



NGMN Focus Areas and Project Extract: Green Future Networks

February 2023

www.ngmn.org

**WE MAKE BETTER
CONNECTIONS**

GLOBAL PARTNERSHIP

More than 80 Companies, growing



MEMBERS

NGMN leading Operators with global presence



CONTRIBUTORS

NGMN Telco Vendors, Software Companies and many other leading industry players contributing and driving the advancement of future mobile network technologies



ADVISORS

NGMN Research Institutes contributing substantially to mid- to long-term innovation

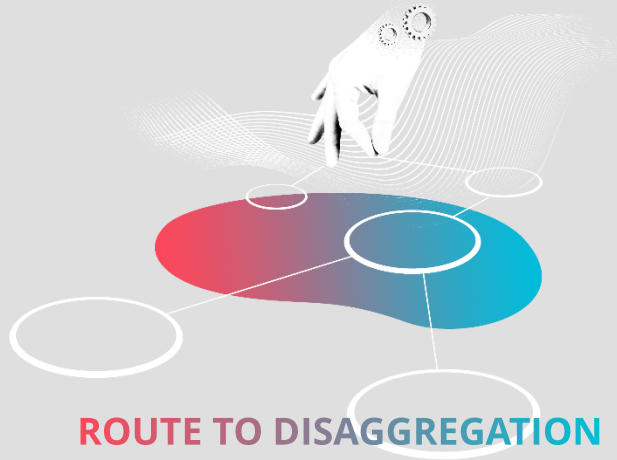




NGMN STRATEGY

STRATEGY

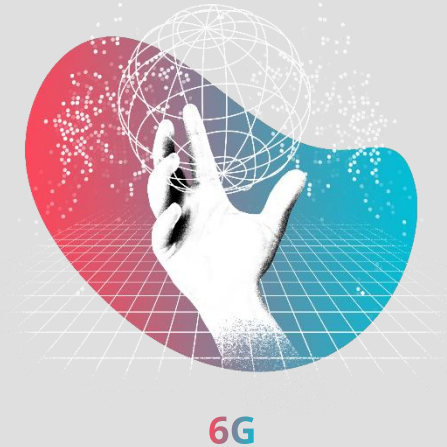
Alongside with projects supporting 5G's full implementation, the focus of NGMN's Work Programme since 2021 is on three main equally important pillars with different time horizons



Leading in the development of open, disaggregated, virtualised and cloud native solutions with a **focus on the E2E Operating Model**

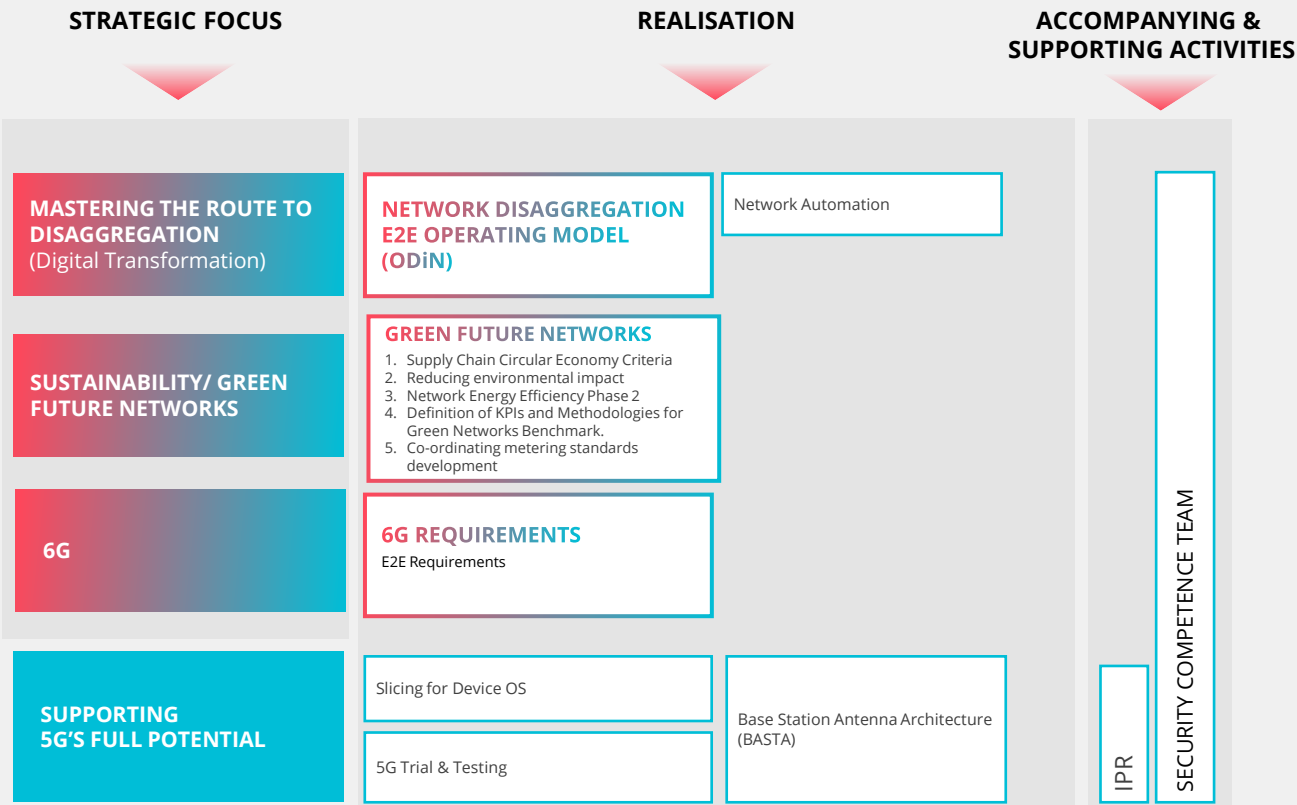


Building sustainable & environmentally conscious solutions



Emergence of 6G highlighting key trends across technology and societal requirements plus use cases to address, followed now by E2E system requirements

NGMN WORK PROGRAMME



GREEN FUTURE NETWORKS



Project Lead
Deutsche Telekom

34 PARTICIPATING COMPANIES IN NGMN'S GREEN FUTURE NETWORKS



OPERATORS



VENDORS



RESEARCH INSTITUTES



GREEN FUTURE NETWORKS 2021 (DELIVERED)



Sustainability challenges and initiatives in Mobile Networks



Network equipment eco-design and end to end services footprint



Network energy efficiency



Metering for sustainable networks

GREEN FUTURE NETWORKS

KEY MESSAGES AND OUTCOMES 2021

1

Specific recommendations for operators and vendors on activities regarding eco-design of products

2

Services' end-to-end environmental footprint assessment, common methodology development

3

Sharing instead of owning, refurbishment options and lean packaging

4

Importance of leveraging 5G air interface spectral efficiency, advanced sleep modes, importance of deploying sleep mode functions

5

Benefits of Artificial Intelligence (AI) based energy saving solutions

6

Standardized metering shall be defined with generic unified architecture

GREEN FUTURE NETWORKS – PHASE 1 PUBLICATIONS



<https://www.ngmn.org/publications.html>

GREEN FUTURE NETWORKS PHASE 2 (2022)



**SUPPLY CHAIN
CIRCULAR ECONOMY
CRITERIA**



**NETWORK ENERGY
EFFICIENCY PHASE 2**



**REDUCING
ENVIRONMENTAL
IMPACT**



**GREEN NETWORKS
KPIs and
METHODOLOGIES**

SUPPLY CHAIN CIRCULAR ECONOMY CRITERIA

(PUBLISHED IN 01/23)



- **Supply chain emissions** form the **largest portion of an operator's carbon footprint (scope 3 emissions)**
- Necessity for **Operators** to establish **sustainable procurement processes, performance indicators to assess their supply chain**
- **NGMN** develops a **methodology for Operators to assess their suppliers' sustainability aspects**, for procurement leaders to make informed decisions

REDUCING ENVIRONMENTAL IMPACT



- Development of **common end to end services footprint calculation method**
- **Compendium of new business models** based on LCA
- **Critical raw materials** and **Life Cycle Assessment**
- Ecosystem **Water Footprint**

NETWORK ENERGY EFFICIENCY PHASE 2



- Topics **further addressing energy efficiency of networks**
 - **Better engineering networks** (Radio units and antennas, DC Power Distribution, Cooling, Energy harvesting & renewable energy).
 - **Using network energy saving features** (standardised technology / sleep and power saving modes etc).
 - **Reviewing new technology enablers** (Reconfigurable Intelligent Surfaces, others).
- **Energy consumption of disaggregated networks**



- to **establish globally applicable KPIs and methodologies**,
- to **define a global evaluation methodology**, and
- to **define the data sources for the assessment** and how such data are obtained

First focus is on high level sustainability indicators, followed by more detailed assessments at subsequent stages.

Criteria: Sustainability, Energy, Technical & Non-technical, other

GREEN FUTURE NETWORKS – PHASE 2 PUBLICATIONS



- Telco Supply Chain Sustainability – published Jan 2023.
- Further publications in next 6 – 8 weeks
 - KPIs and Target Values for Green Network Assessment.
 - Energy Efficiency
 - Reducing Environmental Impact

<https://www.ngmn.org/publications.html>

CO-ORDINATING METERING STANDARDS DEVELOPMENT (First new group in 'phase 3')

NEW WORKING GROUP, KICK OFF 12/22 to run in 2023



- Review standards landscape in terms of current metering 'state of art'
- Identify priorities for developing standardised metering given recommendations in the GFN Metering WP (Jan 2022)
- Liaise with SDOs and track development of metering standards

Key Deliverables:

- Prioritised list of metering standards development recommendations and SDOs/fora
- Liaison statements to SDOs
- Internal project document to track development of metering standards in SDOs



THANK YOU!

In case of further questions please contact
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