

Overview of the B5G/6G KPI whitepaper – Motivation and methodology



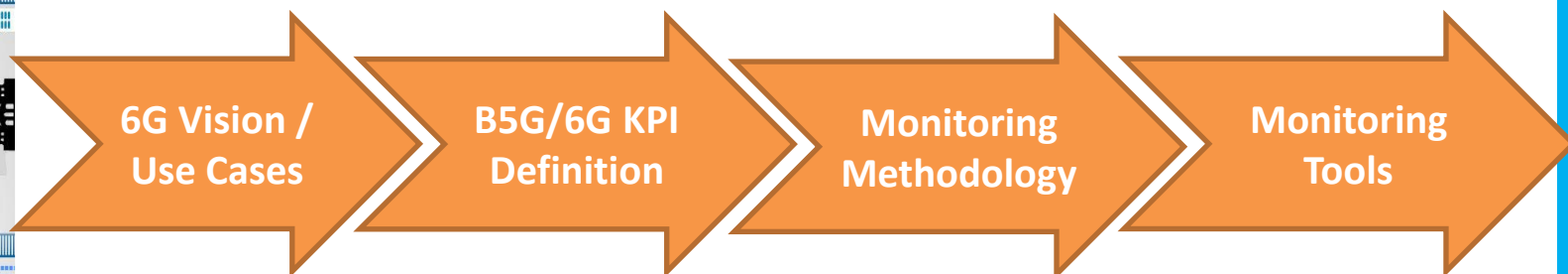
5G PPP TMV WG

- The TMV WG **brings together** the EU projects with a common interest in the development of **test and measurement methods**, test cases, **procedures** and **KPI validation**. The TMV WG ensures that projects
 - work towards **consistent goals** in a **complimentary manner**
 - exchange **ideas**
 - **minimize duplication** of effort, and
 - leverage and contribute to **relevant standards** in 3GPP and ETSI



www.5g-ppp.eu/5g-ppp-work-groups

Motivation



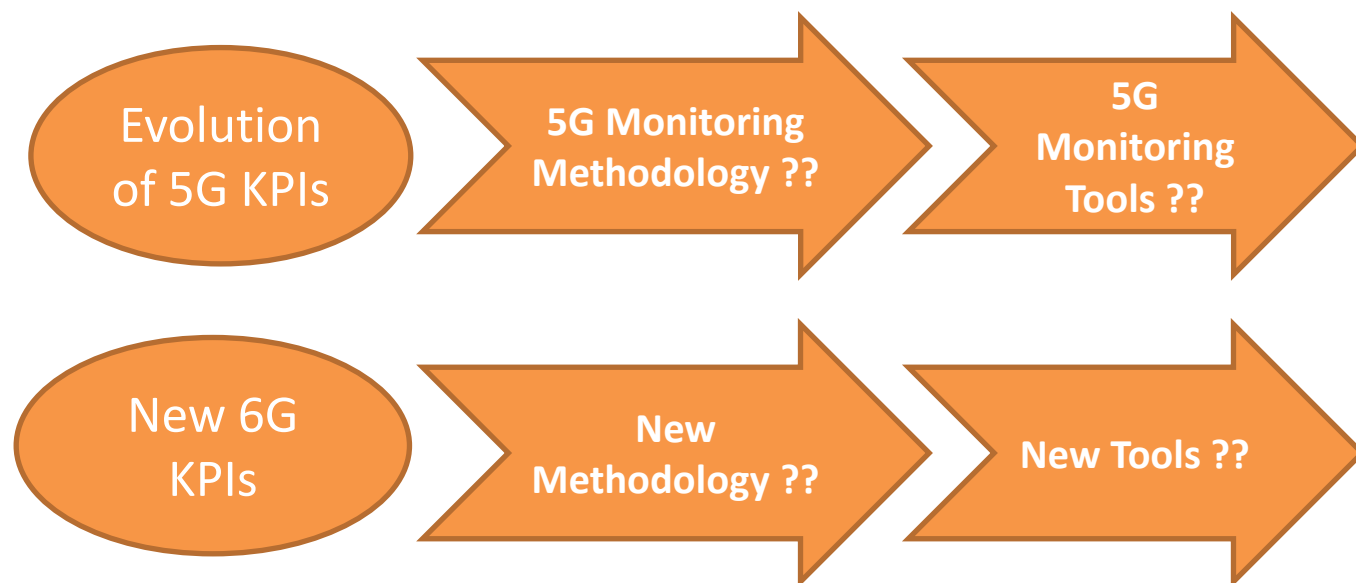
- ❑ At the start of the 6G research era, visionaries and researchers provide **visions** and **use cases** for **6G**.
- ❑ To **properly steer** the 6G research and innovations, it is vital to have **clearly defined KPIs**, but it is equally important to ensure that the defined KPIs **can be measured and evaluated**.
- ❑ In a two-sided approach visions and use cases help define the KPIs, while the KPIs help **drive the development of technologies**.

Motivation

- ❑ To provide an **early analysis of possible 6G KPIs** based on current work and perspectives from **active B5G and 6G projects**
- ❑ Depending on the **nature** of the services and applications, the **reference level** and the **definition of KPIs** can be different.
- ❑ Standard definitions in previous generation networks are usually **inherited**, while at the same time **new KPIs** are defined addressing **6G-specific aspects**.

KPI clustering and definition methodology

- The analysis of the B5G/6G KPIs from the EU projects aims to understand
 - if the target KPIs can be **defined by extending existing standard definitions** (evolution of the 5G KPIs) or
 - if the target KPIs are new and thereby **candidates for being standardised** (6G KPIs).



KPI clustering and definition methodology

- To provide a harmonized and formalised view of B5G and 6G KPIs, a **three-step methodology** was followed.
 1. **Define** the information to be collected by the research projects, related to KPI **definitions, target values, and information relevant to the context** of these definitions.
 2. **Aggregate and streamline** the information and **cluster the KPIs into KPI families** representing the ICT-52 projects **vision on key B5G and 6G qualities**.
 3. **Review** standard KPI definitions and target values from International and European **Standards Developing Organisations** (ITU-R, 3GPP and ETSI) and use them as **reference** for the **relevant KPI families**.

KPI clustering and definition methodology

- 1 Collect information from ICT-52 projects using templates
- 2 Aggregate, analyse and cluster into KPI families
- 3 Review standards and reference to KPIs / KPI families

1

KPI template
KPI Category
KPI Name
KPI Definition
Use case/ context of the KPIs
Enhancement related to the KPI target value
Information on where/how the KPIs will be measured
Any known information on the influence quantities of the KPI
Relative or absolute evaluation
Other relevant information

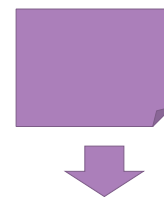


Collection and analysis of ICT-52 project KPIs

2

KPI families
Latency
Capacity
Packet loss
Compute
Energy
Security
Channel
EMF
Service Availability and Reliability

Clustering into families



ITU-T, 3GPP and ETSI standards



Specification of KPI definition, related standards and targeted values

3

KPI
KPI family
KPI name
Projects
3GPP Rel. 18 docs
Project definition
Standard definition
Target value
Other remarks

Contributors

ICT-52 projects



Editor projects



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5G PPP

The European path towards global next generation communication network



Thank You!!!