Standardization work in ITU-T SG11 on combating counterfeit and stolen ICT devices

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ITU-T SG11 - Signalling requirements, protocols, test specifications and combating counterfeit products

www.itu.int/go/tsg11

SG11 is home to **SS7** and holds expertise in:

Signalling architectures, requirement and protocols for legacy and future networks	**Conformance & Interoperability**	**Combating counterfeit telecommunication/ICT devices/software and mobile device theft**
	Test methodologies and specifications	
	Benchmark testing	

Our Mission:

To develop protocols and test specifications to achieve consistent end-to-end interoperability of systems and networks

Sub-groups of ITU-T SG11 on combating counterfeiting and stolen ICT devices

WP4/11: Combating counterfeit telecommunication/ICT devices/software and mobile device theft

- **Q15/11: Combating counterfeit and stolen telecommunication/ICT devices (ToR – WI):**

  Develop Recommendations, Supplements and Technical reports to combat counterfeit and stolen telecommunication/ICT device with tampered or duplicated unique identifiers and assist the Member States in deploying solutions to mitigate these problems.

- **Q17/11: Combating counterfeit or tampered telecommunication/ICT software (ToR – WI):**

  Develop Recommendations, Supplements, Technical Reports and also study technologies and solutions to combat counterfeit or tampered ICT software, consequent data misappropriation and other adverse impacts.

High Level discussion on the topic

Plenipotentiary Conference PP-18 (Dubai) Decisions:

- **PP-18 Resolution 188 (Dubai, 2018): "Combating counterfeit telecommunication/information and communication technology devices".**
  - **Resolves 1:** to assist Member States in addressing their concerns with respect to counterfeit telecommunication/ICT devices, through information sharing, seminars and workshops, at regional or global level, including conformity assessment systems;
  - **Resolves 2:** to assist all the membership, considering relevant ITU-T recommendations, in taking the necessary actions to prevent or detect the tampering with (making unauthorized changes to) and/or duplication of unique device identifiers, interacting with other telecommunication SDOs related to these matters,
- **PP-18 Resolution 189 (Dubai, 2018): "Assisting Member States to combat and deter mobile device theft".**
  - **Resolves:** to explore and encourage the development of ways and means to continue to combat and deter mobile device theft, taking into account considering d) above,
  - **Considering d:** that the act of mobile device theft can sometimes have a negative impact on the health and safety of citizens, on users' data and on their sense of security and confidence in the use of information and communication technologies (ICTs);

High Level discussion on the topic

WTSA-16 Decisions:

- **WTSA-16 Resolution 96 (Hammamet, 2016):** "Studies for combating counterfeit telecommunication/information and communication technology devices".
- **WTSA-16 Resolution 97 (Hammamet, 2016):** Combating mobile telecommunication device theft.
- **Revision of ITU-T Resolution 2 (Hammamet, 2016):** ITU-T study group responsibility and mandates.

ITU-T SG11 became the Lead study group on combating counterfeiting and the use of stolen ICT device.

Other Related SGs: ITU-T SG 5, 12, 17, 20 – ITU-D SG2 (Q4/2).

Resolution 96 WTSA-16: Studies for combating counterfeit telecommunication/information and communication technology devices

Recognizing

a) the noticeably growing sales and circulation of counterfeit and tampered telecommunication/ICT devices in the markets, which have an adverse impact on governments, manufacturers, vendors, operators and consumers through: **loss of revenues, erosion of brand value/intellectual property rights and reputation, network disruptions, poor quality of service (QoS) and potential hazard to public health and safety as well as the environmental e-waste**

Aware

d) that there is **ongoing cooperation** with standards development organizations (SDOs), the World Trade Organization (WTO), the World Intellectual Property Organization (WIPO), the World Health Organization (WHO) and the World Customs Organization (WCO) **on matters related to counterfeit and tampered products**

Considering

f) that **tampered telecommunication/ICT devices** are devices that have components, software, a unique identifier, an item protected by intellectual property rights or a trademark tentatively or effectively altered without the explicit consent of the manufacturer or its legal representative

KEY CHALLENGES ON THE COMBAT OF COUNTERFEIT AND STOLEN ICT

(based on WTSA-16 Resolutions 96, 97 and ITU-T SG11 Studies)

- Developing **Recommendations, technical reports and guidelines** on combating **Counterfeit** and the use of **Stolen ICT Devices.**
- Study existing as well as new reliable, **unique, persistent and secure identifiers** to assist on the combat of counterfeit and stolen ICT.
- Methods of **assessing and verifying identifiers used** for purposes of **combating counterfeit production.**
- List of technologies/products, used for **testing conformance** with ITU-T Recommendations, **in order to help in efforts to combat counterfeit** ICT production.
- Solutions to address the problem of **tampering and duplication of unique identifiers.**

Strategic plan for Study Period (2017-2020)

Action plan for Implementation of WTSA-16 Res. 96 (Counterfeit) and 97 (stolen Devices) - (SG11-TD115R2/GEN):

Division of the work in four major blocks, based on the WTSA-16 Resolutions 2, 96 and 97:

1. Raise the awareness and promote the discussion
2. Coordinate the actions and collect information, within and outside ITU
3. Produce deliverable, such as Technical Reports and Recommendation
4. Assist ITU members implement the deliverables and combat the use of counterfeit and stolen devices

ITU events

ITU-T SG11 events

- Workshop on Combating counterfeit and substandard ICT devices (November 2014)
- Demo on a solution to combat Counterfeiting of ICT products based on the Digital Object Architecture (April 2015)
- Workshop on Combating counterfeit using conformance and interoperability solutions (June 2016)
- Workshop on on Global approaches on combating counterfeiting and stolen ICT devices + demo (July 2018)
- WSIS Session 406— Combating counterfeit telecommunication/ICT devices and software (May 2021)
- Joint ITU/MWF Webinar "Combating Counterfeit and Irregular Mobile Devices: How to address the Problem" (May 2021)

ITU regional events

- 1st Workshop Counterfeit ICT Devices, Conformance and Interoperability Testing Challenges in Africa (April 2017)
- 2nd Workshop - Counterfeit ICT Devices, Conformance and Interoperability Testing Challenges in Africa (April 2018)
- 3rd Workshop - Counterfeit ICT Devices, Conformance and Interoperability Testing Challenges in Africa (September 2019)

Combating counterfeiting of ICT devices

WTSA-16 - Resolution 96: ITU Telecommunication Standardization Sector studies for combating counterfeit telecommunication/information and communication technology devices

Deliverables:

Technical Report on Counterfeit ICT Equipment (2015)

QTR-CICT - Survey report on counterfeit ICT devices in Africa region (2017)

ITU-T Q.5050 “Framework for solutions to combat counterfeit ICT devices” (2019)

Combating the use of stolen ICT devices

WTSA-16 - Resolution 97: Combating mobile telecommunication device theft

Deliverables:

ITU-T Q.5051 “Framework for combating the use of stolen mobile devices” (2020)

Common Deliverables

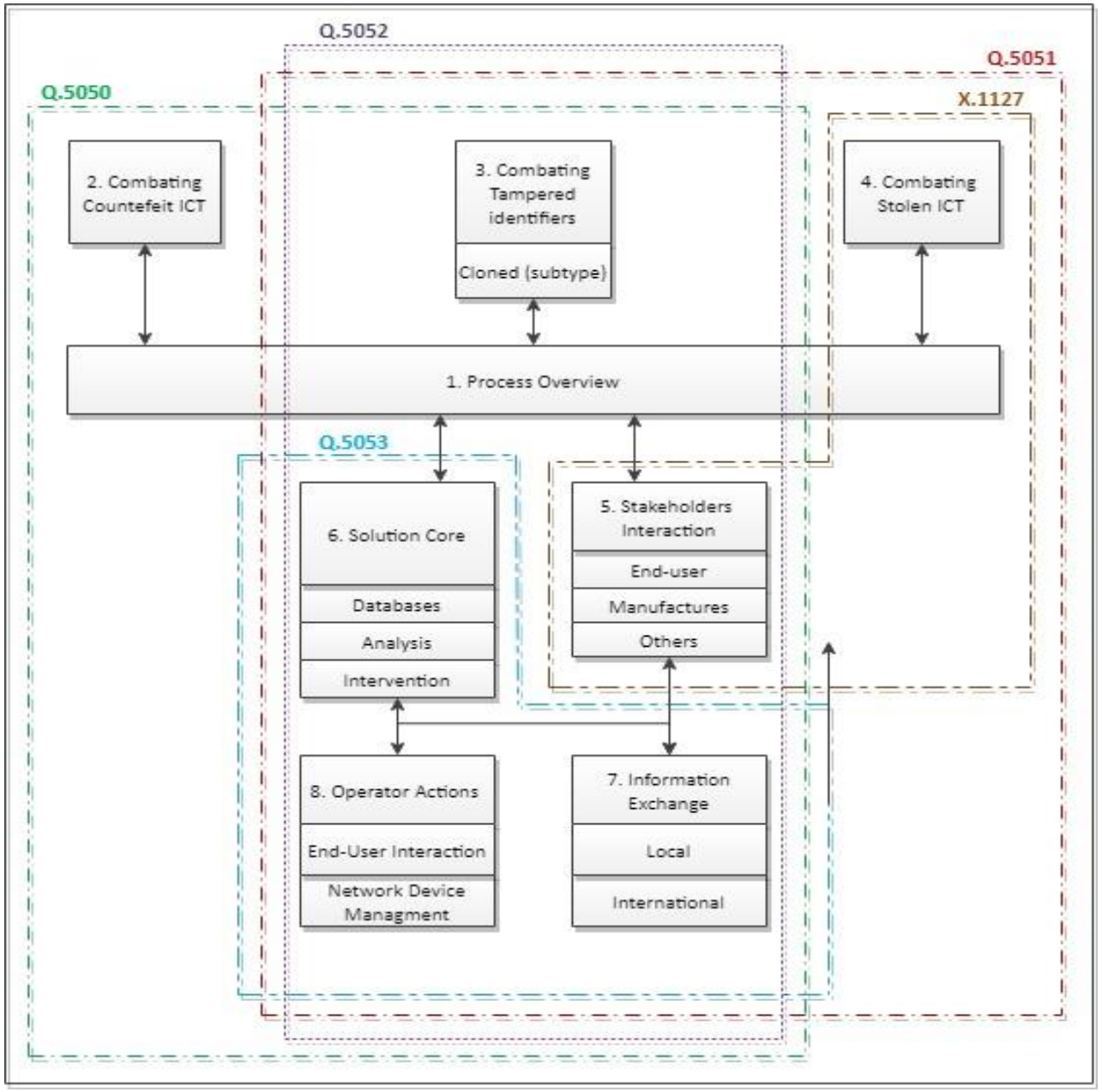
- Technical Report QTR-RLB-IMEI “Reliability of International Mobile station Equipment Identity (IMEI)” (2020)

- ITU-T Q.5052 “Addressing mobile devices with a duplicate unique identifier” (2020)

- ITU-T Q.5053 “Mobile device access list audit interface” (2021)

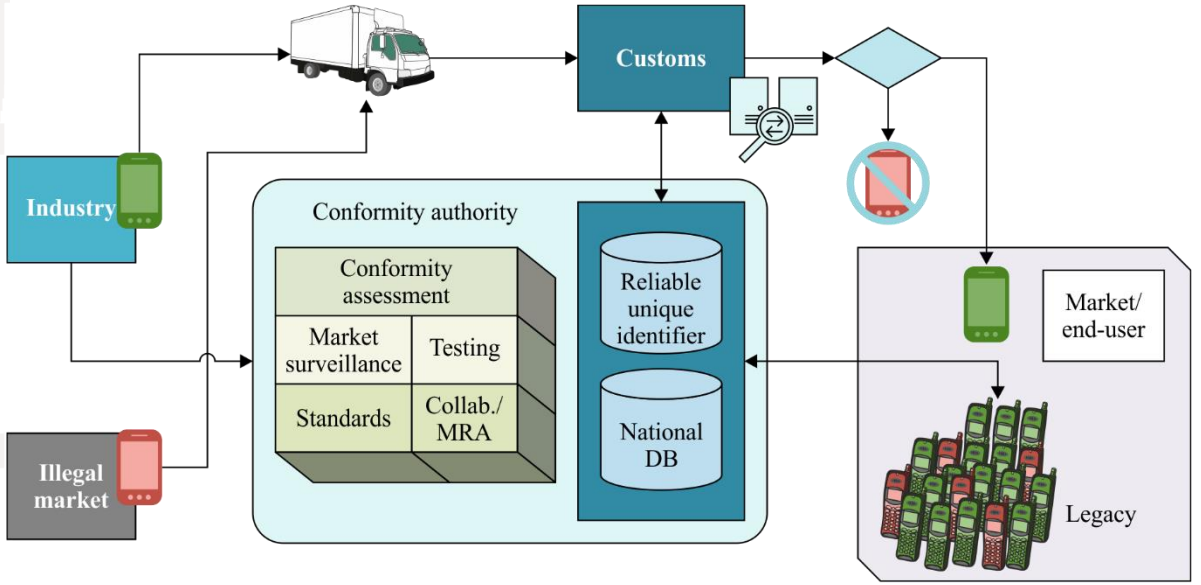
- ITU-T Q Suppl.73 “Guidelines for Permissive versus Restrictive System Implementations to address counterfeit, stolen and illegal mobile devices” (2021)

- ITU-T Q Suppl.74 “Roadmap for the Q.5050-series - Combat of Counterfeit ICT and Stolen Mobile Devices” (2021)



ITU-T Q.5050 (03/2019) - Framework for solutions to combat counterfeit ICT devices

The objective of ITU-T Q.5050 is to describe a reference framework, with high-level challenges and requirements that should be considered when deploying solutions to combat the circulation and use of counterfeit ICT devices

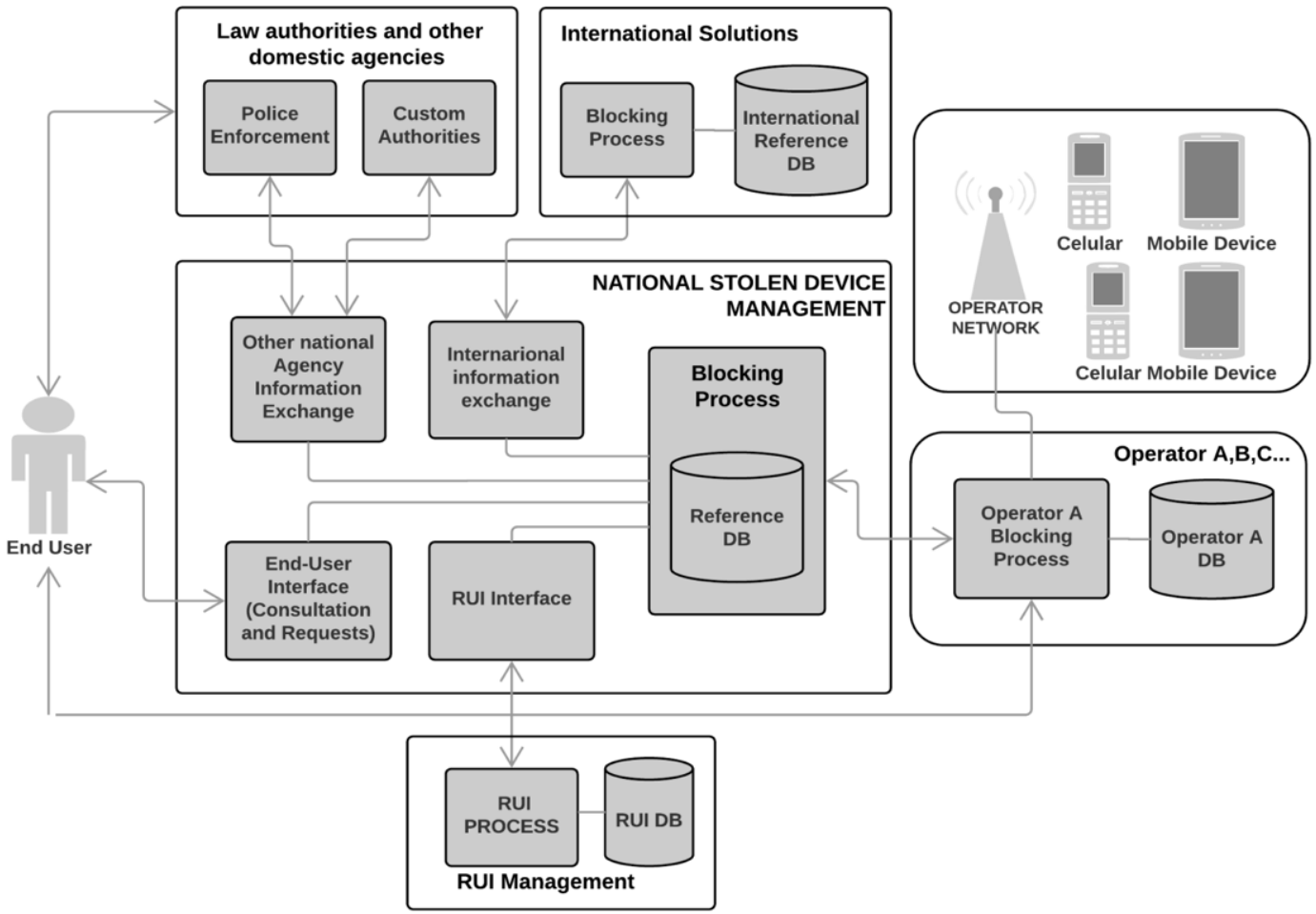


Source: ITU-T Q.5050 (03/2019)

ITU-T Q.5051 (03/2020): Framework for combating the use of Stolen Mobile Devices

It is important not only to combat the use of Stolen Mobile Devices, but also to prevent the devices with unauthorized reprogrammed unique identifiers from returning to the network.

ITU-T Q.5051 (03/2020): Framework for combating the use of Stolen Mobile Devices



It's critical to have information share on this topic, since its common to have a device stolen on one country and sold on another.

For that, an **international database**, available to all stakeholders from anywhere in the world, is necessary.

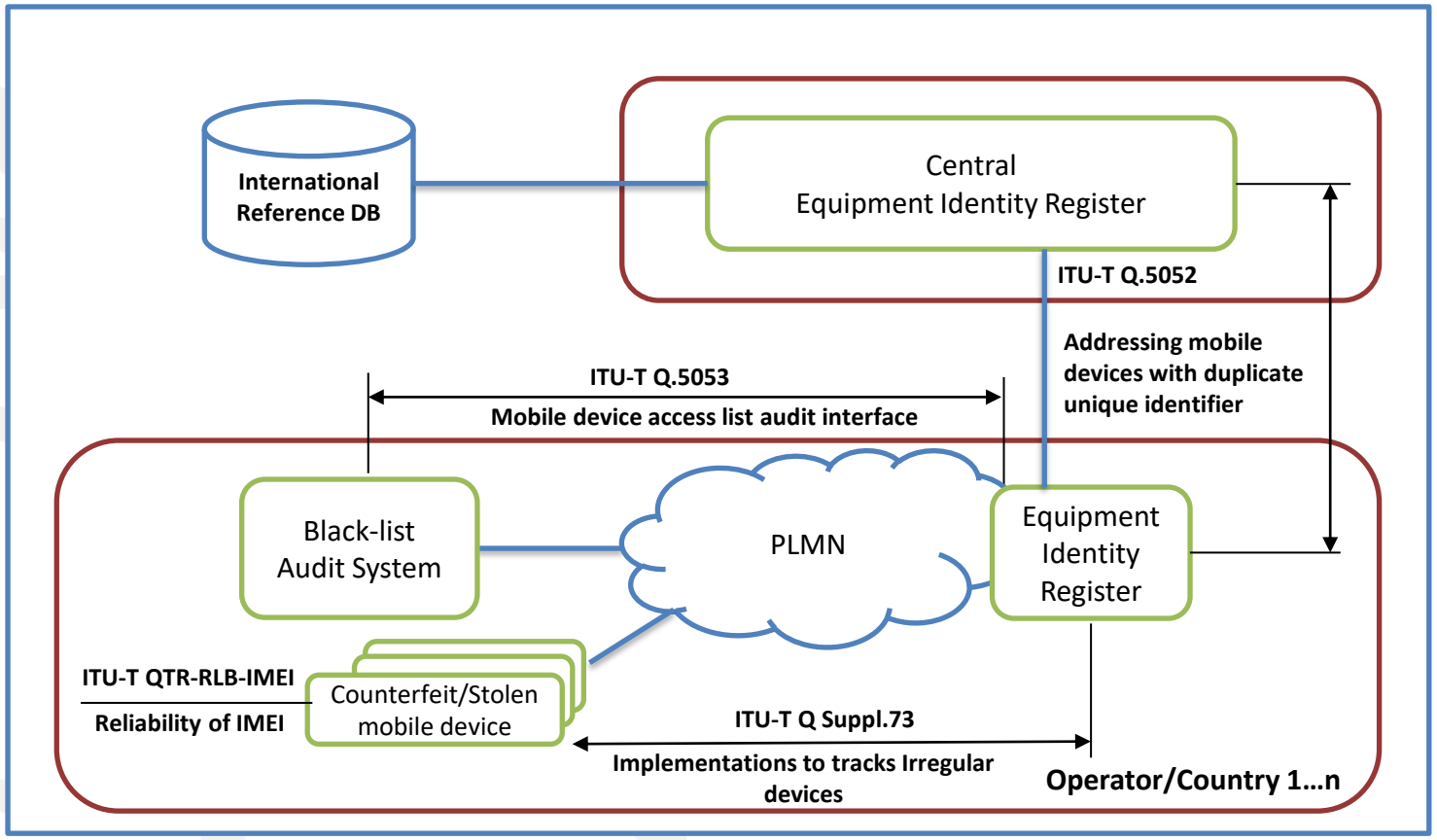
- Device identifier,
- Device characteristics,
- Place (country) of the event,
- Date of event.

To track duplication and tampering of unique identifiers, additional actions and information are needed.

OTHER DELIVERABLES

- **Technical Report TR-RLB-IMEI: Reliability of IMEI identifier (2020):** Study on the reliability of IMEI, including information about key vulnerabilities to IMEI reprogramming on mobile devices, challenges to make the IMEI non-reprogrammable, effects of IMEI tampering on stakeholders. It addresses key challenges faced by a range of stakeholders that arise from duplicated/tampered IMEIs, including concerns about the misuse of IMEI numbers raised by Member States at ITU Council-17 and ITU Council-18.

- **ITU-T Q.5052 "Addressing mobile devices with a duplicate unique identifier" (2020):** Identifies challenges and proposes mechanisms to enable the detection of mobile devices with duplicate identifiers present on operator networks, as well as mechanisms for validating the legitimacy of such devices.



- **ITU-T Q.5053 "Mobile device access list audit interface" (2021):** Defines mechanisms verify if the IMEI lists contained within each MNO's equipment identity register (EIR) contain all of the data provided by the various other IMEI sources and are therefore in compliance with locally mandated and/or agreed policies.

- **ITU-T Q Suppl.73 "Guidelines for Permissive versus Restrictive System Implementations to address counterfeit, stolen and illegal mobile devices" (2021):** Provides guidelines for permissive versus restrictive system deployments that should be considered when deciding what approach to employ in order to address the issues of counterfeit, illegal and stolen mobile devices.

Ongoing activities

- **Draft Supplement Q.Sup.CFS-Use-Cases "Use Cases on the Combat of Counterfeit ICT and Stolen Mobile Devices":** Collect information regarding the challenges faced by ITU Members, some best practices and solutions for combating counterfeit/tampered and stolen ICT Devices.

- **Draft Technical Report TR-CF-QoS "Impact of Counterfeit Mobile devices on Quality of Service":** Aims to study the negative effects and impact of counterfeit mobile devices on network's quality of service along with the negative effects and service degradation experienced by the mobile subscribers.

- **Draft Supplement Q.Sup.CFS-AFR "Guidelines on combating counterfeit and stolen mobile devices in African region":** Defines requirements for the deployment of a harmonised system to combat the circulation and use of counterfeit/stolen mobile devices in the African region.

- **Draft Technical Report TR-GAA "Common guidelines for conformity assessment in African Region in order to assist in the combat counterfeit ICT devices":** Aims are to harmonize common requirements and guidelines for African Region to assess conformity of ICT devices in order to assist in the combat counterfeit ICT devices

- **Draft Technical Report TR-MCM-Use-Cases Use Cases on the combat of Multimedia Content Misappropriation (Q17/11):** Aims to collect use cases from ITU Members that reflects challenges, opportunities and results on the combat of multimedia content misappropriation and, with this information compendium, assist ITU members in engaging this problem.

Contacts

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