CONGRESS RULES

Interested authors should send an abstract of their proposed paper (1500 characters including spaces) by November 30, 2025.

Abstracts acceptance will be communicated by December 10, 2025

Number of proposed topics: max 2

Abstract sent via e-mail, fax etc. will not be accepted as well as those sent after the submittal deadline.

Rules of the Conference for the Authors are published on AiCARR website www.aicarr.org > Events > Speaker area > Conference Rules

DEADLINES

November 30, 2025: Abstract submission
December 10, 2025: Notification of abstract acceptance
January 10, 2026: Full papers submission
February 10, 2026: Review report on full paper
February 20, 2026 Revised version of the full paper
March 1, 2026: Notification of paper acceptance
Please note that AiCARR will provide authors with the opportunity to publish articles accepted

Please note that AiCARR will provide authors with the opportunity to publish articles accepted after review in the proceedings **indexed in Scopus E3S Web of Conferences.** In this case, authors will need to follow the E3S format template provided by AiCARR at a later time.

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54TH AICARR INTERNATIONAL CONGRESS

Decarbonising our future: energy, economic and social aspects of smarter and digitalized buildings and cities

March 25-26, 2026 – MCE Milan (Italy)

The urgent need to combat climate change has put decarbonisation at the forefront of global initiatives. Smart, digitalized buildings and cities play a crucial role in this endeavor, offering multifaceted benefits across energy, economic, and social domains. Buildings are responsible for around 40% of total primary energy consumption in Europe, with air conditioning (HVAC) systems being the main users to ensure indoor thermal comfort. From an energy perspective, smart buildings utilize advanced sensors, IoT devices, and AI-driven systems to optimize energy consumption.
These technologies enable real-time monitoring and adjustment of heating, cooling, and lighting, significantly reducing energy waste, while distributed energy systems—such as renewables, cogeneration and energy (electric and thermal) storage—allow buildings to become both consumers and producers of clean energy. As a consequence, the increasing use in recent years of AI-based systems—and in general of smart building automation—is rapidly increasing the energy consumption of data centers. This poses important challenges to the containment of their energy consumption and the best use of the resulting waste heat.
Moreover, the shift toward electrified heating and cooling systems pushes the challenge of increasing energy production from renewable sources and energy efficiency in use to ever higher levels.
From this point of view, in smart cities, intelligent grid systems can balance energy supply and demand more efficiently, integrating renewable sources seamlessly. Economically, while initial investments may be substantial, long-term savings in energy costs and improved resource management due to the shift towards smarter infrastructure offer significant economic benefits. Socially, digitalized buildings and cities can enhance quality of life. Improved air quality from reduced emissions, more efficient public transportation systems, and better urban planning all contribute to healthier, more livable environments. Smart technologies can also promote social equity by improving access to services and information for all citizens.
The transition to more efficient buildings and cities with the integration of renewable sources and heat reuse represents a decisive step towards a greener and more resilient digital economy. These are the main topics of the 54th AiCARR International Congress that will be held from 25th to 26th March 2026 in Milan.

TOPICS

1. From the EPBD to Design Practice
Translating the new European regulatory framework into practical tools for designers and operators. Focus on cost-optimal methodologies, performance indicators, building logbooks and the integration of inspection, monitoring and verification systems.

2. Decarbonization of Building Services and Energy Integration
Technologies and strategies to achieve carbon-neutral buildings through electrification, hybrid systems and renewables integration. Includes energy recovery, waste-heat utilization, and the connection of buildings and data centers to district heating and cooling networks.

3. Indoor Air Quality, Comfort and Health
Designing ventilation and control strategies that ensure healthy, inclusive and resilient indoor environments.
Focus on IAQ monitoring, adaptive ventilation, and the balance between energy efficiency, comfort and occupant well-being.

4. Digitalization and Smart Performance Management
Using digital tools and data-driven control to optimize building performance throughout its life cycle.
Covers BACS, digital twins, predictive maintenance, and smart interaction between building systems, data centers and urban energy networks.

5. Innovation in Materials and Building Services Solutions
Exploring new low-GWP refrigerants, modular and prefabricated systems, advanced heat-exchange technologies and components for circularity and resilience. Covers advancements in HVAC and refrigeration systems, efficient use of energy in industry, and application of heat pumps.

6. Integrated Design and Interdisciplinary Collaboration
Promoting a holistic approach to design that merges architecture, building services and operation. Focus on BIM/BEM methodologies, commissioning, post-occupancy evaluation and comfort-by-design strategies for sustainable, healthy and low-carbon buildings.

If you are interested to participate as a speaker, presenting your studies, experiences, and achievements related to the Conference's themes, are invited to submit your abstract to AiCARR by November 30, 2025

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