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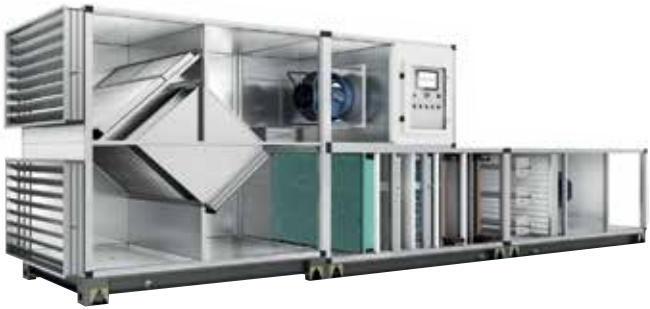
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INDUSTRY

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KEY PERSPECTIVES ON THE REGION'S HVACR INDUSTRY

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KEY PERSPECTIVES ON THE REGION'S HVACR INDUSTRY

July 2021

INTERVIEWS:

ATEF MOHAMED AWADH ALBREIKI
SVP of Operations,
Tabreed

JANET ROGAN
COP26 Regional
Ambassador for MENA
Region

AMIRUDDIN THANAWALLA
MD, Prime Focus Group

**LICENCE
TO CHILL**

CHW VS VRF

Dan Mizesko, US
Chiller Services

**POST
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REPORT**

Digitalisation
and cold chain

HR in HVACR

Longstanding issues that
need a look-in

PERSPECTIVES:

DIPEN PATEL
Ziehl Abegg, on
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DUNCAN CURD
DriSteem, on the role
of humidification in
fighting influenza A



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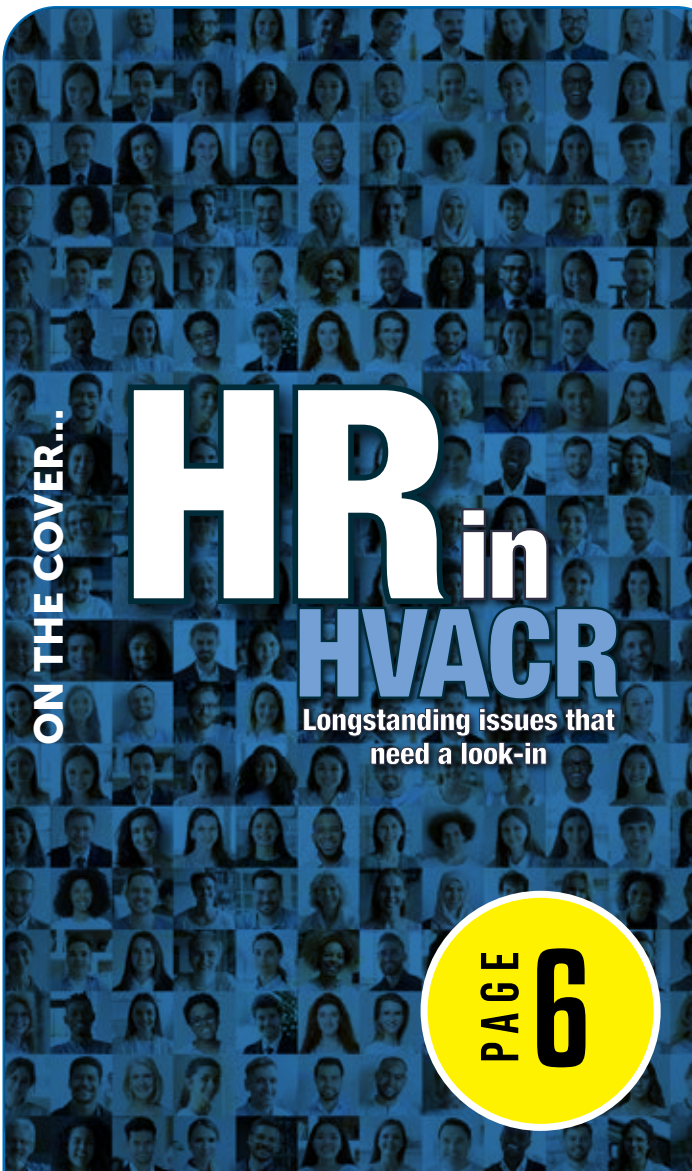


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Surendar Balakrishnan
Editor
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Musings of a manufacturer

A few days ago, I had the opportunity of interacting with Amiruddin Thanawalla, the Managing Director of Dubai-headquartered Prime Focus Group, which as you probably would know manufactures air side equipment. (Before I go any further, this is not intended to be a plug for the company but merely an expression of what's going on in the mind of a manufacturer – it could be anyone in the vast GCC region universe, and Thanawalla is a representative.)

While he described his company in great detail, he also spoke about general market issues bothering him – some pandemic-induced, some long-standing.

He spoke with palpable pain of how he used to operate two shifts and how the virus had shrunk the daily schedule to one shift with overtime. Despite that, he said, the company was holding strong, banking on its conservative approach to doing business (see interview on page 32).

The stand-out segments in the chat I had with him were his observations on how the market had evolved in the 21st century. He spoke of disruption, of how extremely small, hurriedly constituted, business-at-any-cost manufacturers were disturbing a delicate balance and affecting the playing field. He said he was waiting for consolidation to happen, so that mid- and large-scale players in the organised sector could continue responsible manufacturing and distribution practices, keeping in mind energy efficiency, thermal comfort, air quality and safety.

Thanawalla spoke with equal passion about introducing more structure to enable business growth. Praising the UAE government for its business-enabling measures and system of quick decision-making, he said he wanted the country's leadership to give a further boost to the marketplace, especially the SME sector. He said the UAE had done a commendable job at marketing the country of origin, which was of great help to manufacturers in the country. Along with that, he said, it would be fantastic if the UAE further strengthened the hands of exporters by tweaking the regimen of port charges – especially introducing a system where the cost of unloading a container would be higher than loading it, which would help from an export point of view.

He also highlighted the need for a GCC-region-wide system of documentation containing uniform language on identification of goods. Such uniformity – perhaps something akin to the EU model of trade without borders – he said, would help business processes, considering that many of the goods exiting the UAE go to Saudi Arabia and Oman, among others.

Hope you enjoy the detailed interview and the other articles carefully compiled for you in this issue.

climate control MIDDLE EAST
KEY PERSPECTIVES ON THE REGION'S HVACR INDUSTRY

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Printed by:
Jaguar Printing Press LLC

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Purwanti Alissa Paillé

Editor's note

This article is based on notes gathered from a webinar Eurovent Middle East conducted on the topic, 'Hiring New Talent – HR in HVACR', on June 24. Markus Lattner, Managing Director, Eurovent Middle East and Nerissa Deoraj, Executive Director, Eurovent Middle East, moderated the event. Supported by *Climate Control Middle East* magazine and careersbay.com, the event, in panel discussion format, saw participation from Roudha Bin Bahr, Commissioning Engineer, Petrofac; Purwanti Alissa Paillé, CEO, careersbay.com; Nodirjon Rasulov, Business Development Manager, Camfil Middle East; and Naveen Sivakumar, Head of Marketing and Business Development (Turkey, Middle East and Africa), Danfoss.

IT'S ABOUT THE PEOPLE

While it is agreed that the HVACR industry attends to mission-critical needs of society, why is it lagging behind in attracting talent? And why is it falling short in typical HR-related KPIs? Surendar Balakrishnan of *Climate Control Middle East* has the story...

Naveen Sivakumar, Head of Marketing and Business Development (Turkey, Middle East and Africa), Danfoss, vividly remembers his engineering college days. He speaks of how when in college, he hardly heard anyone talk about HVAC as a career.

"They were talking of Outer Space, of how to build a rocket," he says. "They were talking about automobile engineering." And that's where it stopped.

There is consensus that the HVACR industry is allied to efforts at meeting socio-economic and sustainable

development targets – including good health, wellbeing, resilience of mission-critical IT and industrial processes, food safety and food security – and yet it finds itself confronting the conundrum of not doing enough to attract and nurture the people that propel it forward – the vast pool of sales engineers, design engineers, on site engineers and technicians, to name a few areas of specialisation.

There could be multiple reasons for this, Sivakumar says. The HVACR industry, he says, works behind the scenes. "We are behind the ceilings, on the rooftops," he says. "So, the exposure is missing in colleges. It is an industry that is taken for granted. We set the thermostat, and that is it."

Nodirjon Rasulov, Business Development Manager, Camfil Middle East, seconds Sivakumar's views. Human psychology is that invisible is indispensable, he points out. When we talk about indoor air quality, it is only about temperature – plus or minus, he says.

Rasulov says the solution is to take the industry to the students. During his college days, he says, he had never been given the chance to study the industry. In

that context, he says, the solution would be an education campaign targeting not only engineering students but all students in schools and universities, so people develop a feeling to be part of this industry.

Roudha Bin Bahr, Commissioning Engineer, Petrofac, perhaps would intimately know and understand what it means to be part of the education system, only relatively recently having graduated from university with a degree in chemical engineering. Recounting her university days, she speaks of how the cooling and refrigeration cycle was only 10% of her studies. "Whenever we were talking of careers," she says, "we were always thinking of oil & gas."

Bin Bahr recently conducted an informal survey on careers in HVACR, on social media. The outcome was quite revealing, she says. To a question, 'If you get an offer, will you go into the HVACR industry?', nearly 90% said, 'yes', she shares. To a follow up question asking to choose between oil & gas and HVAC, Bin Bahr says, 64% opted for oil & gas and 36% for HVAC. The most interesting



feature of the survey, she says, was that of the 36%, almost 90% were students that had participated in competitions sponsored by Danfoss. "So, they were exposed to the industry," she says. "So, it is only about exposure and availability of companies to go into."

Bin Bahr says she herself benefitted from internships with Danfoss and SKM. The two companies, she says, gave her exposure to the HVACR industry and added a lot to her engineering-related understanding. "We have more companies in the region that can get more involved in the education part," she says.

Speaking of Danfoss' involvement, Sivakumar says the company talks to

universities and donates laboratory equipment. That way, students are exposed to HVACR, he says, adding that once exposed, they love the industry.

GAP IN KNOWLEDGE

While exposure is welcome, there is a certain gap in knowledge between what is taught in universities and the expectations of 'the real world'. Rasulov speaks of the gap being substantial in size. "In Camfil, we do lot of training at some universities here," he says. "We discover that air filtration is not covered. They are spending only 10-15 minutes on air filtration. But, when we talk to them on voluntary basis, they welcome it." ▶



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Bin Bahr feels the problem is deep-rooted. The university curricula is not changing, she says. So, it is essential these companies provide that knowledge. “I know the university is dedicated,” she says, “but inputs from companies is more than what the university is adding.”

Bin Bahr would like the government to get involved in ensuring the gap is narrowed. She speaks of how she wanted to get some more training on the vocational side but how she could not find anything. “They are starting something now, but it has not yet been implemented,” she says. “They are adding vocational education side from Grade 11 in high school, so students will have experience and then go to universities. It is a collaboration between the UAE Ministry of Education and polytechnics.”

CAPACITY-BUILDING

HVACR companies admit that it is a challenge to get people with the right qualifications. Purwanti Alissa Paillé, Founder & CEO, careersbay.com, speaks of how companies are always looking for that extra edge in candidates, in terms of skill and knowledge. As a head-hunter, she says, as a first level of screening, she chooses candidates that apart from a good education have an extra diploma in air conditioning or refrigeration. “Such candidates,” she says, “will always have a better chance.”

Rasulov speaks of how Camfil is looking at a strong educational background – be it mechanical or electrical. He adds that it is not only intellectual but also emotional capabilities. He says it is as much the responsibility of HVACR companies to give training to people they hire. So, it is about selecting the right people and nurturing them, he says. That way, he adds, the candidate as well as the company will benefit.

Sivakumar also emphasises the value of in-house training. He says he has seen mechanical engineering students struggling with Building Management Systems (BMS) and that they develop a deeper understanding only after working on site. “So, our choice is training,” he says. “We choose the right people, and then we train them. We are choosing engineers, because you need the technical aptitude to learn. My recommendation is that whoever is the person, he should not stick to one but must adapt to electrical and electronics side, as

“If you are trying to hire a design engineer with five years of experience at AED 6,000, you are not going to get the right people. We have to note that 50-70% of the compressor mistakes are due to application mistakes at site

well. It is no longer just a mechanical job. We are moving to connectivity and smart systems to manage buildings.”

By way of elaborating, Sivakumar points to the example of South Africa, where students can learn from a simple system to a complicated CO₂ system in evening schools. The HVACR industry should pick a cue from the South African system and offer evening schools for technicians, he says. “People here, they get a job, because they know somebody, they agree to a low salary, and they learn on the job and get an intuitive understanding of how the system works,” he says. “They know the practical side, but if we tell them the theory, then we get an amazing technician.”

Bin Bahr vouches for the usefulness of training. She says she believes it would help if companies became involved in training their employees, and advocates for an inhouse graduate programme. “In Petrofac, we have a graduate programme,” she says. “Now, two years and six months after joining, I really see the benefit of getting training.”

REMUNERATION AND QUALITY

While HVACR companies need to look into training, the consensus is that they also need to pay close attention to how they remunerate their employees. A key point of consideration is the need to avoid disparities in pay.

There are multiple factors that determine the disparity. One such factor is the profile of work. Paillé points out to the big difference in pay between sales and technical jobs. A sales manager could draw AED 20,000-25,000 a month, whereas a technical person could earn a mere AED 5,000 a month, she says.

Sivakumar agrees there is a disparity in pay between salespeople and technicians but is quick to point out the need to make a distinction between a technician who services an air conditioning system

and one who installs a CO₂ or ammonia system, in which case the latter draws a good salary. Largely speaking, though, Sivakumar echoes Paillé words. He points to the specific instance of a top technical person – someone he calls one of the best – who was disappointed with the salary he was drawing and his workload. The person in question, reasoning that he could double his salary by moving into sales, decided to make the switch. While he was selected for the role, it soon became obvious he was not a great sales guy. “We lost a great technician to a mediocre sales guy,” Naveen says in a wistful tone. “If you have knowhow of CO₂ and ammonia systems, you are in demand, but to reach to the salary is a journey, but people are losing their heart earlier.”

Another factor that determines disparity, Paillé says, has to do with the extras people bring to the job – or the lack of it. While the market is aflood with technicians, she says, companies often find it difficult to find the ones that meet their specific needs. They are looking for technicians with good skills and proficiency in language, she says. And if candidates have a driving licence, companies are willing to pay a good salary. “But for candidates that come here on visit, that’s the problem,” she says. “The time they have is most probably three months, and in that period, they are able to attend only few interviews, and they will take whatever they have. So they don’t have much of a choice.”

Yet another factor that determines disparity is nationality. “I think it is a clear disgrace,” Sivakumar says. The strategy of companies is to take people from developing countries, from Pakistan, India, The Philippines and Egypt, he says, adding that they bring the currency conversion factor into the decision-making. “It is probably a good salary there,” he says. “I have seen this happening here, and it is not fair. When

you look into an AC technician, the loser really is the industry. If you are trying to hire a design engineer with five years of experience at AED 6,000, you are not going to get the right people. We have to note that 50-70% of the compressor mistakes are due to application mistakes at site."

Sivakumar advocates a system of treating all technician jobs as the same. He points to the example of South Africa, where the authorities require technicians to hold a licence to take up a refrigeration assignment. "Here, in the region, all you need is a screwdriver," he says. "Where is the legislation supporting the system? It should start with legislation. It should start with certification of the technician. And if certified, the salary of the technician should be higher. And if it is a beautiful installation, the end user is satisfied. So it is a cycle."

Paillé says different companies have different policies and that she always encourages them to take a few candidates on board on an extra salary. "If you pay well, the employee is loyal," she says. "So I tell them if you pay AED 6,000, you will get a so-so candidate, but if you pay

an extra AED 3,000, you will get a better candidate."

GENDER EQUALITY

Equally as important as eliminating, or minimising, disparity in pay is proper gender representation at the workplace. Paillé says there is a distinct lack of women in senior positions. Bin Bahr says the issue of lack of gender parity can be addressed if companies would follow a system of attracting talent, no matter what. "I don't think it is about attracting women, but attracting talent," she says. "They (women) are coming and seeing that it is not impossible."

Rasulov believes the trend is changing, especially when companies take the initiative of addressing the issue in a forthright manner. He speaks of how Camfil has ensured to get a GE certification globally and that it is now looking to get the same certification for Middle East and Africa. As of now, he reveals, women make 40% of the Camfil workforce in the region.

Speaking of Danfoss, Naveen says

the company has set a target that 30% of its leadership positions should be women by 2025. "We have women in Danfoss at different levels, including sales and service, but unfortunately, the challenge we have seen in the Middle East is owing to an expat population," he says. In Turkey, the contrast could not be sharper, he says. He says that women in the workforce in Turkey have a support system when they are travelling or are delayed on site. "In the GCC region, that support is missing," he says. "Also, as an industry, we have to improve the image – that AC technicians are not always in overalls covered in grease and hard hats and that they are also in troubleshooting, involving controls [and remote monitoring]."

Speaking of the oil & gas industry, Bin Bahr says that women may not yet be on site on offshore plants, but they are certainly in high management places. She says women are getting opportunities. "If I want to do something, I will just go and ask," she says. "We now have the confidence to go forward." **ccme**



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DIGITAL IN EVERY ASPECT

That was the central message participants in the 10th edition of Food Chain conveyed to food establishments and other food industry stakeholders, amongst the audience.

Surendar Balakrishnan has the report...

The 10th edition of Food Chain (Middle East Cold Chain Food Safety Conference), on May 31 in Dubai, highlighted the possibility of enhancing food safety and food security through adopting digital solutions in every aspect of the food cold chain.

Endorsed by Dubai Municipality and chaired by Raja Subramanyam, Dubai-based independent cold chain consultant, the conference saw participation from government bodies, food establishments, refrigeration

equipment manufacturers and suppliers, digital solutions providers and senior consultants plying their specialised expertise in cold chain.

His Excellency Eng. Saif Mohamed AlShara, Assistant Undersecretary, Sustainable Communities Sector; Acting Assistant Undersecretary, Food Diversity Sector, UAE Ministry of Climate Change & Environment, delivered the Keynote Address. Characterising the conference as a “crucial event that comes at a time when the international community is

doubling its efforts in light of COVID-19 to ensure food security and sustainability, boost the flexibility and continuity of food supply chains, and improve food safety”, he said that enhancing food security, safety and sustainability is a strategic priority of the UAE.

AlShara said that for decades, the federal and local government authorities concerned have worked relentlessly to achieve the highest level of food safety to help safeguard public health, consolidate the country’s position as a pioneering

international hub for food trade, and boost consumer confidence through an integrated approach that primarily includes devising policies, legislation and systems that guarantee the supply and trade of safe and reliable food products; developing food inspection and monitoring systems; educating consumers about the importance of food safety; encouraging local entities working in agricultural production and food industries to upgrade the safety and quality of their products; and facilitating free trade in food commodities and raw materials – export, import and marketing – in line with applicable food safety regulations.

AlShara said that in order to streamline international food trade and diversify food import sources, the Ministry has rolled out multiple initiatives, including implementing a system for controlling and inspecting traded food and its establishments; promoting entrepreneurship in the import and re-export of agricultural products; adopting joint health protocols with countries that import food products to the UAE; establishing livestock quarantine facilities in exporting countries, in compliance with the standards and regulations set by the Ministry; and collaborating with internationally accredited laboratories to ensure the safety of inbound consignments.

AlShara said that the Ministry created the National Food Safety Committee, as part of its efforts to develop relevant work processes on the federal level. He said that it comprises representatives of the Ministry, strategic partners from the government and the United Arab Emirates University. The committee, he said, is responsible for devising unified nationwide food control and inspection regulations; assessing and managing risks related to imported foodstuffs and raw materials used in agricultural production and food industries; detecting foodborne diseases and food poisoning; and reporting, tracking and recalling food products that are hazardous to public health. The committee, he added, is developing an initiative to manage and tighten the controls on pesticide residue in food.

AlShara said the Ministry has also formed specialised committees, such as the National Committee for Meat Safety,

and a committee to review and regulate control processes for inbound food consignments. He said the Ministry's approach to control local food trade is in parallel with its measures to ensure the safety of imported foods, including monitoring the status of public and animal health around the world; joining the International Food Safety Authorities Network (INFOSAN), the EU Rapid Alert System for Food and Feed (EU-RASFF) and the Gulf Rapid Alert System for Food (GRASF); and imposing control measures in countries of origin through accrediting their slaughterhouses seeking to export meat products to the UAE. In addition, he said, local food control authorities inspect food imports upon arrival at the country's borders through verifying the documents accompanying inbound consignments, and conducting the necessary physical and laboratory tests on samples from the shipments.

AlShara said the COVID-19 outbreak and its negative impact on the continuity and flexibility of international food supply chains have raised widespread concerns in many countries that rely on imports to meet a considerable part of their food needs. To address this issue, he said, the



H.E. Eng. Saif Mohamed AlShara

extension and inspection services and technical support it offers to farmers and food producers, created new sales channels for local products in the country, and initiated partnerships with the private sector to invest in agricultural enterprises and provide them with financing facilities. Notably, in the first half of 2020, banks extended financing worth AED 768 million to the agricultural sector, taking the total amount that the sector received

“ Integration amongst different emirates is the next step. We are sharing information, and soon systems will start talking to one another ”

UAE took a prudent and swift approach to ensuring the availability of sufficient quantities of food in the local market. As part of its post-pandemic strategy, he said, the UAE's wise leadership views food security and sustainability as a priority in building a better future for the current and next generations. In line with the government's directives, he said, the Ministry of Climate Change and Environment, in collaboration with its partners, has stepped up its efforts to boost food security and safety as well as the flexibility and continuity of supply chains through three main tracks. The first, he said, is increasing local production – an objective that has gained special importance. To achieve this goal, he said, the Ministry has upgraded the

up to July 2020 to AED 1.82 billion. The second track involves building synergies with exporting countries and streamlining the flow of goods through border crossings through enhancing the capabilities of food testing labs at entry points, expediting inbound food consignment clearance and sample laboratory testing, as well as partnering with exporting countries to conduct tests required by the Ministry at the point of origin, he said. The third track, he said, is about raising awareness about food safety. In collaboration with local food control authorities, the Ministry runs public awareness programmes, and issues alerts and guidelines for handling foodstuff to workers in the field as well as to consumers, he said. ▶



Bobby Krishna



Eng. Abdulla A. Al Tamimi



Ringaile Bulatovic-Schumer

Bobby Krishna, Senior Specialist, Food Permits and Applied Nutrition Section, Food Safety Department, Dubai Municipality, gave the Plenary Address of the conference. Speaking on the topic, 'Lessons learnt from COVID-19 pandemic', he said the Municipality was able to increase shelf life of food products. "Monitoring was easier, because we had the digital tools much before the pandemic," he said, highlighting the usefulness of a digital regime. "We had these, pre-COVID. We had online delivery tools, and so digitalisation was already present." He said the Municipality trained 10,000 people during the pandemic and that it was continuous in nature. "We also switched to a remote inspection programme," he said.

Later, in the Plenary Discussion that followed, Eng. Abdulla A Al Tamimi, Director of Public Health, Ajman Municipality, echoed Krishna's words on governmental foray into digitalisation, when he spoke of how the Municipality, collaborating with the Ajman Transport Authority, has introduced an IoT-based system, which enhances the food inspection process.

Krishna, co-panelist, warming to Al Tamimi's words said, the digital process is happening right now in vehicle inspection. "Integration amongst different emirates [is the next step]," he said. "We are sharing information, and soon systems will start talking to one another.

It is the human part that drives the data. If you don't have vision to collaborate, then it is of no use, but here [in the UAE], we have the vision to collaborate."

Speaking broadly on Ajman Municipality's work, Al Tamimi, said Ajman is monitoring and controlling the food safety process in a uniform manner. "I want to make sure my team is working in a consistent manner," he said. "We make sure all inspectors will take similar action, regardless of the size of the food outlet. The private sector is not sure of the outcome of an inspection drive. They wonder why one inspector gives a

Development, TSI Quality Services, highlighted the importance of considering the aspect of culture, which she said is different for different people. When it comes to food safety culture, it is important to know how people are acting, she said. "It is one thing to have a fantastic system in place, but how do you know what is happening behind?" she said. "It's a huge topic now in food."

Culture, she said is not nebulous – it is hard data. "We measure culture, and we want to think it has KPIs, as something we can improve on," she said.

Weighing in on the subject of data,



And if you have 50 brands of equipment, how are you going to control all of them with digital?

different report from another inspector. Digitalisation will help harmonise this."

Speaking further on Dubai's foray into digitalisation – into IoT, in particular – Krishna said it is possible to deploy IoT and sensors through the length and breadth of the city but that it would need investment. True digitalisation has started and you have less human intervention," he said, "For now, the back-end is integrated."

Speaking of the front-end during the Plenary Discussion, Ringaile Bulatovic-Schumer, Director of Culture

Prabhu Ramachandran, CEO, Facilio, which facilitates digital intervention in the operation of maintenance of real estate assets, said it is possible to automate and acquire real-time, data-driven insights. "We have technology available that is seamless and non-intrusive in nature," he said. "We can collect data from elevator systems and refrigeration systems using standard protocols." He said even systems 15 years old can export data in some way, adding that the situation is ripe for connectivity. "We have connected 400+ properties across



Nabeel Chaudry



Brent Melvin



Phillip Khoury

the globe,” he said. “Most of them were connected during the pandemic. If customers are willing, we can connect.”

Later, in a panel discussion on transport refrigeration, moderated by Brent Melvin, CEO, Gallega Global Logistics, one of the panellists, Fabian Bahlmann, Managing Director, Schmitz Cargobull Middle East, pulled the digitalisation thread initiated by Al Tamimi and Krishna, when he spoke of ‘Smart trailers’ that Schmitz has introduced in the marketplace. “We use digital transportation,” he said. “We have rolled out remote service of trailers and ways by which people could be trained through video conferencing. Nobody today has a fleet that runs uncontrolled. We have integrated apps, and fleet owners can decide to which level they want telematics-based solutions.”

Joining in, Phillip Khoury, Director of freight forwarding company, ADSO, spoke of how existing transport refrigeration technology allows customers to take control in real time. The facility monitors door openings and pilferage. “Today,” he said, “the customer sits right next to the driver in real time, and there is transparency.” Khoury said that problems do occur, including loading delays and also delays at customs. He said his company depends on fluidity of solutions and that it has had technology customised to its needs. The technology, he said, reveals the profile of the driver, the areas he goes to, and the problems

he has encountered along the route.

Nabeel Chaudry, CEO of trucking and transportation services provider, Al-Safa Transport, spoke of a need for standards and said he is able to see improvement on that front. “I see a lot of improvement is happening,” he said. “We have 24x7, 365-day alerts, be it Fridays or on holidays. The UAE is very forward-thinking, with innovations in many fields. We are not lacking in terms of technology, but yes, we are faced with fragmented players and freelancers.”

Besides digitalisation, the panellists spoke on the implications of ageing fleets. When asked about regulation relating to registered trucks and age of fleets, Khoury described the situation as, “Born in Europe, raised in the Middle East and death in Africa.” Having said that, he spoke of companies choosing to regulate themselves internally. “Fabian demonstrated in his presentation that if we don’t change equipment, the trailer can be preserved, but not for too long, and so it is in the best interests to write these assets off at the end of five years,” he said.

Khoury and Chaudry said that ADSO and Al-Safa have standards but can’t compete with the situation, where cost alone is the factor. Khoury spoke of the need for more regulation of insurance. “Our insurance policy does not insure a truck beyond 15 years,” he said of ADSO. “And in the case of some refrigeration equipment, it is 10 years.” ▶

Voices

In peak temperature, 49 degrees C, if you lose 10-15 minutes of ventilation, 100,000 chicken could die.

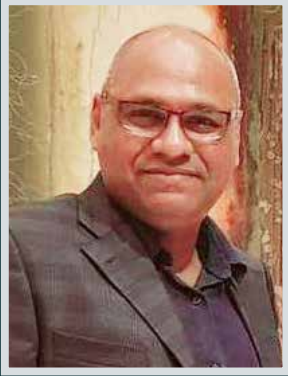
Dr Suheel Ahmed, CEO, Arabian Farms

We have 1.9 million chicken. They are your livestock, your bread and butter. In the poultry business, 2-4% is normal death rate, which in Middle East temperature is higher. Birds are stressed [from the heat], leading to disease outbreak. It is not just dying but also losing productivity. They won’t lay eggs very well, but if in healthy form they can produce.

Dr Suheel Ahmed, CEO, Arabian Farms

There is savings potential for predictive maintenance. Recall is tremendously expensive.

Richard Sprenger, Chairman, Highfield ABC MEA



Raja Subramanyam



Piyush Chohwan



Matteo Dipentina



Mark Lack

Retail speak



Bijoy Anand Raghavan



Prabhu Ramachandran

The conference brought together top executives from supermarkets in the region face to face with technology solutions providers for a panel discussion, moderated by Raja Subramanyam, independent cold chain consultant. Participants included Piyush Chohwan, Chief Information Officer, Lulu Group International; Matteo Dipentina, General Manager, Epta Middle East; Mark Lack, CEO, Geant (Urban Foods); Bijoy Anand Raghavan, CEO, Ramla Group; and Prabhu Ramachandran, CEO, Facilio. Excerpts from the discussion...

Piyush Chohwan: We are trying to adopt change. We have a lot of digital engagement. Obviously, a lot of investment has gone into customer data platforms.

Bijoy Anand Raghavan: For Ramla, retail is one of the major activities. We have moved to digitally controlled, centralised monitoring systems. They help reduce energy consumption, where 50-60% of energy expenditure is refrigeration-related. Going forward, we will be using Artificial Intelligence.

Raja Subramanyam: Retailers are doing a lot on the front-end, in terms of monitoring. Would you say that digitalisation reaching to predictive maintenance is still a journey you are taking?

Matteo Dipentina: As a supplier, it is not just preventive maintenance. We want to know where you can invest your money. Whether you are wasting money on consumption. We need to go through data and come up with the next step.

Prabhu Ramachandran: We are a software vendor. If we look at the retail sector, there is a lot of development that is already happening, but how do we move customers from site-level operations to hundreds of stores? We need customer comfort operations across all the stores in real time data and insight access, so they can optimise resources. Food retail industry is getting more business, and there is opportunity to optimise the business, to opt for real time optimisation of retail businesses. Real time optimisation across the hundreds of stores is about asking, 'What can they do manually?' 'What can they do digitally?'

Subramanyam: Why has digitalisation not started in the retail back-end? You are doing a lot on the front-end. Why are investors not there to digitalise the cold chain? It cannot be the investment size. Is it complicated? Is it about skill level?

Chohwan: It is transition. The transition is slow in this phase. The reason is that the equipment already installed have long life, and the idea is to get maximum value [out of them]. The customer is changing the fundamentals at a fast pace. The equipment is significantly energy efficient, but the scope is still huge to make it even more energy efficient. As and when things move out, we are absolutely looking at new equipment and digitalisation.

Lack: The question is, 'How many times do I need to sell to recover the investment?' It is upfront cost for me.

Dipentina: We are not talking about years. The issue is not money. We are not changing the refrigeration equipment; we are only incorporating digital.

Raghavan: I feel there is slowness in back-end assets. One reason, as Piyush mentioned, is long life of the equipment. Also, if you get trapped in the digital world, you will end up paying AMCs with the manufacturer. And if [you have] 50 brands [of equipment], how are you going to control all of them with digital? Would there be a central point,

A lot of equipment needs to be built, and digital needs have to be seamlessly integrated, and we build a store in a few weeks. This place is booming

a standard format? All manufacturers should give a standard platform.

Ramachandran: How can I manage 50 different vendors? There are ways to do this – there are decent number of protocols, where the external software can talk to existing units – without tampering with the warranty. We have connected 400+ buildings across the globe, and 70-80% have been connected in 2020, which demonstrates that this can be done across hundreds of locations. More and more vendors are moving to this approach.

Chohwan: You need to innovate the commercial models around this. Epta and other equipment manufacturers, they install, and management is taken away by service providers. Monitoring algorithm layers, if you put, it is still expensive.

Dipentina: We are working on a leasing-based model, where there is a contract with the end-user. We provide that to you, and you can move it around to your stores. We are doing this in Europe. You need to go out of your existing refrigeration model.

Ramachandran: From a software perspective, it is easy, but from an equipment manufacturer's point of view, it is challenging. In our case, O&M is the way forward.

Subramanyam: Mr Piyush, what would you expect from system integration and manufacturers?

Chohwan: One thing we need understanding of is maybe futuristic – checkout-free stores. In the next 4-5 years, we will see 20-30% of all stores will be like this. In that context, equipment manufacturers need to work along this – a lot of equipment needs to be built, and digital needs have to be seamlessly integrated, and we build a store in a few weeks. This place is booming, and I hope everyone gets online.

Subramanyam: Mark, what do you want from Matteo?

Raghavan: There is not enough pressure from end-users to innovate. As far as refrigeration part is concerned, they continue to install the same product. Only every price is going up. And they are focusing on that.

Subramanyam: Assuming a store is about 20-25 years old, and they innovated the store only five years ago, which means you have data only available for five years. Is that enough?

Ramachandran: If I know every use patterns, store-wise, even before we look at past data, there is so much we can do. And then, we can look at historical data. What are the values? We are talking only of real time data, though, not data from the past. The reality is such – customers are constantly in fire-fighting mode.

Subramanyam: Matteo, how can you help in spearheading digitalisation in a faster manner?

Dipentina: We can make the most beautiful monitoring system, but the customer will say, 'We don't need it.' We don't want to take the job and maintenance of stores. The need is to save money now, not after 2-3 years.

Lack: Show me the money, show me real-time examples.

Chohwan: Disrupt the model. Everybody should work towards disrupting themselves. [ccme](https://www.climatecontrolme.com)



CRACKING THE FOOD CONUNDRUM

Modern Forced Ventilation strategies in greenhouses and IoT-integrated silos can help the MENA region overcome food dependency, says Dipen Patel

The Middle East and North Africa (MENA) region remains one of the most vulnerable to a food crisis. MENA region countries are among the world's largest importers of food – most depend on imports for over half their needs. The MENA region is also the world's most water-stressed area, with massive subsidies for water and agriculture and a preponderant, if ultimately unsustainable, role for the state, as many countries still pursue the chimera of cheap staple foods and self-sufficiency in cereal production rather than local and international market-driven solutions.

Compared to other states, GCC region countries, in particular, are considered among the more food-secure, as per the Global Food Security Index, which considers the availability, affordability, quality and safety of food supplies. However, the region lacks control over its food sources and remains highly import-dependent. During a disruption in supply chains, such as a pandemic, that reliance on imports leaves countries vulnerable to shortages.

Ventilation is a fundamental component that must be precisely calculated to achieve the right environmental conditions homogeneously, paying special attention to the air speed in contact with the animals

Given the enormity of the challenge, what are the possible solutions? The ones that immediately come to mind are greenhouses, livestock farming and highly advanced silos.

GREENHOUSES

A greenhouse represents the ability to produce plants of economic interest in a sheltered environment against adverse climatic conditions.

The ambient in greenhouses is

typically warm, humid and devoid of wind. They provide the most comfortable conditions for crops, but they very often foster the ideal environment for pathogenic microorganisms to grow.

The theoretical advantage of greenhouses, in terms of pest and disease control, is the isolated environment, where effective preventive measures can be observed; climate control and early identification of problems are possible, so the corresponding corrective actions can be taken.

We are familiar with the positive effects of forced ventilation in greenhouses, including climate management, CO2 control and energy-balance optimisation. However, its role and relevance in preventing pests and diseases is not as well known.

Air movement within a greenhouse or growing facility makes it difficult for pathogens to launch attacks. A typical greenhouse reduces or even removes water condensation on plants surfaces. ▶




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It prevents parasites from moving around and increases crop resistance. These significantly lower the incidence of extreme episodes.

The virtues of a greenhouse can be bolstered through ensuring proper planting layouts to allow good aeration among the leaves, adequate irrigation, and optimal hygiene of facilities and air exchange areas through deploying doors, ducts and filters.

From an integrated pest and disease management point of view, ventilation definitely appears to be the most profitable and efficient investment in a greenhouse.

LIVESTOCK FARMING AND THE ROLE OF VENTILATION

Ventilation and livestock farming, as a subject, has been discussed for many years; however, it is now time to go deeper into it through considering the available technology and analysing in an integral way the added value and the yield that this concept can and must deliver to our farms.

Regular air exchange in farms, warehouses, silos and other agricultural buildings is indispensable for achieving optimal conditions for people, animals and stored products. Fans have to withstand the toughest ambient conditions, in some cases.

In order to meet these challenges and, at the same time, achieve the best possible results of the respective systems for the operator, ventilation systems, specially designed for agriculture, are of paramount importance.

The 21st century has ushered in some

major challenges, including meeting the demands of an ever-growing human population, reducing greenhouse gas emissions and those pertaining to animal welfare.

So, what does animal welfare mean?

Typically, it includes:

- Freedom of movement and physical-thermal comfort through optimisation of facilities
- Adequate health through preventing injuries and diseases
- Natural behaviour patterns considered appropriate to the species, including social relationships and interaction with other animals or human beings

Environmental control plays a relevant role in this regard. Thermal stress is one of the main reasons for a drop in production.

Ventilation is a fundamental component that must be precisely calculated to achieve the right environmental conditions homogeneously, paying special attention to the air speed in contact with the animals. The right control will ensure the sought-after comfort for livestock and reduction of diseases, which in turn, will optimise production, as per genetic potential.

SILOS: SAFE STORAGE AND GRAIN AERATION

Since the time when money came in our midst as an economic unit, we have worried about how to keep it safe. We have dug holes in the ground, stocked



boxes beneath the floor and caches under the pillow. Silos and professional banking are based on the same concept – they must be safe and reliable and guarantee good performance in terms of service and benefits.

A properly ventilated storage is an asset, and the possibilities provided by technology nowadays are boundless.

Annual avoidable losses on cereal storage worldwide amount to tens of millions of tonnes. The most efficient way to reduce such losses is through a better management of the storage conditions and particularly by the implementation of an adequate ventilation system.

The Internet of Things (IoT) and Artificial Intelligence have brought along new business models in every activity, and storage is no exception: Big data, real-time analytics, robotics and machine learning can be applied to raise operational efficiency, labour productivity, communications celerity and, ultimately, decision-making optimisation.

The possibility of benefitting from the integration of IoT in storage is immense, with typical advantages including early pre-harvest information, accurate monitoring, up-to-the-minute adjustment and synchronisation of ventilation systems, integration of weather forecast models and precise preventive actions. All these can be brought to bear in identifying the right selling time to optimise benefits. [ccme](#)

The writer is Managing Director, ZIEHL-ABEGG Middle East FZE. He may be contacted at Dipen.Patel@ziehl-abegg.ae.



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5th edition of DC Dialogue draws the crowds

Discussion on Dubai's district cooling regulation highlight of the event

The 5th edition of DC Dialogue, on June 14 at Mövenpick Grand Al Bustan Dubai, drew an enthusiastic response from the stakeholder community in the GCC region and from around the world. Held under the theme, 'District Cooling and the push towards zero-energy cities', the conference featured participants from Bahrain, Denmark, Saudi Arabia, Sweden, UAE, United Kingdom and the United States.

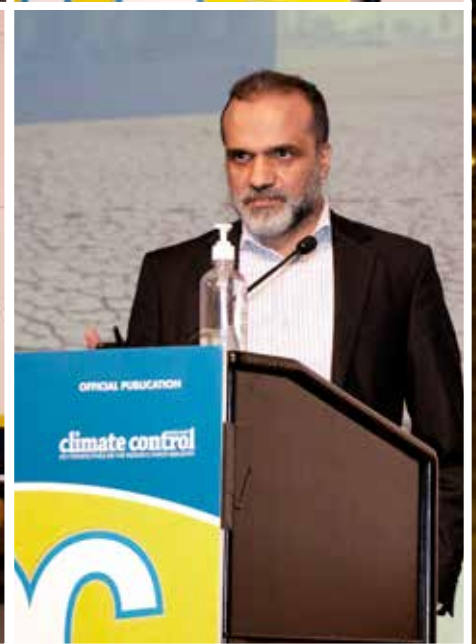
The conference saw presentations by Janet Rogan, COP26 Regional Ambassador for MENA Region; H.E. Franz-Michael Skjold Mellbin, Ambassador of Denmark to the UAE; Gustaf Landahl, Head of Department, Environment and Health Administration, City of Stockholm, Sweden; and James Grinnell, Head of Water, Dubai Regulatory Supervisory Bureau, among others.

George Berbari, CEO, DC PRO Engineering and Author of the book, *The Energy Budget*, chaired the conference.

A detailed description of the conference will appear in the August 2021 issue of *Climate Control Middle East*. Meanwhile, we bring you in pictures the conference that was...

5th edition of DC Dialogue 2021





5th edition of DC Dialogue 2021





Dan Mizesko is Managing Partner/President, U.S. Chiller Services International. He may be contacted at dmizesko@uscsny.com

DON'T BELIEVE THE HYPE ABOUT VRF SYSTEMS

Chilled water systems are more efficient, and the data prove it, says Dan Mizesko

I have been reading claims from manufacturers about how efficient variable refrigerant flow (VRF) systems are over chilled water systems for a few years now. I have also met with consultants recommending VRF systems saying how efficient VRF systems are compared to chilled water systems. My 40-plus years of experience in the large-

tonnage chiller and energy solutions industry, combined with my extensive experience working with both chillers and VRF systems, made me think this cannot be true. I decided to investigate and research the VRF industry's claims. And thus, most of the information I will be presenting here was taken from industry literature and studies conducted by

recognised industry professionals and organisations. I could find no studies or data to support statements made by VRF manufacturers regarding their claims of superior efficiency.

Manufacturers of VRF systems claim that the lifecycle cost of VRF technology is lower than that of chilled water-based systems, stating that VRF systems waste less energy, have higher rated efficiency and require simpler, more streamlined maintenance. Again, these industry claims are not supported by studies. ASHRAE decided to test both systems in its Atlanta headquarters and meter and measure their performance. The findings were not good for the VRF manufacturers and the consultants who recommend them.

The ASHRAE study of a VRF system and a chilled water system, installed in the same building and addressing similar loads, revealed that "on an annualized basis, the VRF system had an energy consumption 57% higher in 2010 than the hydronic system, 84% higher in 2011 and 61% higher in 2012".

I also found other issues with VRF systems, which would convince facility owners to purchase a chilled water system as opposed to a VRF system. Let's look at occupant safety. Almost all VRF systems use R-410A, which is a colourless and odourless gas that has the potential to induce asphyxiation. Since the design of VRF systems relies on refrigerant as the working fluid, and since the system piping filled with R-410A has to be installed across the entire envelope of the building, VRF systems have hundreds, if not thousands, of feet of piping, filled with hundreds of pounds of pressurised refrigerant. In the case of a chilled water system, the refrigerant is located in the chiller, which in turn, is located in a plant room with leak-detection monitors. Building occupants are not at any risk of asphyxiation with a chilled water system. Of course, the same cannot be said for a VRF system, which lacks leak-detection monitors. In addition, long runs of piping located in occupant spaces create difficulty in locating refrigerant leaks, which leads to even higher concerns for occupant safety. ASHRAE 15 has design requirements that limit the total refrigerant volume contained within a system, based on the

volume of the smallest space served by the system (more on this under 'Codes and Standards').

On the environmental impact of R-410A – compared to R-134A, which is used in most centrifugal chillers – while R-134A has a Global Warming Potential (GWP) of 1,430, R-410A has a GWP of 2,088, almost 50% more than that of R-134A.

Other considerations of VRF systems include:

- The need for a dedicated ventilation system to deliver the outside air to various zones
- Long refrigerant lines and a large number of branch connections, which could result in refrigerant leakage
- The need for condensate drain lines for each VRF indoor unit
- Use of supplemental heat, which may be required for a quick warm-up
- Compliance with maximum allowable refrigerant quantities within a given volume

CODES AND STANDARDS

VRF systems must comply with ASHRAE Standard 15 (packaged with Standard 34). This addresses refrigerant capacities and possible leakage, especially if the system serves small rooms, which could cause oxygen depletion. Due to the ability to displace oxygen, ASHRAE Standard 34-2013 Addendum L has established the maximum refrigerant concentration limit (RCL) of 26 lbs./1,000 ft³ of room volume for occupied spaces.

According to Standard 15, a VRF system is classified as a direct system/high-probability system where a refrigerant leak can potentially enter into the occupied space.

ASHRAE Standard 15 requirements should be applied to each VRF system design in the following steps:

- Determine the occupancy classification for the rooms
- Calculate room volume
- Determine the amount of refrigerant in the system, including the outdoor unit, indoor units, and associated piping
- Verify that the room is not too small

I would like to mention one last fact



on VRF R-410A systems. Considering that R-410A is a blend of refrigerants – R-32 and R-25 – in the event of any leak, the entire charge must be recovered, the leak repaired and new refrigerant charged. To elaborate, R-32 and R-25 boil and leak at different rates, so in the event of a leak, you no longer have R-410A as an entity, and thus, you would need a new charge of the refrigerant.

Let's now look at VRF limitations to consider. Manufacturers and some consultants say that VRF systems offer such benefits as consistency of comfort, energy efficiency, zoned heating and cooling, and the ability to heat and cool simultaneously. For small building types, this might be valid. However, there are some important limitations that the VRF technology imposes on most buildings, including HVAC loads, maximum system capacity and the effects of outdoor air temperature and piping design. VRF technology places noteworthy limitations on the total length of pipe within a system. Rated capacity decreases as the piping length increases, but this actually starts at quite a short length. ASHRAE standards rate a VRF system based on 25 feet of piping and zero vertical separation between indoor and outdoor units. Rated capacity of VRF systems start to decrease when pipe length and vertical separation go beyond 25 feet and 0 feet, respectively. Capacity decreases continue as system sizes expand. Where

the total piping length is 600 feet, the systems have lost 10% of total capacity. And where engineers might choose systems for larger buildings, VRF systems cannot function beyond the maximum piping length of 3,281 feet. At that stage, more than 50% capacity has been lost.

INSTALLATION COST

There are many studies that prove chilled water systems have a lower installation cost compared to VRF systems. The claims of VRF systems being lower cost to install are not based on fact.

In closing, to get back to the main point of this discussion, energy efficiency claims by VRF manufacturers have been difficult to verify, and without actual test data, it's been difficult to determine the actual facts. The ASHRAE building comparative energy usage study proves that a VRF system is not as efficient as a chilled water system. In all cases, newer variable-speed water chillers and heat pumps outperform variable-speed VRF systems. [ccme](#)

Editor's Note: The August 2021 issue of *Climate Control Middle East* will carry a perspective from the VRF industry. *Climate Control Middle East* adheres to a process of providing an equal platform for differing views.

'WE AIM TO REDUCE POWER CONSUMPTION BY 35 MILLION KWH PER YEAR BY 2023'

Atef Mohamed Awadh AlBreiki, SVP of Operations, National Central Cooling Company PJSC (Tabreed), describes the utility company's concerted drive to retrofit its chillers and pumps with variable frequency drives. Excerpts from the interview he gave to Surendar Balakrishnan of *Climate Control Middle East*...



To what extent has Tabreed deployed variable frequency drives (VFDs) in its plants and other HVACR-related installations? Would you say you have reached a critical mass, compared to the time when they were first introduced in the market?

In 2019, we had performed a technical assessment and feasibility study on the application of VFDs across our asset base, in order to understand the impact of VFDs on different district cooling process equipment. On completing the assessment, Tabreed put together an ambitious four-year-long programme to retrofit chillers and pumps with the latest VFD technology available in the market. Between 2020 and 2023, Tabreed will implement a VFD-

retrofit programme over four phases. We commissioned the first phase in 2020; the second phase is under execution.

Typically, what kind of efficiencies have you been able to achieve ever since installing them? For example, by what percentage has the power consumption in pumps dropped to?

There are a number of factors that can influence the specific benefits of any individual VFD installation; however, the large-scale of the Tabreed retrofit programme allows us to estimate. By the end of 2023, we will aim to reduce power consumption by 35 million kWh per year and, as a result, reduce CO₂ emissions by another 21,000 tons per year, going forward. Those figures are reductions from the VFD programme alone, as we have several other programmes in

Tabreed targeting our operational efficiency.

Typically, are there any challenges in installing VFDs in existing infrastructure, such as ease of access or lack of space?

Yes, as in any project, there are several challenges in engineering design and in execution, as well. For example, we needed to upgrade some of our chiller models to be able to retrofit them with VFDs. We also needed to innovate, when it came to space utilisation in plant room, so that we could accommodate new panels and equipment. We also had to upgrade plant automation systems to integrate the VFD philosophy in plant chilled water management systems. [ccme](#)

SCHOOL OF THOUGHT

Duncan Curd references a Mayo Clinic study proving the reduced capacity of influenza A to survive in classrooms benefitting from humidification



Duncan Curd is Global Business Development Leader, Sales Department, DriSteem. He may be contacted at duncan.curd@dristeem.com

Around the world, people are awaiting relief from mask mandates and social distancing guidelines, and the return to “normal”, whatever that may look like. However, in the wake of what we know now, we should not be willing to forget indoor air quality issues that have plagued us even before the COVID-19 pandemic.

While hand washing and wearing masks, along with frequent cleaning and disinfecting, have been helpful in reducing the spread of COVID-19 and even the seasonal flu, experts have known for a long time that there is more that can be done. A key study done in 1986 showed that the optimal conditions to minimise risks to human health occur between 40% and 60% relative humidity (RH), at normal room temperatures.

This study is still referenced by HVAC professionals today and forms the basis of standards for healthy built-environments set by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE).

When the relative humidity level in a building is not controlled to fall within this 40-60% RH range, there is an increased risk of the transmission of illness spread by viruses or bacteria, skin dryness and eye irritation. These issues can be experienced by people in any building – including schools, offices, nursing homes, senior living communities and health care facilities.

The Mayo Clinic, in Rochester, Minnesota, in the United States, tested this concept in a preschool classroom. Researchers wanted to determine whether increasing the relative humidity of classrooms to 40-60% would reduce

the capacity of influenza A, or the seasonal flu, to survive on classroom surfaces or in the air as aerosols.

Commercial-sized humidifiers were installed in two classrooms, to control against two classrooms that had no humidification. The study showed that the humidified rooms:

- Had a significant decrease in the percentage of total air samples containing influenza A
- Displayed a trend towards a decreased percentage of surface samples containing influenza A
- Yielded samples with influenza A that contained fewer “live” viruses and were, therefore, less infectious
- Resulted in fewer flu-like illnesses

While the COVID-19 pandemic seems to be slowly coming to an end, facility managers and building owners should consider a plan for future safeguards, including the addition of a commercial humidification system that will provide safe, hands-free, broad protection for building occupants against airborne viruses, such as COVID-19 and the seasonal flu, while also reducing the spread of bacteria, the proliferation of allergens, and other occupant discomforts caused by dry air.

We are all eager to get our lives back on track, and one of the first steps to reopening is to ensure that the relative humidity is at a healthy level in each building. It is simple to take RH readings with a hygrometer to quickly determine if a facility is optimising its defence

against COVID-19 and other viruses. In general, a target of 45% RH is recognised as providing positive benefits while being easily achieved.

While there is a short-term, day-to-day “set it and forget it” benefit to a commercial humidification system, there is also a long-term “get it and keep it” benefit, as the system can last for up to 20 years. And with health benefits beyond COVID-19, that long-term benefit delivers a valuable return on investment year after year after year.

Eventually we’ll see an end to the current pandemic. When we do, the humidification system will still hold its value, protecting against other infections and common discomforts caused by dry air. **ccme**

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'BUILD BACK GREENER FROM THE PANDEMIC'

Janet Rogan, COP26 Regional Ambassador for MENA Region, calls for supporting the Super-Efficient Equipment and Appliance Deployment (SEAD) initiative, which aims to double the energy efficiency of four key products – electric motors, room air conditioners, refrigerators and lighting by 2030. Excerpts from the interview she gave to Surendar Balakrishnan of *Climate Control Middle East*

The United Kingdom is among a few that have updated their Nationally Determined Contributions (NDCs), in the context of the Paris Agreement. What leadership and advocacy measures has it initiated for greater participation?

On April 20, the UK announced that it will set the world's most ambitious climate change target into law to reduce emissions by 78% by 2035, compared to 1990 levels. By doing this, the UK is trying to set a good example ahead of hosting the crucial COP26 climate summit, later this year, with the 'ratchet' mechanism of the Paris Agreement requiring countries to put forward strengthened climate action targets, known as Nationally Determined Contributions, every five years. Through its COP26 presidency, the UK is urging countries and companies around the world to join together to deliver net-zero globally by the middle of the century in order to keep alive the aim of limiting global warming to no more than 1.5 degrees C.

On April 22, over 40 world leaders came together at the Leaders Summit on Climate, convened by the United States. The Summit sent a clear signal of intent to make this decade the moment of decisive change to tackle the climate crisis and to keep 1.5 degrees C within reach. The US, Japan and Canada all published more ambitious NDCs. This means that all G7 countries, responsible for almost half of global GDP, have now committed to deep cuts to their emissions over the next decade, aligning with their net-zero commitments. Collectively, these commitments take us closer towards the global goal of limiting global warming to no more than 1.5 degrees C.

There is progress, but more needs to be done. Globally, emissions must be halved in the next decade if we are all to meet the goals of the Paris Agreement and keep 1.5 degrees C in reach.

Is the United Kingdom offering technological and strategic support to specifically reduce energy and water waste the world over and in the GCC region?

The UK is committed to supporting all aspects of the energy transition. The UNEP Emissions Gap Report states that efficient appliances are one of the six

areas with the highest potential to close the emissions gap to Paris. This issue is often overlooked despite the significant emissions-saving potential. Improving the efficiency of the highest energy-using products is crucial if we are to meet the Paris goals.

The UK's COP26 Presidency is supporting the Super-Efficient Equipment and Appliance Deployment (SEAD) initiative to deliver a COP26 Product Efficiency 'Call to Action', which aims to double the energy efficiency of four key products – electric motors, room air conditioners, refrigerators and lighting by 2030. We are working closely with our country co-leads of SEAD – India, Sweden and the European Commission – as well as the International Energy Agency (IEA), as operating agents for SEAD, to deliver more ambitious action on product efficiency to COP26 and after.

The UK actively supports energy generation, supply and efficiency improvements in ODA-eligible countries, ensuring they are not locked into high emissions and low efficiency, through programmes such as Africa Clean Energy with the African Development Bank or UK PACT.

Food loss and wastage amount for substantial emission of methane from landfills. With methane considered to be one of the most potent greenhouse gases, has the United Kingdom taken any specific steps to address the problem at a global level?

Modernisation and industrialisation of agricultural systems have delivered tremendous benefits, tripling production in the last 60 years to provide food, incomes and economic growth for a growing global population. But this has come with unintended costs and consequences. After energy, agriculture – including land use change for agriculture – is the largest source of greenhouse gas emissions. It uses 70% of freshwater resources and is causing unprecedented biodiversity loss. These impacts are driving climate change, increasing vulnerability to shocks, reducing yields and undermining viability of the natural eco-systems we depend on. This, in turn, threatens food security, livelihoods and economies. To ensure healthy diets,

Climate change is now an urgent issue in the MENA region. The region has witnessed extreme floods, forest fires, record heatwaves and even unprecedented snowfall – all because of climate change

achieve Paris Agreement targets and the Sustainable Development Goals and to secure future prosperity we must address this crisis. We need an urgent transition to sustainable land use, agriculture and food systems, to match the clean technology revolution.

In order to tackle these issues, we need a concerted global effort. In economic terms, the benefits of a global transition to low-emission sustainable land use and food systems could be huge – over USD 500 billion in business opportunities by 2030.

The UK's COP26 Presidency is building on the foundations laid at the 2019 UN Climate Action Summit, and is working with governments, businesses and civic organisations to raise ambition, scale up nature-based solutions and kick-start a Just Rural Transition (JRT).

The UK is committed to a Just Rural Transition. The JRT Initiative Vision Statement reads: "Feeding a growing population by 2030, while protecting vital natural systems which sustain life, as rural and indigenous communities,

food production and key ecosystems come under growing stresses from climate change. Putting in place policies, regulations, plans and incentives to halve global food loss and waste from 2019 levels, is a JRT objectives".

The UAE is among the few countries that have updated their NDCs. What is being done to persuade others in the region to show greater climate ambition, though the 2020 deadline has passed?

The UK is committed to working with all countries and joining forces with civil society, companies and people on the frontline of climate change to inspire action ahead of COP26. We want all countries to come forward with updated, more ambitious Nationally Determined Contributions and Long-Term Strategies to reach zero carbon emissions as soon as possible.

As host of COP26, the UK is trying to lead by example and urge countries to raise ambition on tackling climate change by setting ambitious targets for reducing emissions by 2030 to align with net-zero. In a recent announcement that the UK is committing to cutting emissions by 78% by 2035 compared to 1990 levels, Prime Minister Boris Johnson said, "We want to continue to raise the bar on tackling climate change, and that's why we're setting the most ambitious target to cut emissions in the world. We want to see world leaders follow our lead and match our ambition in the run up to the crucial climate summit COP26, as we will only build back greener and protect our planet if we come together to take action." ▶





COP26 President-Designate, Alok Sharma is engaging globally. On April 4, he attended a Regional Dialogue on Climate and Energy in the UAE, attended by senior delegations from across the region. Climate change is now an urgent issue in the MENA region. The region has witnessed extreme floods, forest fires, record heatwaves and even unprecedented snowfall – all because of climate change. By 2025, 80-90 million people in the MENA will be exposed to water stress. If nothing is done, these conditions will eventually make parts of the region uninhabitable.

While the countries that have updated their commitments towards ratcheting up their climate actions deserve praise, what concrete steps need to be taken to ensure trickle-down action from all stakeholders in the building sector and the manufacturing sector, to name two?

There is a need to set targets that help achieve a completely carbon-neutral future, while also seizing the new economic opportunities and capitalising on green technologies. All sectors, particularly building and manufacturing, should focus on building back greener from the pandemic.

To share an example from the UK, the UK Government recently published an Industrial Decarbonisation Strategy, to help key heavy industry sectors, such as steel, cement and chemicals, achieve net-zero by 2050. The policy looks forward to new and innovative technologies, such as hydrogen and

CCUS, and aims to put low-carbon products on a level playing field with fossil fuel-based products.

On buildings, the UK is set to publish its Heat and Buildings Strategy shortly, which will set out policies to support the transition away from fossil fuel-based heating. This will include support for the renovation of existing buildings, to make them as thermally efficient as possible, as well as incentives for the uptake of low-carbon heating technologies, such as heat pumps.

Speaking of the building sector, we are seeing uncoordinated, disjointed approaches to constructing, installing, operating and maintaining residential, commercial, mixed-used and industrial structures? The building sector is characterised by a lack of acute awareness or an unwillingness to adopt even low-hanging-fruit measures to improve energy efficiency? What should policy-makers focus on to persuade and galvanise stakeholders down to the bottom-most rung into climate action?

One of the key barriers to coordinating international action in decarbonising the buildings sector is that it has a fragmented and localised supply chain. One of the key internationally traded elements in the sector is products, such as appliances, etc. Therefore, the most tangible area of action we can seek for COP26 is to ask countries to make commitments to raise efficiency standards on these products in order to

move the global market. The UK's COP26 Presidency headline objective for energy efficiency is thus to double the efficiency of four key products – electric motors, air conditioners, refrigerators, lighting – sold globally by 2030. Improving energy efficiency of these four key products will be an important step along the way to solving all the challenges faced in decarbonising buildings. COP26 is one of the best, and most feasible moments, to call for more action.

An estimated 40% of conditioned air (thermal energy) in buildings is lost through leaking ducting systems, resulting in buildings consuming more energy to make up for the losses? This adds to the Total Cost of Ownership (TCO) for building owners, be they supermarkets, malls, residential units or other commercial units. Would it help for governments to direct building owners to focus on TCO through grants and penalties, which in turn, as a collateral benefit, would help lower emissions substantially?

Improving the efficiency of heating and cooling systems is an important early win for building managers and homeowners. Significant cost savings can be achieved, and this should drive building owners to seek out the best quality installers and to minimise leaks. Further training of installers in this area could also be a useful supporting measure.

Are nations and the inherent sectors still following a silo approach, as opposed to a comprehensive energy use strategy? While energy efficiency is a much-used term, is there enough understanding that water use optimisation can help lower energy consumption, in terms of reducing energy use in operating pumps for shorter durations?

All nations and industry must work in tandem to keep 1.5 degrees C of warming in reach, and the next decade is the most critical period for us to change the current perilous course. Long-term targets must be backed up with credible delivery plans if we are together to tackle the climate crisis and safeguard lives, livelihoods and Nature for future generations. [CCma](#)



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**‘WE BROUGHT OUR
LONG-TERM LOANS
TO PRACTICALLY
ZERO DURING COVID’**

Amiruddin Thanawalla, Managing Director, Prime Focus Group, speaks on the virtue of adhering to a conservative business approach, which he says has ensured financial stability for the company. Excerpts from an interview he gave to Surendar Balakrishnan of *Climate Control Middle East...*

A s Prime Focus Group, what specific strategies and scenario-planning measures have you adopted to ensure financial stability during the pandemic? Are they helping you in terms of positive cash flow and business continuity?

It is not something we have done differently in the pandemic. We have always had a conservative policy, including placing a limitation on debt. Typically, people would add vertical capacity when the economy is picking up, which would mean more machinery and more debt. The years, 2016, 2017 and 2018 were good ones. We were still conservative in those years, and because of that, our net reserve position was good.

When COVID-19 came, we deployed our internal accruals to settle all our debts. We have a good standing with banks, because over 20 years, we have built a strong reputation of not taking undue risk. Our cashflow helped us finish off our debts. We brought our long-term loans to practically zero.

The banks asked us why we had closed out our loans. We told them we would come back to them as and when things would start looking upwards.

We have a strong outreach programme with banks. I feel there are two entities that are important in business. One is the banker, who supports your expansion, and the second is the human resources set up. As a group, we have always maintained a good relationship with our bank and taken care of our employees. The COVID-19 tagline doing the rounds here is, 'We are all responsible'. And that line came to fruition, when our staff supported us well. They were more productive than in the past and, when it became available, took the vaccine. We have a well-diversified HR base. Everyone of the employees felt and took the responsibility to ensure the wellbeing of the company.

To what extent are you affected by delinquent contractors and bad debts, which you probably would agree are long-standing issues that have affected manufacturers and suppliers of capital HVAC equipment?

There are two types of contractors – one that is totally focused on cost and

the other that is totally focused on big business but not on working in the right way. I am aware of big contracting companies that have got into difficulties, which in turn, has affected many, many suppliers.

I have been in the GCC region market since the 1990s. It has changed for the better, but sometimes, it has taken two steps backwards. Our approach as a company has been to decide whether to bend or say, 'fine'. If it is a question of ethics, we have decided not to take the business. We deal in products related to fire safety, among others. Wherever human safety is concerned, we would not bend back at all, because it is not just about business, it is also about moral values. It is not just about making money. Whoever wants to compromise on human lives, we don't want to be part of it. It is a tough decision, because everyone wants to make money, but we prefer to make informed choices, in line with moral values.

“ We would prefer if contractors would adopt a method of single-sourcing a flange system, but of course people buy from different manufacturers

Are you an advocate of the need for specialised HVAC consultants and contractors, who typically are able to precisely estimate cost of projects and present realistic figures to developers and investors?

Initially, in the 1990s, the contractors were specialised. We had specific HVAC, plumbing and fire-fighting contractors. Over time, we got to see several instances where all three combined into one. Whether they have the capacity to offer all services or not, and whether the building industry wants this arrangement or not is a subject matter of debate.

In the 21st century, we are seeing a lot of large contractors. And so, do we need to go back to the 1990s? Is

this amalgamation of three services into one serving us well? Well, I have a mixed reaction. I believe some good aspects have been lost owing to lack of specialisation. We still see the specialisation in some small projects, but in the case of large projects, we see an MEP division.

One good aspect of amalgamation of services is the coordination that happens. I used to work as a contractor at Voltas, and I know the challenges on site, when you have ducting routes, fire-fighting, plumbing and chilled water piping. When all these aspects come under one contractor with three service heads, the contractor invariably is able to sort out issues that are likely to arise, and there is no need of arbitration. That's why I said it is a mixed bag.

I don't think we can reverse the situation and go back in time. So, we live with it. We need to strengthen the model, work out all the gaps and make sure it reflects best practices.

You describe Prime AC Industries as focusing on specialised engineered products. What percentage of your annual revenue do you allocate to R&D? And what is the scope of R&D? Could you cite examples of transformational technologies you have produced?

I am an engineer, and I head Prime Focus Group. My own past experience with contracting was particularly important, because it is not unrelated to what I am doing now. Many a times, manufacturers cannot relate to the contracting industry, because they do not know the application side. They are not able to fully understand the happenings on site. Coming as I do from the contracting industry I have an understanding of what is needed on site. ▶



So, that way, you already have R&D inputs into manufacturing.

I studied mechanical engineering and specialised in production engineering. As part of my work experience, besides working in a contracting company, I worked in the tool room at Larsen & Toubro. All these combined gave me a kind of aptitude and approach to my role as a manufacturer. At Prime Focus Group, I have personally led the R&D activity. As a company, the first decision we took was about concentrating on the air side of the industry. Ducting came first, then we got into producing flanges and then into controlling of air volume. After that, we added fire safety aspects of ducting systems, and so we went into making fire dampers, and then BMS came in. After that we went into motorised fire dampers. The next question we asked ourselves was, 'What about distribution to zones?' And so, we went into VAVs. And finally, air has to come in, and so we did flexible ducting. Then came thermal insulation, and so we evolved into manufacturing tapes. Along the way, we started manufacturing grilles, diffusers and filters, including HEPA filters. We also went into the production of vibration- and isolation-related

equipment, sound attenuators, flexible ducting connectors and vapour barrier for insulation. Today, Prime Focus Group is the Wal-Mart or Carrefour of the air side of the HVAC industry. We are into anything or everything of the air side. All this has been possible only because of a robust R&D approach. We also have foreign collaboration and adaptation of foreign technologies. The adaptation has

Likewise, flexible ducts used to be imported from the United States; today, 100% is manufactured here.

Once you manufacture locally, foreign currency is preserved in the country. And then, it is export potential, and it earns foreign currency and supports the economy of the UAE. That is one thing that has happened very well.

“ We don't supply and forget, because it is about human safety. Fire-rated ducting can help in the human evacuation process, so that people can escape on their own ”

also been an outcome of R&D.

The entire diversification at Prime Focus Group has required robust R&D. In 2003, flexible duct connectors used to be entirely imported from the United States and Canada, with a small portion from Belgium. Today, the flexible ducting connectors used in the UAE are almost 100% manufactured in the UAE.

I have been in the air conditioning industry in the UAE since April 1993. It has been nearly 30 years, and I have seen the evolution of the industry in terms of contracting and manufacturing. Locally made products have got the right kind of place in the industry; of course, more needs to be done.

A major concern in buildings is the loss of valuable thermal energy from leaking ducting systems? What innovations have you introduced at Gulf Duct to curb energy losses and reduce total cost of ownership?

Leakage from ducts is just one aspect; we also have to talk about flanges. Flanges used to be imported from Germany, the United Kingdom and the United States. In 2003, we started manufacturing them in the UAE.

We did not limit to imitating a product; indeed, we are pioneers in the UAE. Given that there are two standards – SMACNA and DW144 (UK spec) – we went to the United Kingdom to test our flanges, where they allow up to five per cent leakage for less than 500 pascals. The test results proved that we were well within the permissible limits.

You cannot prevent leakages from occurring – they cannot be zero, but it is possible to bring leakages down to a minimum limit. One aspect that needs

emphasising is that a flange is not a mere component but is a system. So, you have the flange, pleat, gasket, etc. We would prefer if contractors would adopt a method of single-sourcing a flange system, but of course people buy from different manufacturers, keeping price in mind.

Speaking of contractors, to what extent are the losses owing to poor design and installation, where variations occur and ducting gets rerouted as a value engineering exercise? How frustrating is it for you as a manufacturer?

The frustration comes from knowing that people are not being trained properly, which means they are not able to do a proper installation – and sometimes, they do not put the components together properly.

We do receive complaints that the products are not right, and that's how we learn that they have not been

assembled in the right manner. So, contractors need to take care and train their staff.

When it comes to fire safety and human safety, when we supply fire-rated ducting, we go to the site and certify the installation – the whole nine yards, as they say. So, it is not just production and transportation but also the right installation. We make sure the components within the ventilation system have been installed properly. We don't supply and forget, because it is about human safety. Fire-rated ducting can help in the human evacuation process, so that people can escape on their own.

So, we do take a lot of care and insist that we visit the site to take a close look at the installation. We provide the contractors with adequate engineering drawings much before they start the installation process, but sometimes, things do happen, and so we are there at the site as a last line of defence. **ccme**



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King Abdullah Economic City receives praise from energy professionals

Decoupling, decarbonising, decentralising, digitalisation, disruption and desirability are crucial in addressing the challenges within the energy industry

By CCME Content Team

A panel of energy industry representatives underscored the importance of green buildings and smart cities in reducing energy consumption during the Middle East Energy's (MEE's) Energy Consumption & Management sector focus week.

According to the organisers of the event, the line-up of representatives included Benoit Lebot, a senior policy adviser in the French government's Ministry for the Energy Transition; Amr Salah, Senior Director - Head of Utilities, Emaar - The Economic City; and Ahmed Samer Elbermbali, Managing Director, MENA Clean Energy Business Council.

They were participating in the opening session, titled 'Reducing consumption through green buildings and smart cities', by addressing important topics within the industry, including managing energy demand and carbon emissions, developing renewables in buildings and infrastructure, and integrating sustainable planning and technology to deliver smart cities, the organisers said.

Lebot said the challenges within the energy sector can be overcome by adopting a series of initiatives related to decoupling, decarbonising,



decentralising, digitalisation, disruption through innovation and desirability to achieve the end goal. "Frankly, I couldn't dream of a better illustration than King Abdullah Economic City," he said. "It has demonstrated decoupling, decentralisation of energy, has digitalisation at the very heart of the design, it is innovative, and there is clearly a desire to achieve this beautiful case study."

He also highlighted the four steps of a decarbonised economy, including energy efficiency, net-zero-energy solution, lifestyle and behavioural changes, motivation and education, while underscoring governments' role in the process.

Elsewhere on the agenda on the opening day were presentations by Andrea Di Gregorio, Executive Director, Energy Efficiency and Renewables Office (Reem), Ras Al Khaimah Municipality, who discussed the Emirate's energy management programme.

An important debate during the event came courtesy Stephane Le Gentil, COO, Abu Dhabi Energy Services (ADES); Vikas Kanungo, Senior Consultant, The World Bank; Aleksandar Dukovski, Energy Expert & Consultant, UNECE; and Akin Adamson, Director - Middle East, Ricardo Energy & Environment, who all provided insights into reducing energy consumption of buildings in the region.

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LG HVAC technology earns international certifications for IAQ

HealthProtect is effective at removing SARS-CoV-2, company claims

By CCME Content Team



LG said its commercial air conditioning technology garnered a number of certifications from trusted international organisations for its contributions to indoor air quality. Making the announcement through a Press release, LG added that certifications from Intertek, TÜV Rheinland and UL, awarded to its dual-vane cassette system are confirmation of the effectiveness of LG HVAC solutions in reducing indoor air pollution and the risk of chemical exposure.

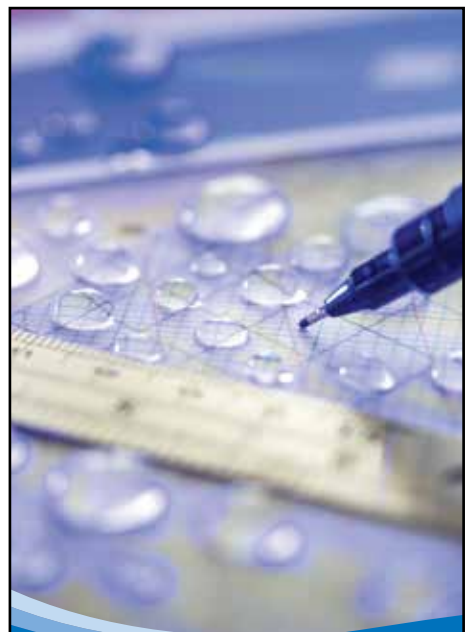
According to LG, the cassette system is the world's first HVAC solution to earn UL's GREENGUARD Gold mark for low-volatile organic compound (VOC) emissions. The cassette system also received recognition from Intertek for reducing the presence of harmful particles in indoor air, it said.

LG said the cassette system's air purification capabilities are possible owing to the LG Plasmaster Ionizer+ technology, which it claimed emits over three million ion clusters to attract

and carry away allergens and bacteria. For these reasons alone, the cassette system is the ideal option for use in schools and healthcare facilities, where air quality is of utmost priority, it added.

LG said it earned another recognition, courtesy TÜV Rheinland, which certified LG's 5-step air purification system for effectively removing ultrafine dust, allergen and harmful bacteria from the air. The cassette system's air-cleansing and allergen-removing capabilities, LG said, are also certified by the British Allergy Foundation.

"These trusted certifications attest to the importance LG places on prioritizing its customers' well-being," said James Lee, Executive Vice President and Head, LG's Air Solution Business. "HVAC plays a central role in making indoor environments comfortable and safer for their occupants, and LG will continue to deliver solutions that meet stringent international standards for healthy operation and effective performance."



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Humidity Control and
Evaporative Cooling



Tabreed celebrates a year of collaboration with Emaar

First anniversary of partnership reveals significant environmental benefits to one of the world's most iconic real estate developments, district cooling company says

By CCME Content Team



Ahmed Thani Al Matrooshi



Dr Yousif Al Hammadi



Khalid Abdulla Al Marzooqi

The National Central Cooling Company (Tabreed) is celebrating the first anniversary of its partnership with Emaar Properties for the exclusive provision of district cooling services to projects in Downtown Dubai. Making the announcement through a Press release, Tabreed said this is a collaboration that has been responsible not only for remarkable growth in Tabreed's portfolio but also for genuine benefits to the environment, thanks to the efficiency and reliability of the company's technology and engineering.

Khalid Abdulla Al Marzooqi, CEO, Tabreed, said that the partnership, entered into in April 2020, has been a significant success. "This is a partnership to own and operate the district cooling plants in Dubai Downtown area under a long-term concession," he said. "To date, the district cooling scheme connects 77 buildings with sustainable cooling energy, saving 190,000 tons of CO₂ from entering the atmosphere each year, which is equivalent to removing the emissions from 41,000 cars.

"Tabreed is a company built on progress, which is perfectly encapsulated

in the relationship we have with Emaar. The connected RTs [refrigeration tons] of cooling currently stand at 153,000, and the benefits derived from our provisions speak for themselves and are essential for one of the world's most famous urban areas in its drive towards greater sustainability."

Ahmad Thani Rashed Al Matrooshi, Chairman, Downtown Dubai Cooling Company and Executive Board Member, Emaar Properties, said that the one-year anniversary of the partnership between Tabreed and Emaar is a significant milestone. "This great nation leads the world in property development," he said, "and it continues to set new benchmarks relating to community living. To be able to supply district cooling to many of the world's most iconic and visited landmarks means environmental benefits for all, and I look forward to many more years of progressive accomplishments between our organisations."

Meanwhile, Tabreed also announced the connection of its cooling services to Dunya Towers in Downtown Dubai, providing cooling to approximately 323,000 square feet of built-up area,

which adds a further 492 RT of cooling capacity to Tabreed's portfolio.

Commenting on the connection, Dr Yousif Al Hammadi, Managing Director, Downtown Cooling Platform for Tabreed and Emaar, said: "We are proud to deliver our services to Dunya Towers. This new connection adds to our customers' trust and confidence in our innovative and reliable cooling solutions that have become an integral part of the infrastructure for major developments across the region."

Dunya Towers, developed by one of the UAE's leading real estate companies, Dunya Investment LLC, is a 22-storey modern residential project set within Downtown Dubai, and is flanked by iconic projects including the Burj Khalifa, The Dubai Mall, Dubai Opera and Dubai Fountains.

Dr Yousif added: "Tabreed is committed to providing energy-efficient, cost-effective and environmentally friendly district cooling solutions that contribute to reducing the carbon footprint of the region and to preserving the environment and natural resources for present and future generations."

Ariston reports progress with Aures water heaters in KSA market

Units offer advantage of reduced energy consumption, company says

By CCME Content Team

Ariston Middle East said its new-look Aures Multi has made headway in Saudi Arabia since its launch, earlier this year. The units offer the advantage of reduced energy consumption, the company added.

Alberto Torner, Head, Ariston Thermo Group in the Middle East, Turkey and Caucasus, said: "Aures instant water heaters are the fastest way to have unlimited hot water whenever and wherever it is needed. From a personal standpoint, they serve the purpose of enjoying comfort in the shower, being spared distressful shivering since hot water comes in at the turn of the faucet. The whole Aures range achieves top level of energy efficiency in the electric water heating segment. All the electricity taken

from the electric network is converted into the necessary amount of hot water needed by the user. The water is not pre-heated, and it is not stocked in a tank – an effective approach to eliminate heat loss and reduce energy consumption."

Quoting Allied Market Research, Ariston said "the instant water heater market size is expected to reach USD 2,6948.2 million in 2027 from USD 1,8810.6 million in 2019, growing at a CAGR of 7.70% from 2021 to 2027. There are numerous advantages of instant water heaters, such as compactness and energy-saving efficiency. Hence, to improve global sales, manufacturers of instant water heaters are developing new and innovative instant water heaters, which are cost-effective in design. In accordance with the current trends, it is further anticipated that the instant water

heaters market would grow exponentially during the instant water heater market forecast period. Government regulations and strict building codes and standards toward adoption of energy efficient technologies are expected to drive demand for instant water heaters".

Hazem Al Khatib, Country Manager, KSA, Ariston, said: "The Saudi market and consumer are well informed and make considered decisions. This is proven by the success of our Aures Multi instant water heaters here. The Aures Multi has sophisticated mechanisms to ensure safety. A flow sensor that warms water only when the user turns on the tap and the double-safety thermostat that prevents scalding."

According to Ariston, the double pole Earth Leakage Circuit Breaker (ELCB) in the water heaters prevents electric shocks, integrating with a total safety device system that avoids damage to the product. If a dangerous voltage is detected, Ariston said, the device will interrupt the electrical circuit as a safety measure.

COMINGS & GOINGS

KRN gets new Global Commercial Director

Heat exchanger manufacturer says new appointee will be responsible for its international growth, starting with Middle East and Europe

By CCME Content Team

India-headquartered KRN Heat Exchanger & Refrigeration Pvt. Ltd., which manufactures heat exchangers, said it has appointed Raja Subramanyam as its Global Commercial Director, starting end-June.

Based in Dubai, Subramanyam will be responsible for KRN's international growth, starting with Middle East and Europe, the company said in a Press release.

Prior to this, Subramanyam worked as an independent cold chain consultant, drawing from a wealth of experience through his tenures at Carrier, Emerson and Ingersoll-Rand, the company said.

Speaking on his new role, Subramanyam said: "KRN has a state-of-the-art factory spread over 80,000 square feet in Rajasthan, India, from where it produces nearly a million world-class units per year. After creating a name for itself in India and having increased its production capacity, last year, it's only natural for the company to foray into international markets. Despite the pandemic, the company's growth plans are robust, and I look forward to establishing the company's presence globally."

Santosh Kumar Yadav, Chairman & MD, KRN, said: "In Raja, we see an ideal leader, who, with his international, versatile experience of 25 years across diverse verticals, can strategize our entry into different markets and take KRN to the next



Raja Subramanyam

level of success. We are committed to support him to become a valued and reliable partner to HVACR principals, worldwide."

Subramanyam holds a BE degree in Mechanical Engineering from Kumaraguru College of Technology, in Coimbatore, India. He is passionate about digitalisation and has initiated the need for digital transformation of cold chain technical assets through serving as Chair of the 10th edition of Food Chain, on May 31 in Dubai.



AHRI certification programme expands test conditions

Institute says move will enable it to align itself with local, regional and international regulations

By CCME Content Team

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) on May 18 announced that it is implementing a wide range of test conditions in certain of its certification programmes, to help promote global energy efficiency; to suit varying global environmental conditions and regional needs; to align itself with local, regional and international regulations; and to address requirements of its members and certification programme participants.

AHRI said that in addition to the standard T1 test conditions (35 degrees C outdoor dry-bulb), it has been introducing the T3 test conditions (46 degrees C outdoor dry-bulb) and T4-Kuwait (48 degrees C outdoor dry-bulb), with operability tests at 52 degrees C for a large range of “tropical” air conditioning products in the high-ambient temperature (HAT) countries of the Gulf Cooperation Council (GCC) region.

AHRI said that with T3 ratings already available for applied products, such as air-cooled and water-cooled chillers, and for direct-expansion products, such as

ducted-split systems, packaged rooftop units in both residential and commercial segments, and inverter-type residential units, it continues to expand the T3 ratings to other products, such as VRFs. These actions and many others, it added, are why a growing number of entities around the world are relying on AHRI-certified products and equipment, which have provided performance assurance for more than 60 years across 40 programmes and with more than 1,100 certified licensees across the globe.

The initiative’s first part, it said, is to help its GCC region, Asian, European and American members and programme participants certify their tropical high-ambient products to T3 test conditions through simplified mechanisms and processes. The second part, it said, involves its outreach to regional regulators and authorities, informing them of their ability to ensure compliance to T3 conditions, if they wish to do so.

“We are confident that this dual approach directly supports the important

value proposition of achieving governmental energy efficiency goals and regulatory/policy initiatives, while providing a wider range of quality equipment to the residential and commercial sectors in HAT regions,” said Khalil Issa, Managing Director, AHRI MENA. “Governments, consumers, and other entities have always had the assurance that AHRI Certified products have been tested by third-party laboratories to perform as promised, helping to ensure expected energy and cost savings for the benefit of institutional clients, end-users, consumers, and the environment. The expanded test conditions solidify that assurance and allow customers in these regions access to a wider array of quality product choices.”

AHRI said its publicly available, free Directory of Certified Product Performance not only allows consumers, contractors, and others to quickly assess whether a product is AHRI Certified or not but also enables local regulators to immediately enforce compliance by easily identifying non-compliant products.

Eurovent Certita Certification launches its new website

New site was designed to provide a better user experience with a quick and easy access to certified data, organisation says

By CCME Content Team

Eurovent Certita Certification launched a new version of its website, available at www.eurovent-certification.com, the organisation said through a Press release.

According to Eurovent, the new website was designed to provide a better user experience to a wider audience – comprising consultants,

technical design offices, architects and end-users, among others – with a quick and easy access to certified data.

According to Eurovent, the website has the following new features:

- An online search engine for third-party certified products, components and systems in the Heating, Ventilation, Air Conditioning and Refrigeration fields with an easy access to certified data by:

- o product families,
- o brands,
- o performances
- Editorial contents related to the following topics:
 - o Indoor air quality and Ventilation
 - o Thermal Comfort
 - o Heat Pumps
 - o Refrigeration
- Online configurators allowing to find the best certified product families and product types, according to visitor needs
- Content available in the following nine languages: English, French, German, Italian, Spanish, Russian, Turkish, Arabic and Chinese

Camfil donates air purifiers to Pertini

Installs three units in cultural centre in Italy

By CCME Content Team

Camfil Italy in Cinisello Balsamo donated air purifiers to the municipality for the Il Pertini Cultural Center, Camfil said through a Press release, adding that it was a gesture of generosity and attention to the city, in which it has been operating for the last 46 years. The air purifiers, the company said, have been placed in the study room in one of the buildings, which has become an important step as many young students and professionals spend hours studying there.

Following an inspection, Camfil proposed the installation of three air purifiers in the study room. The clean air solutions, capable of purifying the air from pollen, bacteria, viruses, particulate matter, ozone, chemicals and other harmful

contaminants, are also the same adopted by the French and Spanish regional authorities in the canteens, laboratories, and study rooms of their schools, Camfil said. Silent and with very low energy consumption, the City M air purification systems will guarantee about 16 changes per day of purified air, thanks to HEPA H14 filters, with a certified filtration efficiency of 99.995% even on the smallest particles in the air, it added.

Luciano Rogato, Managing Director, Camfil Italy, said: "We are humbled to have donated three air purifiers to the reading room of the Pertini Cultural Center, which plays a central role in promoting culture, socialization, and creativity in the Cinisello Balsamo community. It is an important contribution, as the local communities and



public places have remained under strict restrictions due to the pandemic. Our clean air solutions ensure a healthy and safe indoor environment."

Mayor Giacomo Ghilardi, said: "I thank Camfil for this donation to our city library, which is a hub for so many young people for studying, reading, and as a meeting place. Due to the health emergency, which is still ongoing, the Pertini was closed for some time, and we know how much discomfort this has created for many students and young professionals. The installation of these machines will allow more comfortable and healthy use of the indoor environments."

ASHRAE participates in High Performance Buildings Coalition Congressional Event

Discussion examines innovative technologies for improving existing building stock, Society says

By CCME Content Team

In recognition of High Performance Building Week, 2020-21 ASHRAE President Charles E Gulledge III, spoke on a panel, titled 'Building Better: Congressional and Private Sector Efforts to Promote High Performance Buildings'. Congressman, Peter Welch (D-VT), Co-Chair, High Performance Buildings Caucus, and the High Performance Building Coalition organised the event. The Coalition comprises more than 200 manufacturers, trade associations and other stakeholders who support policies and legislation that advance the next generation of buildings.

Joining Gulledge on the panel were chief executives from the

International Code Council (ICC), the Green Building Initiative (GBI) and the International Association of Plumbing and Mechanical Officials (IAPMO), ASHRAE said. This was followed by a Q&A session moderated by Lakisha A Woods, CAE, President and CEO, National Institute of Building Sciences (NIBS).

In his remarks, Gulledge spoke from ASHRAE's current Society theme, 'The ASHRAE Digital Lighthouse and Industry 4.0', which focuses on reimaging the building industry, ASHRAE said.

"With the technological transformation of how we design, build, and operate buildings, the lines within

the built environment including energy and infrastructure are increasingly blurred," Gulledge said. "We must think about how existing buildings fit into this transformation. About half of the commercial buildings in the U.S. were constructed more than 35 years ago. Revitalizing these existing buildings represents Congress's single best opportunity for making a significant impact on sustainability, resiliency, and energy efficiency. ASHRAE is committed to working with Congress to provide resources and knowledge which continually drive the innovative and strategic improvements needed during this transformation of the built environment."

According to ASHRAE, Gulledge highlighted the new ASHRAE Global Headquarters building to demonstrate how to transform older existing buildings into high-performance workplace environments in a cost-effective and practical way.

Emerson celebrates 100 years of Copeland technology

Company marks 100 years of air conditioning and refrigeration innovation through Copeland, which it says combines ‘inventiveness’ with legacy of expertise to solve critical sustainability challenges for customers worldwide

By CCME Content Team

Emerson announced celebrating 2021 as the 100th anniversary of its Copeland brand, a name it described as having become synonymous with leadership in the design and manufacture of energy-efficient and reliable compressors to power air conditioning and refrigeration systems. Making the announcement through a Press release, Emerson added that it is a milestone it will recognise over the next 12 months, as it continues to innovate advanced Copeland products to solve critical industry challenges.

Emerson revealed that it completed a multimillion-dollar expansion of its Copeland engineering facility in Sidney, Ohio, in the United States. The investment created 110,000 square feet of new engineering lab space for product research, development and testing of the next generation of compressors, electronics and other critical technologies for the global HVACR industry, it said. Much of the work in the Sidney labs focuses on innovative compressor technologies that enable more environmentally responsible refrigerants with lower global warming potential (GWP) to meet and exceed efficiency standards and regulations while empowering success in customer designs, the company said. The investment is the latest addition to Emerson’s global network of R&D and customer solutions centres, including in China, Germany and the United States, which fuel innovation and digital transformation across multiple industries and applications, the company added.

“The Copeland brand has a proud legacy and even brighter future,” said Jamie Froedge, Executive President, Emerson’s Commercial & Residential Solutions business. “Air conditioning and refrigeration technologies are increasingly crucial and necessary foundations of daily life around the world. Through our Copeland brand and our inventive approach, Emerson is using



Jamie Froedge



Edmund Copeland

our stewardship position and deep history in this space to drive innovation for a more sustainable world.”

According to Emerson, the Copeland brand traces its history to inventor, Edmund Copeland, who founded a company in Detroit, Michigan, in 1921, to transform the refrigeration industry with his unique inventions. When the business faced challenges during the Great Depression, its assets were sold and the operations were relocated to Sidney, 1937. In Sidney, four of the company’s enterprising young engineers envisioned the future of possibilities and purchased the business and its compressor patent, the company said. When Emerson acquired Copeland, in 1986, it continued to honour the spirit of enterprise and inventiveness embodied by the brand’s early founder and champions, the company added.

Emerson said it made significant investments in the development of a new scroll compressor product Copeland was working on at the time of the acquisition and, in 1987, introduced the first scroll compressor sold under the Copeland brand. The success of the product, the company claimed, helped revolutionise the air conditioning and refrigeration industries worldwide with highly efficient and reliable performance, leading to the introduction of a family of Copeland scroll compressors for applications ranging from residential and light-commercial air conditioning to refrigeration systems for the food and healthcare industries and marine containers.

Eurovent announces granting first certificate for fans

Direct-driven centrifugal fans using EC motor technology get first attention from Eurovent Certified Performance programme for Fans

By CCME Content Team

Eurovent has issued its first ever certificate of the Eurovent Certified Performance programme for Fans, the body said through a July 2 Press release. Eurovent added that the certificate went out to direct-driven centrifugal fans using EC motor technology.

According to Eurovent, the scope of the certification programme includes all fan types that are intended to be used as air-handling unit (AHU) components. The certification programme is based on factory audits, software/DLL checking, random product sampling and tests according to ISO 5801:2017 for aerodynamic performances and ISO 13347-2:2004 for acoustic performances, Eurovent said, adding that all tests are performed by independent testing laboratories.

According to Eurovent, the following performances are certified:

- Static pressure difference
- Motor electrical input power
- Drive/control input power
- Overall (static) efficiency
- Inlet and outlet sound power levels



INDUSTRY



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4. BUILDING ENVELOPE OF THE YEAR (CONTRIBUTING MANUFACTURER/SUPPLIER)
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6. DISTRICT COOLING COMPANY OF THE YEAR
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9. INNOVATIVE MANUFACTURER/SUPPLIER OF THE YEAR (CHILLERS)
10. MANUFACTURER/SUPPLIER OF THE YEAR (CHILLED WATER SYSTEM EQUIPMENT AND COMPONENTS, LESS CHILLERS)
11. MANUFACTURER/SUPPLIER OF THE YEAR (STANDALONE DX)
12. MANUFACTURER/SUPPLIER OF THE YEAR (VRF SYSTEMS)
13. GCC REGION MANUFACTURER OF THE YEAR
14. MANUFACTURER/SUPPLIER OF THE YEAR (WATER HEATERS)
15. HVACR ACCESSORIES MANUFACTURER/SUPPLIER OF THE YEAR
16. PROJECT OF THE YEAR (OUTDOOR AIR CONDITIONING SYSTEMS)
17. PROJECT OF THE YEAR, NEW CONSTRUCTION – IEQ (HEALTHCARE, ACADEMIC, HOSPITALITY, COMMERCIAL, RESIDENTIAL)
18. HVAC CONSULTANT OF THE YEAR
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20. BUILDING EFFICIENCY PROJECT OF THE YEAR
21. IAQ HEALTHCARE RETROFIT PROJECT OF THE YEAR
22. COMMISSIONING/RE-COMMISSIONING COMPANY OF THE YEAR
23. FM COMPANY OF THE YEAR (ENERGY MANAGEMENT, IEQ)
24. IoT INTEGRATION INITIATIVE OF THE YEAR
25. DIGITAL HVACR STORE OF THE YEAR
26. HVACR ENGINEER OF THE YEAR
27. YOUNG HVACR ENGINEER OF THE YEAR
28. MANUFACTURER OF THE YEAR (VEHICLE ENVELOPE & CONDENSING UNITS)
29. COLD STORE OF THE YEAR
30. DOMINIC DE SOUSA AWARD FOR INNOVATION
31. EDITOR'S CHOICE AWARD

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MARKETPLACE

HMS launches new IR-based air conditioning interface

System can control any air conditioning unit from Modbus or BACnet-based automation systems via IR, company says

By CCME Content Team

HMS Networks has launched an IR-based Intesis AC interface, which the company said enables integration of any air conditioning unit, regardless of brand, into Modbus or BACnet building automation systems.

Saying that HVAC systems are usually the largest consumers of energy in a building, HMS said it is crucial for building owners to monitor and control these systems to save costs and energy. Additionally, the COVID-19 pandemic has made it increasingly important to find new ways of installing and using AC units, as ventilation and “clean air” have become

a major concern, the company said. The air conditioning market is growing fast with new brands and different types of AC units constantly emerging, the company said. This, it added, makes it challenging for building owners to integrate AC units into their specific Building Management System (BMS).

The Intesis offering, the company said, includes the most comprehensive portfolio of AC interfaces on the market, enabling monitoring and control of air conditioning units from any home or building automation system. The portfolio, it claimed, is now further strengthened through the launch of a universal IR-based Intesis AC interface for integrating AC

units to Modbus- or BACnet-based automation systems.

The new interface connects to the AC unit via the IR link, which is already used by most AC units to communicate with their remote control, it said. The Intesis IR-based AC Interface is already compatible with more than 100 IR remote controllers and their associated AC units, it added.

The new AC interface solution, the company said, is configured using the Intesis MAPS tool, which brings many advantages for the system integrator. With a project-based configuration, all the interfaces installed can be configured in a single MAPS template, making it easy to copy device configurations and set up new projects, it said. Thanks to the diagnostics function, it added, the commissioning process and any post-installation assistance is also simplified.



GEA signs up for UNEP Cool Coalition for sustainable cooling technology

Refrigeration Technologies division joins the UN programme, which aims to drive the use of climate-friendly cooling in urban environments and industrial processes worldwide

By CCME Content Team

GEA Refrigeration Technologies, the GEA division specialising in industrial refrigeration, has joined the Cool Coalition led by the UN Environment Programme (UNEP), the company said through a Press release. By fostering dialogue among governments, business, finance and civil society, the initiative aims to drive the use of efficient, climate-friendly cooling in urban environments, buildings and industrial processes worldwide, GEA said of the UN programme.

As the planet heats up, according to International Energy Agency (IEA), it is estimated that we will require 3.5 times more cooling by 2050 than today, GEA pointed out. At present, refrigeration and

air conditioning systems already consume around 15% of global electricity production. In its new climate strategy, GEA recently announced it would give priority to driving sustainable innovation in technologies that remain energy-intensive, such as refrigeration technology. By joining the Cool Coalition, GEA said, it is underlining its commitment to reduce its own greenhouse gas emissions along its entire value chain to net-zero by 2040.

“There is an urgent need for our industry and those it serves to become more energy-efficient to reduce greenhouse gas emissions,” said Kai Becker, CEO, GEA Refrigeration Technologies. “By joining the Cool Coalition. “We aim to share our expertise and add impetus by facilitating the transition toward climate-friendly cooling and heating solutions.”

GEA said its commitment to delivering sustainable cooling and heating systems in the form of innovative heat pumps for heat decarbonisation and the use of natural refrigerants with low to zero global warming potential aligns perfectly with the Cool Coalition’s objectives. Lily Riahi, Cool Coalition Coordinator, UNEP, said: “Today, more than ever, we need sustainable cooling solutions to tackle the climate crisis and achieve the sustainable development goals. We ought to raise the net-zero ambition for cooling to new highs with commitments from industry leaders. We are delighted to see GEA Refrigeration Technologies joining the Cool Coalition efforts and looking forward to GEA’s contribution in finding ways to decarbonize the cooling sector comprehensively by 2050.”

LightAir says subscription strategy is yielding results

Company says an independent secondary school has signed an expanded subscription for clean and virus-free air

By CCME Content Team

LightAir said its strategic focus on sales of air purification to offices and schools in Sweden is continuing to yield results. The LightAir Health+ offer provides clean, virus-free air and is offered in Sweden primarily as a subscription service, it said, adding that the number of subscriptions is growing continuously, rising from about 60, last summer, and soon likely to exceed 300.

The positive market reception in Sweden is exemplified by how Enskilda Gymnasiet – an independent secondary school in operation for over 100 years – is now expanding its two subscriptions to 30, LightAir said. The school carried out a six-month evaluation, which documented how individuals with asthma and allergies experienced relief from problems and that other students and teachers experienced improved air quality, LightAir said. Evaluation comments mentioned reduced fatigue, improved concentration and less drowsiness, it added.

“We are located in central Stockholm and are aware that we operate in an environment that is particularly exposed to traffic pollution,” said Jonas Persson, Project Manager, Enskilda Gymnasiet. “It’s important that students can stay healthy, cope with the school day and don’t get fatigued by bad air. It’s especially important that they are alert

when final exams roll around. Students with pollen allergies are prone to tire easily and perform poorly.”

According to LightAir, Enskilda Gymnasiet is now installing a total air purification capacity of over 20,000 cubic metres per hour, along with a corresponding virus inhibitor capacity. Subsequent to the sale of the purifiers, the service will be delivered in the form of a three-year subscription, LightAir said.

According to LightAir, its Health+ subscription offer is the most comprehensive service offer available and was established in the Swedish domestic market in 2020. The offer has since been awarded the International Facility Management Association’s Nordic Innovation Prize, not least since it has the distinction of being able to destroy viruses while they’re still airborne, the company said.

“More and more businesses and organizations are opening their eyes to the challenges of indoor air,” said Joakim Hansson, Business Area Manager, LightAir. “This is also shown concretely by how we expanded our subscription base from 5 to 60 last summer, and from 60 to 160 by year end. This summer we have high hopes of reaching our goal of 300 Swedish subscriptions.”

Added Lars Liljeholm, CEO, LightAir: “We see that our strategic plan is promising and starting to bear fruit, while we have a long way to go with stimulating challenges ahead of us. We will become increasingly better at utilizing the competitive advantages we have in the nascent corporate market, not least in terms of purification efficiency and noise levels, as well as with an attractive and trouble-free subscription offer. Professional solutions will be the engine of our future growth. Through an increasingly successful domestic market, we are laying the foundation for establishment in selected international markets.

“We are in the middle of the demanding – but enjoyable – work of building a leading position in the commercial segment. Initially, the new strategy will affect sales when we change our revenue model, but in the long run, this will be crucial for the company and value creation for our owners. With that said, the consumer market will still be an important part of the future LightAir we are now building, which is why we have also recruited cutting-edge expertise and are continuously developing our international ventures and e-commerce.”

Belimo damper actuators get UL 2043 certification

Company says most of its valve actuators and sensors also meet the UL requirement

By CCME Content Team

Belimo said its damper actuators and most of the valve actuators and sensors meet UL 2043 requirements. The National Electrical Code Section 300.22 (c), in the United States, requires electrical devices in plenums to be tested to UL 2043

for low smoke generation. Underwriters Laboratories’ UL 2043 is the standard for fire test for heat and visible smoke release for discrete products installed in air-handling spaces, Belimo said, adding that its products, used for installation in air-handling spaces, meet UL 2043 standard for heat and smoke release. By complying with the UL 2043

requirements, Belimo said, its products have demonstrated the following characteristics:

- A peak rate of heat release of 100 kW or less
- A peak normalised optical density of 0.50 or less
- An average normalised optical density of 0.15 or less

MARKETPLACE

SPX launches new MH Fluid Cooler models

Says they broaden application flexibility, adding that choice of copper, HDG steel and stainless coils provide Eurovent-certified performance in HVAC and industrial applications

By CCME Content Team

SPX Cooling Technologies Inc. has released details of its expanded MH Fluid Cooler line, which it said is designed to meet an even more diverse range of applications. The MH Fluid Cooler, the company said, is now available with three coil materials, each delivering its own advantages.

The most recent innovation, the MH Element Fluid Cooler, is equipped with copper coils, the company said, adding that copper offers superior corrosion resistance and improved heat transfer. Compared with traditional HDG coil fluid coolers, copper coil requires 35% less fluid volume, and the cooler operating weight is reduced by 20%, the company said. Copper is also sustainable, with a high recycle value at the end of its operational life, it added.

Other MH Fluid Coolers are available

with coils of either HDG (hot dip galvanised) steel or stainless steel, the company said. HDG steel offers good thermal performance in a closed and pressurised system, it claimed. Models with stainless steel coils use larger coil surface area to achieve results and are often utilised in coastal regions and applications prone to corrosion, it said.

According to SPX, one of the most efficient closed-circuit cooling towers in its class, the MH Fluid Cooler, is a hybrid system that combines the functionality of a cooling tower and a heat exchanger. Utilising a combination of evaporative fill media and prime surface coils, the MH Fluid Cooler offers significantly improved performance over conventional non-hybrid systems, the company claimed. Compared to forced-draft products with comparable footprint, its proprietary

CoolBoost technology uses up to 75% less fan energy, requires up to 35% less process fluid and reduces operating weight by 15% or more, it further claimed. HVAC applications, SPX said, include water-source heat pumps, water-cooled VRF (variable refrigerant flow) systems, geothermal heat pumps and chillers. Industrial process cooling uses include water-cooled air compressors, injection moulding machines, induction furnaces and other machines or jacket cooling, it said.

Thermal capacities of all standard MH Fluid Coolers are independently certified by Eurovent and the Cooling Technology Institute (CTI) for performance with water, ethylene glycol solutions and propylene glycol solutions, it said, adding that the MH Fluid Cooler is backed by SPX's five-year mechanical warranty and energy efficiencies that exceed ASHRAE Standard 90.1 requirements.

Eurovent, FAIAR sign MoU

Organisations join forces to level the playing field in the HVACR sector

By CCME Content Team

Eurovent and the Federation of Ibero-American Air Conditioning and Refrigeration Associations (FAIAR) signed a Memorandum of Understanding, underlining their commitment to greater harmonisation and stronger ties between Europe and Latin America, Eurovent said through a Press release.

In the framework of the Memorandum, Eurovent said, the two organisations will collaborate on standards development, codes of good practice and networking events, among others. Eurovent and FAIAR

will have their first high-level coordination meeting still this year to identify concrete opportunities for joint action, Eurovent said.

Raul Corredera Haener, President, Eurovent, said: "In order to raise and harmonise industry standards worldwide, Eurovent's ambition is to strengthen its international partnerships with like-minded associations. FAIAR has proven to be such a partner, and we look forward to working together with our colleagues from Latin America much more closely in the future to bring new opportunities to our industry."

Odete de Almeida, President, FAIAR, said: "To achieve FAIAR objectives, we understand the importance of integration of related associations of any territorial scope, in order to provide mutual collaboration and exchange experiences in the professional field, which benefit the partners."

Eurovent said the two organisations have agreed to work together to promote energy-efficient, environmentally friendly, safe and reliable HVACR technologies based on common principles. The HVACR sector, it added, has an important role to play in the welfare of society and in the fight against climate change. The two regional associations, it further added, aim to avoid disjointed regional approaches to these questions, which would turn opportunities for growth and innovation into market barriers.

MARKETPLACE

ENGIE's redesigned QUANTUM Water series available in 47 versions

Performance ranges from 200 kilowatts to four megawatts, company says

By CCME Content Team

ENGIE Refrigeration said it has redesigned its water-cooled QUANTUM chillers and is able to offer the series in a total of 47 versions with a performance range from 200 kilowatts to four megawatts.

Jochen Hornung, CEO, ENGIE Refrigeration, said: "We at ENGIE Refrigeration have always aimed to offer our customers the highest-quality, most efficient and most sustainable chillers. With the QUANTUM Water series we have once again achieved this goal; our models currently represent the most efficient water-cooled chiller series in the world. We are proud of this fact and are further consolidating our pioneering role on the international refrigeration market."

ENGIE said the revised QUANTUM Water meets the highest economic and ecological requirements for refrigeration supply. To achieve this, the company said, the team at ENGIE Refrigeration relied on new components and an innovative control concept. The team also deployed ultra-modern inner tube technology, which ensures an excellent heat transfer performance and an especially high level of efficiency with a low input of materials, the company claimed. In addition, the QUANTUM Water series is currently the only model series on the market with an open-flash economiser, integrated as standard in all 47 versions, which also helps improve performance and efficiency, the company further claimed. Moreover, operating companies benefit from control system options that are now even smarter, through adapting the tried-and-tested regulation strategy from the QUANTUM Air series to the water-cooled series and through deploying the latest Siemens PLC in control cabinets, the company added.

As a result, ENGIE said, QUANTUM

Water chillers achieve even greater efficiency than their predecessor models, especially under partial load.

As the world's first water-cooled chiller series, the QUANTUM Water offers groundbreaking digital features, ENGIE claimed. With the new 'smart control', a smart user interface replaces the touch panel that was previously integrated in a fixed position on the machine, allowing the chiller to be controlled using a tablet and a Wi-Fi connection, for example, the company said. This improves ease of use for operating companies while also simplifying maintenance and servicing, the company said. Furthermore, customers can now choose between four different refrigerants – R-515B, R-134a, R-513A and R-1234ze – and all machines require less refrigerant than the predecessor series, the company said. For the first time, the QUANTUM Water can be ordered with special housing to provide maximum safety in the unlikely event of an accident occurring in a machine operated with the A2L refrigerant R-1234ze, the company said. Customers who lack a large machine room but would nevertheless like to use future-proof high-end technology in



their refrigeration supply can thus set up the new QUANTUM Water outdoors – a hitherto unheard-of option on the refrigeration market, the company said.

The QUANTUM Water is available in 47 model versions with a smart modular principle and a performance range from 200 kilowatts to four megawatts, the company said.

The new QUANTUM Water, ENGIE said, replaces the previous water-cooled series, QUANTUM W, QUANTUM B, QUANTUM X and QUANTUM G. The QUANTUMPower, it added, will remain available as a customer-specific solution for even higher performance ranges up to 8.5 megawatts.

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ASHRAE introduces 2021-22 President, officers and directors

Mick Schwedler, Applications Engineer at Trane, takes charge as President of Society

By CCME Content Team

ASHRAE introduced its 2021-22 Society President, executive committee officers and directors. Mick Schwedler, Application Engineer at Trane, has assumed office as President, ASHRAE said through a Press release.

During his inaugural presidential address, Schwedler announced the new Society theme will be 'Personal Growth. Global Impact. Feed the Roots'. The theme, ASHRAE said, explores the Society's expansive root system from its founding, through its extraordinary global growth and impact to the built-environment. Three sets of roots were established to help members grow – member-to-member connections, grassroots chapters and regions, and technology, ASHRAE said.

"This Society Year, we will examine how ASHRAE cultivates its deep, widespread, and strong roots to collectively provide global benefits today as well as for future generations," Schwedler said. "Most importantly, we ask for your active participation in helping someone else grow."

According to ASHRAE, the -elected officers who will serve one-year terms are:

- President-Elect: Farooq Mehboob, P.E., Fellow Life Member ASHRAE, Principal Consultant, S. Mehboob & Company Consulting Engineers, Karachi, Pakistan
- Treasurer: Ginger Scoggins, P.E., Fellow ASHRAE, Principal, Engineered Designs Inc., Cary, North Carolina, United States
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- Vice President: Sarah Maston P.E., BCxP, Member ASHRAE, President, Green Footprints Commissioning, Inc., Hudson, Massachusetts, United States
- Vice President: Tim McGinn, PEng., HBDP, Member ASHRAE, Principal, McGinn Technical Services, Calgary, Alberta, Canada

ASHRAE introduced its newest Directors and Regional Chairs who will serve three-year terms from 2021-24:

- Region I Director and Regional Chair:

Steven Sill, Plant Superintendent, New York State Department OPWDD, Sterling, New York, United States



Mick Schwedler

- Region II Director and Regional Chair: Ronald Gagnon, President, Concept-R, Sorel-Tracy Quebec City, Canada
- Region III Director and Regional Chair: Mark Tome, P.E., Development Engineer, Sitelogiq, Harrisburg, Pennsylvania, United States
- Region XI Director and Regional Chair: N. Eileen Jensen, P.E., Mechanical Engineer, Bonneville Power Administration, Vancouver, Washington
- Region-at-Large Director and Regional Chair: Richie Mittal, Managing Director, Overdrive Engineering Pvt. Ltd., New Delhi, India

ASHRAE also introduced its newest Directors-at-Large (DALs):

- Dru Crawley, Fellow/Director, Building Performance Research, Bentley Systems Inc., Washington, D.C., United States.
- Art Giesler, Director of Technical Sales, PermAlert ESP, Colleyville, Texas, United States
- Kishor Khankari, Ph.D., President, AnSight LLC., Ann Arbor, Michigan, United States
- Heather Platt Gulledege, P.E., Senior Project Manager, Dewberry, Summerfield, North Carolina (Alternate Director-at-Large), United States

Baltimore Aircoil Company acquires Eurocoil SPA

Says the move has strengthened its position in the global cooling market

By CCME Content Team

Baltimore Aircoil Company (BAC) acquired Italy-based Eurocoil SPA. Making the announcement through a Press release, BAC said Eurocoil is a leading manufacturer of heat exchangers serving the European commercial and refrigeration industries. BAC said the addition of Eurocoil increases its manufacturing

capacity in the region, while adding additional heat exchanger capabilities used for BAC's existing evaporative hybrid and adiabatic cooling products.

Don Fetzer, President, BAC, said: "We're excited to welcome Eurocoil to the Baltimore Aircoil Company family. The acquisition of Eurocoil and our previous investment in Coil Design Corp., in North America, positions BAC to

accelerate the development of industry-leading evaporative hybrid and adiabatic technologies, furthering our vision to reinvent cooling to sustain the world."

David Jacobs, Vice President and Managing Director (EMEIA region), BAC, said: "Eurocoil is an excellent organization composed of quality people and industry experts. They have a history of providing exceptional products and services to their customers, which matches extremely well to the BAC strengths and culture. We welcome all of the Eurocoil employees to The Baltimore Aircoil Company and are excited to be working with them on a successful future together."

Epta: 'Possible to replace HCFC, HFC refrigerants with transcritical CO2 anywhere in the world'

Company says its Carbon 4 Retail Refrigeration project confirms benefits of a natural approach

By CCME Content Team

Increasingly stringent international regulations are driving a massive transformation in the world of commercial refrigeration – at a European level with the F-gas Regulation and internationally with the Kigali Amendment, commercial refrigeration manufacturer, Epta said through a Press release.

The company said it has already achieved important milestones in the technological development of HFC-free solutions. It added that its Life-C4R (Carbon 4 Retail) Refrigeration project, co-financed by the European Union, confirms the benefits of a natural approach.

Francesco Mastrapasqua, the company's Institutional Affairs Manager, said: "The three-year Life-C4R - Carbon 4 Retail Refrigeration project was created to sensitise the scientific community, the component suppliers and the retail world's key players in the use of increasingly efficient solutions. One of the goals is demonstrating how HCFC and HFC refrigerants can be completely replaced with transcritical CO2, anywhere in the world."

The patented FTE 2.0 Full Transcritical Efficiency and ETE Extreme Temperature Efficiency systems, Epta said, are recognised by the EU as simple and efficient systems and are at the very core of the Life-C4R. "The Life-C4R Plan is essential in validating the FTE and ETE performance in all climatic conditions, in promoting their international diffusion and in certifying both as global and reliable solutions for the future of commercial CO2 refrigeration," Mastrapasqua said.

FTE 2.0, Epta said, represents the evolution of its patented FTE Full Transcritical Efficiency system. It is recommended at any temperature and is, therefore, a must for obtaining maximum efficiency above 37 degrees C, it said. Simple, efficient, reliable and industrialised, FTE uses flooded evaporators, it said. They allow for the difference between the evaporation





temperature and the cabinet's internal temperature to be significantly reduced and, therefore, for an energy consumption 10% lower than a traditional CO2 system, it claimed. This is a simple solution, the company said, where it has mechanically added only a multilevel liquid receiver to the standard configuration. On the one hand, FTE reduces the compressors' discharge temperature, allowing for smooth functioning at high temperatures, it said. On the other hand, it guarantees their perfect lubrication, favouring a longer life cycle of the component itself, it said. FTE also guarantees up to 20% lower installation and maintenance costs, it added. Finally, the FTE 2.0 version, which is integrated into the rack, takes up less space and reduces installation and start-up times, it further added.

The ETE, Epta said, allows for 100% cooling capacity to be reached even in the hottest climates, both in industrial and commercial refrigeration applications. Recommended at temperatures between 30 degrees C and 40 degrees C, it guarantees maximum savings over 40 degrees C, also in combination with FTE, the company claimed. In this case, the transcritical CO2 system is guaranteed to work perfectly at any latitude, even on non-booster systems and in industrial refrigeration, it said. ETE's "secret" is contained in the refrigerant temperatures'




reduction before its distribution to end users, it said. As it leaves the air exchanger at a value close to the ambient temperature, the gas is further cooled, it said. The system, it added, allows for an almost total disappearance of "flash-gas", creating significant energy savings over time and smooth functioning even well above 40 degrees C.

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'We are headed back to Las Vegas with a vengeance'

ASHRAE wraps up 2021 virtual Annual Conference; says anticipation growing for in-person 2022 Winter Conference, AHR Expo, in Las Vegas

By CCME Content Team

ASHRAE hosted its 2021 Virtual Annual Conference from June 28 to 30, which the Society said saw 970 virtual global registrants exploring topics related to critical environments, building operation and maintenance, and plant and animal environments.

According to ASHRAE, the conference featured over 100 live and on-demand sessions with updates from Society leaders and virtual networking events. Top sessions included Fundamentals of Climate Change (Seminar 1), Keynote: The COVID-19 Pandemic and Built Environment: Update on ASHRAE's Response and the Meeting of the Members, ASHRAE said.

According to ASHRAE, other highly attended sessions included topics on IAQ, energy efficiency and ASHRAE standards.

"The 2021 ASHRAE Virtual Annual Conference brought our community of industry professionals together for a full slate of highly relevant and valuable content," said 2021-22 ASHRAE President, Mick Schwedler. "The conference provided an opportunity to learn, share, and explore new ways to translate research and knowledge into built environment solutions that impact everyone. We are truly fortunate to be a part of this strong community that supports each other to accomplish great things. It is the power of this community that will propel us to future successes."

According to ASHRAE, Day One included a final State of the Society and farewell address from 2020-21 ASHRAE President, Charles E. Gullledge III, as well as a Secretary's Report from ASHRAE Executive Vice President and Society Secretary, Jeff Littleton.

"Plans for the January 2022 ASHRAE Winter Conference and AHR Expo in Las Vegas are well underway, and if you have any doubts about whether the industry



is ready to reconvene in January, let me share some facts with you," Littleton said. "Fully 90% of the 498,000 net square feet of AHR Expo exhibit space available in Las Vegas is already sold. That's 1,200 exhibiting companies already under contract. We may have had to cancel the show and the face-to-face Winter Conference this past January, but we are headed back to Las Vegas with a vengeance. Put it on your calendar today – January 29th to February 2nd. We'll see you in Las Vegas."

ASHRAE said that in response to the COVID-19 pandemic, its Epidemic Task Force (ETF) presented an update on its global headlining work to share guidance on minimising the airborne transmission of SARS-CoV-2. The keynote, titled 'The COVID-19 Pandemic and Built Environment: Update on ASHRAE's Response', included a brief history and status of the ETF, as well as a higher-level discussion on non-HVAC issues, such as vaccines, data, transmission routes and reopening.

During the conference, ASHRAE's Task Force on Building Decarbonization also gave an update on its progress, ASHRAE said. The task force was

formed to develop technical resources and provide guidance in mitigating the negative impact of buildings on the environment and to the inhabitants of our planet, it added.

The conference was also an opportunity to honor retiring board members for their service. Further, the event saw a virtual installation ceremony for the 2021-22 Board of Directors and officers. On the final day of the conference, Schwedler gave his address on the Society theme for the coming year, 'Personal Growth. Global Impact. Feed the Roots'.

"We each are involved in ASHRAE for different reasons and volunteer in our chosen ways," Schwedler said. "We do it because we grow – professionally and personally – and help others do the same. We do it because that global impact serves the world's, as well as our personal, future generations. All this occurs because we are true to our deep, widespread and strong technical roots, grassroots and personal roots."

According to ASHRAE, all technical sessions are now available on-demand to registrants for the next 18 months.



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