

Special Issue

Towards IoT in Space–Air–Ground–Sea Integrated Networks: Recent Advances and Challenges

Message from the Guest Editors

Emerging technologies—from mega-constellations and high-altitude pseudo-satellites to terrestrial 5G/6G meshes and underwater acoustic/optical grids—are maturing in parallel, yet they remain largely siloed. The next frontier for IoT lies in the seamless integration of these disparate networks from space, air, ground, and sea to create a truly global and intelligent ecosystem. This vision, known as the Space–Air–Ground–Sea Integrated Network (SAGSIN), holds significant promise for overcoming the challenges around coverage, latency, and data management. This Special Issue calls for the latest advances and implementations on:

- Cross-domain network architecture, protocol, and security design
- Joint channel modeling and waveform design for space–sea/air–sea links
- AI/ML-driven resource management
- Edge–cloud continuum for split computation across satellites, UAVs, ships, and AUVs
- Integrated Sensing and Communication in heterogeneous environments
- Resilient security and privacy mechanisms for intermittent, multi-hop, multi-tenant paths
- SAGSIN applications, such as smart ports and smart maritime transport
- Open datasets, testbeds, and experimental results from at-sea, airborne, or orbital campaigns

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Deadline for manuscript submissions

31 August 2026



Electronics

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Impact Factor 2.6
CiteScore 6.1



mdpi.com/si/264660

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

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