



NGMN'S JOURNEY TO 6G

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Next Generation Mobile Networks

www.ngmn.org

**WE MAKE BETTER
CONNECTIONS**

80 COMPANIES IN NGMN TODAY

GROWING; OPERATOR DRIVEN, PARTNERSHIP REFLECTS THE ENTIRE VALUE CHAIN

MEMBERS



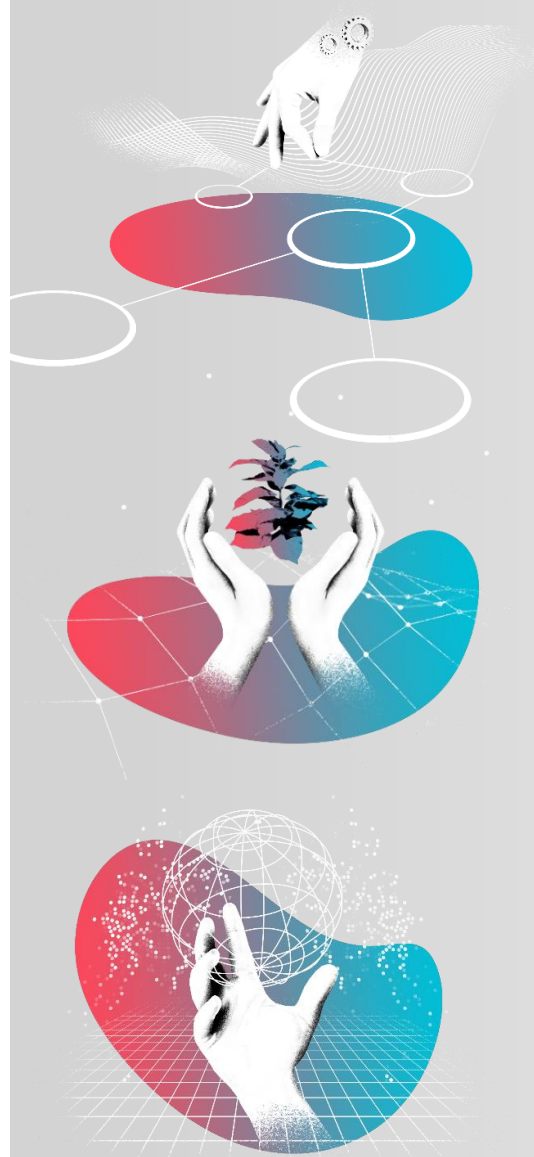
CONTRIBUTORS



ADVISORS



STRATEGY



ROUTE TO DISAGGREGATION

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

GREEN FUTURE NETWORKS

Building sustainable & environmentally conscious **solutions**

6G

Emergence of 6G highlighting **key trends across technology and societal requirements plus use cases and E2E requirements** to address

NGMN'S ROAD FROM 4G TO 6G



+ ...
6G Use Cases
6G Drivers & Vision

6G

+ ...
5G White Paper 2
5G White Paper

5G

Beyond HSPA & EVDO
White Paper
Technology Evaluation

4G

6G PROJECT MILESTONES

Q3 2020 Q4 2020 Q1 2021 Q2 2021 Q3 2021 Q4 2021 Q1 2022 Q2 2022 Q3 2022 Q4 2022 Q1 2023 Q2 2023

●
Project
Launch

Drivers & Vision

● Publication:
6G Drivers & Vision



● Kick-off with the entire
NGMN community

Use Cases

● Publication:
6G Use Cases & Analysis



E2E System Requirements

● Publication:
Requirements

External Engagement



INTRODUCTION TO NGMN'S FIRST 6G WHITE PAPER

(published in April 2021)

An Operator's view of 6G Drivers & Vision

Societal & Environmental Benefits

Expanded & Differentiated Services
with Novel Experience

Operational Necessities To Create &
Deliver Enhanced Value



A JOURNEY TOWARDS 6G

Increased Scope for the SDOs

To drive full ecosystem automation, enhance visibility, and improve efficiency, the SDOs need to take a **holistic end-to-end** view of the entire ecosystem, and not only its parts.

New Standards Evolution Paradigm

Reconsider the traditional notion of 'generational' change driven solely by **radio and core**.

Unity and Integrity of Global Standards

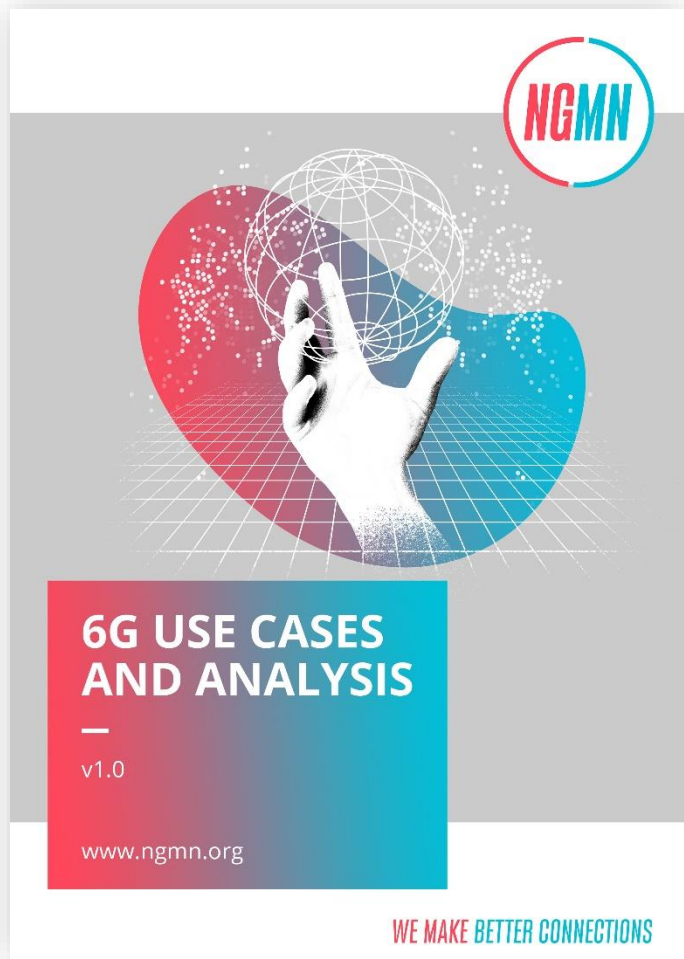
Critical to **prevent standards duplication** which causes market delays and complexity, as well as standards divergence which could lead to **fragmentation**.

Differentiated Tech Evolution

Work must be undertaken to assess new technologies, but also the **market and value opportunity**.

Supply Chain Diversity & Security

The industry must foster and encourage a **healthy and competitive** development to ensure a stable global supply chain without any major disruptions.



6G USE CASES AND ANALYSIS

(published in February 2022)

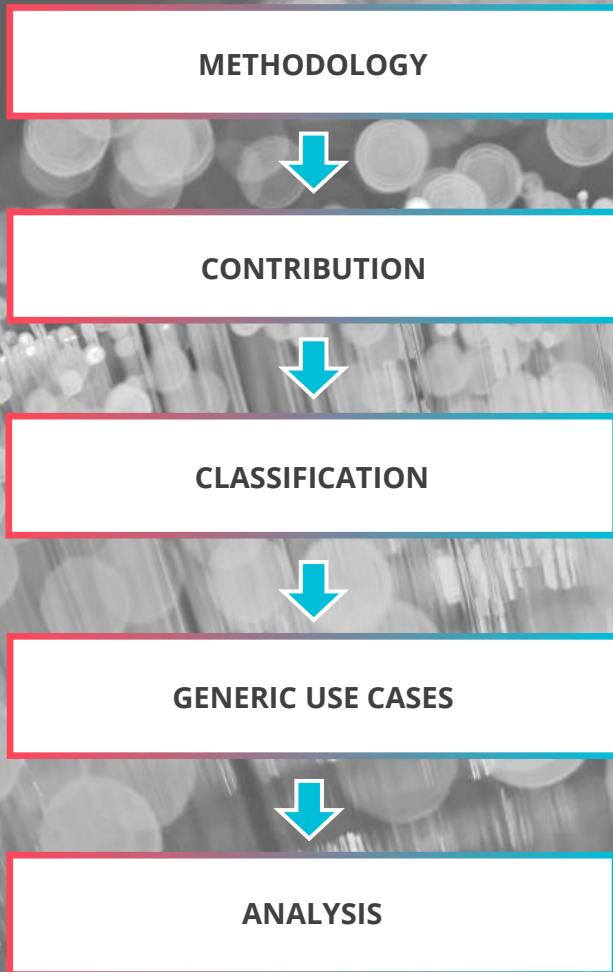
NGMN's view on 6G Use Cases

- To predict major trends in usage scenarios
- To steer the needs and requirements for future generational change
- To motivate the identification of differentiated opportunities for future capabilities

6G USE CASES AND ANALYSIS

- **Identification** of 'families' based on contributions of use-cases
- **Alignment** with 6G Drivers & Vision
- Analysis to assess **differentiation** relative to fully featured 5G, **applicability** and **feasibility**

6G USE CASES UNIQUE APPROACH



- **~50 use cases** contributed from Partners
- **Classification** based on the needs and application trends resulting in **4 classes** and **14 generic use cases** based on common key characteristics
- **Assessment** to understand viability and market opportunity and provide guidance on 6G design and requirements

NGMN 6G GENERIC USE CASES

ENHANCED HUMAN COMMUNICATION

XR immersive holographic telepresence communication

Multi-model communication for Teleoperation

Intelligent interaction: sharing of sensation, skills & thoughts

ENHANCED MACHINE COMMUNICATION

Robot Network Fabric

Interacting Cobots

ENABLING SERVICES

3D hyper-accurate positioning localization, and tracking

Interactive mapping, digital twins & virtual worlds

Automatic detection protection & inspection

Digital healthcare

Smart Industry

Trusted composition of services

NETWORK EVOLUTION

Trusted Native AI – AlaaS

Coverage expansion

Energy Efficiency

6G USE CASES ANALYSIS

- Alignment with Drivers
- Sustainability and Environmental impact
- Potential Technology components
- Applicability
- Deliverability
- Differentiation relative to 5G





PARTICIPATING COMPANIES IN NGMN'S 6G PROJECT

>50 companies at this point in time

OPERATORS



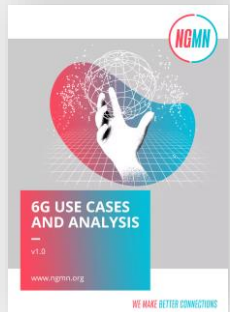
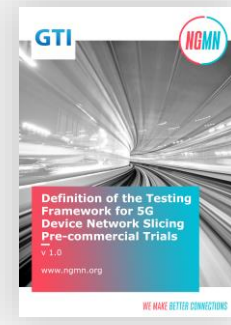
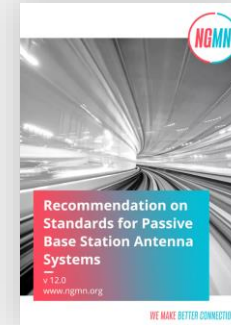
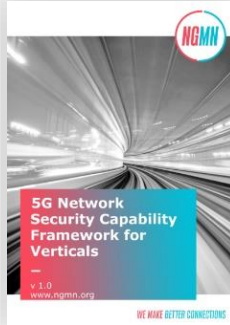
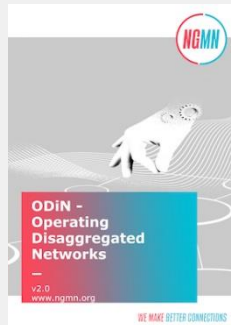
VENDORS



RESEARCH INSTITUTES



KEY NGMN DOCUMENTS PUBLISHED RECENTLY



Results of our Work-Programme:

Internationally recognised guidance for standardisation and development

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



THANK YOU

YOU ARE WELCOME TO JOIN US!

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FURTHER INFORMATION SOURCES

- Additional information about our focus topics and actual projects: [here](#)
- NGMN 6G Drivers and Vision White Paper: [download here](#)
- NGMN 6G Use Cases and Analysis White Paper [download here](#)
- Access to all [NGMN publications](#)