

5G-ACIA

6G-IA & 5G-ACIA Highlights, Lessons Learnt And Next Steps on ISAC/JCAS (10 Oct 2025)

# ISAC/JCAS Standardization and Impact

## 5G-ACIA Connected Industries and Automation Perspectives

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Rapporteur WI „3GPP SA(1) support related to 5G-ACIA use cases, requirements, and KPIs”

# 5G-ACIA | Collaboration Partners (Selection)



5G-ACIA has been a 3GPP MRP since 2018, representing the perspectives of the industrial domain



5G-ACIA collaborates with relevant organizations through MoUs, Coop Agreements, Liaison Statements, ...



# Work Item

## 3GPP SA(1) support related to 5G-ACIA use cases, requirements, and KPIs

- The discussion and review of the concepts behind use cases and key requirements as well as joint contributions to 3GPP have proven to be very useful for the acceptance of 5G ACIA relevant contributions in 3GPP working groups since Release 16/17. This will continue with Release 20 in 2025 for both, 5G-Advanced studies/work items and 6G discussions in 3GPP SA1.
  - Provide every 5G-ACIA member, whether 3GPP member or not, the opportunity to contribute to relevant 3GPP SA(1) contributions
  - Provide 3GPP members from 5G-ACIA to receive enhancements and feedback from relevant (non-3GPP) stakeholders
  - Resolve potential discussion points of 3GPP SA(1) contributions already before the 3GPP meeting (saves revisions and discussion time at 3GPP SA1 meetings)
- Voluntary activity
- 3GPP contribution remains under sole the responsibility of the contributing individual 3GPP member(s) from 5G-ACIA

# Work Item

## 3GPP SA(1) support related to 5G-ACIA use cases, requirements, and KPIs

- Prepare 5G-ACIA content for standardization organizations
  - MRP contributions to 3GPP Workshops
    - 3GPP Stage 1 Workshop on IMT-2030 Use Cases in Rotterdam, May 2024 ( [SWS-240006](#) )
    - 3GPP 6G Workshop in Incheon, March 2025 ( [6GWS-250214](#) )
  - Contribution to ITU-R WP 5D on “Minimum requirements related to technical performance for IMT-2030 radio interface(s)”
  - Response to review requests
- Liaison Statements (by any 5G-ACIA Work Item / Working Group)
  - Note: 5G-ACIA Liaison Statements are usually prepared by Work Item responsible for technical content
  - Announce 5G-ACIA results such as White Papers to e.g. ETSI ISG ISAC, 3GPP
  - Raise topics with Standardization organizations such as
    - Use Cases and Requirements e.g. on Industrial Use Cases for Integrated Sensing and Communication (ISAC) ( 3GPP [S1-250071](#) )
    - Enhancements e.g. for 5G System Operating as Logical (TSN) Bridge(s) in Integrated IEEE/3GPP Networks ( 3GPP [SP-241819](#) )

# Integrated Sensing and Communication (ISAC)

New capabilities triggering new use cases and requirements

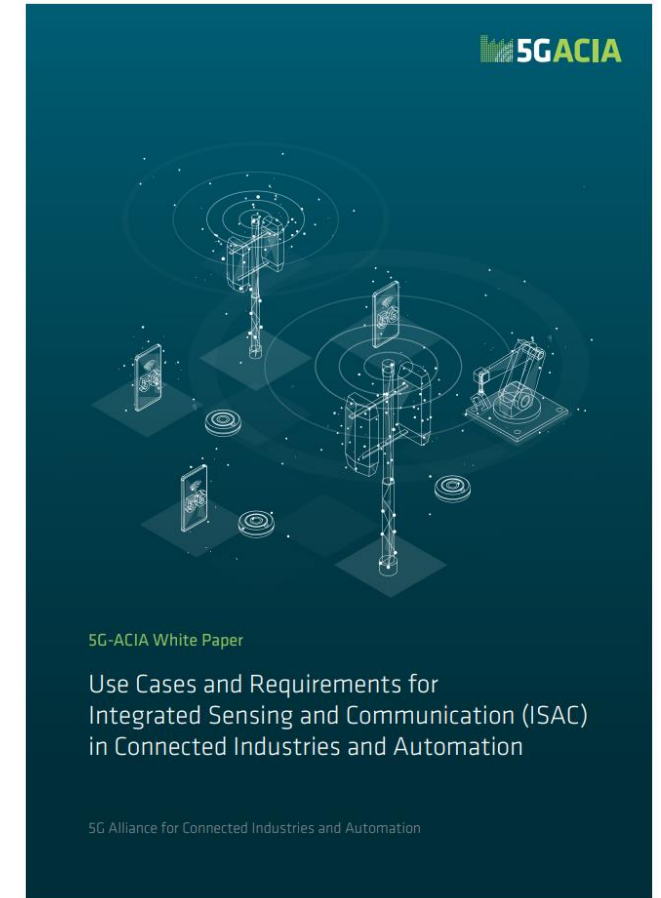
Use the communication infrastructure as a sensor

New use cases and requirements

- Gesture recognition, vibration monitoring, and preventing hazards in industrial environments.
- Monitoring of stockpiles, optimizing flexible production flows.

Potential advantages:

- Improved sensing accuracy and resolution through communication spectrum reuse and inter-cell interference coordination.
- Wireless, contactless sensing without dedicated sensors and suitable for harsh environments.
- Enhanced privacy compared to traditional sensors like cameras and microphones.
- A combination of multinode, multistatic and multimodality sensing achieves better sensing results by incorporating both 3GPP radio and authorized non-3GPP sensors.
- Unified, trusted environment for collecting and transferring sensing data.
- Sensing capability to enrich digital twin, enabler of industrial metaverse.



5G-ACIA [Whitepaper](#)

LS to 3GPP S1-250071

# Web Seminar Series 2025

Thank you for your attention!

