



The Standards People

## ETSI NFV Conference

Evolving NFV towards the Next Decade  
Celebrating the 10<sup>th</sup> Anniversary of ETSI NFV

### 6G Requirements and Design Considerations

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# GLOBAL PARTNERSHIP

More than 80 Companies, growing



## MEMBERS



## CONTRIBUTORS



## ADVISORS



# NGMN STRATEGY



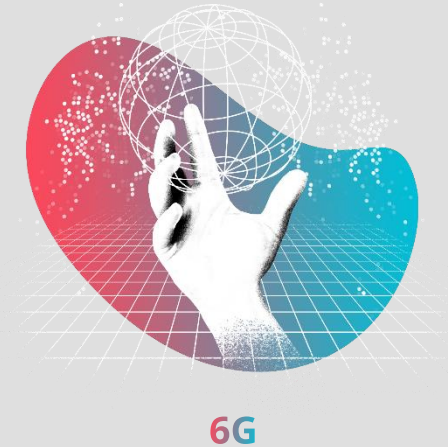
Alongside with projects supporting 5G's full implementation, the focus of NGMN's Work Programme since 2021 is on three main equally important pillars with different time horizons



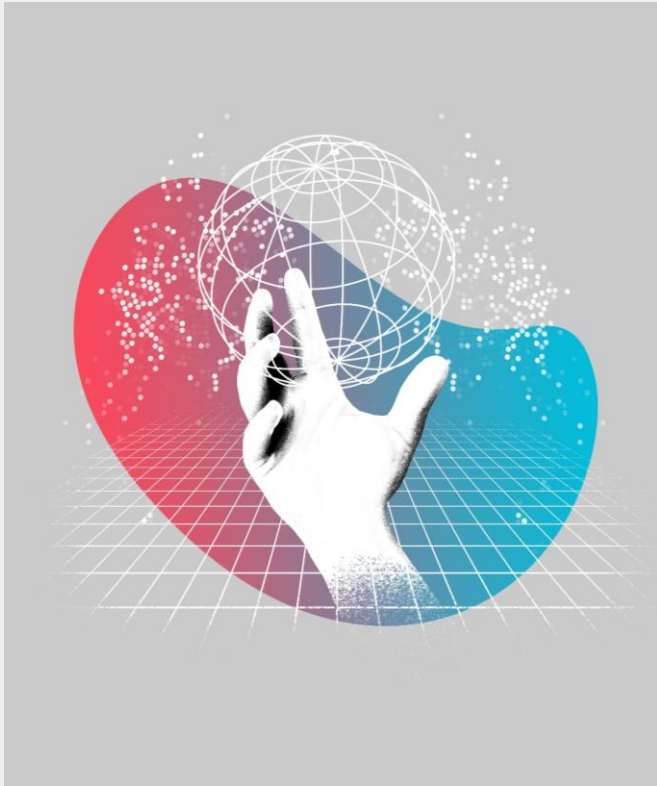
Leading in the development of open, disaggregated, virtualised and cloud native solutions with a **focus on the E2E Operating Model**



**Building sustainable & environmentally conscious solutions**

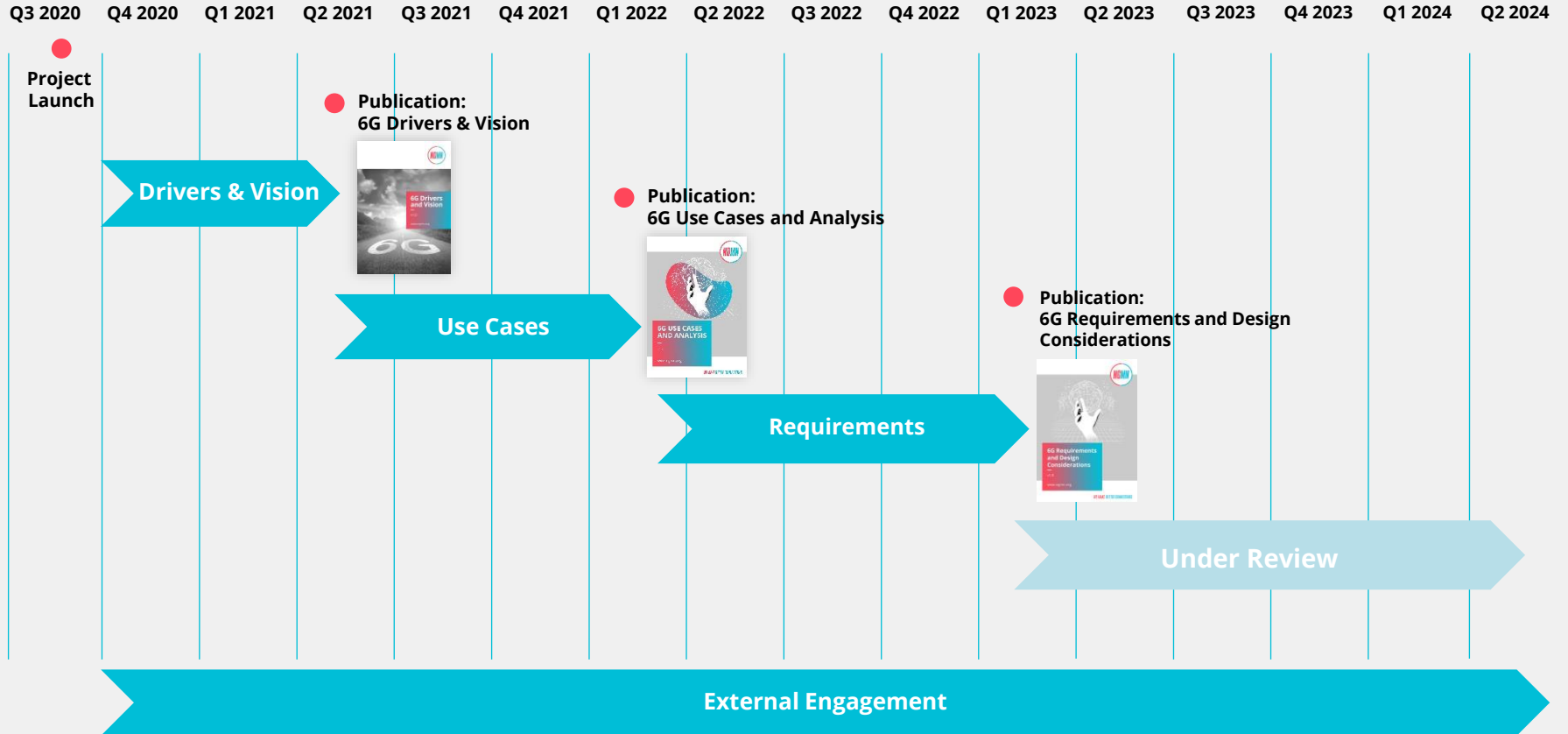


**Emergence of 6G highlighting key trends across technology and societal requirements plus use cases, requirements and design considerations to address**



- Timely and with high relevance to MNOs, industry and globe
- Currently 53 companies collaborating: MNOs, vendors and research institutions
- Project co-leads China Mobile, UScellular, Vodafone  
Chief editor: Bell Canada; Co-editor: Orange

# 6G PROJECT MILESTONES



# 6G Requirements and Design Considerations

## ENHANCED HUMAN COMMUNICATION

- **Mobility**
- **Connectivity**
- **Trustworthiness**
- **Capacity**
- **Compute**

## ENHANCED MACHINE COMMUNICATION

- **Mobility**
- **Connectivity**
- **Trustworthiness**
- **Capacity**
- **Compute**
- **Sensing**

## ENABLING SERVICES

- **Sensing**
- **Critical Communication**
- **Massive Communication**
- **Ubiquitous Connectivity**
- **Artificial Intelligence**
- **Federated Trust**

## NETWORK EVOLUTION

- **Digital Inclusion**
- **Energy Efficiency**
- **ESG**
- **Regulated Public Services**
- **Automation**
- **Artificial Intelligence**
- **Compute**

# 6G Requirements and Design Considerations

## KEY MESSAGES



1

**Essential requirements** for network evolution and customer driven outcomes

2

**Any 6G system will be built upon the features and capabilities introduced with 5G**

3

**Design considerations** that consider economic, environmental, and technical trade-offs

4

**Fresh thinking** to address long standing challenges and limitations

5

**Key influences on 6G design:**

- Supporting area capacity growth
- Reducing network energy consumption
- Delivering capabilities (speed, latency) aligned with customer need
- Indoor vs Outdoor coverage

## Automation of service delivery

- Usages portfolio is getting wider, more heterogenous with more complex needs
- Operators need to deliver and adapt services tailored to the exact needs : what, where and when
- Harmonized services description framework
- Multiple adaptable tradeoff between different optimization goals (energy consumption, capacity, resilience, costs..)

## More efficient networks

- Energy efficient: Monitor and challenge energy consumption across the network
- Deliver extreme performances only when and where needed
- Simpler to operate and maintain network
- Modular and open architecture
  - For scalability, re-use
  - Flexibility to introduce new use cases and feature not imagined
  - For shared or multivendor infrastructure





# THANK YOU!

In case of further questions please contact  
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