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INNOVATION &
ENTREPRENEURSHIP flux₅₀ **V≋NTILATION** Industrial advisory board TROX TECHNIK Confederatie Bouw hysopt sweco 🕇 (C) Lindab **BOUW**UNIE Atic AIRX itho daalderop **/\nsys N**ventibel > Techlink Climate for life AUTODESK. TAKE AIR menerga **Ventilai DAU.:**







Starting point

- Smart ventilation system (AIVC)
 - · Able to continually adjust itself to provide IAQ while minimizing energy use, discomfort, noise
 - · Responsive to e.g. occupancy, outdoor thermal and air quality
 - Can provide info about e.g. IAQ, energy use, need for maintenance



- Current practice in design of ventilation systems
 - Driven by minimum requirements of individual indicators
 - In mid-sized buildings: very conservative and inefficient
 - Existing methods dependent on brainpower of engineer

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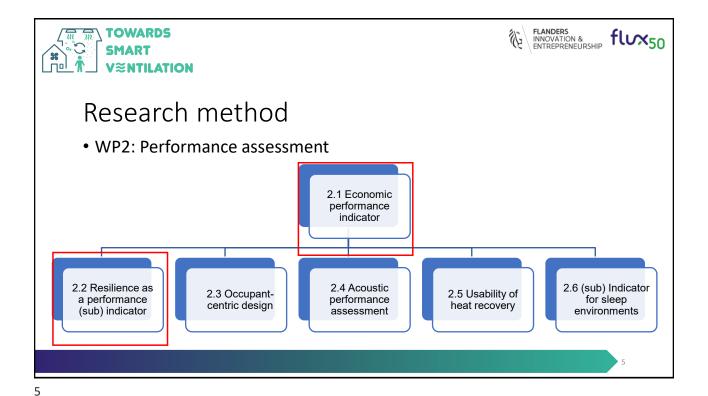




Research aim and goals

- Aim = determine performance-based method for smart ventilation design driven by optimization during whole life-cycle
- Specific goals
 - Define performance sub-indicators for indirect metrics
 - Aggregate all sub-indicators into 1 general economic performance indicator
 - Automate and optimize aerolic lay-out ventilation design
 - · improve and optimize positioning of connections to outdoor and indoor
- Focus: new + renovated mid-sized buildings (Q > 1000 m³/h)
 - Schools
 - Offices
 - Care facilities (elderly homes)

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Smart ventilation in non-residential buildings. How to assess? How to design?











Agenda (CET)

- 15:00 | Welcome & Intro, Hilde Breesch (KU Leuven, Belgium)
- 15:10 | An (Economic) Indicator for Assessment of Smart Ventilation Systems, Klaas De Jonge (Ghent University, Belgium)
- 15:25 | Quantitative Assessment Framework of IAQ Resilience in Buildings, Douaa Al-Assaad (KU Leuven, Belgium)
- 15:40 | Simulation Based Design of Smart Ventilation Systems, Zakarya Kabbara (University of Antwerp, Belgium)
- 15:55 | Improving the Supplied Ventilation Air Quality through Filtration, Joris Van Herreweghe (Buildwise, Belgium)
- 16:10 | Questions and answers
- 16:30 | End of the webinar