**3GPP TSG SA WG 1 Meeting #104 S1-23xxxx**

**Chicago, USA, 13 - 17 November 2023** *(revision of S1-23xxxx)*

**Source: Deutsche Telekom AG, Nokia, ZTE**

**pCR Title: Resolving editor`s note “Identify” is FFS**

**Draft Spec: 3GPP TS 22.137 v.1.0.0**

**Agenda item: 7.1.2**

**Document for: Approval**

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*Abstract: This pCR proposes resolving editor`s note: “Identify” is FFS*

**1. Introduction**

At 3GPP SA1#103 editor`s note was agreed to capture using “identify” is for further study.

The requirement:

*The 5G system shall be able to provide sensing service to detect, identify and/or track one or more objects (e.g., UAVs, birds) and the environment around the object(s).*

Is intended to logically outline subsequent steps of sensing process. It is necessary to first detect or discover the presence of an object in environment. Based on such detection there can be actual differentiation of a detected object from another detected object at a given point in time. After different objects are detected, their identity can be established as distinct from any other objects due to their unique characteristics or actions. Identifying a presence of a cat and a presence of a person could lead to different scenarios in case of home intruder detection. If the cat is identified there should not be triggering of an alarm. In some use cases after the object is identified there would be a need to track that object in the physical space over a given time period.

According to the Cambridge dictionary: identify means “to recognize someone or something and say or prove who or what that person or this is”. (<https://dictionary.cambridge.org/de/worterbuch/englisch/identify>)

It is proposed to use the word “identify” as there is a need to differentiate between different object for the needs of specific use cases.

**2. Reason for Change**

There is a need to solve “Editor`s note: “Identify” is FFS for compliting the normative work on Sensing.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 22.137 v.1.0.0.

\* \* \* First Change \* \* \* \*

# 5 5G wireless sensing service requirements

## 5.1 Description

The 5G system is expected to meet the service requirements for 5G wireless sensing service, which provides capabilities for sensing one or more objects in the environment, monitoring environmental conditions, and human motion and gestures to enable more diversified applications.

The 5G wireless sensing service includes the collection of 3GPP sensing data, secure delivery of the 3GPP sensing data for processing, and secure exposure of the sensing result to trusted third-party. In some scenarios, non-3GPP sensing data can also be used to improve 3GPP sensing service.

It is important to consider energy efficient sensing operations which can includetemporarily disabling sensing transmitters and receivers that are not involved in sensing and communication operations or adjusting the sensing operation parameters (e.g., sensing frequency) to minimize energy consumption. Furthermore, the coordination between the sensing transmitters/receivers is expected to be considered for interference management.

When introducing sensing technology as a new 3GPP system capability, new considerations on authorization for service access and operation access, data confidentiality, data integrity, and user privacy are needed, to ensure that these aspects are taken into account when deriving service requirements.

The following requirements provide guidance on specific 5G wireless sensing capabilities.

## 5.2 Service requirements

### 5.2.1 General

The 5G system shall be able to provide sensing service to detect, identify and/or track one or more objects (e.g., UAVs, birds) and the environment around the object(s).

Based on operator’s policies, operator’s control and regulation, the 5G system shall be able to collect 3GPP sensing data from sensing receivers for processing.

The 5G system shall be able to provide 5G wireless sensing service in a target sensing service area location using sensing transmitters and sensing receivers.

Subject to regulation and operator policy, the 5G network shall be able to activate, configure, and deactivate 5G wireless sensing based on parameters such as location and network conditions (e.g., network load).Subject to user consent, regulation, and operator’s policy, the 5G system shall be able to collect non-3GPP sensing data from authorized non-3GPP sensors and securely provide it to 5G network.

Subject to user consent, regulation, and operator’s policy, the 5G system should support the joint processing of the 3GPP sensing data and non-3GPP sensing data to derive a combined sensing result.

The 5G system shall support continuity for 5G wireless sensing service (e.g., for sensing a moving object).

Subject to operator’s policy, the 5G System shall be able to provide the 5G wireless sensing service in case of roaming.

Subject to regulation and operator’s policy, 5G network shall provide prioritization among 5G wireless sensing services as well as prioritizing between communication and sensing services.

The 5G network shall enable UEs without 5G coverage to use unlicensed spectrum to provide 5G wireless sensing service.

Subject to regulation, the 5G network shall enable UEs supporting V2X application to perform 5G Wireless sensing when not served by RAN using the allowed ITS spectrum and unlicensed spectrum.

\* \* \* End of Changes \* \* \* \*