



6G – AN OPERATOR VIEW

@ETSI-ITU Symposium on ICT
Sustainability 11-12 December 2024

ngmn.org
office@ngmn.org

**WE MAKE BETTER
CONNECTIONS**

GLOBAL ALLIANCE

NEARLY 70 COMPANIES SHAPING THE FUTURE OF THE INDUSTRY

MEMBERS



CONTRIBUTORS

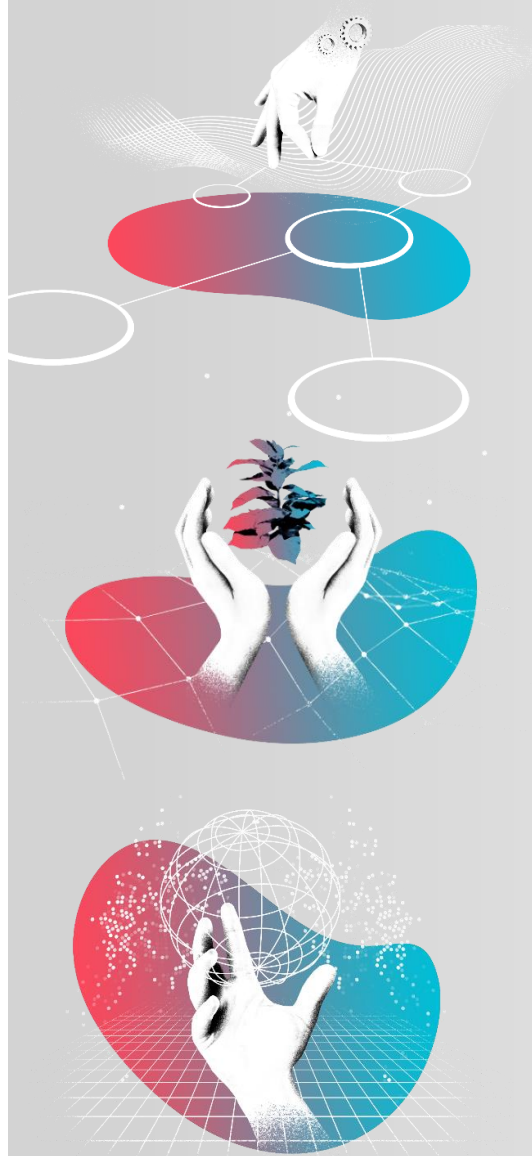


ADVISORS



NGMN WORK PROGRAMME

3 STRATEGIC FOCUS TOPICS
WITH DIFFERENT TIME
HORIZONS, PLUS PROJECTS
SUPPORTING FULL 5G
IMPLEMENTATION



MASTERING THE ROUTE TO DISAGGREGATION

Leading in the development of open, disaggregated, virtualised and cloud native solutions including E2E operating models

GREEN FUTURE NETWORKS

Building sustainable & environmentally conscious solutions

6G

Emergence of 6G highlighting key trends across technology and societal requirements plus use cases, requirements, design considerations, network architecture evolution

NGMN's PATH FROM 4G TO 6G

+ ...

ITU-R Framework for IMT-2030
Review and Future Direction

6G Position Statement, An
Operator View

6G Requirements and Design
Considerations

6G Use Cases
6G Drivers & Vision

6G

+ ...

5G White Paper 2
5G White Paper (Requirements)

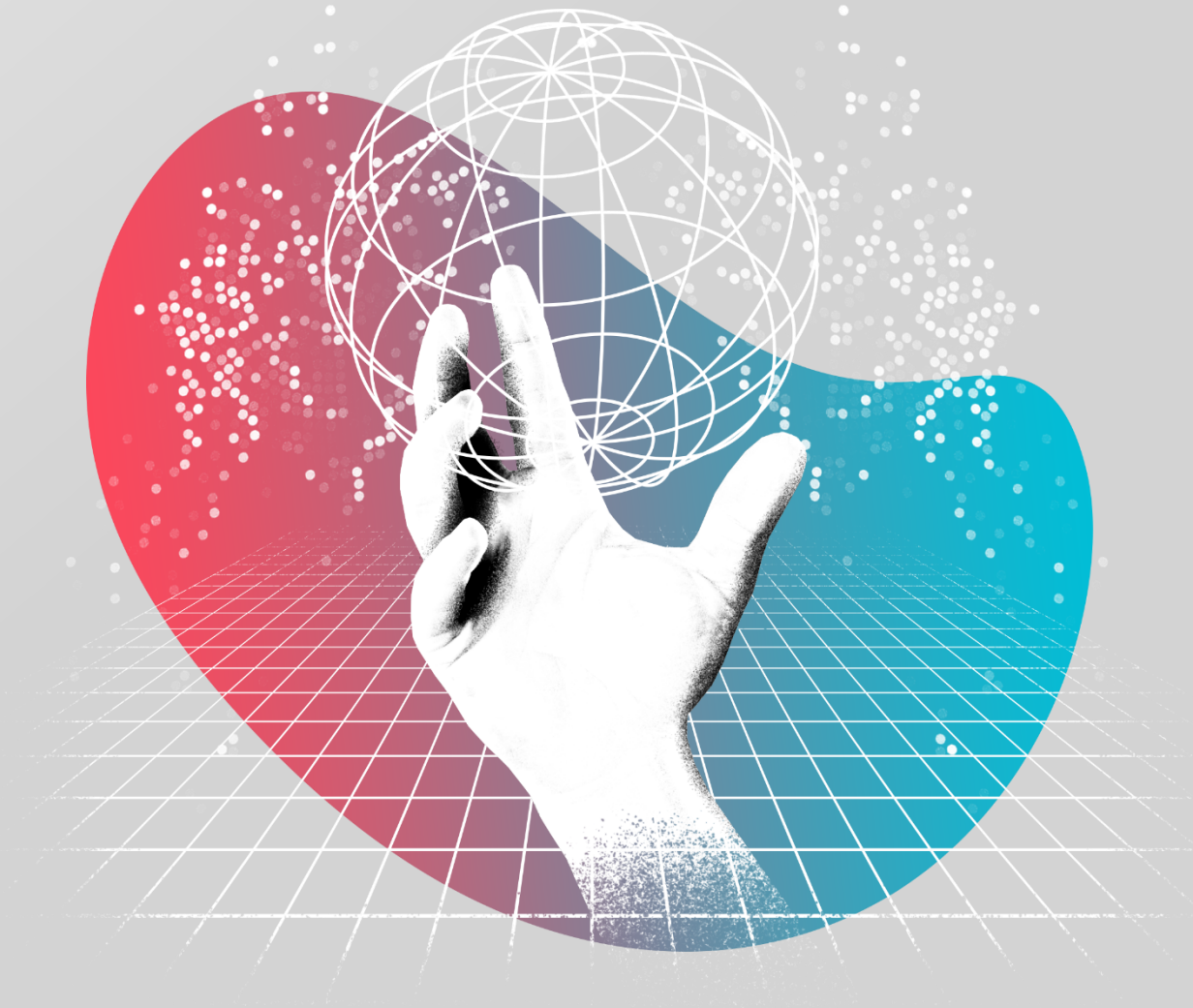
5G

Beyond HSPA & EVDO
White Paper

Technology Evaluation

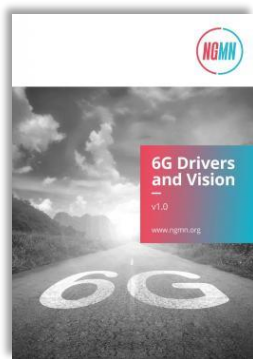
4G

6G

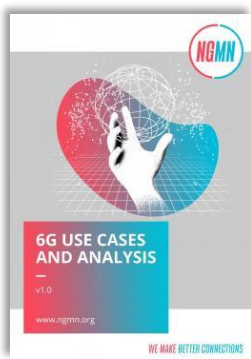


NGMN 6G PUBLICATIONS

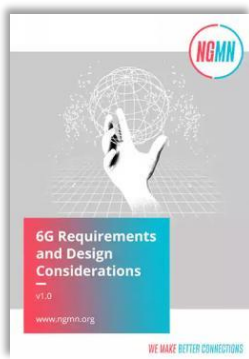
6G Direct Publications



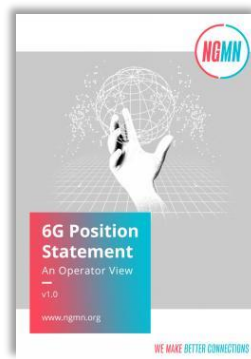
2021



2022

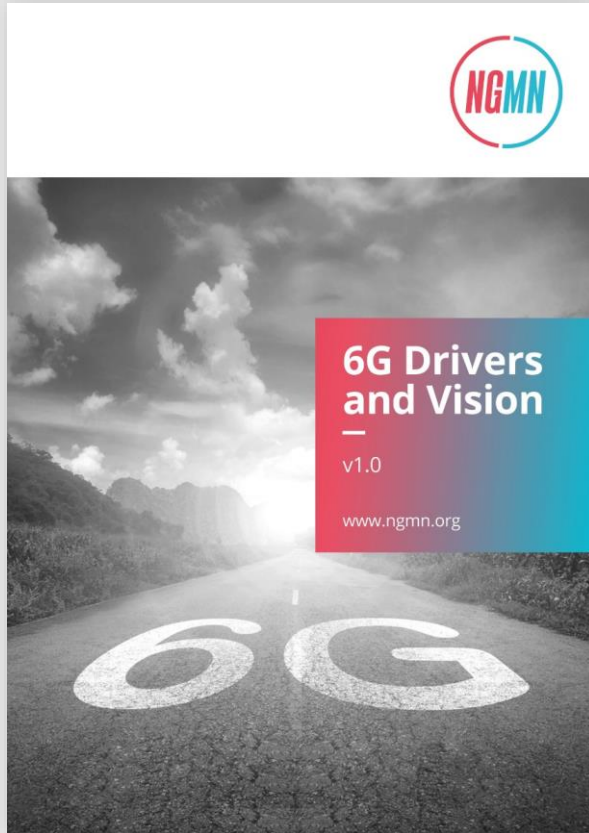


2023



2024

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



6G DRIVERS AND VISION

PUBLISHED APRIL 2021

NGMN's view of 6G Drivers and Vision

- **Societal and environmental** benefits
- Expanded and differentiated services with **novel experience**
- **Operational necessities** to create and deliver enhanced value

6G POSITION STATEMENT: AN OPERATOR VIEW

KEY MESSAGES

1

Overarching Statement
6G is the graceful evolution of communication networks building on and **extend beyond existing 5G ecosystem**

3

Operational Priorities
such as network simplification, **absolute energy reduction**, automated and proactive operations and quantum safe infrastructure.

2

Innovations and New Services based on IMT-2030 features, facilitate seamless integration and interoperability with fixed and satellite networks and inherently support network related APIs

4

Spectrum:
• **Existing IMT spectrum remains essential**
• 6-15GHz must be licensed for IMT
• Sub-THz bands may adopt a new radio technology

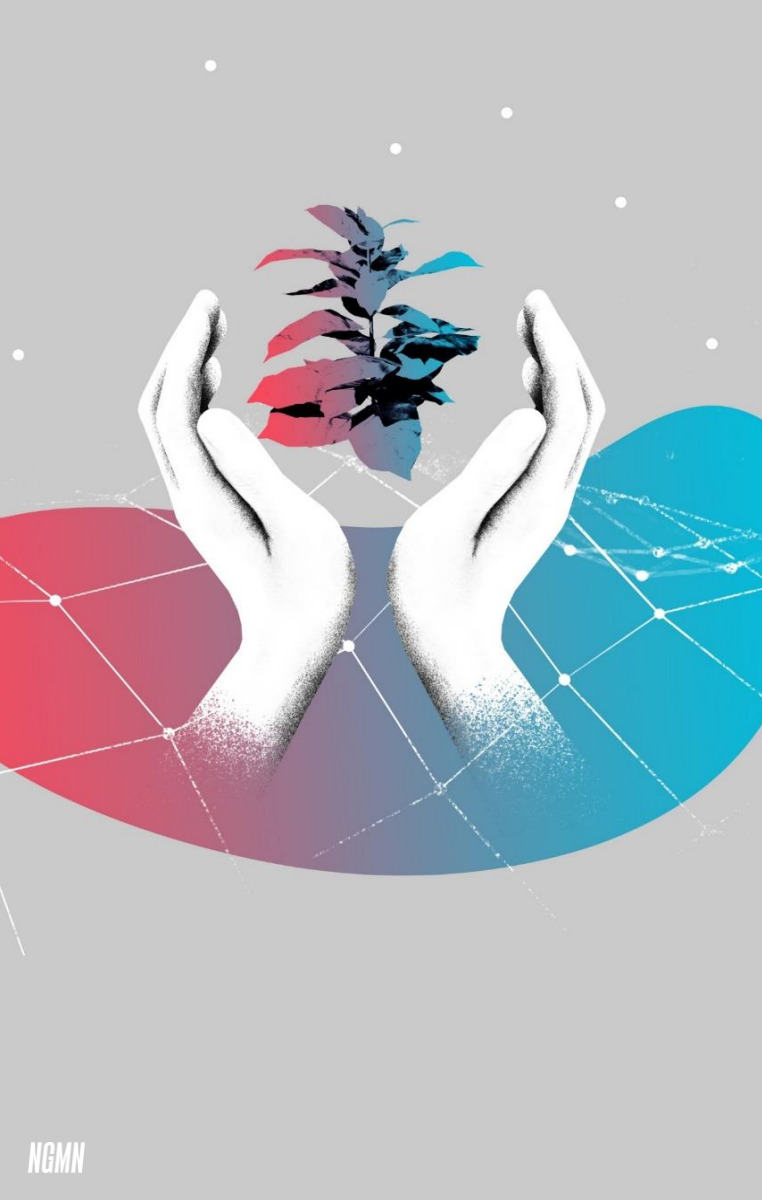
5

Guiding Principles:

- Global 6G standards
- **No intrinsic need for hardware refresh**
- Software upgrade to 6G
- No degraded performance for 5G customers
- No compromise to existing services
- Access across mobile, fixed and NTN
- **Backwards compatibility with 5G**
- Robust resilience

GREEN FUTURE NETWORKS





GFN BUILDING A SUSTAINABLE FUTURE FOR MOBILE

- High relevance to MNOs, industry and globe
- A multi-year project (started 2021) to guide the industry with roadmaps and actionable recommendations



GFN PUBLICATIONS – PHASE 1&2



July 2021



July 2021



Dec 2021



Jan 2022

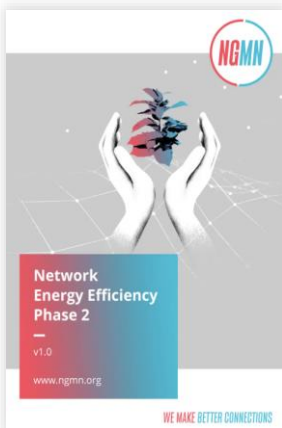


Jan 2023

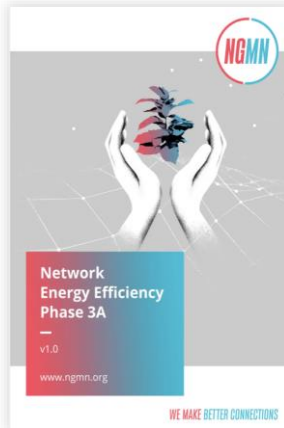
GFN PUBLICATIONS – PHASE 2&3



Feb 2023



Oct 2023



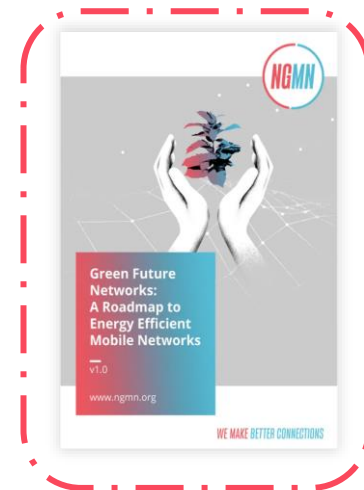
Dec 2023



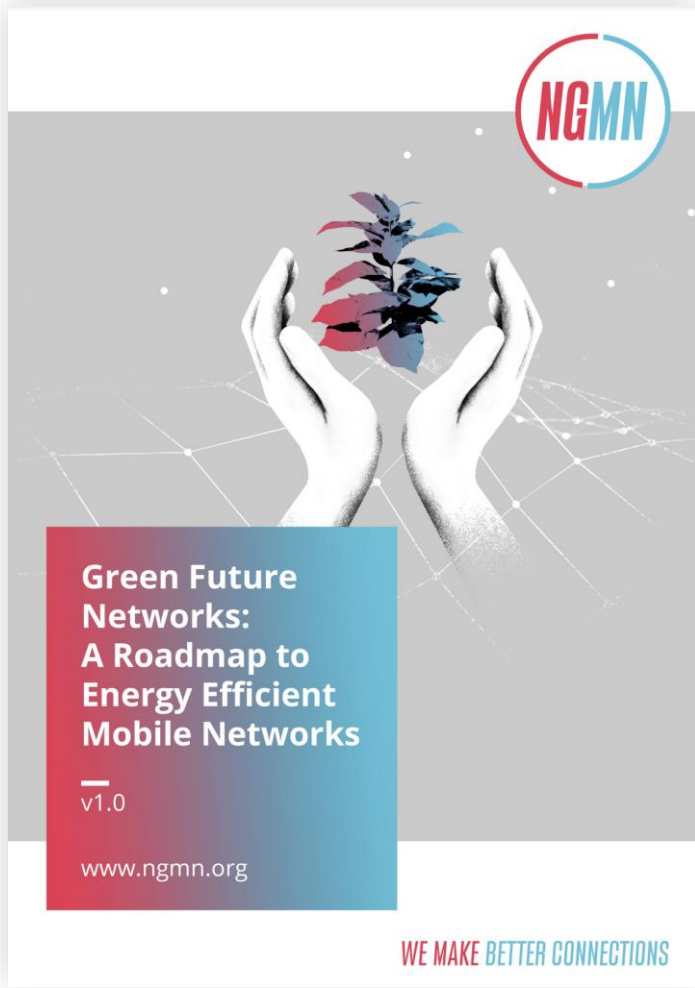
Jan 2024



Apr 2024



July 2024



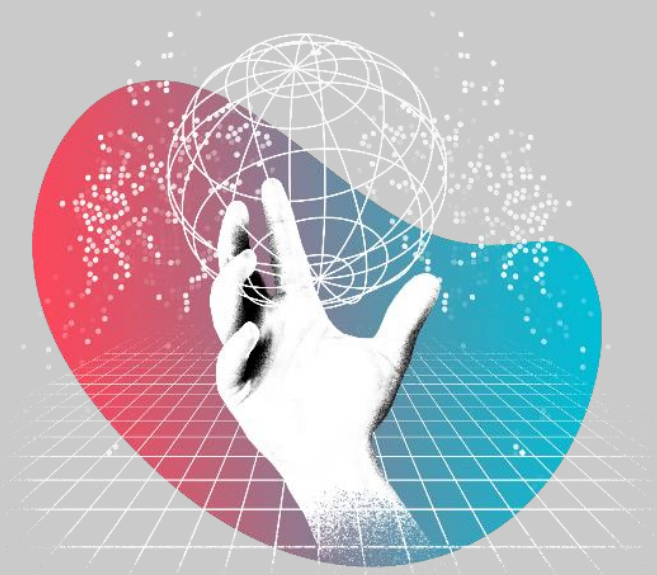
A ROADMAP TO ENERGY EFFICIENT NETWORKS

PUBLISHED JULY 2024

- Outlines **16 different energy saving solutions** quantified by size of saving and time-horizon (short/medium/long term)
- **Artificial Intelligence / Machine Learning** is highlighted as a **key technology to enable** further energy saving through all stages in the lifecycle of a network (plan / build / operate / maintain)
- **RAN sharing** is also highlighted as a method to save energy as well as **limit carbon emissions**
- **Accurate measurement** and testing (of RAN equipment) is also highlighted as important to **enable optimisation decisions**.

UPCOMING PHASES OF 6G & GFN PROJECTS

- Influence on the early stages of 6G Standardisation
 - Focus on 3GPP and ITU as they move into the first stages of standardisation
- We received an excellent contribution from Operators and other Partners, and wrapping up the **Phase-5** of **6G** work programme on **Network Architecture Evolution**. Tentative release – Q1/2025
- Similarly, the **Phase-4** of **Green Future Network** on **Energy Management, Environment Reporting & Sustainability and Metering** shall be released by Q1/2025
- NGMN is global and operator driven
- Your contribution matters!





THANK YOU

In case of further questions please contact
office@ngmn.org

Follow us on [LinkedIn](#)