



5G Alliance for Connected Industries and Automation

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5G Alliance for Connected Industries and Automation

The Role of 5G for Industry 4.0

Industry 4.0

- Increase the **flexibility, versatility, productivity, resource efficiency** and **usability** of industrial production
- **Connectivity** as a key enabler for cyber-physical production systems

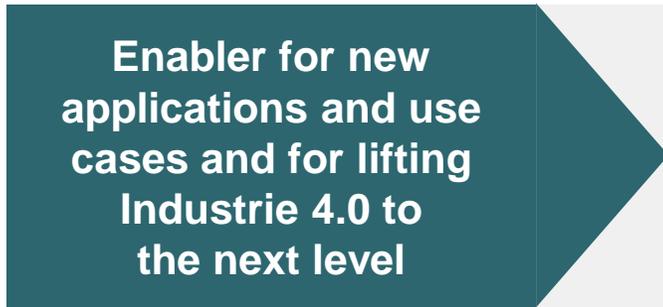


Future Industrial Connectivity Infrastructures

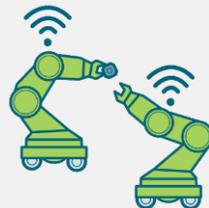
5G

- Strong focus on **machine-type communication** and the IoT¹
- URLLC² and mMTC³ enable completely **new applications**, also in industry
- 5G as **”one size fits all” solution**

¹Internet of Things, ²Ultra-Reliable and Low-Latency Communication
³Massive Machine-Type Communication



Enabler for new applications and use cases and for lifting Industrie 4.0 to the next level



Mobile Robots



Factory Automation



Augmented Reality



Logistics

...

5G Alliance for Connected Industries and Automation Peculiarities of the Industrial Domain



Image: BOSCH

Many use cases & applications
with highly diverse & very demanding requirements

Local deployments in a plant
in a rather controlled environment

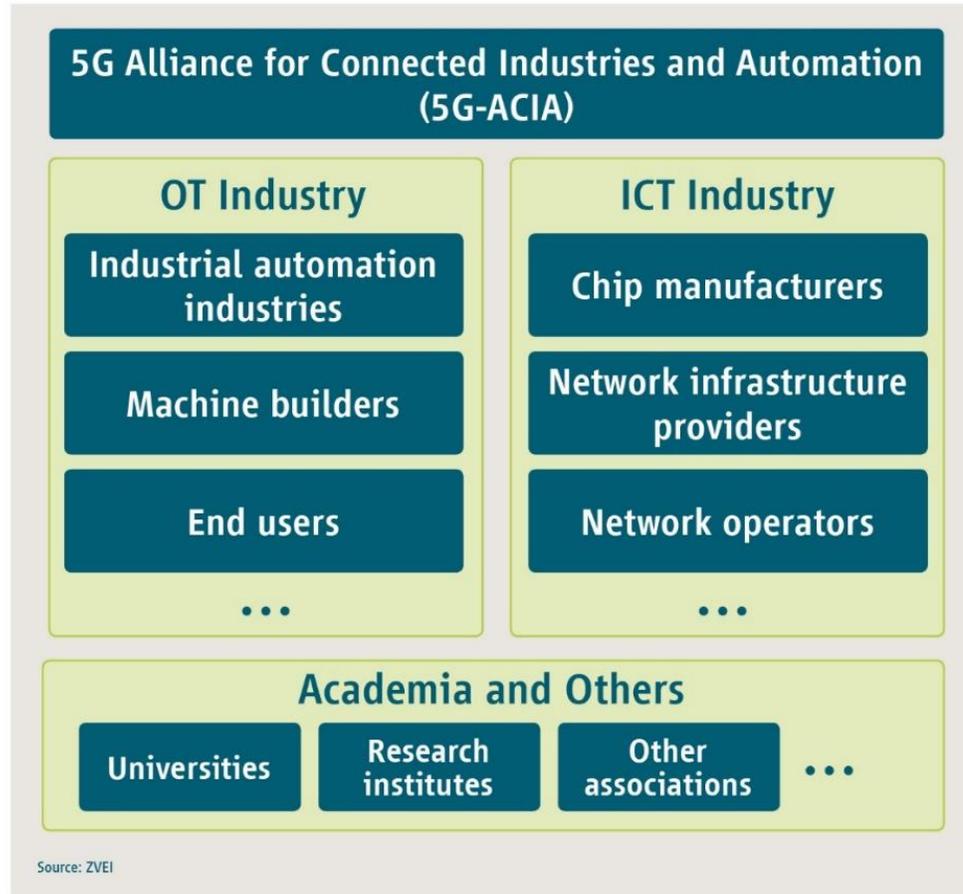
Challenging propagation environment
with many reflections and potentially high interference

Typically brownfield installations
requiring seamless integration in existing infrastructure

Safety & security are crucial
with highest requirements on availability & reliability

Own language
which has to be aligned with telecom world

5G Alliance for Connected Industries and Automation 5G-ACIA | A Joint Initiative of OT and ICT Industry



Source: ZVEI

Key Goals

- ✓ **Representation of the complete ecosystem** (more stakeholder groups to be involved soon)
- ✓ **Intended as a truly global initiative**
- ✓ **Characterized by openness & fairness**
- ✓ **Not a replacement of existing standardization bodies & associations, but a supplement with clear focus on 5G for the industrial domain**
- ✓ **Closer interaction and alignment of activities with other relevant organizations, such as 3GPP, IIC¹, IEC², FFPA³, Platform Industry 4.0 and others**

OT: Operational Technology ICT: Information and Communication Technology

¹Industrial Internet Consortium, ²International Electrotechnical Commission, ³Flexible Factory Partner Alliance

5G Alliance for Connected Industries and Automation

5G-ACIA Mission & Setup

Mission

Ensure the best possible applicability of 5G technology and 5G networks for the manufacturing and process industry by addressing, discussing and evaluating relevant technical, regulatory and business aspects.

Chairman

Vice-Chairman

5G-ACIA Board

Regular Plenary Meetings

Working Group 1

Working Group 2

Working Group 3

Working Group 4

Working Group 5

Use Cases & Requirements

Spectrum & Operator Models

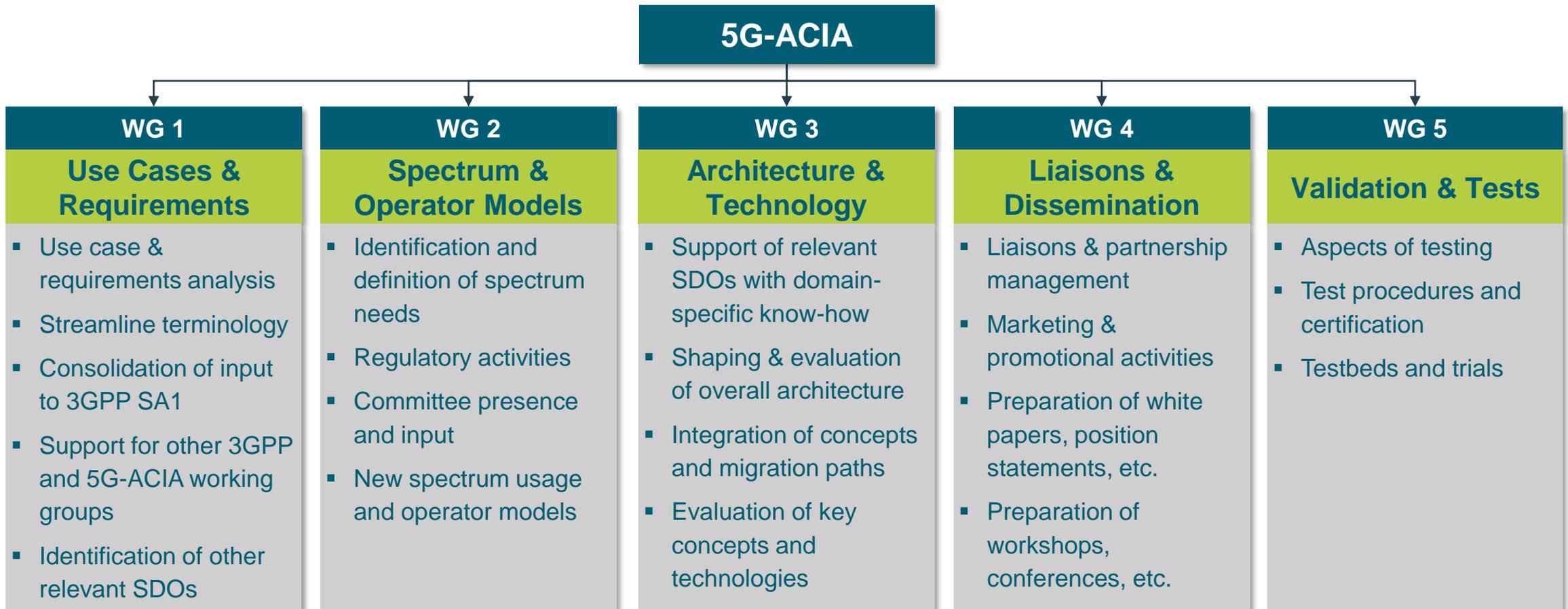
Architecture & Technology

Liaisons & Dissemination

Validation & Tests

(Annual) General Assembly

5G Alliance for Connected Industries and Automation Working Group Structure



Topics to be addressed across different WGs: security, safety, standardization etc.

5G Alliance for Connected Industries and Automation

5G-ACIA | Current Members (12 Feb 2019)



5G Alliance for Connected Industries and Automation Selected Challenges

Most OT¹ players are not 3GPP members and are not directly contributing to 3GPP

- 5G is not the core business, but “just” an important enabler / component for their business
- Only small fraction of addressed topics is relevant, overhead is very high

Establishing a common language and deep mutual understanding is a key success factor

- It is not so simple that OT¹ players write down their use cases & requirements and that's it
- Classical chicken-egg-problem → 5G can be much more than a simple cable replacement

Speed of 3GPP is different from established innovation cycles & speed in the OT¹ domain

- 3GPP may want to consider an adaptation of the current working procedures

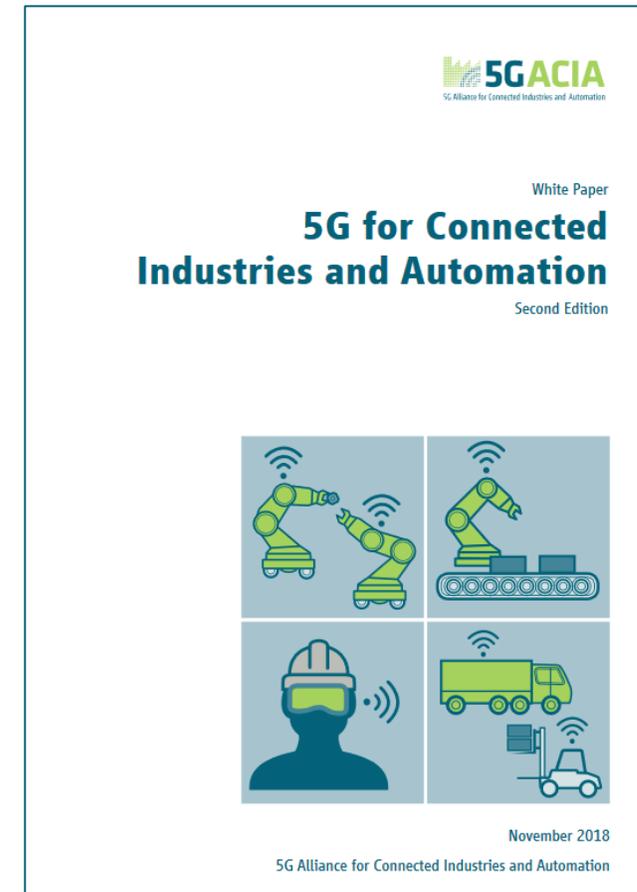
“If you build it, they will come” will probably not work with many vertical industries

- 3GPP should carefully listen to the needs and requirements of different vertical industries

5G Alliance for Connected Industries and Automation 5G-ACIA | More Information



www.5g-acia.org



Second
Edition



5G Alliance for Connected Industries and Automation

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