**3GPP TSG-SA3 Meeting #123 draft\_S3-252963-r1**

**Goteborg, Sweden, 25 – 29 August 2025** **(revision of S3-252868)**

**Source: Xiaomi, China Telecom, China Mobile, ZTE, Lenovo, CableLabs, Huawei, HiSilicon**

**Title: New SID on security and privacy aspects of Integrated Sensing and Communication**

**Document for: Approval**

**Agenda Item: 6.1.8**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>   
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: Study on Security and Privacy Aspects of Integrated Sensing and Communication

Acronym: FS\_Sensing\_SEC

Unique identifier:

Potential target Release: Rel-20

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  | X | X |  |
| No | X | X |  |  | X |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
| X | Study |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| N/A | N/A | N/A |  |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work /Study Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| 950003 | Study on Integrated Sensing and Communication | SA1 preceding study item (Rel-19) on use cases and potential requirements of Integrated Sensing and Communication services. |
| 1000026 | Integrated Sensing and Communication | SA1 preceding work item (Rel-19) to introduce KPIs and service requirements for Integrated Sensing and Communication services. |
| 1070012 | Study on Stage 2 for Integrated Sensing and Communication | SA2 study item on architecture and function enhancement, end-to-end service operations and procedures to support Integrated Sensing and Communication services. |

# 3 Justification

Integrated Sensing and Communication (ISAC) in a 3GPP 5G system means the sensing capabilities are provided by the same 5G NR wireless communication system and infrastructure as used for communication. Mobile operators can play an important role in providing 5GS-based ISAC service to customers, including e.g. the management and control of 5G-based sensing service. Based on a Rel-19 SA1 study FS\_Sensing in TR 22.837, a Rel-19 SA1 specification for Sensing in TS 22.137 has been completed, which contains an overview on sensing security and privacy aspects, as well as system level requirements on security and privacy, in terms of authorization for service access and operation access, data integrity and confidentiality, user consent, etc.

Based on SA1 requirements, a SA2 study on stage 2 for Integrated Sensing and Communication FS\_Sensing\_Arc (SP-250401) was approved at SA#107 and progressed in TR 23.700-14, aiming at investigating the function enhancements and end-to-end service operations to support Integrated Sensing and Communication. The scope of FS\_Sensing\_Arc covers architecture and function enhancements, service authorization and revocation, discovery and selection of sensing entities, sensing data collection and transport, and exposure of sensing result and parameter provisioning. All these aspects have security and privacy concerns, e.g. authorization for service access and operation access, authentication and authorization of sensing entities for participating in sensing operations, security and privacy protection for sensing data collection and transport, security and privacy protection for sensing data exposure, etc. It is already noted in TR 23.700-14 that privacy and security related impact to architecture enhancement will be based on SA3 conclusion.

With the above analysis on related SA1 and SA2 work, it is identified that there is a need for SA3 to investigate security and privacy issues to support the architecture and functional enhancements for 5G system supporting ISAC services.

# 4 Objective

This study item aims at investigating the security and privacy aspects of Integrated Sensing and Communication (ISAC), based on the related R20 work in SA2 WG, with the following objectives:

- Identify key issues and study potential solutions for security protection during the service operations and procedures supporting ISAC services;

- Identify key issues and study potential solutions for protecting privacy for sensing data collection, sensing data processing, and sensing data exposure.

NOTE 1: Timely liaison with SA2 / RAN WGs needs to be considered.

NOTE 2: The output to address the above objectives needs to be compatible with future enhancements for cross-generation ISAC security.

NOTE 3: The scope of this study is for gNB-based sensing, which is aligned with Rel-20 5G-A RAN ISAC study scope.

## TU estimates and dependencies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Work Task ID | TU Estimate  (Study) | TU Estimate  (Normative) | RAN Dependency  (Yes/No/Maybe) | Inter Work Tasks Dependency |
| Objective #1 | 4 | 2 | Maybe | Self-contained |
| Objective #2 | 2 | 1 | Maybe | Dependent on Objective #1 |
|  |  |  |  |  |

Total TU estimates for the study phase: 6

Total TU estimates for the normative phase: 3

Total TU estimates: 9

# 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| New specifications {One line per specification. Create/delete lines as needed} | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Rapporteur |
| Internal TR | 33.XXX | Study on Security and Privacy Aspects of Integrated Sensing and Communication | TSG#111, Mar. 2026 | TSG#112, Jun. 2026 | TBD |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
|  |  |  |  |
|  |  |  |  |

# 6 Work item Rapporteur(s)

TBD

# 7 Work item leadership

SA3

# 8 Aspects that involve other WGs

Potential interaction with SA2 WG for architecture aspects, with RAN WGs for RAN related issues.

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Xiaomi |
| China Telecom |
| China Mobile |
| Apple |
| ZTE |
| Lenovo |
| vivo |
| CableLabs |
| CATT |
| Philips International B.V. |
| NTIA |
| Huawei |
| HiSilicon |
| InterDigital |
| Intel |
| AT&T |