

# EUROVENT INDIA EXPERT WORKSHOP

## ENERGY EFFICIENT INDOOR AIR QUALITY SOLUTIONS

### DATE & TIME

**26 SEPTEMBER 2024**

**16:00-21:00H** (LOCAL TIME)

### VENUE

**ITC Grand Central  
Mumbai**

**MAHARASHTRA, INDIA**

### ORGANISERS



MEDIA  
PARTNER

**THERMAL CONTROL**  
BUSINESS UPDATE

OUTREACH  
PARTNER



# Welcome

**Mr Markus Lattner**  
International Director  
Eurovent





# Welcome remarks: Outgoing Eurovent India Chairman

**Mr Devraj Singh**  
Managing Director  
FläktGroup



# Welcome remarks: Incoming Eurovent India Chairman

**Mr Alok Bhardwaj**  
Vice-President  
Systemair India



# Moderator



**Mr Vanshaj Kaul**  
Director India  
Eurovent

# Agenda

Timing	Title	Speaker
17:00-17:10h	<b>Welcome remarks</b>	
17:10-17:20h	<b>Assessment of impact of IAQ in small commercial buildings: A case study of Delhi NCR</b>	<b>Mr Brijesh Pandey</b> Senior Research Associate AEEE
17:20-17:35h	<b>Air Filtration: Impacts and benefits of IAQ</b>	<b>Mr Stanley O Mathew</b> Head Sales & Marketing AAF India
17:35-17:50h	<b>Air Filtration: Selection of ISO 16890 rated air filters for general ventilation purposes</b>	<b>Mr Anil Nair</b> Head – Projects & Applications Camfil India
17:50-18:05h	<b>Fans: Energy efficient fans for air handling units</b>	<b>Mr Nitin Tiwari</b> Asst. General Manager Sales ebm-papst



# Agenda

Timing	Title	Speaker
18:05-18:20h	<b>Fans: Efficiency and benefits of direct driven fans</b>	<b>Mr Prashant Gore</b> Manager Engineering & Applications ZIEHL-ABEGG
18:20-18:30h	<b>Q&amp;A session</b>	
18:30-19:00h	<b>Coffee break</b>	
19:00-19:15h	<b>Energy recovery wheels for energy efficient IAQ</b>	<b>Mr Rahul Aeron</b> Vice-President DRI
19:15-19:35h	<b>Eurovent Recommendation 6/18: Quality criteria for Air Handling Units</b>	<b>Mr Alok Bhardwaj</b> Vice-President Systemair

# Agenda

Timing	Title	Speaker
19:35-19:50h	<b>Air Handling Units: Life cycle cost analysis for air handling units in hot and humid climates</b>	<b>Mr Arvind Singh</b> Director FläktGroup India
19:50-20:00h	<b>Eurovent certification for air handling units in hot and humid climates</b>	<b>Mr Markus Lattner</b> International Director Eurovent
20:00-20:30h	<b>Q&amp;A session</b>	
20:45h	<b>Networking dinner</b>	



# Workshop Partners

## Outreach Partner



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# Eurovent

- The 'European' HVACR association
- Industry representation, technical & regulatory affairs, standardisation, international affairs
- 200+ members in Europe, Middle East, India



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Eurovent Handbok - Luftbehandlingsaggregat - Andra Utgåvan	Download
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Eurovent 4/25 - 2023: Energy consumption evaluation of air filters for general ventilation in NRVUs in the context of Fendexion requirements - First Edition - English	Download

# Eurovent India

- Established in 2022
- Eurovent members & certified companies
- Education, awareness, standards





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# Introduction

**Mr Markus Lattner**  
International Director  
Eurovent





# When your AHU has issues...

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# The Case

- Large infrastructure project
- 60 AHUs installed (first phase)
- 1/3<sup>rd</sup> showing symptoms within 18 months of operation
- More failures expected



# The History

- Certified units specified
- Cheap option chosen
- **Savings achieved compared to best in class approx. 1.240.000US\$ (across 60 units)**
- Flawed Installation
- Poor operation & maintenance protocols

# The Assumption

- Operation 24/7
- Projected lifespan 15 years
- Energy consumption difference between class A and C (at lifetime) per unit more than. 200.000 US\$ (total 12MUS\$)

➤ **Under optimal O&M conditions**



# The Reality

- 20 units need replacement after less than 3 years
- Expected further replacement requirements of rest within 5 years
- Current energy consumption up to twice the certified performance
- Degradation and contamination of air, ducts, spaces
- Lack of performance

# The Damage

• 20 units with better quality, performance ...	700.000
• Installation and replacement costs ...	200.000
• Energy consumption penalty 3 years. ...	2.400.000
• Excessive consumption (33% of units) ...	800.000
<hr/>	
<b>Total damage after 3 years...</b>	<b>4.000.000</b>

Not including administrative costs, time, damage to ducts and spaces...

**INITIAL SAVINGS: 1.240.000 US\$**  
**DAMAGE AFTER 3 YEARS: 4.000.000 US\$**  
(estimated)



**Sustainability**

**Energy**



**Total Cost of Ownership**

**Durability**