



LIST OF TOPICS

The IC2 Congress covers the following topics, which are further divided into more specific areas. Each submission must be assigned to one of these specific areas for evaluation by the Technical Committee.

Sponsorship: If you are interested in sponsoring any of the congress sessions, please contact the organizing committee at ptec@plataformaptec.es or info@ic2.es.

EMERGING TECHNOLOGIE IN CONSTRUCTION

Focus: From technological advances already implemented on construction sites to disruptive technologies that are redefining construction processes.

- Artificial Intelligence applied to the construction environment.
- 3D Printing in construction.
- Construction Software Strategies and Models.
- Cybersecurity.

ADVANCED MATERIALS AND CIRCULAR ECONOMY

Focus: New materials, recycling, and resource reuse for more sustainable and efficient construction. Circular economy applied throughout the entire lifecycle of buildings and infrastructure. Circular models, design and assessment tools, and technologies for waste management, reuse, and valorization.

- Innovation in materials, circular economy, and waste valorization.

INDUSTRIALIZATION, MACHINERY, AUTOMATION AND ROBOTICS

Focus: Mechanization and productive innovation to improve efficiency, quality, and safety in construction, inspection, maintenance, and demolition processes. Integration of BIM and IoT in industrialized processes.

- Industrialized Construction
- Applications of robotics in construction.
- Construction, inspection, maintenance, and demolition machinery.
- Digitalization in Civil Works.



SUSTAINABILITY, ENERGY AND RESOURCE EFFICIENCY

Focus: Technologies, practices, and policies to reduce energy consumption in buildings, infrastructure, and machinery; clean energy production; decarbonization; and water management as a key resource.

- Sustainability and Decarbonization.
- Energy Efficiency.
- Innovation in the Water Cycle.

URBAN RESILIENCE AND CULTURAL HERITAGE

Focus: Strategies and solutions for environmentally responsible construction, adapted to sustainable urban environments and resilient to climate change. Management of the built cultural heritage.

- Sustainable mobility and urban environment, nature-based solutions.
- Cultural heritage management.
- Innovation in building and rehabilitation.

CHALLENGES OF THE CONSTRUCTION SECTOR AS A PRODUCTIVE INDUSTRY

Focus: Development of human capital, knowledge transfer, process optimization, and cultural preservation as drivers of sectoral progress. The main short-term challenges facing the industry and the long-term vision.

- Talent and knowledge management through technology.
- Strategic challenges of the construction sector: moving toward the future through innovation.
- Digitalization in construction.
- Fostering innovation through public–private collaboration.
- Optimization of value chain processes to improve productivity and develop new models.
- Start-up ecosystem: challenges and opportunities.

INNOVATION AND INTERNATIONAL COOPERATION

Focus: International partnerships, R&D programs, and collaborative innovation mechanisms.

- Strategies and tools to foster innovation in the sector.
- The new EU Framework Program for R&D support.
- Challenges in Spain–Chile cooperation.



START-UP ECOSYSTEM

Focus: Start-ups play a highly relevant role in innovation within the sector, acting as generators of disruptive technologies and practices. Characteristics and specific needs of start-ups.

- Start-ups: characteristics and needs
- Technologies developed and proposed by start-ups

DUAL TECHNOLOGIES, CRITICAL INFRASTRUCTURES, SECURITY AND DEFENSE

Focus: Emphasis on dual-use technologies and critical infrastructures, with a focus on their construction, maintenance, and management.

- Design, construction, and monitoring in extreme environments
- Climate control, energy self-sufficiency
- Logistics
- Dual R&D&I and funding