5G USE CASES

A 5G Americas White Paper   November 2023

Presentation Slides

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"5G technology is still evolving to meet diverse needs. Customers are benefiting from faster mobile broadband on 5G phones, and future business potential will stem from tailored solutions. Supportive regulations for additional spectrum and closing the digital divide are crucial for tapping into 5G's possibilities."

Chris Pearson, President, 5G Americas

"The 5G ecosystem is maturing and new, groundbreaking use cases are beginning to emerge. With standalone networks growing, 5G continues to be at the forefront of innovation and bringing new applications and solutions to life."

Paul Bongaarts, Senior Member of Technical Staff, T-Mobile US

"The increasing adoption of Standalone (SA) 5G networks, we are witnessing a shift in the industry that is leading the way to a significant transformation. SA deployments can simplify networks by eliminating 4G dependency and accelerating 5G expansion in industrial applications, FWA, and private networks. As a result, we expect to experience the full potential of 5G in these domains."

Prashanth Devaraj, Director of Technology, Networks Business, Samsung Electronics America
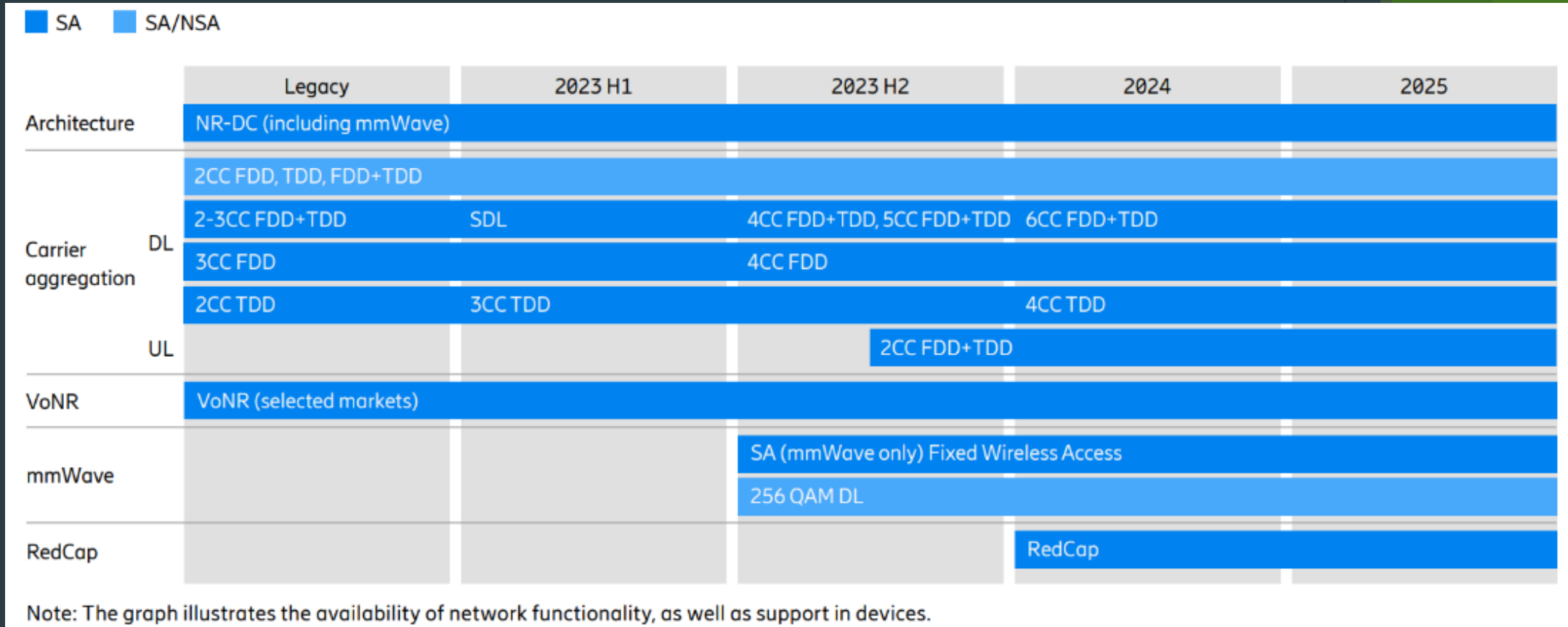

Santosh Kumar, Staff Engineer, Technical Solutions for the Networks Business at Samsung Electronics America was also a part of the 5G Americas working group where he played a pivotal role as a co-leader on this project.
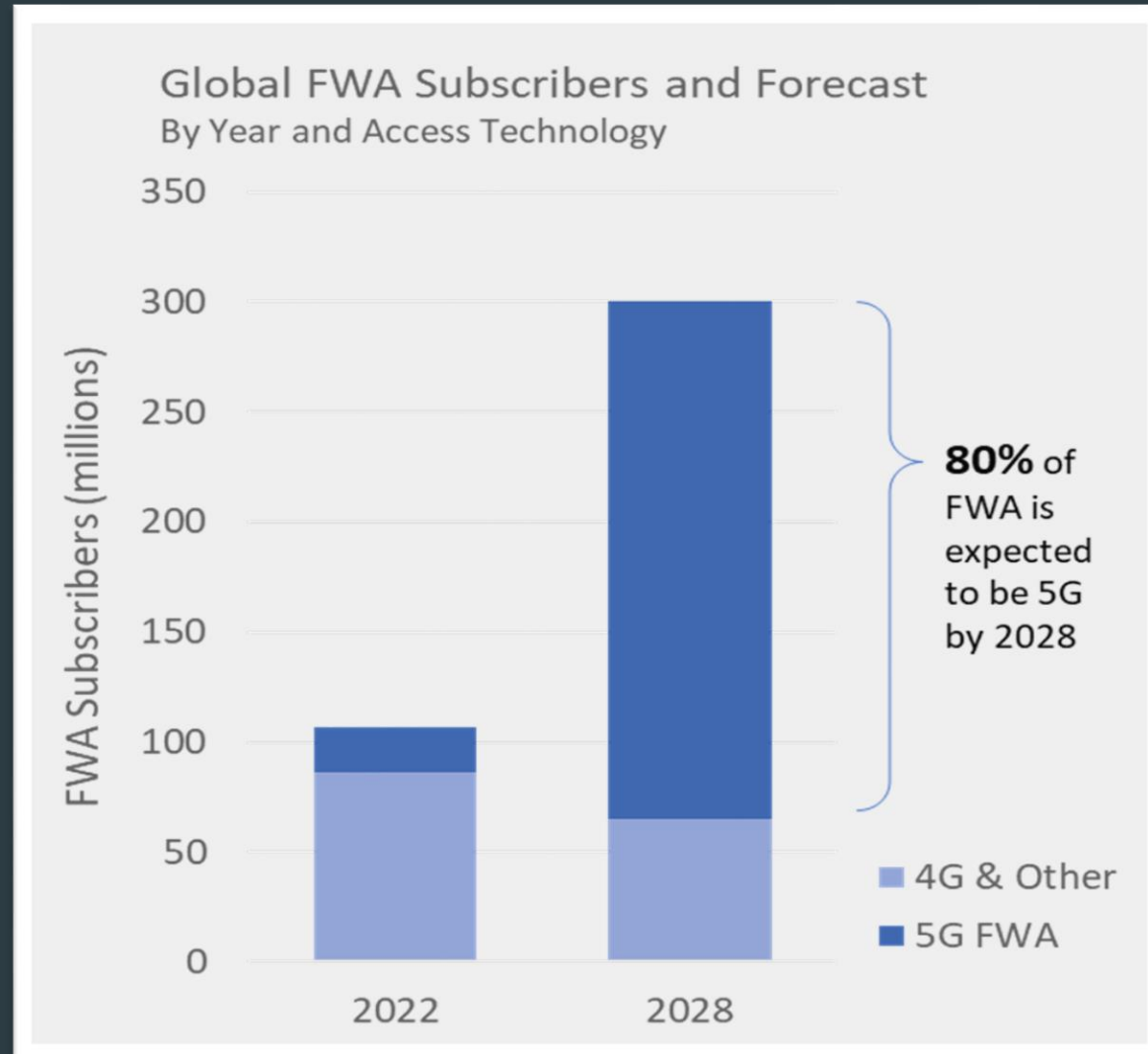
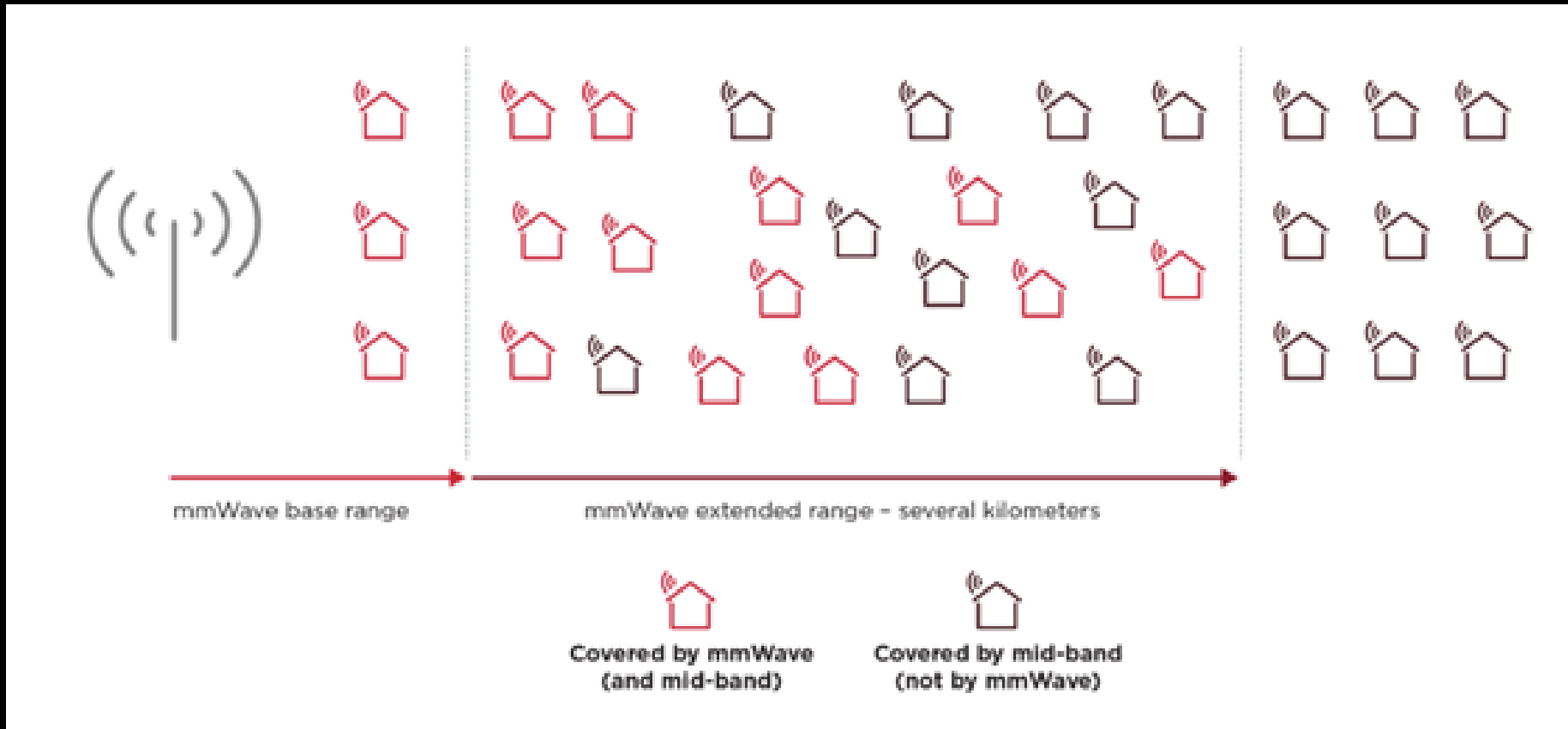# Supply & Demand Framework for 5G Use Case Evaluation
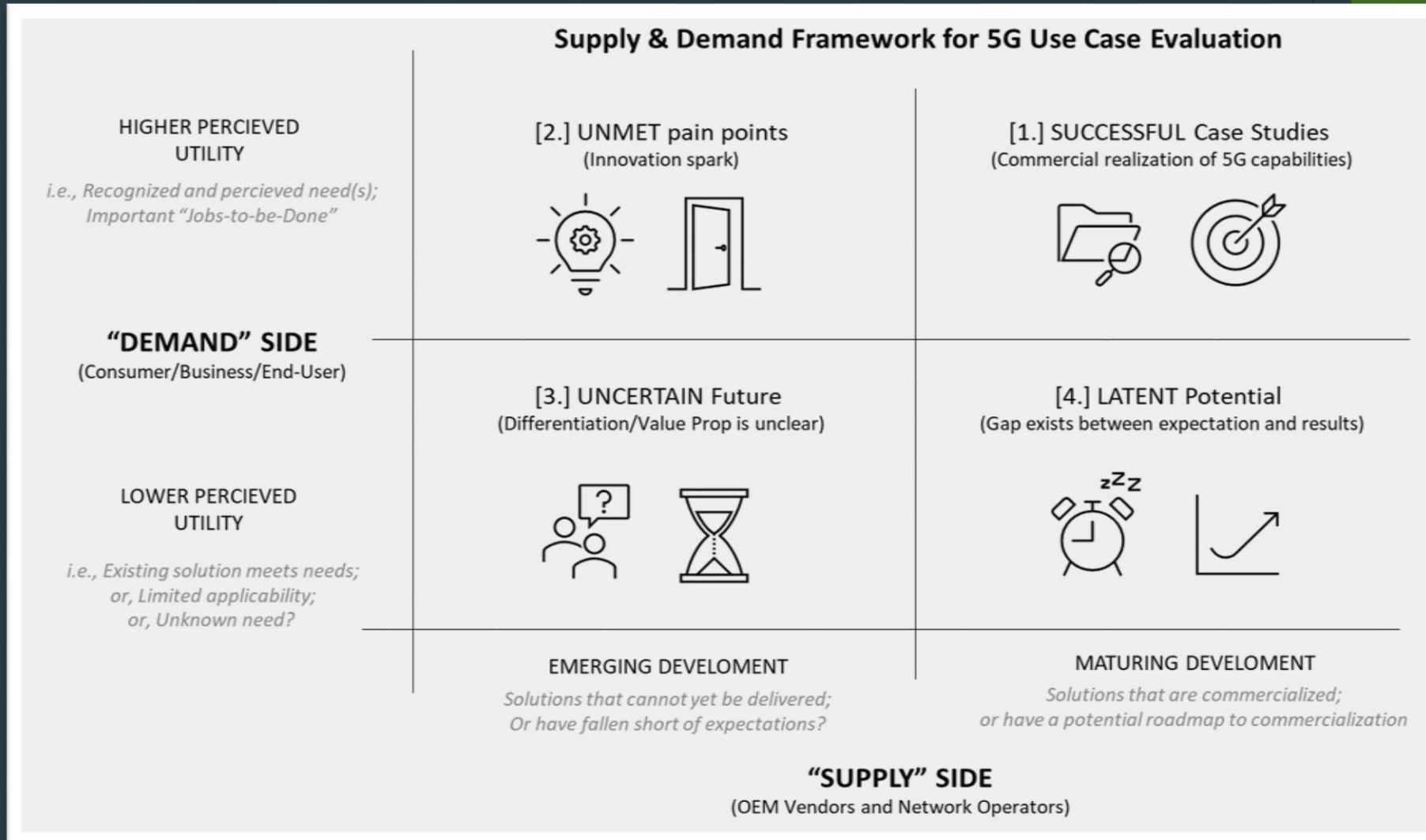
5G Technology readiness by Standalone and Non-Standalone 5G networks (Ericsson Mobility Report, June 2023)

Legend: ■ SA ■ SA/NSA

		Legacy	2023 H1	2023 H2	2024	2025
Architecture		NR-DC (including mmWave)				
Carrier aggregation	DL	2CC FDD, TDD, FDD+TDD				
		2-3CC FDD+TDD	SDL	4CC FDD+TDD, 5CC FDD+TDD	6CC FDD+TDD	
		3CC FDD		4CC FDD		
		2CC TDD	3CC TDD		4CC TDD	
	UL			2CC FDD+TDD		
VoNR		VoNR (selected markets)				
mmWave				SA (mmWave only) Fixed Wireless Access		
				256 QAM DL		
RedCap					RedCap	

Note: The graph illustrates the availability of network functionality, as well as support in devices.
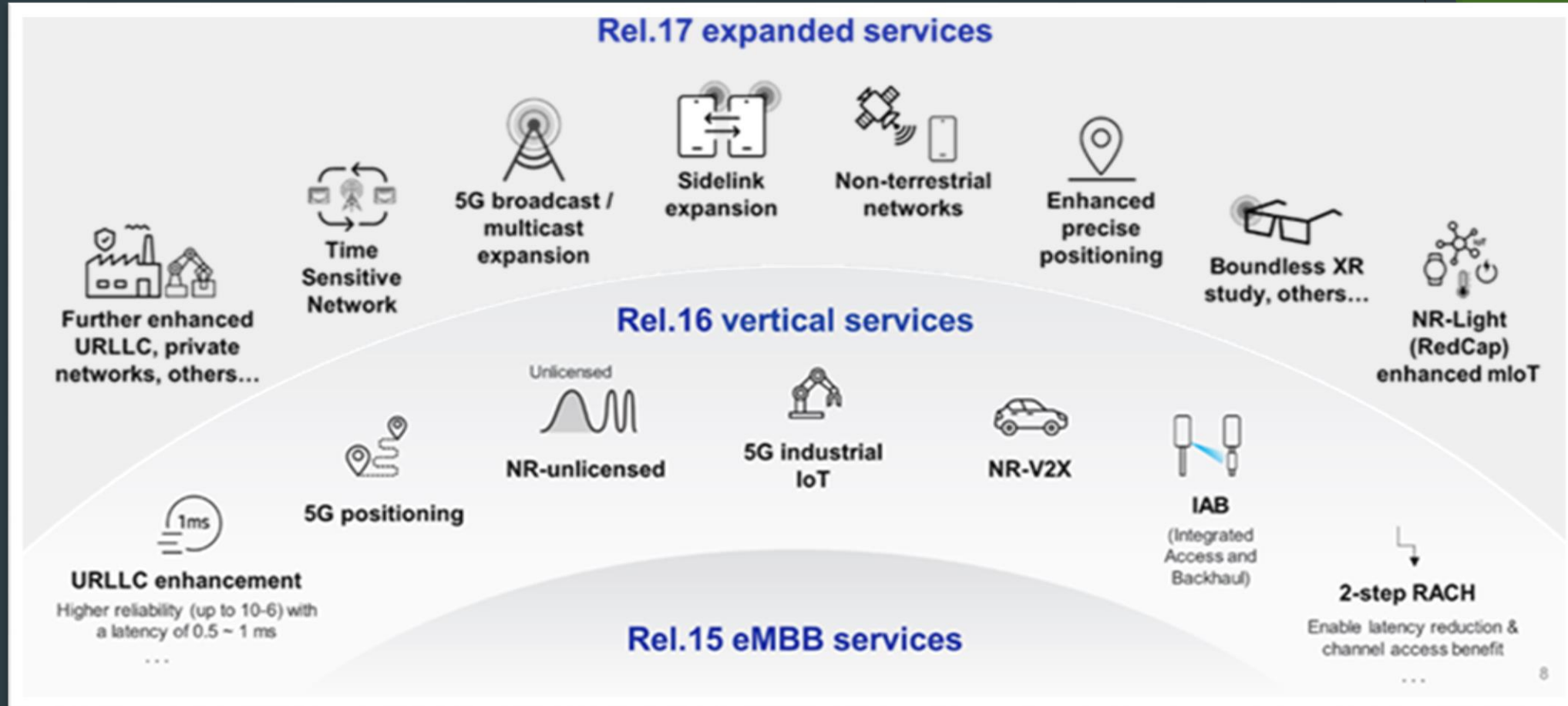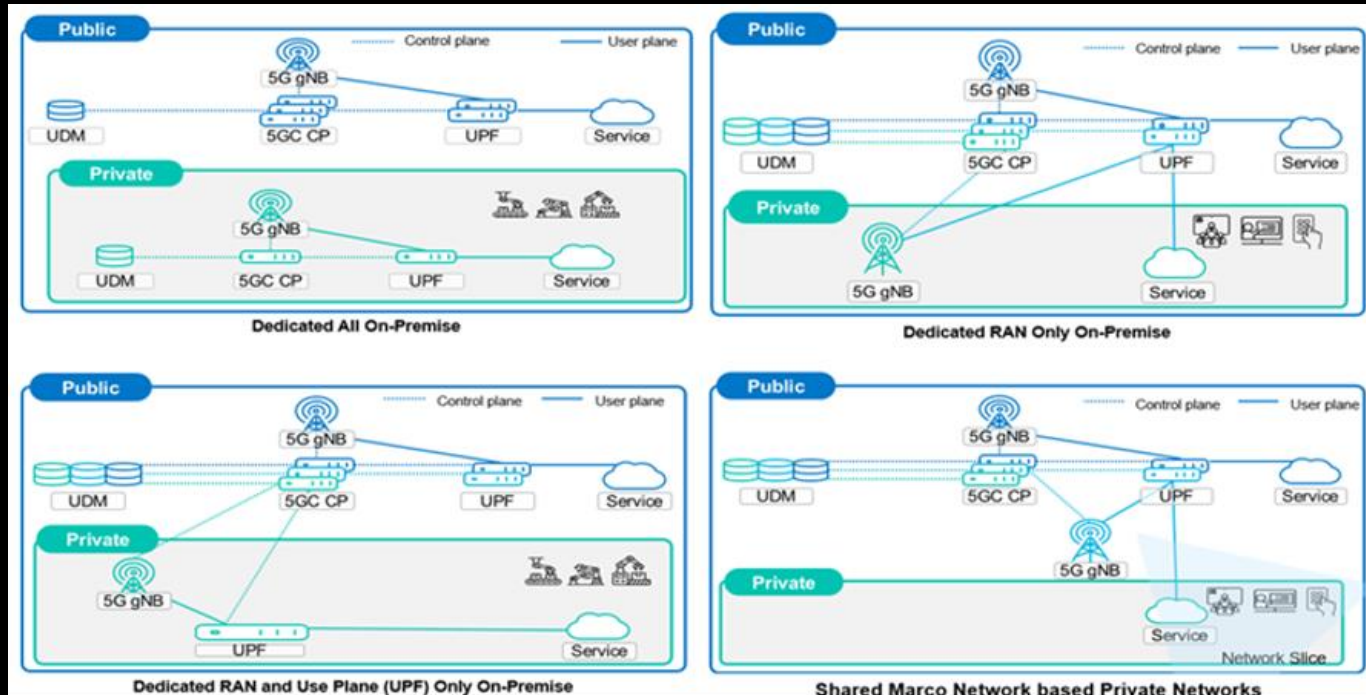
Global FW Subscriber & Forecast

mmWave extended range can be used to provide FWA across several Km (Source: GSMA 5G mmWave coverage extension solution whitepaper)

P5G Deployment Models (Samsung, 5G Americas)