

3GPP MRP Workshop: Industry Verticals and Rel-18 RAN

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RAN R18 - input

RAN – Release 18

- Verticals are part of the future of telecom
- Verticals are important for 3GPP to remain the most relevant global standardization body for telecom.
- It is important for Verticals to be involved in the Release 18 scope
- 3 phases:
 - **June 21:** **Initial discussions (1 week workshop)**
 - September 21: Consolidation (regular RAN plenary meeting)
 - **December 21:** **Finalisation scope R18 (1 week workshop)**

3GPP Many challenges

- Lack of correlation between standards and market needs (if not initiated by vertical)
 - Many Telecom players still motivated by R&D / IPR driven activities (with no real market needs)
 - Gap between release process and existing deployments – no feedback on last releases hindering motivation for next steps
 - Disbelief in feedback/shortcoming issues raised by the market
 - Mass market B2C still prioritized over B2B (under change)
 - Need resources to be involved
 - Very few verticals involved and not aligned
- => Challenging to get through 3GPP roadmap priorities

However, Influence is possible

- Key factors to achieve verticals influence in 3GPP:
 - Attending permanently and consistently
 - Contributing
 - Consistency
 - Following through release from Stage 1 (SA1) to Stage 3 (RAN)
 - Valid use cases and KPIs back up with real data
 - Involvement in working groups is crucial and rewarding (SA1, RAN1/RAN2)
 - Support of traditional telecom players (Chipset, Device, Network, Operators) needed
 - Raising market issues outside of 3GPP (GSMA, Operators, Vendors, events...)

RAN – Release 18 – vertical inputs

Automotive

RWS-210360	5GAA input to 3GPP Rel.18 Workshop	5GAA
RWS-210434	Sidelink positioning	Volkswagen AG
RWS-210433	NR-V2X sidelink enhancements	Volkswagen AG
RWS-210432	NR-V2X sidelink adjacent-channel coexistence with other technologies	Volkswagen AG
RWS-210431	LTE/NR-V2X sidelink co-channel coexistence	Volkswagen AG
RWS-210296	Rel-18 standardisation from automotive viewpoints	DENSO CORPORATION

RAN – Release 18 – vertical inputs

Critical communications, public safety and Utilities

RWS-210280	NR Narrowband Channel Bandwidth (<5MHz) Railway Use Case	Union Inter. Chemins de Fer
RWS-210017	On Narrowband NR in Dedicated Spectrum enabling new 5G verticals	QUALCOMM
RWS-210121	Railway, smart grid and PPDR support in Rel-18	Nokia, Nokia Shanghai Bell
RWS-210492	TCCA input for 3GPP Rel18 RAN workshop	TCCA
RWS-210498	Public Safety Requirements for Release 18	FirstNet
RWS-210511	Smart Grid and Critical Infrastructure support in Release 18	NOVAMINT

RAN – Release 18 – vertical inputs

Media Broadcast

RWS-210077	Non-eMBB enhancements for Rel-18	EBU
RWS-210205	5G-MAG Proposals for 3GPP RAN Rel-18	5G Media Action Group (5G-MAG)
RWS-210133	On Media Delivery for Rel-18	BBC
RWS-210132	MBS Enhancements for Rel-18: Optimal Multiplexing for Broadcast/Multicast and Unicast Superposition Transmission (BMUST)	BBC
RWS-210195	NR MBS enhancements for Release-18	CBN

RAN – Release 18 – vertical inputs

Industry 4.0 & others

RWS-210218	RAN-assisted Functional Safety Communication for Verticals	ROBERT BOSCH GmbH
RWS-210217	Rel-18 Sidelink Enhancements for Verticals	ROBERT BOSCH GmbH
RWS-210216	Sidelink Positioning for Rel-18	ROBERT BOSCH GmbH
RWS-210215	5G-Advanced RAN Enhancements for Verticals	ROBERT BOSCH GmbH
RWS-210509	Philips view on release 18 (from healthcare vertical perspective)	Philips International B.V.
RWS-210034	5G-SOLUTIONS: Verticals' requirements to 3GPP RAN Rel18	TELECOM ITALIA S.p.A.

Some key RAN enablers for verticals in Release 18



Key enablers for verticals in RAN

Enabler	Usage	Potential Verticals impacted/concerned	Verticals involved in R17/R18
5G MBS/Prose	eMBB	Media Broadcast Public Safety	Media Broadcast Public Safety
Sidelink UE to UE Relay	eMBB	Automotive Public Safety Medical/healthcare Railway Utilities (IoT)	Mostly Automotive Public Safety Railway requirements not supported IoT not covered
Vehicle Mounted Relay (VMR)	eMBB	Transport Public Safety	Public Safety, critical
Location services (Ranging, Enhanced Sidelink location)	eMBB	All	Public Safety ?
Multicast/Broadcast capability	eMBB	Media Broadcast Public Safety	Media Broadcast Public Safety
IAB	Cross functions	All	Limited vertical involvement



Key enablers for verticals in RAN

Enabler	Usage	Potential Verticals impacted/concerned	Verticals involved in R17/R18
NR NTN	eMBB + cross functions (backhauling)	All	Limited vertical involvement (beside Sat industry)
mMTC	IoT	Automotive Public Safety Critical infrastructure Utilities Industry 4.0	No more vertical involved “Sidelink” IoT not supported by 3GPP
IoT NTN	IoT	Automotive Public Safety Critical infrastructure Utilities Transport (rail, maritime...)	Limited vertical involvement (utilities only)
RedCap	Broadband IoT / consumer IoT	Industry 4.0 Utilities	Limited vertical involvement so far
URLLC	Industrial IoT URLCC	Industry 4.0 Utilities Automated vehicle	Industry 4.0

RAN – Release 18 – Verticals perspectives

- 511 contributions for Release 18 scope
- Only 23 oriented verticals
- Many verticals enablers without verticals involvement or even just support
- Redcap & NTN (NR / IoT) should generate more support from verticals
- Need for more coordination between verticals to support more efficiently key enablers

Novamint – Who we are

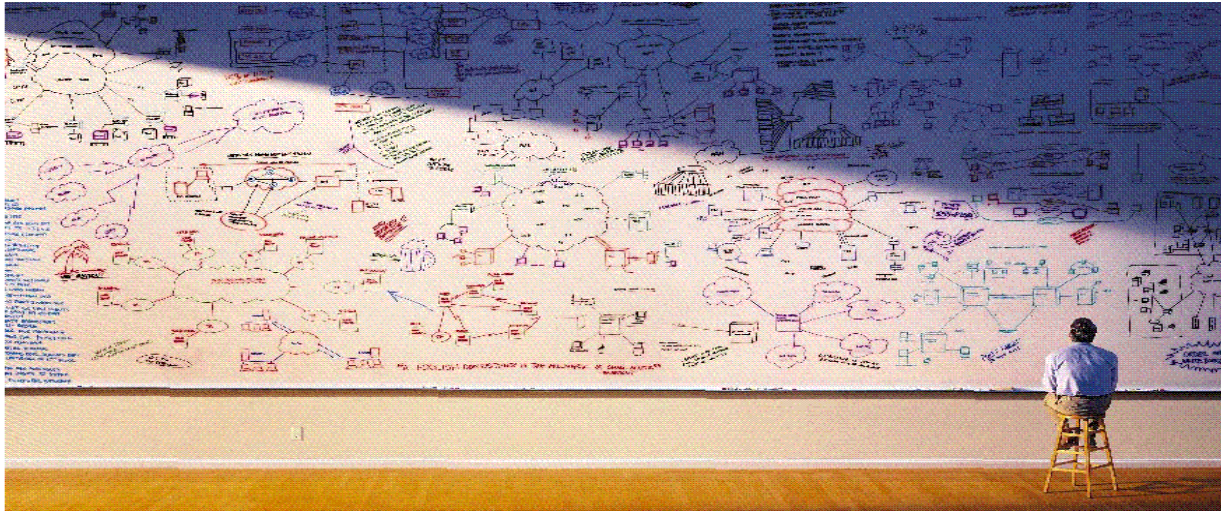


IoT: we connect Telecoms & Verticals

Telecoms & Verticals have their own Reality and Language



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