5G ACIA

5G Alliance for Connected Industries and Automation

5G Vertical User Webinar Series
3GPP Progress so far:
Industry Verticals and Releases 16&17

Michael Bahr (Siemens, 5G-ACIA)

5 May 2020

5G-ACIA | Introduction of speaker

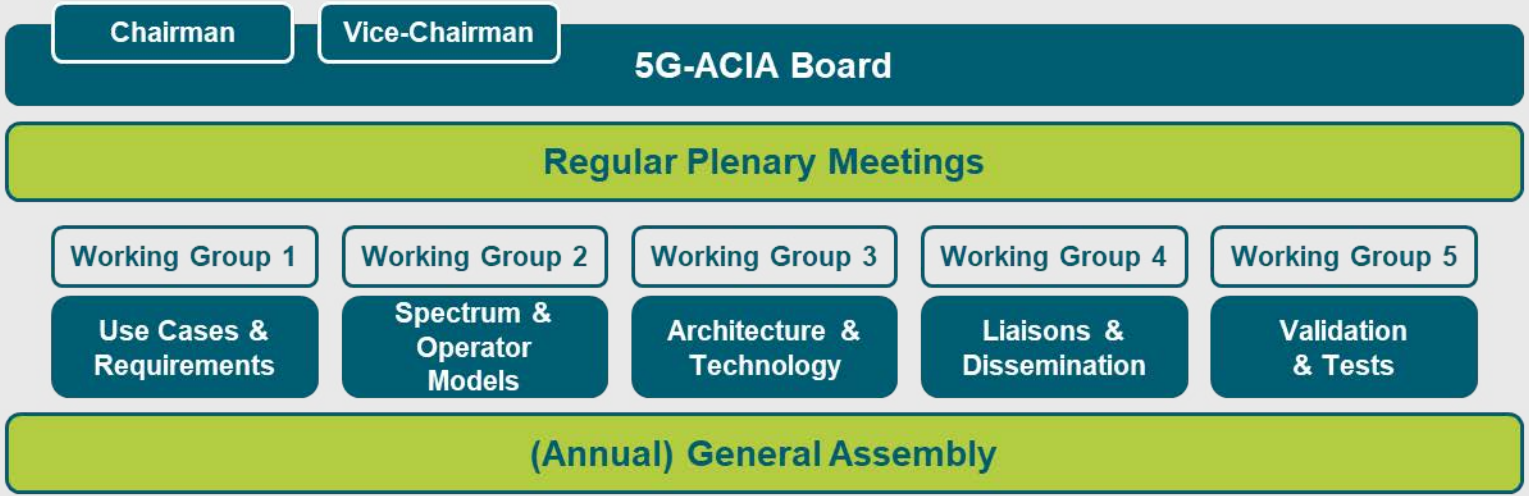
- Michael Bahr, Siemens AG, Corporate Technology in Munich, Germany
- 5G-ACIA
  - Working Group Chair of WG1 „Use Cases & Requirements“
  - Rapporteur of 5G-ACIA work item on 3GPP SA1 support for 5G-ACIA-related use cases, requirements, and KPIs
  - Rapporteur of 5G-ACIA work item on mapping between 5G-ACIA requirements and 3GPP RAN/SA specifications
- 3GPP SA1
  - Rapporteur of work items cyberCAV and (FS_)eCAV (TS 22.104, TR 22.832)

5G-ACIA Mission & Setup

5G ACIA
5G Alliance for Connected Industries and Automation

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.



3GPP Market Representation Partnership

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5G-ACIA has been approved as 3GPP Market Representation Partner in Nov 2018

3GPP™
A GLOBAL INITIATIVE

5G for future industry

November 9, 2018

This week, the 5G Alliance for Connected Industries and Automation (5G-ACIA) has been approved as a Market Representation Partner (MRP) in 3GPP.

The 5G-ACIA membership base includes a number of industrial equipment suppliers and end-users as well as ICT companies; with the automotive, energy, industrial manufacturing and production sectors all represented.

As 3GPP technology is now being applied to a diverse number of 'verticals', this is the best possible time for the 5G-ACIA to bring a coordinated industry based approach to the standards process, one that will help to align 3GPP to the 5G-ACIA vision to bring the "best possible applicability of 5G technology and 5G networks for the manufacturing and process industries".

After the formal approval process, by the seven 3GPP Organizational Partners (National and Regional SDOs), 5G-ACIA has been accepted as a 3GPP Market Representation Partner, as of November 2, 2018.

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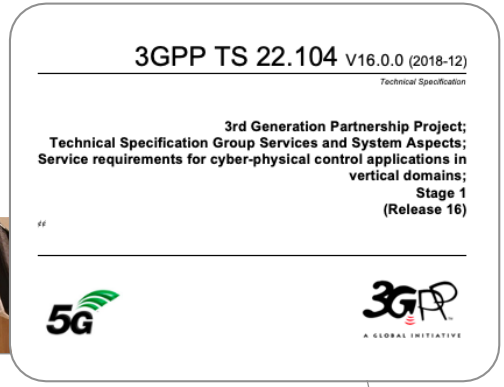
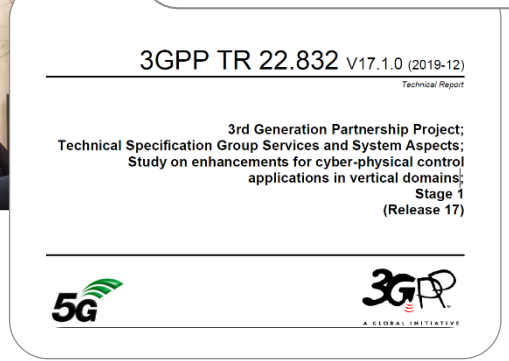
Source: www.3gpp.org

5G-ACIA | Contributions to 3GPP

- Contribution of industrial use cases and requirements to 3GPP
  - See next slide for details on work items and 3GPP TR/TS
  - 3GPP news on completion of cyberCAV Rel.16: “5G for Control Applications in Vertical Domains” https://www.3gpp.org/news-events/2017-5g-cybercav
  - Video panel discussion at 3GPP TSG #86 (Dec 2019) “Changing 3GPP to help the verticals” https://vimeo.com/393459786


3GPP TS 22.104 V16.0.0 (2018-12)
Technical Specification

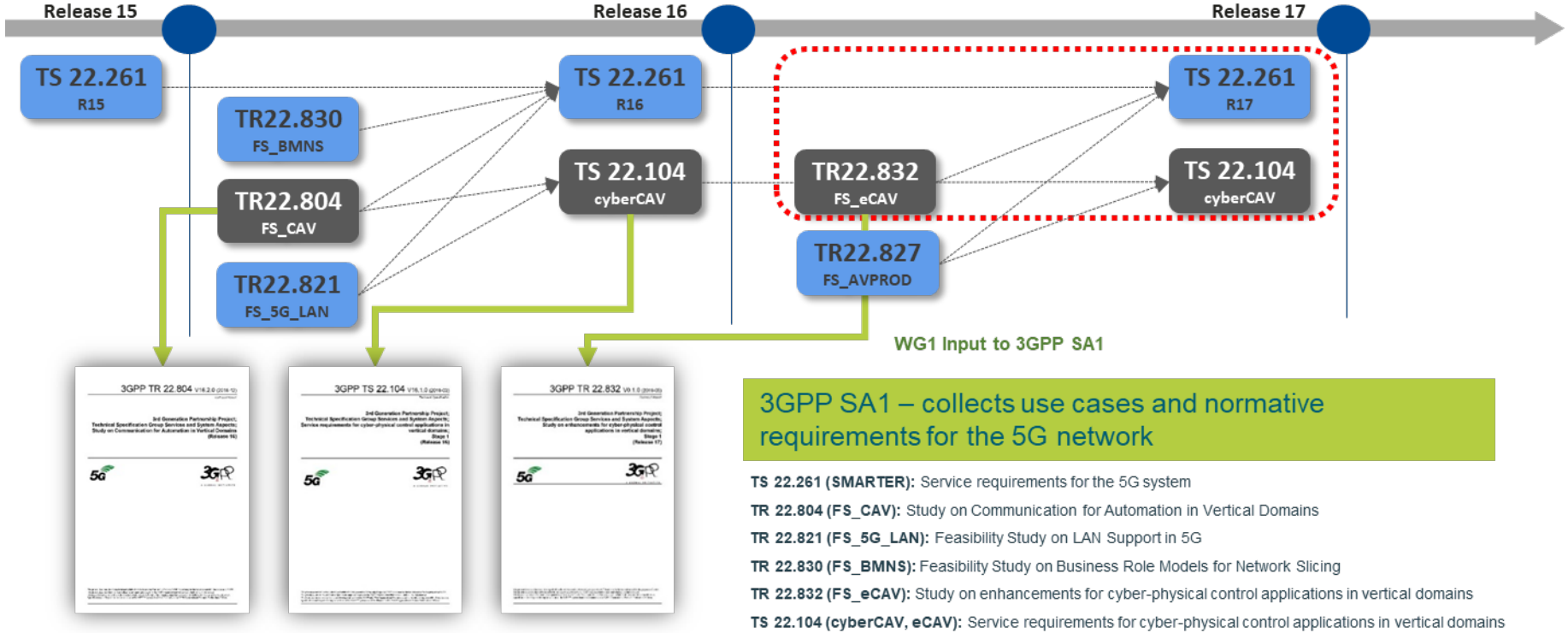
3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Service requirements for cyber-physical control applications in vertical domains;
Stage 1
(Release 16)


3GPP TR 22.832 V17.1.0 (2019-12)
Technical Report

3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Study on enhancements for cyber-physical control applications in vertical domains;
Stage 1
(Release 17)

- Contribution to evaluation models in 3GPP
  - Contribution to channel model for industrial environments
  - Contribution to simulation model for industrial use cases

5G-ACIA WG1 Input to 3GPP SA1



3GPP SA1 – collects use cases and normative requirements for the 5G network

TS 22.261 (SMARTER): Service requirements for the 5G system

TR 22.804 (FS_CAV): Study on Communication for Automation in Vertical Domains

TR 22.821 (FS_5G_LAN): Feasibility Study on LAN Support in 5G

TR 22.830 (FS_BMNS): Feasibility Study on Business Role Models for Network Slicing

TR 22.832 (FS_eCAV): Study on enhancements for cyber-physical control applications in vertical domains

TS 22.104 (cyberCAV, eCAV): Service requirements for cyber-physical control applications in vertical domains

Looking ahead towards Release 18

- Q1: What features would you like to see in Release 18 that are currently missing?
  - fully decentralized TSN configuration model
  - more general concept for ProSe/sidelink usable in different domains
  - TS 22.104 Rel.17 requirements that have not been selected in the Rel.17 SA prioritization
  - looking forward to 5G hardware for testing
- Q2: Do you have any brand new requirements that you would like to bring to 3GPP for Release 18 that are not covered in previous releases?
  - no new major sets of new requirements at the moment
  - minor enhancements due to experiences with first deployments
  - forwarding of Rel.17 requirements to Rel.18

Questions for TSG Chairmen

- Please indicate here your questions for the Chairmen
  - **Georg Mayer, TSG SA Chairman**
  - **Balazs Bertenyi, TSG RAN Chairman**

Please indicate here:

- How to address goals of vertical industries that cover more than one release?
- How to inform about which vertical work item / set of requirements has been addressed in which work items / 3GPP specifications in stage 2/3?
- How to advance the discussion and dialogue between vertical requirements and 3GPP technical specification?
- How to cope better with the imbalance in vertical participation in stage 2/3?
- How to better provide the flexibility, side conditions, and background information of vertical requirements?

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Thank you