic and industry submissions, reflecting the aim of the symposium to facilitate information-sharing and networking across practitioners and those developing understanding and knowledge across the built environment.

The symposium will commission around 50 authors to present, all of whose papers will be peer reviewed.

CIBSE is seeking volunteers to act as referees so members or Fellows who are willing to review papers should contact CIBSE providing a few sentences by way of overview of their practical areas of technical expertise.

As well as helping to ensure that the papers presented are of a high standard, it will give referees a chance to find out about some of the developments that will be presented at the event. If you are interested in helping please email groups@cibse.org

The symposium's main theme "Moving to a New World of Building Systems Performance" will give a platform to the latest practice and research from around the world in active and passive building systems that will shape the future for the built environment while striving to minimise resource impact.

CIBSE President George Adams said: "The CIBSE ASHRAE Technical

Symposium is an exciting two-day event which tackles a fascinating range of cutting-edge subjects. It is a unique opportunity for members and industry experts to share knowledge on, and debate, important issues in the built environment such as the adaptation of cities to the impact of population growth and climate change."

ASHRAE President Bill Bahnfleth said: "ASHRAE is very pleased to collaborate in the continuation of this series of international technical symposia. I personally look forward to being in Dublin to participate in this forward-looking exchange on the future of building systems and the building industry itself. From modeling to cutting-edge systems for both new and existing buildings to workforce development, there is something for every built environment professional in this program."

A joint enterprise with ASHRAE, the symposium is also supported by the Future Cities Catapult, a newly-established global centre of excellence on urban innovation.

For more information visit www.cibse.org/symposium2014



CIBSE
President
George Adams



ASHRAE
President
Bill Bahnfleth



Chiller or VRF? ... Hitachi Ireland CIBSE accredited CPD course

Continuing Professional Development (CPD) refers to the “systematic maintenance, improvement and broadening of knowledge and skills” and is about learning and putting into practice new competences year after year.

CIBSE members are required to maintain professional competence and the *CIBSE Directory of CPD Course Providers* is a comprehensive list of companies offering educational learning that CIBSE members can receive in-house, or attend as part of their on-going continuing professional development.

All courses are reviewed and assessed by CIBSE to ensure that the technical content is of a high standard and offers valuable CPD to participants. It is only then that they get CIBSE accreditation.

Hitachi Ireland devised its *Chiller or VRF?* course against this background and, having

received CIBSE accreditation and been listed on the CIBSE directory of approved CPD course providers, is now in the process of rolling it out to consultants and other industry professionals throughout the country.

Fergus Daly, Area Sales Manager and Martin O'Brien, Technical Engineer, Hitachi Ireland are both approved to present the course. *Chiller or VRF?* comprises an overview of the two most common systems used in air conditioning.

A crucial factor in Hitachi presenting such a topic for debate is that it has no preference one way or the other ... Hitachi supplies chillers and VRF systems.

The key objectives of the course are to:

- Examine the basic operating principles behind each system;
- Work through the significance of those principles;
- Open up a dialogue on the varying merits of each system.

The course comprises a short address, accompanied by a simple-to-follow powerpoint presentation, with the emphasis on evidence-based, independent data. It concludes not with a judgement as to whether a chiller should be chosen over a VRF, or *vice versa*, but with slides showing the benefits of both.

Benefits of chilled water systems

- Much greater range of capacity;
- More accurate control of air temperature and quality;
- No refrigerant within the building;
- Easier refrigerant leak testing;
- Less refrigerant used for like-for-like capacities;
- Greater choice of refrigerants and condensing mediums;
- Potential for heat recovery and free cooling.

Benefits of VRF

- Totally integrated system (hardware and controls);
- One supplier (one point of contact);
- More design input from manufacturer;
- Generally quicker retrofit installations;
- Heat recovery via refrigeration circuit;
- Integrated heat recovery ventilation;
- Direct system means higher efficiency;
- Greater range of indoor units.

Another critical aspect of the course is the tone with which it is delivered. Both Fergus and Martin engage with the participants and gauge the level and depth of discussion appropriate around the various points. The result is an interactive session with a great deal of questions and sharing of views and opinions.

Most of the sessions are presented over lunch in consultants' own offices to avoid staff downtime, with Martin and Fergus also providing the lunch.

Contact: Fergus Daly, Area Sales Manager, Hitachi Ireland. Tel: 01 – 216 4406; Mobile: 087 – 277 9405; email: fergus.daly@hitachi-eu.com ■



Fergus Daly, Area Sales Manager and Martin O'Brien, Technical Engineer, Hitachi Ireland who are both approved to present the course *Chiller or VRF?*



Daikin Europe NV celebrates 40 years of innovation excellence

Exactly 40 years ago Japanese climate-control specialist Daikin Industries Ltd opened its European headquarters in Ostend, Belgium. Since then, the facility has served as a key hub in its international activities, catering for the needs of the European, Africa and the Middle East markets. Product types focused on are advanced heating and cooling systems for residential, commercial and industrial applications.

However, the Ostend headquarters is much more than a commercial and manufacturing nerve centre. Since 1973 it has grown to become an important site for research and development. This brings about innovative products with which the company responds to new requirements in the market, and further strengthens its competitiveness.

Daikin Europe NV is now firmly embedded in the economic life of the Ostend region, employing 1,600 people in research, production and administration. In addition, there are another 100 employees in Brussels. The production facility is regarded as one of the most advanced of its type in the world, and also one of the largest, taking in a total site area of 150,000sq m.

Besides Ostend, Daikin Europe NV has production plants in Plzen and Brno (Czech Republic); Cecchina and Milan (Italy); Güglingen (Germany); Cramlington (UK); and Hendek (Turkey). The Daikin Europe Group employs about 5,500 people in total and had a turnover of €1.85 billion in 2012.

Daikin Ireland

Amid increasing demand for Daikin products and services in Ireland, Daikin Europe NV established a permanent Ireland branch in 2006. Since then the company has captured significant market share thanks to the provision of dedicated services to meet local market needs. The Daikin Ireland team brings a wealth of knowledge and experience to bear on devising solutions for air conditioning, heat pump, refrigeration and applied systems applications, and combines that with Daikin

Head Office resources to support consultants and the trade in Ireland.

"Daikin products are renowned for energy efficiency and controllability", says John Valentine, Daikin Ireland General Manager, "and advanced inverter control which reduces power consumption by up to 30% compared with non-inverter units.

"Daikin also leads the way in optimising its products for seasonal efficiency, and has already redesigned its products to achieve compliance with the latest seasonal efficiency requirements, ahead of forthcoming legislation".

Daikin's product portfolio is extensive and covers domestic, commercial and industrial applications in respect of heating, air conditioning and refrigeration (see www.daikin.ie).

Adapting Japanese technology

The Japanese parent company Daikin Industries Ltd started in 1924 in Japan as a manufacturer of air-conditioning systems. The company now leads the industry for HVAC-R systems worldwide, offering solutions for heating and cooling, ventilation and air conditioning. It is about heating using energy-efficient heat pump technology and climate systems for the residential market, as well as cooling and freezer systems, chillers and solutions for air treatment for professional and industrial environments.

In Ostend, the company invariably adapted the Japanese technology to suit the requirements of the local markets. That resulted in a very specific approach. The expertise of the company ensures that Daikin Europe NV can offer the most fitting total solutions in each of those markets.

WE ARE RESPONSIBLE
WE ARE RELIABLE
WE ARE PROUD
WE ARE 40



John Valentine, Daikin Ireland General Manager

The Daikin Industries European headquarters in Ostend, Belgium



but, on really cold days the natural gas energy cost comes back into competitive scope, and it will use the most cost effective-source taking heat output into account.

Green heart

As part of the increasing demand for energy-efficient alternatives to traditional solutions, Daikin Europe NV continues to play a significant role. Through the efforts of the EDC, the company hopes to contribute to the 20-20-20 targets of the European Union – reducing the emission of greenhouse gases by 20% compared to 1990; increasing energy efficiency by 20%; and generating 20% of energy in a renewable manner.

Daikin Europe NV is a “Green Heart Factory” which means it ensures that no energy, water, heat or coolants are lost, and also reduces its ecological footprint by dealing smartly with transport and packaging.

The continuous technological developments of the past 40 years have made Daikin a world leader. With its dedication to quality, service and efficiency, the company looks forward to further innovation at its Ostend headquarters. ■

Innovation, sustainability and energy-efficiency take top priority. That is evident from the growing local development of residential, commercial and industrial applications, among other things, that deal more efficiently with energy and release less CO₂.

R&D and innovation

Daikin has never underestimated the complexity of the European market and that is why it established the branch in Ostend as early as 1973. The expertise accumulated since then formed an excellent basis for the establishment of the Daikin Group EMEA Development Centre (EDC) at the Ostend headquarters in 2011.

The EDC has testing rooms where researchers can simulate all possible climatological conditions and the facility plays an essential role in conceiving innovative, energy-efficient alternatives to traditional heating solutions.

A prime example of this is the Daikin Altherma hybrid heat pump (available late 2014). This air to water heat unit is a combination of a heat pump with a traditional gas boiler. The system automatically selects the solution with the highest efficiency. For most of the year it is the heat pump

Today, Daikin leads the way towards more efficient, cost-effective and environmentally friendly comfort solutions. The Daikin Altherma hybrid heat pump is easy to handle and install.



SPECIAL REPORT

DWG HELPING THE INDUSTRY TO FACE CHANGE

Facing Change was the theme of the DWG Roadshow to hit Dublin and Cork last month. This was the first event of its kind organised by Mark Kiely and his colleagues in DWG but, such was the excellent turnout in both Dublin and Cork, that it will be repeated early next year. The plan is to take in new venues and to focus on a different, but equally-important, theme.

DWG



Steve Taliadoros,
General Manager,
LU-VE Group
UK/Ireland

However, this roadshow's *Facing Change* theme focused primarily on energy reduction and environmental protection in relation to air conditioning and refrigeration.

Principal host was Mark Kiely of DWG but the roadshow was presented in conjunction with supply partners LU-VE, Harp Refrigerants, SCM Frigo and Mitsubishi Electric.

In his welcome and opening address Mark spoke of the importance of energy reduction and environmental protection in respect of refrigeration, alluding in particular to Ireland's obligation to reduce CO2 emissions by at least 35% (below 1990 levels) by the year 2020, and 80% by 2050.

"In order for Ireland to achieve these objectives", said Mark, "homes and businesses are being encouraged to better manage their energy use and to become more environmentally responsible.

"Energy management involves the use of technology to improve the energy performance of a business. To be effective, it needs to be an integral part of an organisation's wider management processes. Of course rising energy costs and climate change legislation are also incentives.

"We at DWG are committed to providing our customers with the technology and products that can deliver excellent energy management results, in addition to environmental protection. The purpose of this roadshow is to explain these to you in detail, to help you identify the areas of application to be targeted, and to answer any queries you may have".

At each venue Mark Kiely gave the opening address and then introduced the other speakers individually, all of whom made a brief presentation on their particular area of expertise.

First up was Tyrone Dunnet, Technical Manager of Air Creation. He focused on the many changes taking place within the ac sector, and especially the planned phase out of R22 (December 2014).

He referred in particular to the close relationship between Air Creation and Mitsubishi Electric and on the specially-devised "Case for Replace" programme.

Next Steve Taliadoros, General Manager of LU-VE Group UK/Ireland, gave an overview on unit cooler performance



Dewi Garcia, Technical Services Manager, HARP International

and how to get the best from LU-VE evaporator units, with some helpful guides and tips on pre-installation and actual installation.

Then Matt Rose, Branch Manager, Dean & Wood, spoke on the DWG Starcold condensing units that incorporate many unique features and benefits that work to the advantage of contractors and end-users alike.

Finally, Dewi Garcia, Technical Services HARP International, gave a very interesting presentation on refrigerants. He set out to shed some light on what is proposed in the latest review of G-Gas regulation, and on how it will impact on the industry going forward.

The programme concluded with an open forum and questions from the floor fielded by all four speakers, along with Mark Kiely. This part of the evening, at both venues, proved very informative and generated a great deal of discussion with the panel and among the attendees.

With the formalities out of the way the exchange of information continued over some food and refreshments, and also facilitated some beneficial networking among those present. ■

We at DWG are committed to providing our customers with the technology and products that can deliver excellent energy management results, in addition to environmental protection



Paul Rowe, Coolair with Mark Kiely, DWG Director with Alan Rasmussen, Cross refrigeration



Lucky prize winners – Peter McMahan, EICL with Mark Kiely, DWG Director, Cormac Hamilton, Environmental Control and Paul Bagnall, Bagnall AC



Colin Booth, Masser Montgomery with Mark Kiely, DWG, Alan Kirkham, Dean & Wood UK and Andy Hauge, GEA Refrigeration



Des McGovern, Air Conditioning & Maintenance with Mark Kiely, DWG and Liam Hctor, Hctor Refrigeration



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,
 Centrepont Business Park,
 Oak Road, Clondalkin,
 Dublin 12
 Tel: 01 409 8912
 Fax: 01 409 8916



www.coreac.com



Jenny Courtney, Service Coordinator with Fintan Brewster, Service 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.

Irish Lighter and Young Lighter Awards 2013

The winners of the Irish Lighter and Young Lighter Awards were announced at an event in DIT Kevin Street on 17 October last.

The awards were open to all building services professionals, with SLL and ILE members particularly encouraged to participate.

The Irish Lighter Award entries were encouraged from experienced lighting designers or engineers who can present a paper about a finished project.

The Irish Young Lighter Awards began in 2003 when the first students on the programme in Electrical Services Engineering graduated.

The ceremony on the day followed the established formula with each of those shortlisted presenting their papers to the judges – in the presence of an audience of invited guests – and

then answering questions posed by the judges.

Thereafter the judges adjourned for further deliberations before making their final selections. During that break SLL International Young Lighter

2012 winner Ms Sabine De Schutter presented her winning paper, entitled *Shadow-defining Space*. This was a very interesting address and focused more on the art of lighting, rather than the pure science. ■



WINNERS

Irish Lighter 2013

James Duff and Peter Whitty (Arup). Their paper was titled "LEDs are the Panacea – and other Fairy Tales."

Young Irish Lighter 2013

Sean Fox (DIT). His paper was titled "Does MRSE Relate to Illumination Adequacy?"

Young Irish Lighter runner up 2013

Leon Kavanagh (DIT). His paper was titled "Task Area Illuminance Ratios."



Top: Vincent Kenny with Paul Marah, Tony Colohan, Sabine De Schutter, SLL International Young Lighter 2012 winner, Colm Agnew and Kevin Kelly.

Above: Michael McNerney with Sean Dowd, Chairman, CIBSE Ireland and Ger Keating CIBSE.

Left: Leon Kavanagh, DIT with James Duff, ARUP, Brendan Keely, SLL and Seán Fox, DIT.



A trip down Memory Lane

All designs are just marks on paper ... it is people who make it all work

In this, the first of an occasional series, Gerard Palmer, CEng, FCIBSE MIEI (below) looks back over a lifetime involved with building services and recalls the many changes he has witnessed down through the years. While welcoming and acknowledging the many technological advancements that have transformed the life of consulting engineers, he concludes that all designs – no matter how brilliant – are just marks on paper ... it is the people who make it all work.



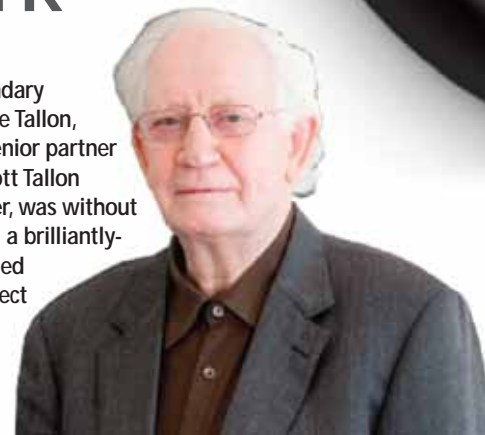
I imagine that not many engineers these days have ever seen a slide rule, but in my early days in building services they were the only aid to calculation. For those unfamiliar with this relic of the Stone Age they consisted of two pieces of wood or plastic engraved with logarithmic scales and a cursor. No self-respecting engineer was ever without one.

I am speaking of 1970 onwards at a time when there were still no computers, fax machines, smart phones, internet, CAD etc. Paper drawings were produced on wooden drawing boards with tee squares using pen and ink. Any revisions involved the careful use of razor-blades. I remember the excitement when the first pocket electronic calculator appeared – everyone wanted one.

The early seventies saw something of a boom in the building industry and Scott Tallon Walker, the architectural practice for whom I worked, were at the leading edge of modern design and included a services section. Larry Kyne headed up the electrical side and appeared to know nearly everybody in Ireland, and furthermore, usually had a tale to tell about them.

Ronnie Tallon, the senior partner, was without

Legendary Ronnie Tallon, the senior partner at Scott Tallon Walker, was without doubt a brilliantly-talented architect

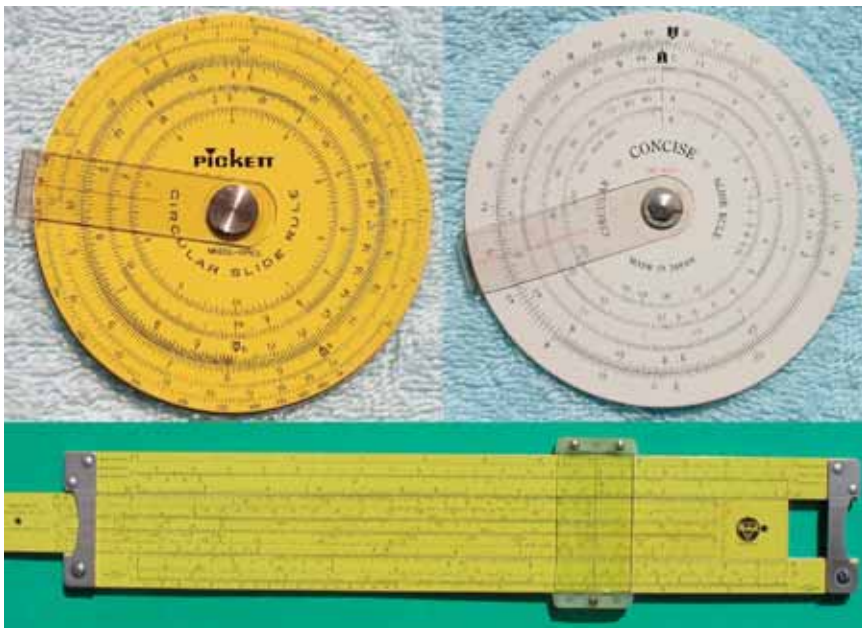


doubt a brilliantly-talented architect with a very clear vision of what he wanted on every project. Since all architects resent any space demanded by engineers for such inessential things as boilers, chillers, pipes and ducts, this sometimes led to rather lively discussions.

Although high standards were insisted upon and everyone worked hard, there was a very relaxed atmosphere. Lunch, I seem to recall, took about an hour and a half, but against that people would work well into the evening if need be to complete a task. In 1975 Scott Tallon Walker received the Royal Gold Medal from the RIBA – the only occasion, to the

“ Paper drawings were produced on wooden drawing boards with tee squares using pen and ink





Assorted Pickett slide rules from a bygone era of engineering.

best of my knowledge, when it was awarded to an Irish architect.

The first project I was involved with was the Bank of Ireland Head Office in Baggot Street, Dublin. The bronze facade incorporated floor-to-ceiling bronze-tinted, heat-reflecting glass so the air conditioning was an essential facility, especially as there were no opening windows. At that time the dual-duct system was the largest in Europe. It was installed by Carrier Engineering and has worked well for over 40 years.

Many industrial projects were also undertaken. The Industrial Development Agency (IDA) did a marvelous job attracting investment to Ireland and it was owing to its hard work and dedication that so many of the "high tech" firms decided to locate their facilities here. One such was Amdahl who made large computers such as those used by airlines to handle their operations – the machines were guaranteed to be 99% reliable and with each machine the company provided a dedicated engineer.

It was said that Gene Amdahl, who had started the firm after working for IBM, was so advanced in his thinking that only ten other people in the world could understand what he was talking about. Whatever about that, he decided to establish a large manufacturing facility in Swords, fully air-conditioned, of course, using a VAV system. Naturally the Americans hailing from Sunnyvale, California would have expected this as a matter of course.

However, the quantity surveyor on the project argued that the offices did not need AC and opening windows and external louvres to act

as sun screens were fitted instead. This led to heated complaints from the American executive who came to take over the completed facility. He was particularly incensed that the warehouse had AC but not his office!

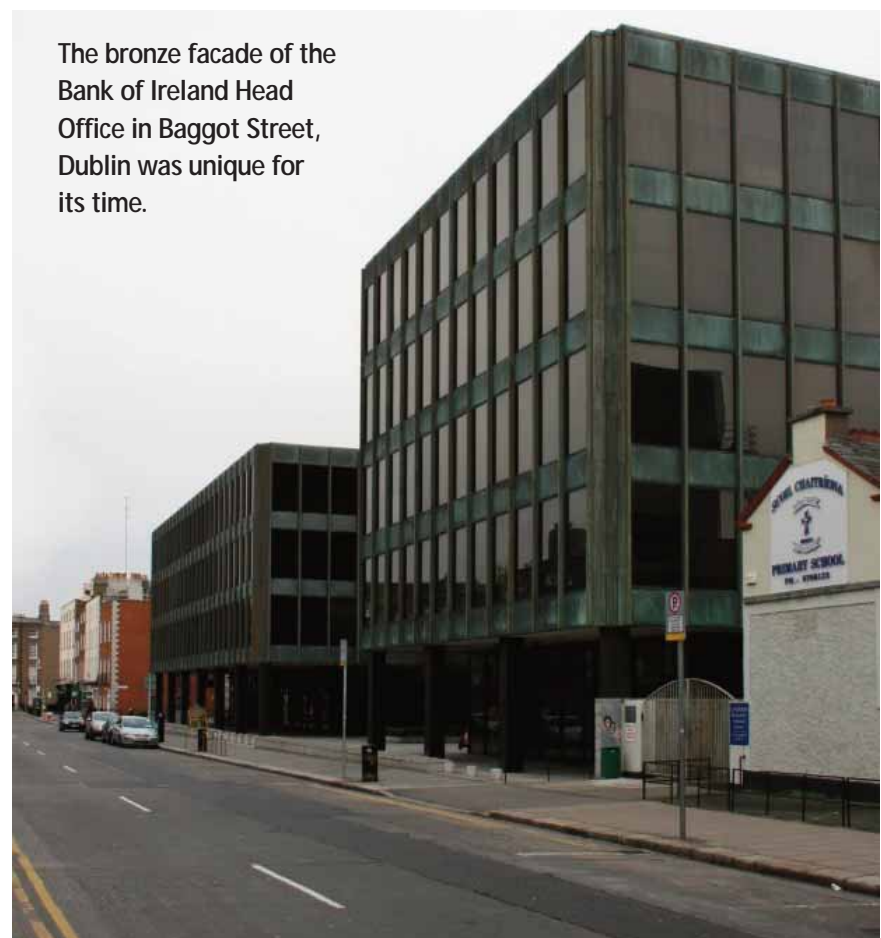
Bailey's Irish Cream had become very popular

in the USA around this time ... apparently ladies who liked a little tippie but did not wish to be seen "drinking" (particularly in the afternoon) could not get enough of the stuff. The existing production plant could not keep up with the demand and so a new manufacturing and bottling plant was built in Dublin.

Designed by Scott Tallon Walker it was, as were all their buildings, built to the very highest standards. An industrial building was not regarded as merely a "tin shed" to be put up at the lowest possible cost.

Another industrial project undertaken about that time was the Tretorn factory in Portlaoise. Tretorn are a Swedish company who make tennis balls (no jokes please) and it so happened that when the early briefing meetings were to take place Bjorn Borg was playing John McEnroe in the Wimbledon tennis final. As a result, it proved to be impossible to get the Swedish visitors away from the tv set in their hotel.

The factory had the usual range of services including steam, compressed-air and chilled water for the vulcanizing presses. The Irish engineer appointed to be Plant Engineer endeared himself to the Tretorn management by pointing out that



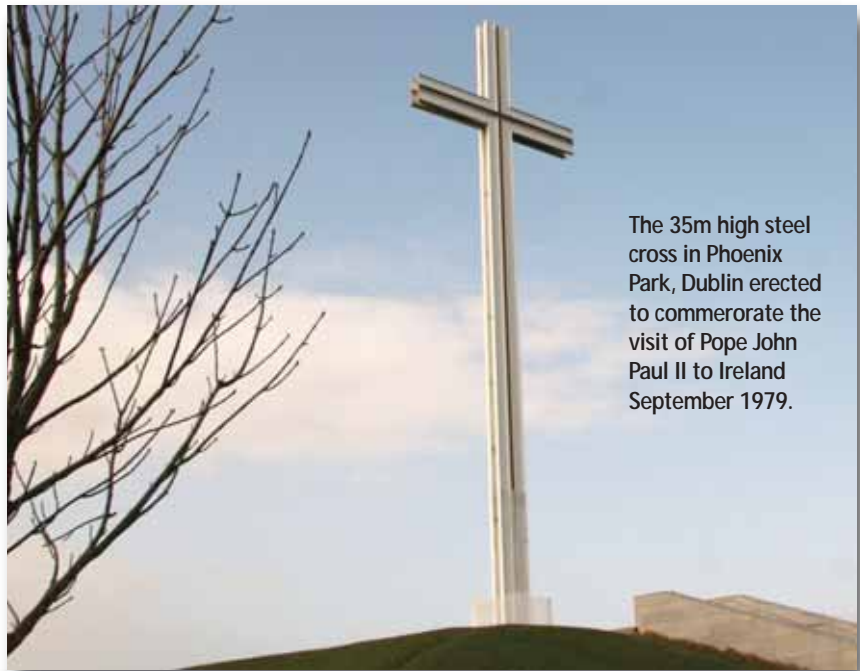
The bronze facade of the Bank of Ireland Head Office in Baggot Street, Dublin was unique for its time.

production could be increased by having more moulds in the presses. This increased the output by an extra 50% without any extra cost.

The same engineer (I think his name was Tom Hughes) also suggested that heat could be recovered from the presses' cooling system and, when this was successfully done, it provided enough energy to heat a new factory extension without the need for additional boilers.

Tretorn sent Folke Olsen to Portlaoise to keep an eye on the construction phase and he was not impressed by what he regarded as the easy-going methods on site. He was very Swedish and a bit stiff. However, one day the "brickies" persuaded him to join them in the local pub for their mid-day libations. Bricklaying is thirsty work. This became a regular routine and Folke changed into a smiling happy honorary Irishman.

On the 29 September 1979 Pope John Paul II came to Ireland. A Papal Mass was to be celebrated in the Phoenix Park which sounds fairly straightforward until you realise that over one million people intended to be present and the site



The 35m high steel cross in Phoenix Park, Dublin erected to commemorate the visit of Pope John Paul II to Ireland September 1979.

telephone you paid a hefty deposit to Posts & Telegraphs (a government monopoly) and, with luck, you received a phone 12 months later. For the Pope's visit more lines were needed and 20 new lines were installed within the hour.

I recall that one point of concern during the planning was the possibility of a lightning strike to the 35m high steel cross which formed the centre piece of the podium. It was felt that it would not look well should the Pope be electrocuted and elaborate earthing arrangements were put in place to ensure his safety.

During the 1980s I had the pleasure of working with VMRA consulting engineers. The atmosphere, however, was a little different from STW. There was the same dedication to "getting it right" but a sterner attitude to cost control etc. No doubt this could be partly explained by the differing fee structures between architects and engineers.

Architects were in the happier position of getting a good percentage on the total project cost, including the value of the work done by others in the design team, whereas engineers' (smaller) percentage was calculated on the cost of the work they were responsible for.

VMRA was a large practice with many interesting projects. One that I was associated with was the Mater Private Hospital in Dublin. This was a "state-of-the-art" job and included a nuclear magnetic resonance (NMR) machine ... the first one in Ireland I believe. It was also my first encounter with the German approach to engineering.

The NMR was made by Siemens who assembled

it on site and, if memory serves me right, cost about IRE11million. It is, in effect, a huge vacuum flask with successive layers of liquid helium, liquid nitrogen and finally an outer vacuum cylinder. The patient is inserted into the centre and powerful magnets twiddle his/her body cells. The resultant images are shown on a bank of computer screens, thus enabling the doctors to examine the patient's interior without invasive surgery.

Well, to cut a long story short, the Siemens team put it together and, under test, found they could not maintain the necessary vacuum. It had taken about two weeks to assemble. The engineer in charge rang his head office in Germany to tell them there was a problem. Their response was to take it down immediately and send another one, which they did in double-quick time.

Looking back to those long-gone days I feel privileged to have worked with some of the leading architectural and engineering firms in the country. I know of no other industry that can provide the challenges, laughter, interesting characters and highs and lows that is found in building services, and indeed construction in general. Each project brought new clients, both from Ireland or abroad, and all were unique. I'm grateful that I was able to put in my tuppenceworth to building up Ireland.

However, at the end of the day all designs – no matter how brilliant – are just marks on paper. It's the people who really make it work such as the engineers, the contractors, the plumbers, the sheet-metal guys, the electrical technicians, etc etc. They deserve more than three cheers! ■



The Mater Private Hospital in Dublin first opening our doors to patients in 1986.

for this was a "greenfield" with absolutely no services of any kind. Furthermore the design, construction and all other facilities had to be completed in six weeks ... right in the middle of the builders' annual holidays!

That it all went well was owing to the hard work and long hours of all concerned, and to the remarkable effect the news of the visit had on everyone. For instance, at that time if you wanted a

BOOSTING BUSINESS

As the demand for pressure boosting systems has grown in recent years, so has the sophistication of the solutions being engineered to meet the varied requirements for these units and Grundfos Pumps are leading the way.

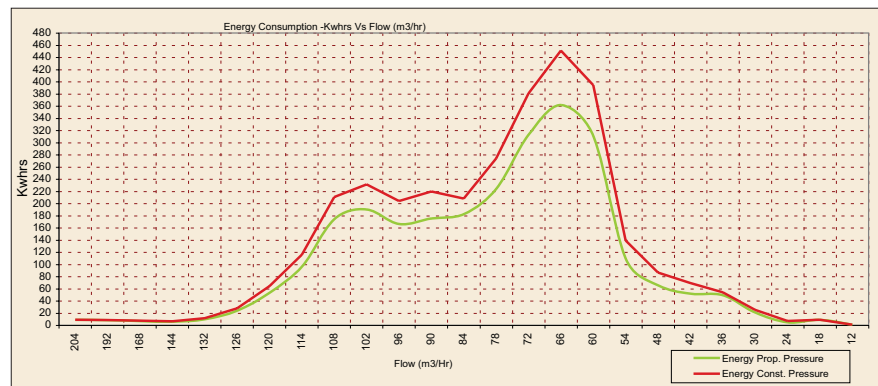
NEED A LIFT?

Boosting systems are now central to so many different kinds of application including water supply, irrigation systems, water treatment systems, packaged fire sets and units that deliver to a range of hugely diverse industrial applications. This is in addition to fulfilling their more traditional role of being a staple within the building services world.

Today, there is a huge reliance upon packaged pump sets to deliver sufficient water to meet the demand, regardless of the application. However, to ensure that the booster set not only meets the need, but does so in the most energy efficient manner possible, it really pays to get the advice of an expert such as Grundfos Pumps.

BACKGROUND

There are many instances that have proved this point. Take for example a recent case study that involved an international healthcare company who are based in the west of Ireland. The company is a specialist within the healthcare arena and it has particular expertise in the development and manufacture of products that help to



save and sustain the lives of people with a range of chronic and acute medical conditions.

FOCUS ON ENERGY

Like many large and small organisations, the company has turned the spotlight on energy saving/conservation, both as part of its corporate approach to sustainability, as well as it making good business sense.

It was against this backdrop that Grundfos were approached to look at providing a replacement pump solution to deliver 120m³/h @ 6.5 bar that would replace two existing pumps.

Liam McDermott of Grundfos Pumps attended site and quickly realised that substantive savings could be made if the company looked at replacing the

existing pumps with a Grundfos Hydro MPC booster set. So, he worked with the on-site engineers to see if this would indeed be a better solution.

In order to ascertain the true demand for flow, the energy consumption was measured over a one month period to look at real-time needs. This allowed Grundfos to plot the weekly load profile (see graph) and match it to a solution that would deliver optimal efficiency.

The results showed that a demand of 240m³/h was only required very occasionally. Therefore to replace the existing pumps with others that delivered the same peak flow requirement 24/7 would be a huge waste of energy. Instead, simply by installing a Grundfos Hydro MPC

Reassess before you replace any pump(s) as the resultant savings would mean a return on investment of a much shorter period than you might think. ”

variable speed booster set, it was estimated that the company could reduce its energy bill from €40k pa to €17k pa ... a massive saving.

GRUNDFOS HYDRO MPC BOOSTER SETS

The reason this generation of booster products was chosen in this instance is because it offers a myriad of special features. These include a multi-pump controller and a user-friendly interface that has a range of unique features including an installation wizard which provides the user with a simple settings interface/guide.

The final booster selection for the project comprised four vertical multistage centrifugal pumps, complete with CRE64-4-2. The Grundfos CR pump range is renowned for its efficiency and reliability, and the extent and scope of the family makes it the ideal choice in virtually any industrial situation.

In this instance this set also benefitted from being delivered complete with a Modbus interface that enabled connectivity to the the company's existing building management system.

KEEPING UP THE PRESSURE

The set has now been up and running for some time and the energy results that are being realised are even greater than the original estimated €23Kpa saving and are in fact closer to €25K.

The company has been so pleased with the results that Grundfos are

continuing to work with them on a number of other energy saving projects.

With an outcome like this the message has got to be to reassess

before you replace any pump(s), as the resultant savings could mean a return on investment in a much shorter time period than you may have thought possible.

Before ...



The existing pump installation that Grundfos were called on to look at and replace.

... after



The final booster selection for this project comprised four Grundfos vertical multistage centrifugal pumps, complete with CRE64-4-2.

DOMESTIC BOILERS

THE MERITS OF MODERN BOILER TECHNOLOGY

We are living in an era dominated by the rapid advancement of technology. From smart phones and smart cars to social media and superfast broadband, the way we live is quickly evolving around us. The heating industry is changing too, and for most customers the products on the market now bear little resemblance to those purchased 10, or even five, years ago. This could cause some apprehension so here, **Vincent Broderick**,

Sales Director Potterton Myson Ireland, explains how installers can encourage consumers to embrace the revolution.



It's fair to say that the heating market has truly evolved over the last decade. Increased political discussion about climate change and carbon emissions has led to the introduction of new legislation to reduce the impact that boilers have on the environment. For manufacturers, regulatory change has been the impetus for more intense research and development to bring to market ever-more efficient ways of heating peoples' homes.

Most people are already comfortable with purchasing a high efficiency boiler (HE), particularly when you consider that high efficiency boilers are more fuel-efficient and therefore cheaper to run and better for the environment. It is important that, as an industry, we continue to build on this knowledge and the understanding gained of HE boilers within this period.

In fact, although most boilers are already around 90% efficient, manufacturers are continuing to push the boundaries of what can be achieved by looking at every aspect of a heating system, and all its parts and components, to see how it can be made even more energy efficient.

Modulation is a key factor within this, as not only can it improve the efficiency of the boiler and therefore reduce the running costs, but can also decrease the wear and tear on the boiler components. Many high efficiency domestic boilers can now modulate their output to better meet a user's requirements without on/off cycling to a rate of at least 3:1, while advances in thermostatic radiator valves and smart controls also help to ensure heat is delivered only when needed. This too improves efficiencies.

With all this new technology on board there is often the misconception that there is more to go wrong on the heating system when, in actual fact, boilers are much more reliable and efficient than they used to be. Perhaps one of the biggest pressures on home heating systems is in fact the increased demand placed upon them.

This is an important message for installers and consumers alike. While heating and hot water are clearly the priority, in order to generate the required output the system in place must be capable of meeting the home's needs. Therefore, it is essential to understand the home's hot water requirements, and to measure the required kW of every room, so that radiators and the boiler are sized correctly.

An oversized boiler will not perform as efficiently as it should and likewise, an undersized system will have to work extremely hard but will not be able to meet the needs of the home.

We know what comes first ...

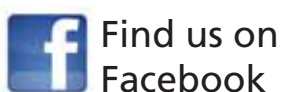


At *Building Services News* we know what comes first ... it is the product and/or system you have designed and developed for the building services sector. However, having done so, you now need to convey its benefits and areas of application to the key decision-makers in the marketplace. That's where *Building Services News* comes in ... whether the egg or the chicken came first is immaterial, it's what comes home to roost that matters.

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CIBSE accredited CPD course now available

Riello now offers a CPD course covering the key areas of burner specification.

To register your interest in attending one of our courses, please e-mail us on cpd@rielloburners.co.uk or visit www.rielloburners.co.uk/cpd



Getting the basics right will not only improve the long-term effectiveness of the system, but also decrease the chances of a breakdown. For example, when replacing an old heating system it is absolutely essential to carry out a flush and clean. The system will need to be properly flushed through with the addition of a cleanser in line with British Standard 7593. Although the process can take up to a day, it will prove hugely beneficial for the homeowner, as the removal of any sludge and debris enables the new boiler to perform to its maximum energy efficiency potential. Highlighting the lasting efficiency benefits of a clean system is important when explaining the extra day's labour to the customer.

To improve the efficiency of systems further, installers can also recommend a passive flue gas heat recovery device (PFGHRD). A gas saver can be installed between the boiler and the flue in order to recover unused heat from the flue gases that would normally be wasted. The recycled heat is used to pre-heat water coming into the boiler from the cold mains supply, making it a highly energy efficient addition to a heating system.

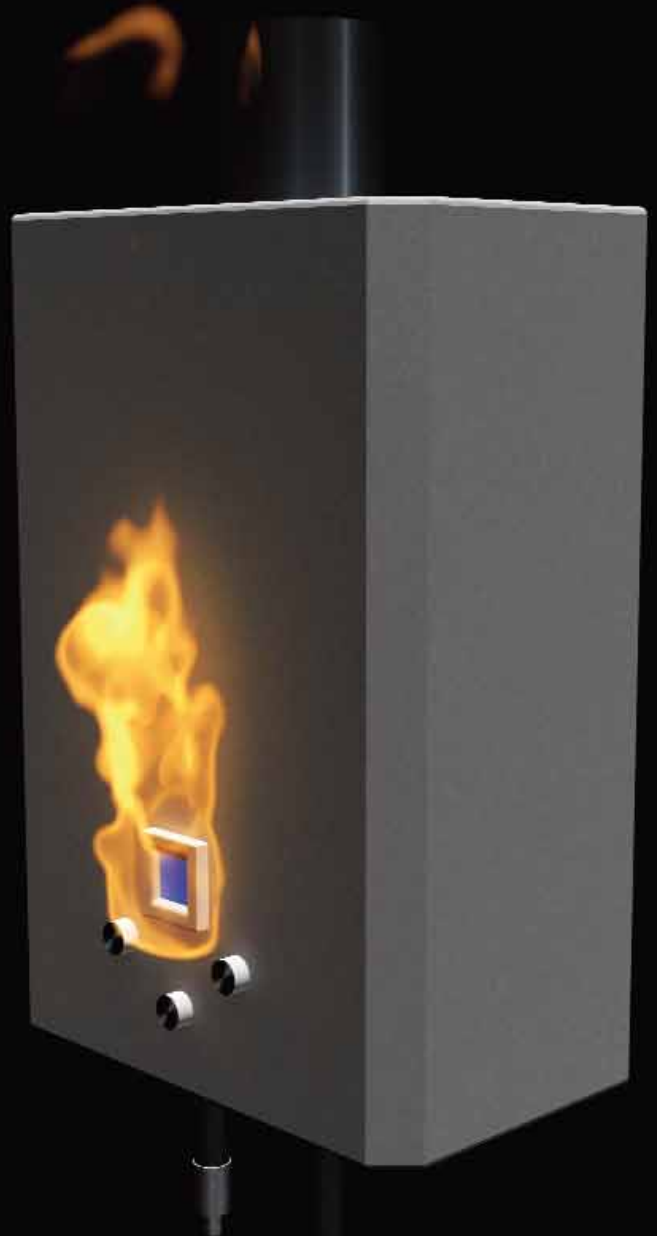
For manufacturers, regulatory change has been the impetus for more intense research and development to bring to market ever-more efficient ways of heating peoples' homes ”

While ensuring the basics are right, boiler manufacturers have been significantly influenced by the so-called Information Age. Current figures suggest that, since 2010, a quarter of the world's population now uses the internet, and more than two thirds have a mobile phone. As a result of this change, more and more consumers are demanding more from the technology within their homes, and that includes boiler technology.

On-board computers not only improve boiler performance and allow users to better customise heat and hot water delivery to suit their lifestyle, they also assist in fault diagnosis. Most problems with a modern boiler can be quickly identified and fixed by an engineer, thanks to the evolution of boiler technology. This keeps downtime to a minimum as it helps predict and diagnose faults before an engineer has even arrived on site.

If installers have a customer who is still unconvinced about the merits of modern boilers, then it may provide some peace of mind that many manufacturers now offer free extended warranties. Some even offer up to 10 years warranty, with parts and labour included.

High tech doesn't have to mean high maintenance. Modern boilers are extremely energy efficient, reliable and better able to match output to demand so homeowners have a constant supply of heating and hot water to better suit their needs. ■



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Climapac
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Single & Twin Wall
Flue Systems



Multi & Gas Flex

Contact us today for expert advice and for your
FREE SITE SURVEY

Oiling the wheels of carbon reduction



Wider use of heating oils containing bio fuels has the potential to achieve significant carbon reduction while also reducing dependency on fossil fuels. *Bernard Dawson, Technical Director of Riello, explains the key factors that should be considered.*

With the requirement for building operators to increase the renewable element of their energy mix there is growing interest in the adoption of bio fuels for use with oil or dual fuel boilers. In parallel, heating oils containing varying proportions of fatty acid methyl ester (FAME) are becoming more readily available. The make-up of these heating oils is indicated with a B followed by a figure denoting the percentage of FAME – B7 oil contains 7% FAME, B30 oil contains 30% FAME etc.

Switching to a bio oil blend has clear environmental benefits and helps to reduce carbon footprint, but there are a number of factors to take into account before making such a move. This is because the introduction

of FAME alters the properties of the oil, so it is very important to assess the heating system in relation to the oil that is being considered.

The obvious starting point is the burner and the fuel supply to it. Many existing and previously-installed burners and hydraulic components may not have been designed to use fuels that incorporate FAME. This could affect warranties if unsuitable components are impacted by the new fuel, and could also result in equipment failure and fuel leakage.

Therefore it is important to ensure that the burner will be compatible with the type of oil being considered (e.g., B7, B30). If not, it may be possible to retrofit a bio fuel kit to ensure that the burner, hydraulic circuit and oil lines are bio fuel compatible. Alternatively, it may be

more cost-effective to replace the burner. For instance, the latest burners being introduced to the market are B30-compatible, enabling the use of a higher proportion of renewable FAME and thereby delivering greater carbon reductions.

A further recommendation is to inspect the in-line and burner oil pump filters and, if required, replace them at least every four months during initial burner use when bio oil has been included. Particular attention is needed when inspecting and checking for fuel leakages from seals, gaskets and hoses.

It is also advisable to install a good-quality bio compatible oil filter at the tank, plus a secondary filter, to protect the burner pump and nozzle from contamination. The filtration must be in line with the technical manual supplied with the burner or appliance.

Storage considerations

If an existing oil storage tank is to be used then, in addition to the materials checks mentioned above, the tank must be inspected for condition and checked for water or other contamination. It is very important that the tank is cleaned and oil filters replaced prior to bio fuel delivery. If this work is not carried out then the hygroscopic nature of bio oil will result in dirt and water from the tank being absorbed into the oil. This may lead to equipment failure that is not covered by the manufacturer's warranty.

In addition, where a bio oil is likely to remain static in the tank for some considerable time, the oil distributor should be consulted regarding the appropriate use of additives to prevent microbial growth in the tank.

All of these points assume that a decision has been made to explore the possibilities of switching to heating oils with FAME. It is equally important to double-check with the oil supplier whether they are supplying oils that contain FAME without the end user being aware of it. If they are, appropriate steps will need to be taken.

Looking ahead, we can expect to see the inclusion of FAME in heating oils becoming the norm, so this is an area that building services engineers will need to address in the near future. The environmental benefits and potential reductions in carbon tax payments mean that this should be viewed as a step in the right direction. ■

Baxi Potterton Myson portfolio additions

Latest addition to the Baxi Potterton Myson portfolio on the commercial front is the advanced Sirius Two WH range while, on the domestic front, Heatrae Sadia's established Amptec domestic electric wet central heating boiler is now coming into its own.

The marketplace is re-discovering the values of Amptec for small properties, especially in the retrofit sector (rental as well as Nama "finish-outs") where issues such as flueing in high-rise properties make it difficult to use individual boilers.

Electric heating remains ideal for all applications where mains gas isn't available, or isn't a practical option due to installation issues. This applies to both rural non-mains-gas applications and in urban multi-storey flats and apartments.

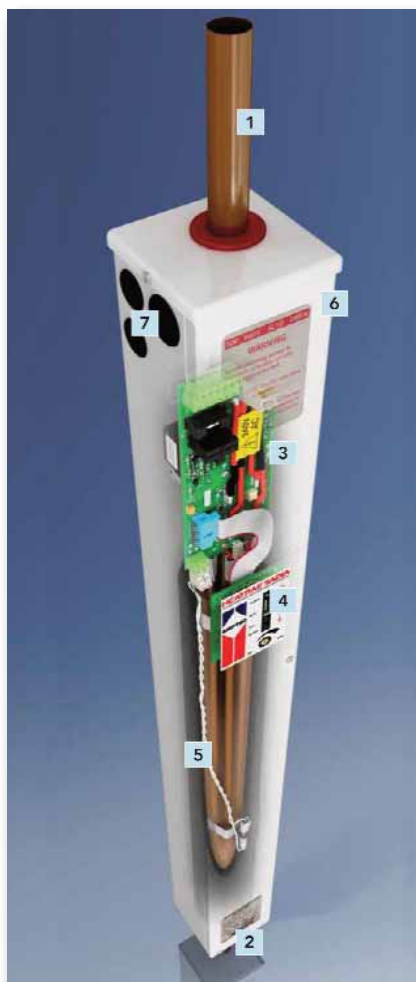
Compared to mains gas there are generally few restrictions on the supply of electricity, and there are no flueing, condensate drainage or plumbing issues to consider either. In addition, electric heating offers simple maintenance.

The introduction of electric wet central heating flow boilers in particular really revolutionised the electric heating sector.

Their real strength is that they work in a similar way to gas-fired boilers, which are of course very controllable. The Amptec boiler from Baxi Potterton Myson modulates in the same way as a gas boiler, thereby improving running efficiency.

Used in conjunction with conventional wet radiator or underfloor heating systems, Amptec compact wall-hung boilers provide central heating on demand and are controlled and operated by a programmer and thermostat. They also offer 99.8% efficiency.

While there are low-cost electric boilers on the market, they will quickly prove to be a false economy, as after just a few years they will either need to be repaired or replaced.



Amptec electric flow boiler provides efficient electric wet central heating with the high levels of comfort and control usually only found in gas-powered systems. Features include: 1. 22mm copper connection (flow); 2. 22mm copper connection (return); 3. Solid state electronics; 4. Control panel; 5. Long life elements; 6. Compact, painted steel outer case.; 7. Entry ports for power and control.

To ensure that Amptec had a long operational life several key features were designed into the product. For example, solid state technology is used for the switching of the heating elements. This ensures a much longer switching life compared to what is achievable using conventional electro-mechanical devices. It also means precise control over the exact moment of switching, thereby eliminating electrical switching surges.

The heating elements used in Amptec are designed to run at low Watts density, which is essential to prolong the boiler's life, and Amptec uses copper sheathed elements as they last longer than other materials in this particular application.

Electric wet central heating boilers are flexible, controllable and simple and cost-effective to install, as well as having low maintenance requirements.

Potterton Commercial

Latest addition to the Potterton Commercial range is Sirius Two WH, an advanced condensing wall-hung boiler based on the successful Sirius WH model. Most notable features are improved boiler efficiencies and reduced carbon emissions, resulting from advanced boiler controls and a market-leading modulation range now operating at an impressive 9:1 ratio.

The new compact dimensions, giving a reduction in height and depth as well as in case width (from 600mm to 450mm), have resulted in a range of significantly smaller appliances that are lighter, by 25kg for some models, and therefore easier to transport and install.

Offering thermal outputs from 50kW to 110kW, the Sirius Two WH has an efficiency rating of 94% gross $\Delta T50^{\circ}\text{C}$. An outside weather sensor, supplied as standard in every boiler in compliance with Building Regulations Part L2, (current version), further increases heating efficiencies.

The latest Siemens controls facilitate flexibility of boiler operation and plant room application.

For more information on the complete range of domestic and commercial boilers please contact: Baxi Potterton Myson.

Tel: 01 – 459 0870;

email: sales@potterton-myson.ie;

www.potterton-myson.ie ■

Recent additions to Powrmatic's range of commercial and industrial heating products include the Ferroli Econcept and Ferroli Energy Top condensing boilers. Both ranges are 4-star energy efficiency rated and meet Class 5 emissions to EN 297/A5.



Powrmatic introduces condensing boilers to heating range



The Econcept is a wall-mounted modulating condensing boiler that delivers a net efficiency of up to 109% with very low NOx (<35mg/kWh) emissions. Models in the range can deliver capacities from 11.2kW to 97.6kW and can be used in cascades of up to five boilers to meet higher heating loads. High efficiency fin and tube aluminium heat exchangers ensure effective condensation for optimum energy performance.

Energy Top boilers are available in wall-mounted and floor-standing versions and are ideal for heating-only applications. Two heat outputs are available – 75kW and 116kW – and these can be operated in single or twin configuration. The pre-mix burner enables modulation down to 11% of output, with net efficiencies exceeding 107% thanks to the high efficiency spiral corrugated pipe heat exchanger.

Both models are suitable for use with natural gas or LPG and are available with onboard controls for enhanced performance and energy management (see www.powrmatic.ie).

Contact: Tony Delaney, Powrmatic Ireland. Tel: 01 - 452 1533; email: tonydelaney@powrmaticireland.com

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SDAR AWARDS 2014

Entry Deadline 16 December 2013

THE SDAR AWARDS are annual applied research events promoted jointly by CIBSE and DIT. They are supported by *Building Services News*, and sponsored by John Sisk & Son.

SDAR stands for Sustainable Design & Applied Research and it applies to engineering of the built environment. The SDAR Awards are different to other competitions in that they are intended to encourage applied research, disseminate knowledge gained from this research, and raise the level and quality of innovation in projects.

Entries for the SDAR Awards are

required to critically evaluate real-life data, and to examine both successes and challenges within leading-edge projects throughout Ireland or further afield.

Collaborations between industry and academia allow the building services profession to develop and underpin leading-edge work with evaluation, thus creating a platform for the growth of innovative technologies in the green economy.

Post-occupancy evaluations and similar critical appraisal of projects facilitates the transition from ideologically-driven innovations, sometimes offering poor value, to evidence-based applied research that proves value or identifies weaknesses. These successes and failures help inform the professional community.

Short abstracts (or ideas of about 100 words) for entry into the SDAR Awards 2014 must be submitted by **Monday, 16 December 2013**, by email directly to Michael McDonald and/or Kevin Kelly of DIT at michael.mcdonald@dit.ie and kevin.kelly@dit.ie

From the abstracts submitted, a shortlist will be selected by peer review, and those selected will be invited to prepare final papers by Monday, 13 January 2014. The final will take place in early March 2014 in DIT, Kevin Street.

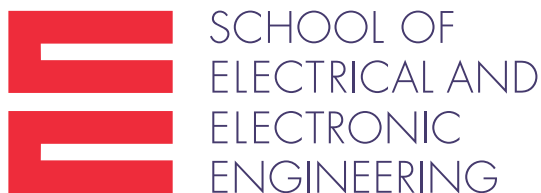
Published research papers by winners of the SDAR Awards may also feature in the *SDAR Journal* – <http://arrow.dit.ie/sdar/>

For further information contact: michael.mcdonald@dit.ie or kevin.kelly@dit.ie

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School of Electrical and Electronic Engineering at the Dublin Institute of Technology

The School of Electrical and Electronic Engineering (SEEE) at the Dublin Institute of Technology is the largest education provider in the electrical and electronic engineering space in Ireland in terms of programme diversity (apprentice to PhD), staff and student numbers. Based in Dublin city centre (Kevin Street) and established since 1887, the school prides itself in providing practice-based and professionally-accredited programmes.

The school currently delivers programmes to over 1200 students and, along with a number of well-established research centres in areas such as photonics, energy, antennas, communications and electrical power, it also has a broad range of research outputs in areas such as biomedical engineering, audio engineering, sustainable design and assistive technology and health informatics.

After the recent merger of the School of Electronic and Communications Engineering and the School of Electrical Services Systems (as part of a larger scale college restructuring), Head of School Professor Gerald Farrell will

now lead SEEE into the future as a key contributor to the electrical and electronic engineering sector in Ireland.

Engineering education

Professor Farrell believes "that engineers of the future will have to be 'T-shaped' thinkers, that is deep in one field but also able to work across a wide range of fields. Career paths have become less linear and the days of specialising in one field only are gone". This November, Professor Farrell will congratulate over 350 graduates from the school as they receive their qualifications in programmes such as electrical and electronic engineering,

energy management, electronics and communications, networking technologies, electrical and power engineering and computer and communications engineering. He is also very aware that as these graduates begin their careers that new professions are emerging all the time and by the time the current first year students graduate, their employability skills must be compatible with the new demands of industry.

Professor Farrell states: "Engineering is vital to a successful and sustainable industry base in Ireland. Furthermore, so much rests on the shoulders of these future generations of engineers that we must give them the best possible foundation to their professional lives. To do this, engineering programmes must keep pace with the changing requirements of industry, with the responsibility lying in the hands of industry and colleges where strong collaboration is needed".

Renewable energy, sustainability, low carbon technologies and energy management are just some of these new emerging professions. For professionals to gain a qualification in these areas graduates are returning to college to complete their masters to broaden their skill set. One of the most popular postgraduate programmes in DIT is

the MSc in Energy Management provided by the School of Electrical and Electronic Engineering. This programme caters for graduates and professionals with an engineering or energy related science background who wish to pursue management level careers in the energy businesses.

This MSc combines energy technology with MBA-level business modules to deal with energy issues all the way to board room level. Graduates of this programme find

With over 200 delegates from more than 30 countries in attendance, Dr Michael Conlon from SEEE led this event and acted as conference chair. This conference provided a major international forum for the presentation, discussion and exchange of information and research outputs concerning new trends in electrical power engineering. It was co-hosted

by the DIT Electrical Power Research Centre (EPRC) and the Dublin Energy Lab (DEL) at DIT.

The new school is embarking on a process of strategic planning over the coming months aimed at strengthening its position as a recognised premier provider in undergraduate and postgraduate education in the electrical and electronic engineering fields, while continuing to excel nationally and internationally in selected research areas and



themselves working in management positions in every area of energy. The major sectors are energy supply (electricity and gas), facilities energy management, sustainable building design, energy consultancy and renewables. Graduates are currently working in companies such as ESB, Board Gais, Eirgrid, Dalkia, SEAI and many other major players in Irish energy.

The programme is available on a part-time or full-time basis and it is accredited by the Energy Institute as a partial requirement for C Eng status. It is aimed at the green economy where a shortage of skills and qualifications has been identified. This programme is supported by a range of sophisticated research facilities e.g., a rooftop installation with a wide variety of green energy experimental setups, including PV and wind energy equipment.

The school is just catching its breath after hosting the 48th International Universities' Power Engineering Conference (UPEC 2013).

by building stronger collaborations with industry partners.

For more information on SEEE and the programmes provided contact:
Tel: 01 - 402 4575/4550
email: kevin.gaughan@dit.ie

The MSc in Energy Management covers energy supply, facilities energy management, sustainable building design, energy consultancy and renewables.

Student testimonials

(MSc in Energy Management – DT711 or DT015)

"The MSc in Energy Management course has had a direct beneficial influence on my career development. I have been able to associate the learning received during the course to real-life projects and, as a result of the technical, financial and business knowledge gained during the course, I am confident I will be able to affect a positive change on Ireland's energy sector in the future."

John Kane, Senior Energy Manager, Dalkia Ireland

"I was working in the energy industry for over eight years when I started my MSc in Energy Management at DIT. With a primary degree in mechanical engineering I saw in this masters course an opportunity to broaden my technical and managerial skills to progress my career in the energy industry. The MSc provided me with new technical and managerial skills, and also a very complete view of all sectors in the energy industry."

John Crowley, SSE Renewables, formerly Airtricity

CIBSE ANNUAL GOLF OUTING

CIBSE Castleknock scramble fun day for all

A total of 21 teams participated in the recent CIBSE Annual Golf Outing held in Castleknock Golf & Country Club and CIBSE – especially the organising committee – wishes to thank them for their support and enthusiasm for the event.



The weather on the day was fairly good for golf with a wind that added an extra challenge to some of the holes. Most important, all the teams managed to make it back to the clubhouse dry. The course was in excellent condition, which is a credit to the ground staff at the club, and a particular word of thanks goes to the club's Marcus Doyle who did his absolute best to ensure that the event was very much a success.

Special thanks also to Sean Lillis of Lillis O'Donnell Motors who put up the Ford Mondeo for a hole-in-one on the 18th green. Unfortunately, rather than an incentive, this seems to have been a distraction to all the golfers, resulting in no winner of the competition. Thanks also to Sean Dowd, Declan Kissane and Adam Byrne for their assistance on the day, and for their help in the weeks leading up to the event.

The competition format this year was a scramble using the better ball throughout and working off 1/10th



Sean Dowd, CIBSE Ireland Chairman (centre) with Cormac Nevin, Gerard O'Callaghan, Billy Laun and Andy Campbell from the Hauser Refrigeration team which claimed first prize on the day and received the PJ Doyle Trophy.



Results

Winners: Hauser Refrigeration (net score 55.6 – count back)

Second: Daikin Ireland (net score 55.6)

Third: Jones Engineering (net score 55.8)

Fourth: Jones Engineering (net score 56.5)

Nearest the pin: Barry Sullivan

Longest Drive: Darryl Litton

Inside the Pro: Billy Laun, Darryl Litton and Keith Grange

combined handicap. This format proved very successful and ensured even occasional golfers could enjoy the day without pressure. It also ensured no delays with most teams playing for only four hours. As always, the PJ Doyle trophy was the prize presented to the overall winning team.

Thanks to excellent support from sponsors there were plenty of side competitions for the players. These included:

- Car prize for a hole-in-one on the 18th
- Inside the Pro on the 18th Green
- Nearest the Pin on the 9th
- Longest Drive on the 14th

The full list of sponsors were Aspect Environmental, Daikin, Dowd Energy, Firebird Boilers, Hevac, Heatmerchants, Jones Engineering, Joule, Killarney Plastics, Lillis O'Donnell Motors and Unitherm.

The competition format ensured all the scores were very close and so a count back was required to determine the winning team with the PJ Doyle Trophy going to Hauser Refrigeration.

The presentation of prizes by the CIBSE Ireland Chairman Sean Dowd took place after an excellent and well-attended dinner. ■



Colin Murphy, Derek Elton, Marc Hollingsworth and Tony Cusack.



The third placed Jones Engineering team of Jerry Healy, Michael Kinsella, Darryl Litton and Peter Ennis pictured with Sean Dowd, CIBSE Ireland Chairman (second right).



Brian Harrison, Grunfos with James Maher, Synergie and Liam McDermott, Grunfos.



back issues

Best place to be Friday, 6 December

The **CIBSE Ireland Annual Lunch** will take place in the Alexander Hotel, Fenian St, Dublin on Friday, 6 December next. This event is now the biggest single gathering of building services industry representatives and is the ideal networking opportunity for all involved in the sector.

Attendees can also renew old friendships, and forge some new ones. The guest speaker this year is Conleth O'Flynn, yet another DIT Bolton St graduate who has carved out a career in the US.

Conleth is Vice-President of Abbood Holloran Associates (AHA) and is responsible for the management and supervision of the Atlanta Division of AHA, specialising in the design of building mechanical, electrical, plumbing and fire-protection systems.

Proceedings kick-off at 12pm and conclude (if you wish) at 2.30pm. Cost per person is €50.

The capacity attendance means early booking is essential. Log on to www.cibseireland.org now and follow the links to guarantee your place(s).



Ecological Christmas partying

With the **Christmas** party season just about to kick off, what an excellent example Club 4 Climate in London is setting. This establishment draws 60% of its power from dancing, through springs in the dance floor that are connected to blocks of piezoelectric crystals.

Not content with generating energy savings for itself, Club 4 Climate actively promotes the whole concept of sustainability. It offers free passes as a way of getting the word out to as many people as possible, and encourages guests to be environmentally friendly when traveling to and from the club.

Party-goers that walk to the club can avoid the door charge and get in for free, and those that live further away also get in free if they can show that they travelled to the club by bicycle or public transport.

In addition, recycled water is used to flush toilets in the club's bathrooms, and drinks are served in polycarbonate cups.

With a venue like Club 4 Climate, it would be downright irresponsible not to party the night away as often as you could.



Solar window charger

This **unique charger** uses a solar cell design that charges its internal 1800mAh lithium ion battery which can then be transferred to mini USB devices such as iPods and phones.



What makes the Solar Wind Charger any different to others on the market? Apparently, Netherlands design firm, Xiandao, took a different approach to this charger with its vacuum adhesive rubber material, allowing it to cling to glass surfaces while providing enough light indoors. This means that it is suitable for the car, home, or even outdoors.

Vinny in the pink!

Had **afternoon tea** with Vincent Mahony recently. As you can see, he did mammy. Was a little unnerved by the pink floral mug but, when I saw him pick up the pink/blue cosy-wrapped teapot, I decided this moment must be shared with everyone. Sorry Vincent.



What R U doing in 2014?

We are now preparing the *Building Services News Wall Planner 2014*. If you want an event listed please email details to pat@pressline.ie by Friday, 15 November 2013.



Promax HE



Rely on Potterton for energy efficiency

Global warming and climate change is an issue that Potterton is actively working to combat. In line with increasingly tough environmental standards we have developed the Promax HE range of boilers to minimise the impact that heating has on the environment.

Potterton Myson (Ireland) Ltd.
 (A member of BDR Thermea Group)
 7 Whitestown Business Park,
 Tallaght, Dublin 24
 Phone: 01 459 0870
 Fax: 01 459 0880
 Email: post@potterton-myson.ie
 Web: www.potterton-myson.ie

Up to 19% more heat from the same amount of fuel

Your customers will benefit from greater energy efficiency through lower fuel bills. Indeed, our Promax HE range produces up to 19% more heat from the same amount of fuel that a conventional boiler would use.

In addition the Promax HE range has achieved SEDBUK Band A efficiency. Furthermore, it's easy to install and service as well as being compatible with a variety of fluing options and accessories.

Now available with 5 Year Warranty



This offer is available until further notice

The extended warranty offer is available across the Promax HE range and is for RGII installers only. Appliances can be registered online by joining the Works installer loyalty programme at www.works2gether.ie

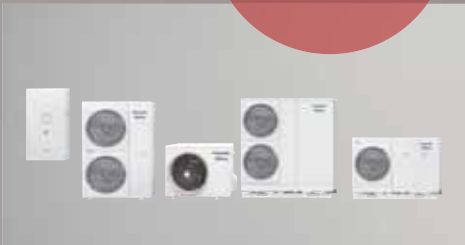
The Works programme is available FREE to all RGII installers and offers business points in exchange for purchases of BDR Thermea brands such as Baxi, Potterton, Heatrae or Santon. These points can be exchanged for gifts from Argos shops nationwide.

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FOR REAL SAVINGS AT HOME, CHOOSE THE AQUAREA HEATING SYSTEM



5 COP
HIGH EFFICIENCY



Panasonic's Aquarea range of heat pumps delivers major energy and environmental savings thanks to its incredible efficiency

Aquarea is part of a new generation of heating systems that use a renewable, free energy source (the air) to heat or cool the home and to produce hot water:

- Extremely high efficiency (COP of 5.00 for 3kW unit)
- Line up developed for low consumption homes (starting at 3kW)
- Line up developed for retrofit with dedicated control system
- Easy to control with your smart phone (Using an optional interface)
- Large range of efficient tanks for domestic hot water storage
- Optional Aquarea Air radiator offering up to 32% energy saving over standard radiators

ENERGY SAVING

High efficiency heating INVERTER+	Environmentally friendly refrigerant R410A	Down to -20 °C in heating mode OUTDOOR TEMPERATURE
---------------------------------------------	------------------------------------------------------	--------------------------------------------------------------

HIGH CONNECTIVITY

Boiler connection RETROFIT	Solar panels connection SOLAR KIT	Domestic hot water DHW
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Internet Control Ready

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INTERNET CONTROL



AQUAREA