6G and Ecosystem Development

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Nov 2021

Next Generation Mobile Networks
www.ngmn.org
INTRODUCTION

The Next Generation Mobile Networks Alliance was founded by leading international mobile network operators in 2006 with the objective to ensure that functionality and performance of next generation mobile network infrastructure, service platforms and devices will meet the requirements of operators and, ultimately, will satisfy end user demand and expectations.

- NGMN actively drives global alignment and convergence of technology standards and industry initiatives with the objective to avoid fragmentation and to support industry scale.

- A global presence has been established that comprises a leadership network of ~80 partners: operators, vendors, software- and consultancy companies, academia and other interested parties.

- In addition, several cooperation partners support the NGMN Alliance in projects and by two-way liaison.
GLOBAL PARTNERSHIP
~80 Companies

MEMBERS
Leading Operators with global presence

CONTRIBUTORS
Other leading industry players

ADVISORS
Research Institutes and Academia
STRATEGY
Three equally important pillars

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 to address
CURRENT WORK PROGRAMME OVERVIEW

STRATEGIC FOCUS

THE ROUTE TO DISAGGREGATION (Digital Transformation)

SUSTAINABILITY/ GREEN FUTURE NETWORKS

6G

SUPPORTING 5G’S FULL POTENTIAL

PROJECTS & ACTIVITIES

NETWORK DISAGGREGATION E2E OPERATING MODEL

NETWORK AUTOMATION

FUTURE NETWORKS CLOUD NATIVE

GREEN FUTURE NETWORKS
1. E2E sustainability
2. Eco-design of products
3. Network efficiency
4. On-board metering

6G DRIVERS & VISION

6G USE CASES

6G REQUIREMENTS

RAN Functional Split and X-haul
5G Trial & Testing

5G Architecture Option 4 as a 5G SA complement
Slicing for Device OS

5G TDD Uplink
Devices and Chipsets for 5G

BASTA Active Antenna
BASTA Passive Antenna
RF Cluster Connector

PROJECTS & ACTIVITIES

ACCOMPANYING & SUPPORTING ACTIVITIES

SECURITY COMPETENCE TEAM

SPECTRUM GROUP
DRIVERS AND VISION, USE CASES

PROJECT CO-LEADS:
QUAN ZHAO (CHINA MOBILE)
DAVID LISTER (VODAFONE)
NAROTHUM SAXENA (USCELLULAR)
NGMN played a significant role paving the way also for LTE\textsuperscript{1} and 5G\textsuperscript{2} standardisation, and has an important role to play in shaping 6G for the benefit of end users and industry.

The project started with an operator viewpoint on 6G Drivers and Vision, and through collaboration is preparing its view on 6G use cases.

This work will be followed by E2E requirements through cooperation with relevant organisations.

1. LTE: “Next Generation Networks Beyond HSPA” (2007)
6G PROJECT MILESTONES

- **Drivers & Vision**
  - Q3 2020: Project Launch
  - Q4 2020: Publication: Drivers & Vision
  - Q1 2021: Kick-off with the entire NGMN community

- **Use cases**
  - Publication: Use Cases

- **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
CURRENT WORK: 6G USE CASES
(WITH ENTIRE NGMN PARTNER COMMUNITY)

- **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**.
PARTICIPATING COMPANIES IN NGMN’S 6G PROJECT
40 COMPANIES AT THIS POINT IN TIME

Operators
- Bell
- BT
- HKT
- dōcomo
- SK telecom
- Smart
- T-Mobile
- TIM
- Telia
- TELUS
- TURKCELL
- uscellular
- vodafone

Vendors
- Anritsu
- Apple
- CISCO
- Keysight Technologies
- Ericsson
- Huawei
- Huber-Suhner
- Intel
- Interdigital
- Keysight Technologies
- Lenovo
- LG Electronics
- Nokia
- Qualcomm
- ZTE

Research Institutes
- King’s College London
- Technical University Dresden
- Tsinghua University
- University of Toronto

Bi-weekly calls working currently on use cases
THANK YOU
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In case of further questions please contact
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FURTHER INFORMATION SOURCES

- View our press & industry briefing, held with TelecomTV on 24th June 2021
- Additional information about our focus topics and actual projects: here
- NGMN 6G Drivers and Vision White Paper: download here
- Access to all NGMN publications