

# NGMN Alliance Update

**28<sup>th</sup> April 2015**

**3GPP PCG#34**

**Sophia Antipolis, France**

# Presentation Overview

- NGMN Membership Update
- NGMN 5G White Paper
- Work Programme 2015

## Back-up:

- Press Clippings
- Recently published NGMN deliverables
- NGMN 5G White Paper Approval

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# Membership Overview NGMN Alliance



## 25 Worldwide Leading Mobile Operators



## 34 Worldwide Leading Technology Vendors



## 25 Universities / Research Institutes



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# NGMN 5G White Paper finalised – approved by the NGMN Board



## NGMN 5G White Paper

1. Executive Summary
2. Introduction
3. 5G Outlook
4. Requirements
5. Technology & Architecture
6. Spectrum
7. IPR
8. Way Forward

NGMN 5G White Paper,  
Version 1.0, 17-February-2015

- Global view
- End-to-end scope
- Specific, comprehensive requirements
- High quality
- Timely delivery
- Business perspective, operator led

## NGMN Board Members



NGMN White Paper publication at MWC 2015, presentation and discussion at NGMN Industry Conference & Exhibition 2015 (see back-up)

# Liaison Statements Sent to Industry Organisations on NGMN 5G White Paper



## NGMN Co-operation Partners

4G Americas
5GPPP
<b>ETSI</b>
ETSI ISG NFV
ETSI ISG IP6
GCF
GSMA
GTI
Networld2020
OMA
Small Cell Forum
TDIA
TM Forum
UMTS Forum
WIP
WWRF
<b>3GPP: TSG SA, 3GPP TSG SA WG1, 3GPP TSG RAN</b>
5G Forum

## Other Industry Organisations / Groups

5GIC
5GMF
5GNOW
ATIS
AWG (Asia-Pacific Telecommunity Wireless Group)
BBF
FuTURE Forum China
IEEE
IETF
IMT-2020 PA
MEF
Metis
MiWaves
NYU Wireless
ONF
OPNFV
Project 863
ITU (liaison feedback)

Liaisons sent to 3GPP and ETSI. NGMN representatives to present White Paper in 3GPP meetings

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# 5G Work Programme 2015

## Overview

Comprehensive 5G work-programme to be carried out in 2015. Initial items proposed in the main areas:

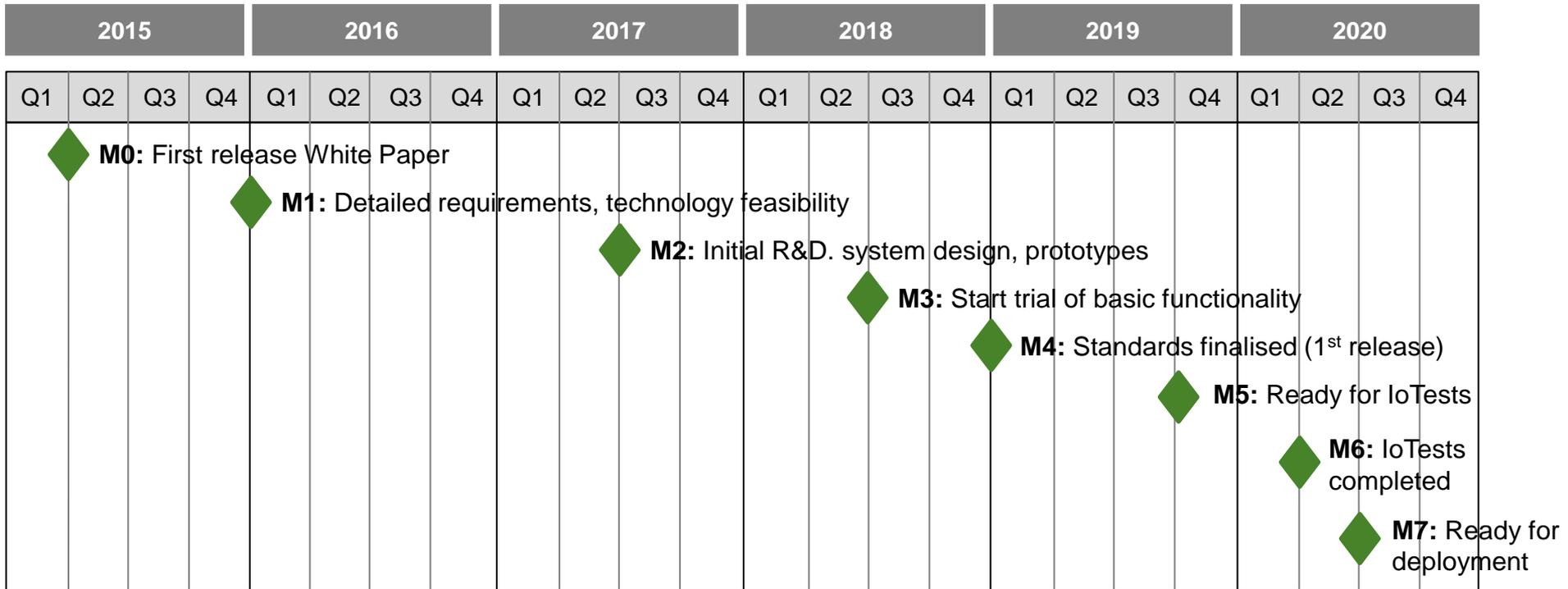
- User Demand & Business Context
- Requirements & Architecture
- Spectrum
- IPR Forum (1<sup>st</sup> Forum scheduled for 26/27 May, Italy)

Next steps: Detailing and refinement of work-items (sub-projects to be identified as needed), approval



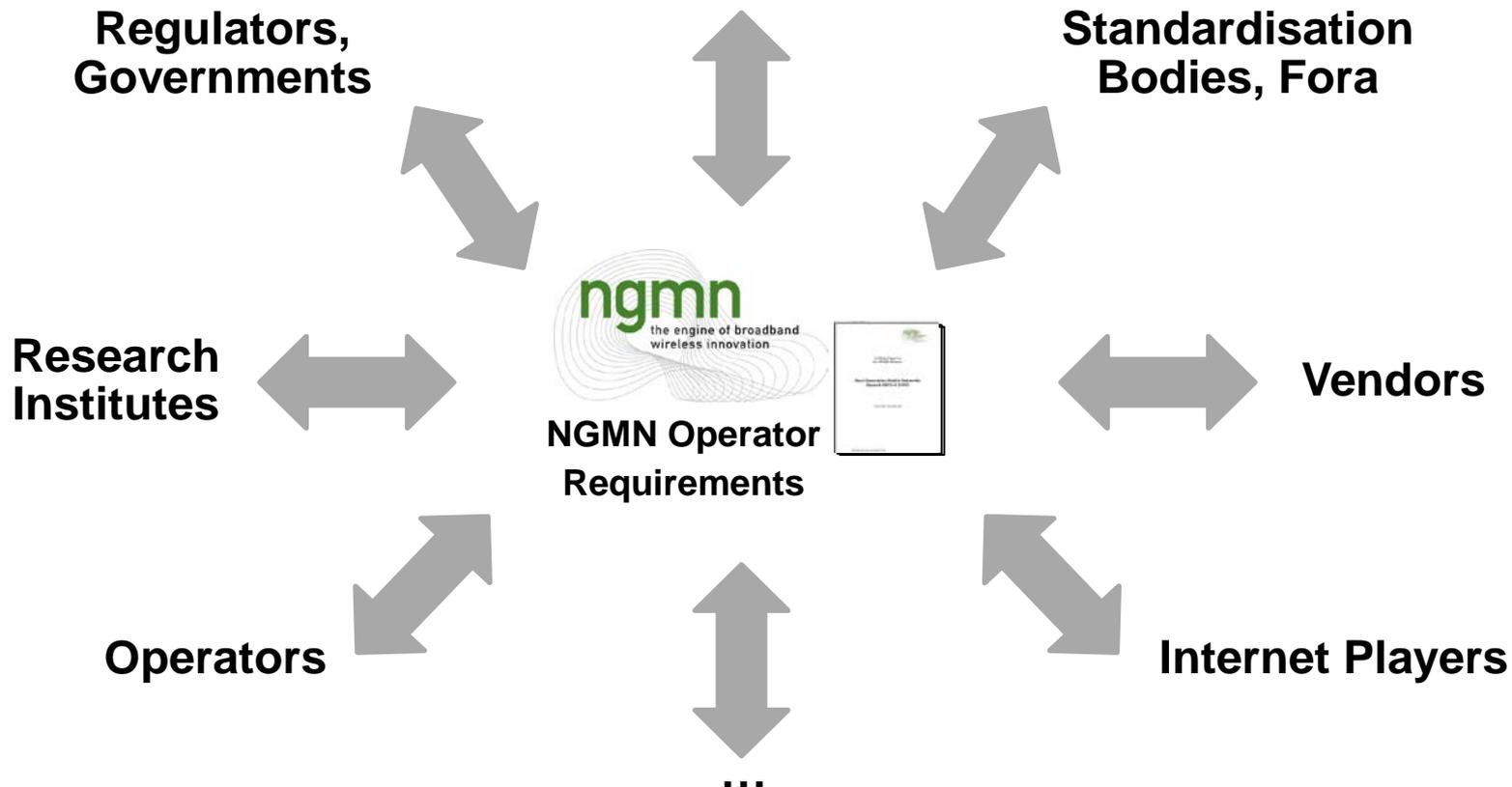
- NGMN to deliver guidance based on the 5G White Paper and through its future work programme as **input for 3GPP standardisation**:
  - Aligned and consolidated requirements
  - Prioritisation
  - Indication of potential issues and gaps
- 3GPP 5G related time-plans and activities under evaluation (SA1 Smarter, RAN workshop September, ...) to **ensure timely NGMN input**

# For 3GPP reference: NGMN 5G Roadmap



# NGMN to reach out and co-operate with all ecosystem stakeholders

## “5G” Industry Initiatives



Orchestrated Effort for Global and Aligned Development of “5G”

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# Thank you very much

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# Examples of press clippings 2015



telecompaper

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MOBILE & WIRELESS

## NGMN Alliance publishes white paper on 5G requirements

Tuesday 3 March 2015 | 13:05 CET | News



The Next Generation Mobile Networks (NGMN) Alliance has released its white paper on 5G at the Mobile World Congress, outlining the operator requirements intended to support the standardisation and subsequent availability of 5G by 2020. The NGMN started work on 5G last year, setting up a team of over 100 industry experts to research the white paper. The group will discuss the paper and industry developments further at a conference later this month in Frankfurt.

The white paper's vision for 5G includes new use cases and business models building on the extended network capabilities of the next generation of networks. 5G networks will support much greater throughput, lower latency and higher connection density. To cope with the growing number of use cases and business models, 5G must provide a high degree of flexibility and scalability by design, the paper said. In addition, it should show foundational shifts in cost and energy efficiency.

While the commercial introduction of 5G is expected to vary from operator to operator, the NGMN encourages industry players to work towards availability of global and commercial products by 2020. The NGMN said will continue to work with its partners on ensuring 5G equipment fulfils the requirements in its white paper.

<http://www.telecompaper.com/news/ngmn-alliance-publishes-white-paper-on-5g-requirements--1068683>

(Mar. 2015)

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Home > Featured Content > Home Banner > NGMN unveils 5G operator wishlist

3rd March 2015

### NGMN unveils 5G operator wishlist

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A 5G White Paper unveiled by the Next Generation Mobile Networks (NGMN) Alliance aims to settle industry debate over the technology's future standards. by Guest

Following a decision late last year by the NGMN board of more than 20 operator CTOs, a team of 100 technical specialists were asked to contribute towards defining the end-to-end requirements for 5G. The resulting White Paper, according to the NGMN, now presents a consolidated view of operator requirements intended to support the standardisation and subsequent availability of 5G for 2020 and beyond.

"The White Paper provides essential and long expected input for the work of many industry bodies", said Peter Meissner, CEO of the NGMN Alliance. "Together with our global partners from within industry and research, we will now focus on setting up and implementing a 5G work-programme ensuring that future solutions will meet our ambitious targets."

The NGMN document states it would like to see any 5G ecosystem as being global, lacking in fragmentation and open to innovation. However, while conceding that commercial deployment timescales will vary across the operator community, it urges 5G availability by 2020.

The White Paper is set for open discussion at the NGMN industry conference in Frankfurt this month. However, equipment vendors have been calling for open collaboration across industry

<http://www.mobileworldlive.com/ngmn-unveils-5g-operator-wishlist>

(Mar. 2015)

# Examples of press clippings 2015



**The Register**  
Biting the hand that feeds IT

DATA CENTRE SOFTWARE NETWORKS SECURITY BUSINESS HARDWARE SCIENCE BOOTNOTES VIDEO FORUMS WEEKEND EDITION

## Carriers want 5G to do everything, for anything, anywhere

The phony phone standards chat is over and the real work has begun

**Networks**

Related topics  
5g

**Most read**

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- America was founded on a dislike of taxes, so how did it get the IRS?
- Watch: Nasty JPEG pops corporate locks on Windows boxes

**Spotlight**

5G slice 1 (Smartphones)  
5G slice 2 (Autonomous driving)  
5G slice 3 (Massive IoT)  
Other slices

Access node, Cloud node (edge & central), Networking node, Part of slice

[http://www.theregister.co.uk/2015/03/04/carriers\\_want\\_5g\\_to\\_do\\_everything\\_everywhere/](http://www.theregister.co.uk/2015/03/04/carriers_want_5g_to_do_everything_everywhere/)  
(Mar. 2015)

## FierceWirelessEurope TelecomsEMEA

NEWS TOPICS ANALYSIS FEATURE  
MARKETPLACE

Topics: Network Infrastructure

## Mobile industry seeks to put the user at the heart of 5G networks

March 24, 2015 | By Anne Morris

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FRANKFURT, Germany--The mobile industry has often been criticized for putting technology ahead of what users actually want, but operators and vendors appear to be placing significantly more effort on putting users first as they prepare for "5G" networks.

As executives from across the mobile industry gathered here for the NGMN Industry Conference & Exhibition 2015, speakers and panelists alike sought to underline that 5G will start with use cases and not with the technology. The conference aims to build on the momentum generated by the publication of the NGMN Alliance's white paper on 5G that outlined 25 "imagined" use cases for the next mobile generation.

"When we were discussing 4G, we were driven by the fact that 3G was not a success," observed Joachim Horn, CTIO of Tele2. Horn noted that some operators--fresh from spending in what some cases was billions of euros on 3G licences--were not happy, and much of 4G was about trying to solve the shortcomings of 3G networks.

<http://www.fiercewireless.com/europe/story/mobile-industry-seeks-put-user-heart-5g-networks/2015-03-24>

(Mar. 2015)

# NGMN Project RAN Evolution Deliverables

Published in 2015

- **Multi-RAT Joint Radio Operation (MRJRO)**

Motives and business benefits of MRJRO, primarily centred around the dominance of multi-RAT deployment scenarios and the potential performance gains due to enhanced resource utilization with MRJRO.

- **Backhaul and Fronthaul Evolution**

Discusses the different transport options and the relationship with traditional and emerging RAN topologies.

- **CoMP Evaluation and Enhancement**

CoMP field trial testing results are shared and different enhanced CoMP schemes are compared. Moreover, a recommendation and a guideline from operators' point of view are required to drive 3GPP to further enhance CoMP air-interface and network standardization.

- **Further Study on Critical C-RAN Technologies**

Function split solutions for fronthaul design, efficient DU pool design and IT virtualization implementation for C-RAN.

- **Fronthaul Requirements for C-RAN**

Requirements on fronthaul solutions for C-RAN

# NGMN White Paper published at MWC 2015



- Final approval in Board meeting 1<sup>st</sup> March 2015
- Press release distributed – coverage in all leading channels (lightreading, fiercewireless, ...)
- Press conference at DTAG booth
  - White Paper key messages presented by NGMN Chairman B. Jacobfeuerborn
  - Q&A with NGMN Board Members
  - All major vendor Partners, further Board Members, organisations, leading press present
- Extremely positive feedback received from Partners, organisations and other industry stakeholders



# NGMN 5G White Paper in-depth presentation and discussion at NGMN Industry Conference & Exhibition



- Participation above expectations: >350 participants – senior management, thought-leaders, experts

Sponsors:



Exhibitors:



Cooperation Partners:



- DTAG launch 5G:haus; 5G-PPP and 5GMF MoU for 5G

- Media attendance and messages: Disruptive Analysis, 5GInside, Fierce, Wireless, TelecomTV...