

Foreword

Wishing you a Happy & Healthy New Year! Following our successful annual conference in Copenhagen, with 200+ participants from 33 countries, this edition compiles its best moments.

Submit your abstracts & Save the date for the 10th venticool - 44th AIVC - 12th TightVent joint conference "Retrofitting the Building Stock: Challenges and Opportunities for Indoor Environmental Quality," taking place in Dublin, Ireland, on October 9-10, 2024. Find updates on the latest Advisory Board of Practitioners meeting, on Annex 87, and partner news.

Please visit our [website](#), follow us on [twitter](#) and [LinkedIn](#) and subscribe to our monthly newspaper "[Energy Efficiency and Indoor Climate in Buildings](#)" to find out more about our activities.

We wish you a pleasant reading and look forward to seeing you in our future events!

The venticool team

@venticool 

Feedback from the 43rd AIVC- 9th venticool & 11th TightVent Conference: Summary of the resilient ventilative cooling track

The conference, held on 4-5 October 2023, was a successful event, which drew more than 200 participants - researchers, engineers & architects, policy makers or regulatory bodies, manufacturers & stakeholders and international organisations from 33 countries.

The conference programme featured three parallel tracks of structured sessions, with around 150 presentations exploring the main conference themes: Smart Ventilation, Indoor Air Quality (IAQ) and Health, Building & Ductwork Airtightness, and Ventilative Cooling – Resilient Cooling. A special session known as: "90 seconds industry presentations" was specifically organised for the event's sponsors.

Furthermore, the conference served as a major discussion place for ongoing projects, such as the IEA EBC Annex 78 "Supplementing Ventilation with Gas-phase Air Cleaning, Implementation, and Energy Implications", the IEA EBC Annex 80 "Resilient Cooling of Buildings", the IEA EBC Annex 86 "Energy Efficient IAQ Management in Residential Buildings" and the IEA EBC Annex 87 "Energy and Indoor Environmental Quality Performance of Personalized Environmental Control Systems".

The "Resilient Ventilative Cooling" track at the AIVC 2023 conference was organised in 7 sessions, 4 of which were topical sessions with a number of invited presentations:

1. Summer comfort and energy efficiency in hot periods: interest of mixed mode cooling and need of occupant feedback (Topical Session)
2. Climate change & Resilient cooling
3. Resilient Cooling of Buildings meets Resilient Cooling in Cities (Topical Session)
4. Ventilation strategies & thermal comfort
5. Importance of good resilient building design and standards to ensure good ventilative cooling performance to reduce overheating and environmental impact (Topical Session)
6. Ventilative cooling & Natural Ventilation
7. Personalized Environmental Control Systems (PECS) operation and evaluation (Topical Session)

The article available [here](#) presents main trends, ideas, considerations and conclusions that emerged from the two days of the conference on this topic.

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9-10 October 2024 – 10th venticool- 44th AIVC - 12th TightVent conference in Dublin, Ireland

The 10th venticool conference: "Retrofitting the Building Stock: Challenges and Opportunities for Indoor Environmental Quality" will be held in Dublin, Ireland together with the 44th AIVC and the 12th TightVent conferences on October 9-10, 2024.

Conference Scope

From the perspective of climate goals, reducing energy use in the built environment via energy retrofit and climate neutral newly constructed buildings are critical. However, it is crucial to prioritise indoor environmental quality when reducing energy usage to meet climate targets. Well-designed and executed retrofits are needed to reduce carbon emissions while ensuring healthy indoor environments. Building retrofit professionals, energy conservation experts, ventilation system designers & installers, and indoor air quality specialists must collaborate on innovative solutions to achieve these multifaceted objectives. AIVC 2024 will serve as a multidisciplinary platform to address the emerging challenges by exchanging cutting-edge ideas, research findings, policies and industrial experiences.

Conference concept

The conference will consist of 3 parallel sessions largely devoted to:

- Smart ventilation, Indoor Air Quality and health
- Building and ductwork airtightness
- Ventilative cooling – Resilient cooling

The conference will consist of a mixture of invited presentations and presentations in response to a call for

papers, organised in structured sessions focused on the conference topics. Some sessions will consist of presentations from the call for papers only, while other sessions will be topical sessions with presentations proposed by a session organiser or by the organising committee. The conference is combined with an exhibition by industry partners.

Conference topics

Smart ventilation, IAQ and health

- Integration of ventilation in building energy retrofits
- Associated health benefits of energy retrofits
- Strategies to reduce exposure to outdoor and indoor air pollutants (filtration, air cleaning, source control)
- Resilient approaches in IAQ management (infection control, hazardous events, etc.)
- Inspection, monitoring, maintenance, reliability and durability of ventilation systems
- Model based data analytics and control strategies for smart ventilation, including the role of consumer-grade IAQ sensors
- Building Information Modelling (BIM), Life Cycle Assessment (LCA) and ventilation systems
- Standards, policies and legislation

Building and ductwork airtightness

- Role of airtightness in building energy retrofits
- Energy and IAQ impact of envelope and ductwork leakage
- Innovative measurement and airtightening techniques
- Compliance schemes for airtightness
- Long-term performance: durability of airtightness

Ventilative cooling – Resilient cooling

- Role of ventilative and resilient cooling in building energy retrofits
- Occupant IEQ perception and satisfaction
- Resilient approaches to extreme heat events and climate change
- Control strategies and personal comfort control
- Standards, legislation and compliance tools

Conference Organisers

The conference is an initiative from:

- INIVE on behalf of the AIVC, TightVent, and venticool;

- the [University of Galway](#);
- the [Maynooth University](#); and
- the [Sustainable Energy Authority of Ireland](#) (SEAI)

There are 2 separate calls for abstracts & papers depending on whether the authors are interested in the peer review of their papers; a call for topical sessions; and a students' competition.

Detailed information & important deadlines for the 2 calls for abstracts can be found [here](#).

Detailed information & important deadlines for the call for topical sessions can be found [here](#).

Detailed information for the students' competition can be found [here](#).

For further information and updates visit the [conference website](#).

venticool - AIVC - TightVent 2023 Conference highlights!

We are pleased to announce the release of a YouTube collection including some of the highlights of the 2023 venticool–AIVC - TightVent joint conference. The playlist includes keynote speeches as well as the closing session's best paper, best poster and student competition awards:

- Keynote speech: "[Decoding 30 Years of Insights: Conclusions from ISIAQ's Landmark Webinar Series on Indoor Air Quality and Climate](#)", Ying Xu, Tsinghua University, China
- Keynote speech: "[Users and practices in heating and ventilating homes – why do they behave different than we think?](#)", Kirsten Gram-Hanssen, Aalborg University, Denmark
- Keynote speech: "[What we know about smart ventilation](#)", Gaëlle Guyot, Cerema, France
- Keynote speech: "[Dallying with DALYs: Why acceptable IAQ should consider harm](#)", Benjamin Jones, University of Nottingham, United Kingdom
- Best paper award: "[Can naturally ventilated office buildings cope with dusty outdoor air?](#)", Evangelos Belias, EPFL, Switzerland
- Best poster award: "[Energy implications of increased ventilation in commercial buildings to mitigate airborne pathogen transmission](#)", David Artigas, Simpson Gumpertz & Heger Inc., USA

- Student Competition award: “[Long-term energy performance of dew-point indirect evaporative cooler under the climate change world scenario](#)”, María Jesús Romero-Lara, University of Cordoba, Spain

The recorded presentations can be found [here](#).

Feedback from the 8th meeting of the Advisory Board of Practitioners for Annex 80 & venticool & AIVC

On November 15th, 2023, IEA EBC Annex 80 scientists, designers as well as representatives from the building cooling and ventilation associated industry gathered for the 8th meeting of the Advisory Board of Practitioners (ABoP). This board, an initiative of Annex 80, AIVC and venticool, was founded to put results of scientific research into action by establishing strong ties to practitioners and to include their practical experience and feedback in future research projects.

12 participants attended the meeting which focused on the “Outcomes & learnings of Annex 80”. There were 2 presentations by experts foreseen for this meeting. The first introductory presentation by Patryk Czarnecki (IBR&I, AT) focused on the upcoming publication of the soon to be released Technology Profiles Report of resilient cooling technologies. Haley Gilbert (LBNL, USA) then provided a review of resilient cooling policy recommendations. In between the 2 presentations, the participants were asked to fill in an online poll on which technologies they consider as part of resilient cooling strategy as well as shocks, barriers for implementation and expected use of resilient cooling. The aim was to compare the results to a similar questionnaire distributed to the ABoP participants when the ABoP was firstly launched in 2021. The survey conducted in March 2021 was filled in by 28 people while the number of people participating in the survey of 2023 was limited to 7. In an effort to identify potential trends or changes over time in the responses of the participants, we conducted a comparison of the results which follows

below. However, it is crucial to acknowledge the limitations associated with the varying sample sizes, and any observed differences should be interpreted with caution.

Overall, in terms of shocks, it appears that heat waves remain the most important aspect in the context of resilient cooling strategies. However, the risk for power outage and the change of occupancy or usage of building, were considered more important and of no importance respectively, compared to the 2021 results. This is in line with the shocks identified by Annex 80: heat waves and power outages.

Concerning technologies reducing heat loads to people and indoor environments, advanced solar glazing continues to be key aspect of a resilient cooling strategy. Thermal mass appears to weigh much less while advanced cool materials have gained importance compared to 2021.

Regarding the technologies removing heat from indoor environments (production, emission and combined), ventilative cooling retains its position as the top-ranked technology within resilient cooling strategies. Turning to technologies improving personal comfort apart from space cooling, more people seem to believe in micro-cooling and personal comfort control when compared to the findings of 2021. At the same time, comfort ventilation and elevated air movement continue to be recognised as resilient cooling.

Shifting the focus to barriers and bottlenecks for implementing the above-mentioned resilient cooling strategies, the findings of the 2023 survey highlights regulations and requirements as the most important challenge followed by the significant effort to design and implement in comparison with classical HVAC systems; the lack of good examples appear to be of limited importance. In 2021 the order was however somewhat different. Guaranteed performance was considered pivotal and held the top rank followed by concerns about regulations and requirements.

Concerning the question: “Do you expect an increased use of resilient cooling strategies in your field of activities?”, the 2023 survey results present a balanced distribution of responses, but all agree on an increase. It is noteworthy to

mention that in the 2021 survey, respondents expressed expectations for a more substantial increase in the adoption of resilient cooling strategies.

Upcoming meetings

The next meeting of the Advisory Board of Practitioners will be held on March 12, 2024, and focus on the environmental impact of ventilative cooling/ventilation. If you are interested to join the board, please contact Maria Kapsalaki at: maria.kapsalaki@inive.org.

Annex 87 news: Progress so far & upcoming meetings

Ongun Berk Kazanci, Annex 87 Operating agent

Annex 87 held its second working phase meeting in a hybrid format in Lausanne, Switzerland on September 11th and 12th, 2023. There were 16 in-person attendees and around 28 online attendees. The annex team had very fruitful discussions on the annex in general and on subtasks. The progress in subtasks and the next steps were discussed. Most of the subtasks made substantial progress by breaking down the work into smaller parts and having started the work. So far most of the work has been focused on developing a systematic review methodology that can be used by all subtasks with slight modifications. The team discussed potential criteria for authorship rules as well. A major outcome of this meeting was the agreement of the group on a newly developed definition of Personalized Environmental Control System (PECS). A plan for each subtask until the next expert meeting in April 2024 was also developed.

In addition to the Annex meeting, a workshop was held at the Healthy Buildings Europe 2023 Conference in Aachen, Germany, in June 2023, and attended by 44 people. Furthermore, a topical session took place at the AIVC2023 Conference in Copenhagen, Denmark in October 2023 with an attendance of roughly 20-25 people. The next meeting of Annex 87 is scheduled to take place in Singapore on the 16th and 17th of April 2024.

Product new as provided by our partners

LINIUS, the multifunctional Renson Data-Center cladding system for ventilation & cooling

Renson offers a horizontal aluminum cladding system Linius with a contemporary look and a range of benefits: ventilation and ventilative cooling functions are combined with a high level of quality and durability. Its versatility and wide range of options makes Linius a suitable solution for a variety of projects in different environments. Features as privacy, security, acoustic insulation and water tightness can be combined as a function of the project demands by selecting the appropriate design. For further information please visit: <https://renson.net/gd-gb>



Fresh air – with or without a remote control

With WindowMaster's App, you can open and close windows easily and conveniently, giving you complete control over your indoor climate. The App is user-friendly and intuitive and gives you access to several different motor controllers regulating the windows.

The App works in combination with WCC 103A / 106A – the new generation of MotorControllers that can now be purchased with or without a physical remote control. Depending on your preference and budget, you can get your windows' exact wireless control benefits from either the remote control unit or our App. Whatever your needs are, acquiring the remote control as an accessory adds flexibility and cost-efficiency to your purchasing decision. Discover the benefits [Try our app - Fresh Air control \(windowmaster.com\)](#)



Ceratec brings outside indoors with ventilative cooling

Ceratec revolutionizes indoor comfort with ventilative cooling, integrating 8 DucoGrille NightVent ventilation hatches on its façade. Amid rising temperatures, Ceratec's solution combats indoor heat spikes caused by solar exposure and internal sources like electronics or occupancy. The sleek DucoGrille NightVent hatch delivers fresh outdoor air, not just ensuring a pleasant indoor environment but also boosting staff well-being. Improved air quality curtails health issues such as headaches and allergies, directly impacting absenteeism and bolstering productivity. This innovative approach marries comfort with functionality, underscoring Ceratec's commitment to fostering a win-win scenario: a healthier workplace, elevating both employee welfare and business efficiency.



What is venticool?

venticool is the international ventilative cooling platform launched in October 2012 to accelerate the uptake of ventilative cooling by raising awareness, sharing experience and steering research and development efforts in the field of ventilative cooling. In 2020, venticool decided to broaden its scope towards resilient ventilative cooling.

The platform supports better guidance for the appropriate implementation of resilient ventilative cooling strategies as well as adequate credit for such strategies in building regulations. The platform philosophy is to pull resources together and to avoid duplicating efforts to maximize the impact of existing and new initiatives. venticool joins forces with international projects (in particular IEA EBC annexes 62 (ventilative cooling) and, more recently, annex 80 (Resilient cooling for buildings)) and organizations with significant experience and/or well identified in the field of ventilation and thermal comfort like AIVC (www.aivc.org) and REHVA (www.rehva.eu).

The platform has been initiated by INIVE with (International Network for Information on Ventilation and Energy Performance) with the financial and/or technical support of its partners.

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Platform facilitator

INIVE

To join venticool please visit: <https://venticool.eu/venticool-contact/>

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the platform for resilient ventilative cooling