



Emerging Usage Scenarios for mm-Wave Wireless

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Scope

This NIST/5GMWCA working group focuses on developing use cases, frameworks (statistical vs. geometry-based), and small- and large-scale parameters for long-term usage scenarios.

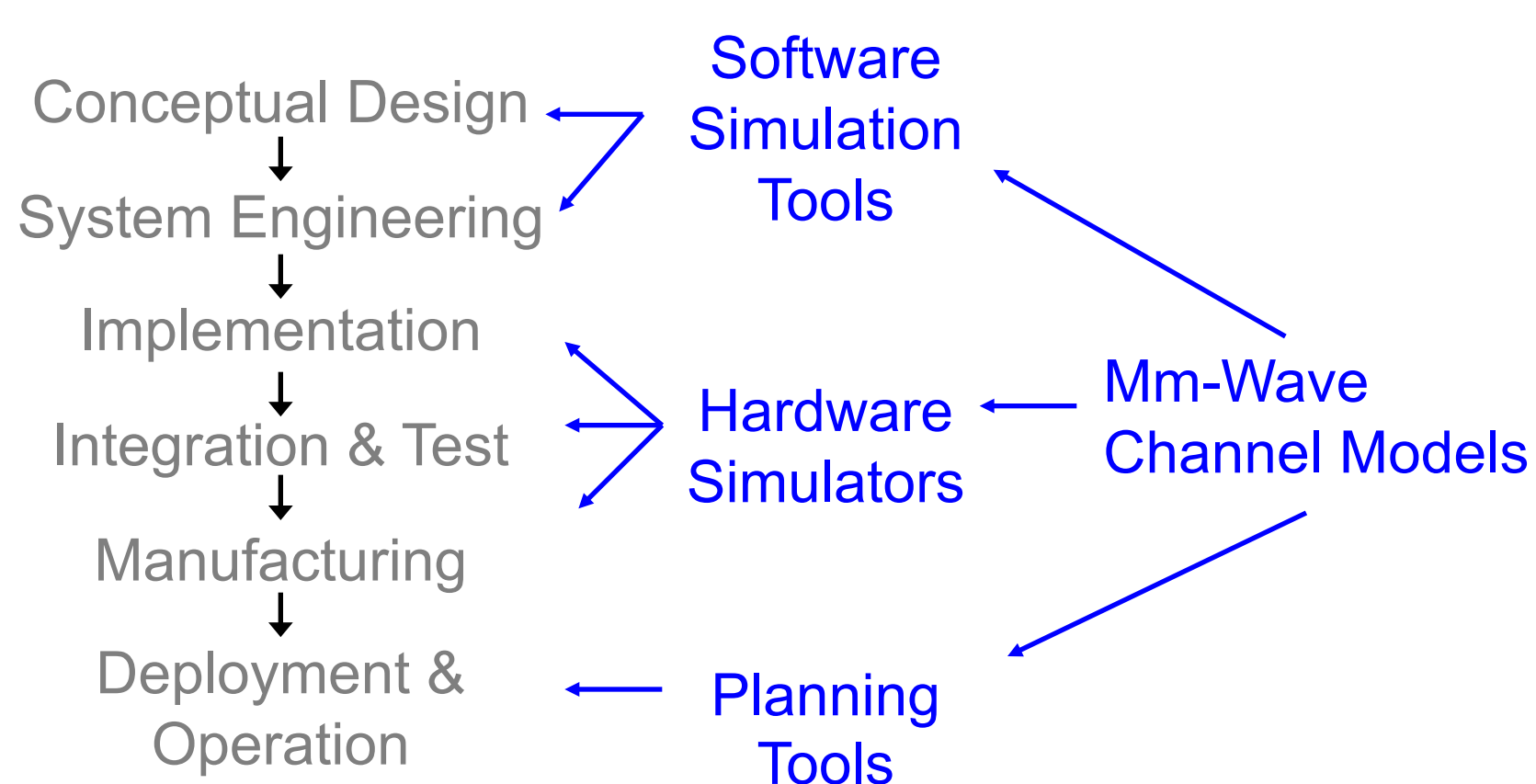
Of particular interest are applications that take maximum advantage of the unique attributes of mm-Wave technology:

- Deployment under Line-of-Sight and Near Line-of-Sight Conditions
- High Throughput and Capacity
- Ranging and Positioning (including integration with radar)

Accordingly, the Working Group will be divided into four subgroups:

- WG3A – Non-Line-of-Sight Backhaul
- WG3B – Intelligent Transportation (V2X)
- WG3C – Aeronautical (Aeromacs+, UAV)
- WG3D – Industrial Applications

Each sub-group will address the needs of the entire product development cycle:



Tasks and Schedule

The Working Group will begin by inviting participants to report their:

- recent activity in the relevant fields of interest, channel measurement capabilities and access to suitable measurement sites,
- interest in contributing specific sections to the first working group white paper
- interest in pursuing particular measurement and modelling activities

The Working Group will prepare a first White Paper that identifies:

- specific usage scenarios in the relevant fields of interest and their business cases,
- the PHY implementations of particular interest,
- the key channel impairments to be modelled,
- possible channel measurement approaches,
- possible channel modelling approaches,
- key measurement and modelling challenges

First White Paper – Proposed Outline:

Emerging Usage Scenarios for mm-Wave Technology

- **Chap 1 – Introduction**
 - Significance, Previous Work, Objectives, Outline
- **Chap 2 – Non-Line-of-Sight Backhaul**
 - Usage Scenarios, Measurement & Modelling Approaches, Challenges
- **Chap 3 – Intelligent Transportation (V2X)**
 - Usage scenarios, Measurement & Modelling Approaches, Challenges
- **Chap 4 – Aeronautical (Aeromacs+, UAV)**
 - Usage scenarios, Measurement & Modelling Approaches, Challenges
- **Chap 5 – Industrial Applications**
 - Usage scenarios, Measurement & Modelling Approaches, Challenges
- **Conclusions and Next Steps**
 - Outcomes and Planned Measurement & Modelling Campaigns

A second white paper will summarize the measurement & modelling results obtained by the various teams.

The Working Group will:

- aim to complete the first phase of their task during the first six months (Jan – Jun 2017)
- hold monthly conference calls to report progress and coordinate activities
- share updates via the working group mailing list
- organize a workshop on Emerging mm-Wave Usage Scenarios at IEEE VTC 2017 Fall (Toronto)

To join or for more information, please contact:

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