



LAUNCH
EVENT

HVACR
Consultant
Leadership
Workshops



Welcome remarks

Mr Brian Suggitt, Eurovent ME Chairman
Managing Director Middle East, Systemair AB



Event introduction

Markus Lattner
Director, Eurovent Middle East

Thank you to our partners



EU-GCC
Trade and Business Cooperation Facility

Our media partner

climate control MIDDLE EAST

KEY PERSPECTIVES ON THE REGION'S HVACR INDUSTRY

Today's workshop agenda

1. **Introduction to Eurovent**
2. Keynote speech: HVACR 2030 – Where is our sector heading towards?
3. Understanding certification and labelling
4. Introduction to the upcoming HVACR Consultant Leadership Workshops by Eurovent Middle East
5. Moderated panel discussion and exchange
6. Closing and buffet dinner

The Eurovent Structure in a nutshell



EUROVENT ASSOCIATION



**EUROVENT CERTITA
CERTIFICATION**



**EUROVENT MARKET
INTELLIGENCE**



Who we are Eurovent members in the Middle East



**HOME TO LEADING MANUFACTURERS,
SECTOR ASSOCIATIONS AND NATIONAL
INDUSTRY INITIATIVES IN THE FIELD OF**



**Indoor Climate
(HVAC)**



**Process
Cooling**



**Food Cold
Chain**



**Industrial
Ventilation**



**JOINTLY WORKING TOWARDS A LOWER
ENERGY DEMAND, AN IMPROVED FOOD SAFETY,
AND A BETTER INDOOR AIR QUALITY IN THE
MIDDLE EAST**



**FAIR AND TRANSPARENT STRUCTURE
FOLLOWING STRICTEST COMPETITION
LAW RULES**

Eurovent Middle East



What we stand for



INDOOR AIR QUALITY (IAQ)

We raise awareness on the importance of a healthy indoor air among the public and policymakers and provide practical solutions



ENERGY EFFICIENCY

- We support strong measures that require manufacturers to decrease the energy consumption of their products
- We encourage end users, consultants, and developers to utilise products, which will increase energy efficiency within their buildings



MAINTENANCE AND DURABILITY

We regard a proper product maintenance as key to ensure product performances both in terms of energy efficiency and health

What we stand for



REFRIGERANTS (F-GASES)

We advocate the global phase-down of refrigerants with a high Global Warming Potential (GWP) along the lines of the European Union 'F-Gas Regulation'



MARKET SURVEILLANCE

We encourage a stronger and more visible market surveillance and inspection by authorities in the Middle East, and support them in doing so

Eurovent Middle East Partnership for the HVACR industry

- Important stakeholder and advisor for authorities
- Neutral body for information and technology exchange
- **Trusted partner for related groups and sectors**



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Speaker

Mr Morten Schmelzer

Executive Director



Eurovent Association
Brussels, Belgium

www.eurovent.eu



HVACR2030

WHERE IS OUR SECTOR HEADING TOWARDS?

IN COOPERATION WITH  **IAQmatters.org**
Yes to a better Indoor Air Quality

Guiding questions

1. **What is HVACR?**
2. **Why 2030?**
3. What are our industry's core issues today?
4. How could our sector look like in 2030?
5. What can we expect from new generations?

Who are we?

Manufacturers

Contractors

Consultants

Wholesalers

Engineers

Certifiers

Testing agencies

Investors

Planners

Associations

Maintenance staff

You and me

What are we talking about?

HVACR

- Heating
- Ventilation
- Air Conditioning
- Refrigeration

‘Beyond HVACR’

- Indoor Climate (HVAC)
- Process Cooling
- Food Cold Chain
- Industrial Ventilation

We ensure that your building is ventilated, your food and drinks rightly preserved, ...

Why does our sector matter?

- We provide a better quality of life for people around the globe
- What we do in our daily work is taken for granted
- Without us, the most essential things would not function
- **We make modern life possible**





What would Dubai be without HVACR?

Why 2030?

Why not 2020 or 2100?



Long-term strategies EU 2030 Framework

2020 Package

- GHG Emissions Reduction
 - 20% compared to 1990
- Increase of Renewable Energy Use
 - 20% of total energy consumption
- Increase of Energy Efficiency
 - 20% compared to baseline scenario

2030 Package

- GHG Emissions Reduction
 - 40% compared to 1990
- Increase of Renewable Energy Use
 - 27% of total energy consumption
- Increase of Energy Efficiency
 - 27% compared to baseline scenario

Long-term strategies

Dubai 2030 Integrated Energy Strategy

Three of its goals apply directly to the HVAC sector:

- **Reduce demand side energy use by 30%**
- **Reduce CO₂ global warming emissions by 30%**
- **Move from 15% to 40% District Cooling**



Long-term strategies European Union 2050 Framework



- Long-term goal of reducing greenhouse gas emissions by 80-95%, when compared to 1990 levels, by 2050
- Significant investments need to be made in new low-carbon technologies, renewable energy, energy efficiency, and grid infrastructure

Long-term strategies UAE Vision 2021



- Focus on 'sustainable environment and infrastructure'
- National key performance indicators
 - Share of Clean Energy Contribution
 - Air Quality Index

How can we make these strategies/vision reality?

How are the UAE and European Union positioned?

Guiding questions

1. What is HVACR?
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Today's core issues

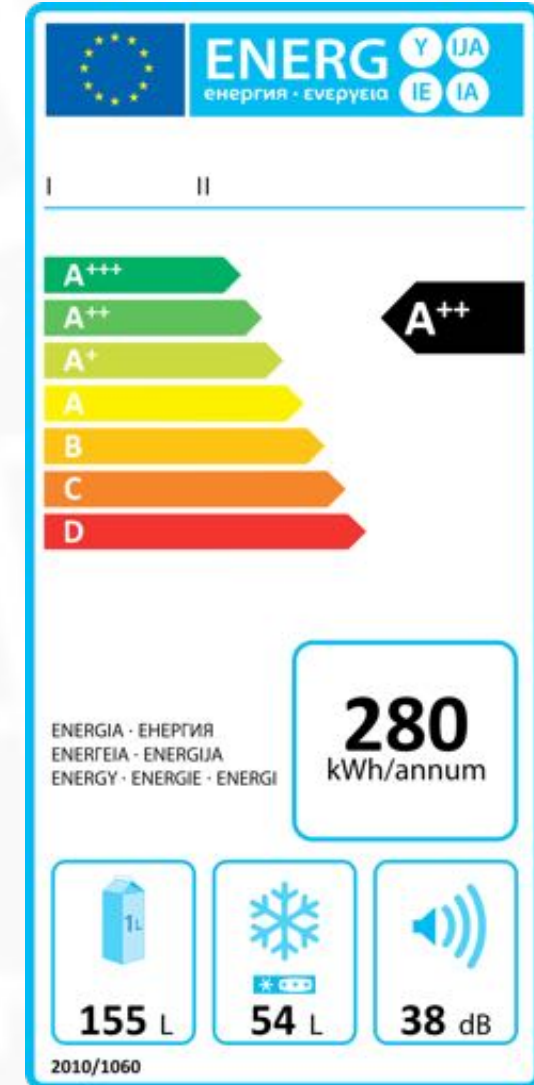
Key issues identified by Eurovent Middle East:

- **Energy Efficiency**
- **Maintenance and Durability**
- Refrigerants
- Indoor Air Quality

Energy efficiency today

Main drivers in the EU

- Buildings responsible for 40% of energy consumption and 36% of CO2 emissions
- Comparatively high electricity price for consumers
 - EU average: 20.8 cents/kWh (Germany: 35 cents/kWh)
 - Dubai: 6-11 cents/kWh
- Customer demand for energy efficient products
- Strict legislative requirements for products and buildings
 - EU has set a target for all new buildings to be nearly zero-energy by 2020



Energy efficiency today

Main drivers in the UAE



- Need to diversify power sources away from oil
 - Increasing renewable energy power generation
- Reduction of energy subsidies
 - Largely to counter effects of falling oil prices
 - Oil surcharge
- Legislation evolving in some HVACR areas

Energy efficiency today

Main drivers in the UAE

- HVAC sector currently uses up to 56% of Dubai's annual power
 - Produces 5.5 times the carbon footprint of its cars (39.1 million tons CO₂)
 - **Requires significant improvement in both HVAC operation and maintenance**



Energy efficiency today

Main obstacles in UAE and EU

- Lack of market surveillance
Do products really perform as they claim and should?
- Price > Quality
Primary question by investors: How much does it cost?
- Inspection and maintenance
Product was installed, and then?
- Design vs. comfort
Are we considered an obstacle by architects and designers?
- Lack of awareness
How should a good HVAC system be designed?

How can we overcome these obstacles?

Energy efficiency

Energy efficiency tomorrow

From energy to
environmental efficiency



- Increasing focus on **Life Cycle Costs (LCC)** and **Total Costs of Ownership (TCO)**
- **Energy performance contracting**
- **Smart monitoring/IoT**
- **There's more to it than just energy efficiency**
- **Towards a...**

Energy efficiency tomorrow Towards a circular economy



Energy efficiency tomorrow

Technological evolutions (examples)

- No ventilation without energy/cooling recovery
- Smart ventilation, demand control
- Increased focus on energy efficient air filters
- EC motors/inverter technologies
- Centralised vs. decentralised cooling
- **Zero net energy buildings up to energy plus buildings**



Today's core issues

Key issues identified by Eurovent Middle East:

- Energy Efficiency
- Maintenance and Durability
- **Refrigerants**
- Indoor Air Quality

Refrigerants today **Montreal Protocol**



- Phase-out of ozone-depleting substances
- All countries worldwide ratified agreement
- Different pace of phase-down in different countries
- **Major impact on HVACR sector**
- European Union took protocol very seriously



Refrigerants today

EU F-Gas Regulation

- European Union legislation to control F-Gases, including hydrofluorocarbons HFCs (F-Gas Regulation)
- **Limits the total amount** of most important F-gases sold in the EU from 2015 onwards
- **Bans the use** of F-Gases in many new types of equipment where less harmful alternatives are widely available
- **Preventing emissions** of F-Gases from existing equipment

What does the HFC phase down practically mean?

What can we expect to happen by 2030?

Refrigerants tomorrow

Results of F-Gas Regulation

- EU F-Gas Regulation pushed issue forward worldwide
- Change in refrigerant usage already visible
- Low-GWP and natural refrigerants at the forefront
- Awareness differs in European Union and Middle East
- **HFC phase down is a reality and return to past very unlikely**



Refrigerants tomorrow

Commercial refrigeration (estimates)



- **Refrigerants**
 - Increasing move towards CO₂ (R744) for remote units and Propane (R290) for integral units
 - 'CO₂ equator' disappearing
- **Condensing equipment**
 - Dominance of dry coolers
- **Proximity stores >**
Hypermarkets

Refrigerants tomorrow

Industrial refrigeration (estimates)

- **Refrigerants**
 - Increasing move towards low-GWP alternatives and Ammonia (NH₃)
- **Condensing equipment**
 - Emergence of evaporative condensers
- **Chiller**
 - Water cooled chillers equal to air cooled (in sold units)



Today's core issues

Key issues identified by Eurovent Middle East:

- Energy Efficiency
- Maintenance and Durability
- Refrigerants
- **Indoor Air Quality**



 **IAQ matters.org**
Yes to a better Indoor Air Quality

**THE WINNERS GO FOR
INDOOR AIR QUALITY**

THINK AHEAD, SHARE THIS MESSAGE.
TELL YOUR BUILDING OWNER AND HVAC
SUPPLIER THAT **#IAQmatters** TO YOU.

For more information, visit www.IAQmatters.org

 **EUROVENT**
EUROPEAN HEATING AND AIR CONDITIONING ASSOCIATION

 **EUROVENT**
MIDDLE EAST

Indoor Air Quality today Status quo in the UAE and EU

Outdoor air pollution

- Well-recognised problem
- Acknowledged by World Health Organisation
- Countries around the globe initiate measures to tackle this issue

Indoor Air Quality (IAQ)

- Countless academic studies prove negative side effects of bad indoor air
- Not yet in focus of attention
- No dedicated policies
- **Why should IAQ matter?**

Indoor Air Quality today

Reasons (examples)






Yes to a better Indoor Air Quality

**YOUR CHILDREN
WILL THANK YOU**

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 **EUROVENT**
EUROPEAN INDUSTRY ASSOCIATION

 **EUROVENT**
MIDDLE EAST

Indoor Air Quality today Major obstacles in the UAE and EU

- Who takes leadership on issues?
- Building design and delivery not holistic enough
- Knowledge and skills



Indoor Air Quality today

Major obstacles in the UAE and EU



- Public awareness
- Lack of legislation
- Development of the Energy Efficiency and Renovation Agenda

How good/bad will our indoor air be in 2030?

Why will IAQ receive increasing attention?

Indoor Air Quality tomorrow

Profitable investment (Example)

- Loss of work performance caused by poor IAQ is experimentally estimated to be ~5%
- Cost of providing a good IAQ in office is less than 1% of the labour cost
- Boost of Work performance by 5% means
 - 25 minutes longer working days
 - Reduced number of breaks in work
 - 10 sick leave days less during the year

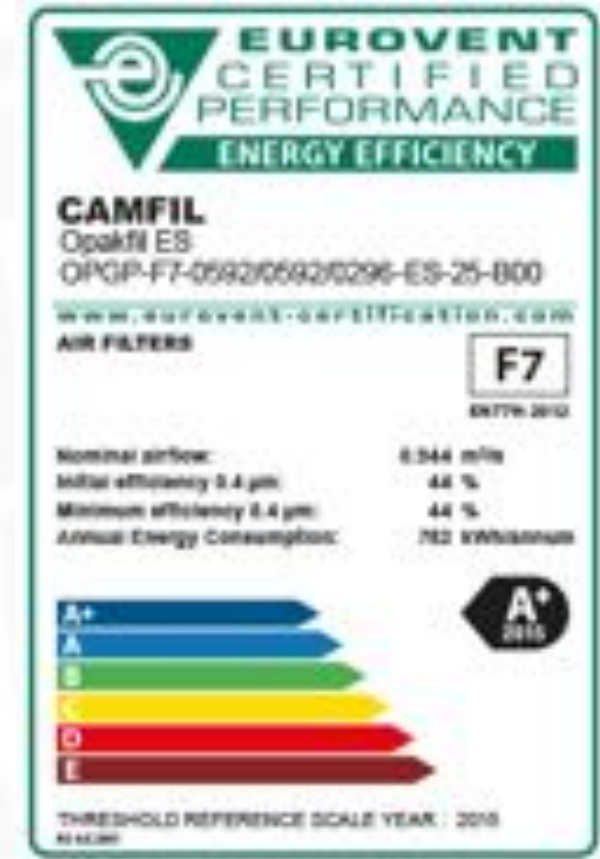
Indoor Air Quality tomorrow Rising awareness

- The public will (hopefully) be more aware of this issue
- **Indoor Air Quality Monitors and big data** key to support healthy indoor environment
- Governments to realise long-term costs related to bad indoor air



Indoor Air Quality tomorrow For the HVAC sector

- Stronger focus on air filtration and purification
- Air filters are key in ensuring a better indoor air
- **Maintenance and cleanliness of products essential**
- ‘Eurovent Certified Performance’ programme for air filters (the world’s first)





Yes to a better Indoor Air Quality

#IAQmatters

Visit www.IAQmatters.org for more information
Follow @IAQmatters on Twitter

Guiding questions

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5. **What can we expect from new generations?**

New generations Needs and expectations

- Increasing online focus
 - Hyperconnectivity
 - Digital natives
- Smart devices and big data
- **Service** > Product
- Sharing economy
- (Hopefully) raising awareness on sustainability



Our sector must work together across borders to adapt to these trends

Let's get ready for 2030!

Today's workshop agenda

1. Introduction to Eurovent
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- 3. Understanding certification and labelling**
4. Introduction to the upcoming HVACR Consultant Leadership Workshops by Eurovent Middle East
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Understanding certification and labelling

Erick Melquiond
President, Eurovent Certita Certification

Roleplay

How to rightly handle certification issues within projects



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HVACR Consultant Leadership Workshops

Markus Lattner
Director, Eurovent Middle East

HVACR Consultant Leadership Workshops by Eurovent Middle East

- Regular workshop series on technological developments, regulations and standards
- Jointly developed by consultants and manufacturers
- Non-commercial, educational, informative
- Each workshop to include room for discussion



Usual workshop framework

18:00-21:00h, usually at LeMeridien

4 to 5 presentations of 20 minutes each

Final discussion session

Dinner and networking afterwards



Commercial refrigeration

Workshop 1, 30 October 2017

- **Achieving higher food safety and cost savings through state-of-the-art refrigeration technologies**
- During Gulfood Manufacturing in Dubai



Commercial refrigeration

Workshop topics

- International regulatory developments in commercial refrigeration and their potential for the Middle East
- Natural refrigerant systems in warm climates
- Influence of cooler units (H₂O, Freon, Glycol, NH₃, CO₂) in preventing moisture and aroma loss in open-shelf products in cold storages
- Benefits of Air Curtains in Cold Storage applications

Commercial refrigeration

Workshop discussion

- The rise of new refrigerants: Assets and drawbacks
- Consultants in commercial refrigeration: What are the core issues they face?
- Consultants can suggest discussion topics prior to the workshop

Evaporative Cooling Technologies

Workshop 2, 29 November 2017 (TBC)

How to save resources by going evaporative?



Evaporative Cooling Technologies

Workshop topics

- Introduction to principles of state-of-the-art evaporative cooling and the latest EN, ISO, and Eurovent standards in this field
- In-depth introduction for consultants to the 'Eurovent Certified Performance' programme for cooling towers (evaporative cooling equipment) and how it can benefit consultants
- Case study: Combining evaporative cooling and water-cooled chiller system
- Aspects of operation and maintenance of cooling towers

HVACR Consultant Workshops

2018 Workshop Planning

Technical focus

- Refrigerants
- VRF
- Ventilation, air side
- Fans and motors
- Filtration technologies

Core issues

- Indoor Air Quality
- Life-Cycle Costs
- Refrigerants
- Hygienic air-distribution

HVACR Consultant Workshops

Your feedback is appreciated

- Fill out questionnaire and leave on your table
- Stay in touch (MMessage newsletter, LinkedIn, Twitter)
- Comment on topics
- Request information
- **Let us start a partnership**

For more information, visit www.eurovent.me

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B Surendar
Chief Editor, Climate Control Middle East

Consultant Contractor Conference

Conference theme

- Supporting and advancing the cause of the MEP community in the UAE and the broader GCC region
- Premise of the theme: The very best of HVACR equipment can help a project achieve its energy-efficiency, reliability and/or IEQ goals, but only if the project **also** has the support of specialised MEP consultants and MEP contractors, among other vital factors

Consultant Contractor Conference

Key discussion points

- Understanding and appreciating the value of specialised MEP disciplines (consultancy, contracting)
- A balanced approach to the structuring of contracts, the scourge of variation, payments delays and non-payment issues
- Expanding the regulation and enforcement framework to cover the business-enabling needs of MEP consultants and contractors and the scope of their responsibilities to ensure strong building performance during its entire lifecycle

Consultant Contractor Conference

Conference outcome

- Most clients are unaware of the importance of MEP performance, design, contracting and maintenance requirements
- There is a strong need for regulation to cover the interests of the MEP community, backed by robust enforcement mechanisms
- There is a lack of enforcement during the end-of-contract and post-occupancy phases
- There is a breakdown in communication between consultants and contractors

Consultant Contractor Conference

Conference outcome (cont.)

- The UAE Ministry of Infrastructure Development is introducing a grading and certification system for consultants and contractors for its projects, which will be revised on a yearly basis
- While this system is limited to the Ministry, the expectation is that consultants and contractors will raise their standards to meet the conditions of the federal body, which would benefit others, as well
- It is hoped the grading system will bring a great measure of order in the industry, with competent, capable and well-qualified consultants and contractors getting a fair treatment

Consultant Contractor Conference

Conference outcome (cont.)

- The awarding of contracts to inadequately qualified consultants and contractors often has other ramifications, especially for manufacturers and suppliers of HVACR equipment
- Possible solutions to overcome payment delays could be to...
 - Establish an escrow account for every project
 - Ensure payment is linked to the certificate of completion, issued by the municipalities
 - Ensure that KPIs and specifications are project-specific and are NOT general in nature

Today's panelists



B Surendar
Chief Editor,
Climate
Control
Middle East



Gary Williams
Director,
Commission
ing
AESG



Erick Melquiond
President,
Eurovent
Certita
Certification



Sagar Kulkarni
Managing
Director,
CEC



Michel Farah
Director
Corporate
ESR,
Daikin
Middle East



Closing remarks

Mr Brian Suggitt, Eurovent ME Chairman
Managing Director Middle East, Systemair AB



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