

SPECIAL SESSION 02

Smart radio environment

With the rapid advancement of mobile communication technologies, indoor environments have become the primary domain for mobile traffic. Current statistics indicate that 80-96% of mobile services are initiated within buildings of various types. This distinctive characteristic imposes unprecedented stringent requirements on the coverage quality, capacity, and energy efficiency of indoor wireless networks. Tracing the evolution of mobile communications, the industry has witnessed a continuous progression in addressing indoor coverage challenges—from the 2G/3G era relying predominantly on outdoor macro base stations, to the 4G period introducing indoor solutions such as distributed antenna systems, and further to the 5G/6G era adopting ultra-dense network technologies. Against this technological backdrop, smart radio environments (SREs) have emerged as an innovative paradigm that transcends the limitations of conventional communication approaches. By integrating cutting-edge technologies such as programmable electromagnetic materials and reconfigurable intelligent surfaces (RIS), SREs achieve a revolutionary shift from passively adapting to the environment to actively shaping it.

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TOPICS

The scope of this special session includes, but is not limited to the following topics:

- Building wireless performance
- Indoor wireless network
- Indoor positioning system
- Wireless friendly building
- Smart building
- Smart factory
- Smart warehouse
- Wireless friendly building materials
- Reconfigurable intelligent surface
- Intelligent reflecting surface
- Metamaterial
- Frequency selective surface
- Smart wall
- Wireless-connected robotic networks
- UAV wireless networks

Submission

EasyChair Submission System: <https://easychair.org/conferences/?conf=icct2025>
Template: <https://www.ieee-icct.org/IEEEtemplate-word.doc> (Word)
<https://www.ieee-icct.org/ieee-conference-latex-template.zip> (Latex)

Important Date

Submission Due	2025-May 25
Notification Due	2025-June 25
Registration Due	2025-July 10

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