



Mobile & Wireless Roundup No. 119 (see original on [LinkedIn!](#))

By Zahid Ghadialy

Welcome to the 119th edition of this newsletter. It's no secret that new mobile network equipment vendors (NEVs) face more challenges with software than hardware. While hardware isn't exactly a walk in the park, the sheer complexity of 3GPP standards (and the growing shift towards software-centric solutions) means software now takes centre stage.

Looking ahead, I can't help but imagine a future where Large Language Models (LLMs) revolutionize this space. Picture this: an LLM capable of reading 3GPP standards, generating code, identifying limitations, predicting potential failures, and even pinpointing vulnerabilities. In the next 3-5 years, we could see these tools empowering smaller vendors to level the playing field. Perhaps they'll evolve into network integrators or solution providers, offering compelling alternatives to the industry's heavyweights.

Mobile operators, too, might join the LLM movement, creating in-house teams to craft custom software with their preferred models. In such a scenario, the real differentiator could shift entirely to hardware. But here's a thought: are differentiators overrated? For most people, as long as their Mobile Network Operator (MNO) delivers reliably, they're satisfied.

This hints at a potential shift where operators focus on spectrum acquisition and billing, while hardware and software become commoditized off-the-shelf offerings. Could this pave the way for an all-encompassing "as-a-Service" (aaS) model? Imagine a future where end-users choose technology tailored to their needs, e.g., 7G variants like 7aG, 7bG, or 7cG, simply by subscribing.

Admittedly, these musings might suggest I need a holiday as much as anyone else. Wishing you happy holidays, whether you're celebrating, relaxing, or navigating the obligatory "forced downtime." Enjoy!

For those of you who don't know me, I am a technologist with over 25 years' experience in mobile wireless technology, currently working as an independent advisor, analyst, consultant and a trainer. This newsletter is a summary of my posts and other news that caught my attention since the last newsletter.

MWC
GSMA

Are you ready for Mobile World Congress 2025?

📢 We can help you reach new and existing customers!!! 📢

- Video Interviews
- Webinars
- Online Advertising
- White Papers
- Editorials & Blog Posts

Get in touch to learn more: contact@odinews.tech

📡 6G

- Free 6G Training - CENTRIC: Towards an AI-native, User-Centric Air Interface for 6G Networks ([link](#))
- 3GPP: 6G Scenarios and Performance Requirements ([link](#))
- MWL: Docomo hails early 6G milestone ([link](#))
- Nokia: 6G to be optimized for upper mid-band spectrum ([link](#))
- Free 6G Training: 6G Midband Spectrum Discussions from Brooklyn 6G Summit 2024 ([link](#))

Simple Theoretical Comparison between FR1 and FR3

	Frequency dependency	Remarks
Path-loss		
LoS	Free-space path-loss $\propto 20 \log(f)$	6dB higher in FR3 (7-8GHz) than in FR1 (3.5 GHz)
NLoS	Diffraction loss $\propto 10 \log(f)$	3dB higher in FR3 (7-8GHz) than in FR1 (3.5 GHz)
Antenna gain	Peak antenna gain $\propto 20 \log(f)$ assuming the same aperture size	6dB higher in FR3 (7-8GHz) than in FR1 (3.5 GHz)

FR1: FR3: x4 antenna elements can be implemented

What will occur in realistic deployment environments ??

© 2024 KDDI

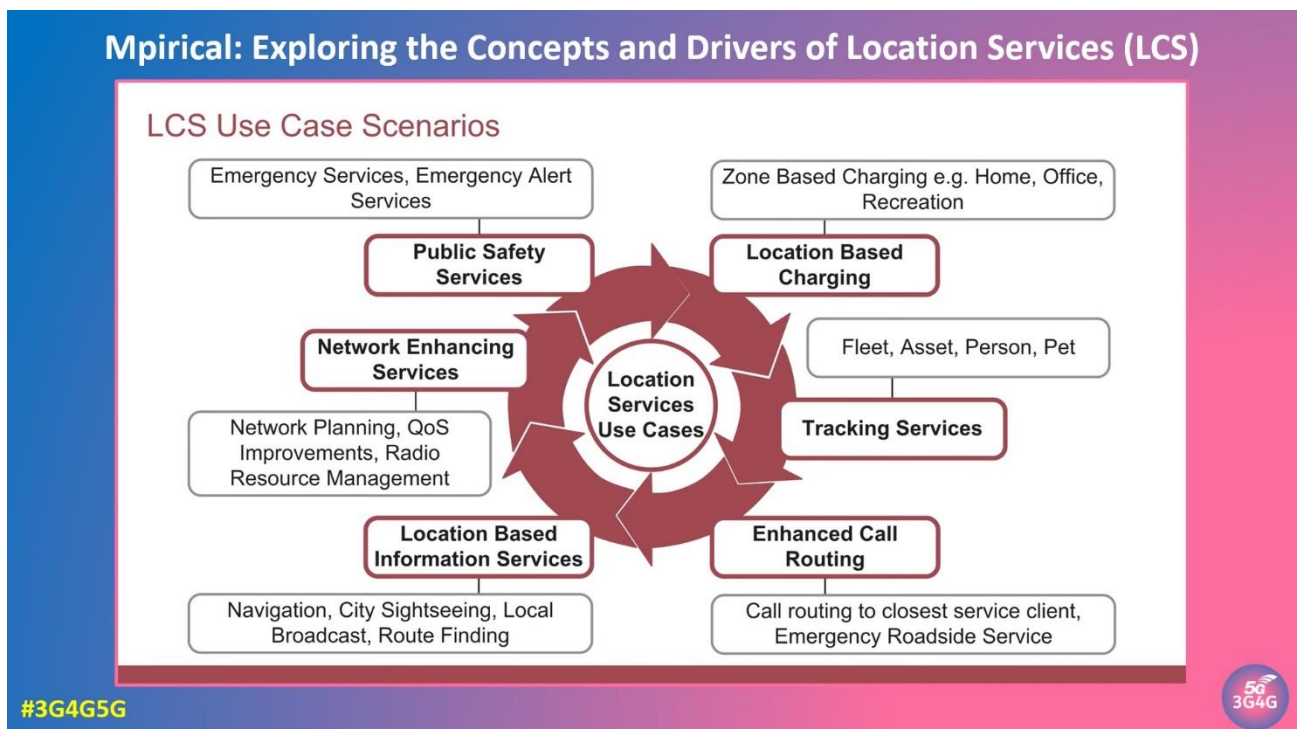
#Free6Gtraining

5G

- Telia Norway first with national 5G network ([PR](#))
- Nokia: Completing 5G-Advanced with 3GPP Release 20 and paving the way to 6G ([link](#))
- Michael Thelander on LinkedIn: "I just published the Signals Research Group - SRG 46th report on 5G, this time with a particular focus on uplink performance, specifically the incremental benefits of a 3Tx transceiver architecture in a CPE compared with a 2Tx transceiver architecture..." ([link](#))
- Mohamed Abbas on LinkedIn: Evolution of Signaling from 2G to 5G ([link](#))

4G/LTE

- The 3G4G Blog: Evolution and Impact of Cellular Location Services (LCS) ([link](#))



2G/3G

- KPN is giving consumers and businesses more time to make the switch from 2G to new 4G and 5G technologies ([link](#))

Open & Disaggregated Networks (including Open RAN, vRAN, etc.)

- Pioneering the Future of Telecom: The completion of TIP's IP over DWDM proof-of-concept with the MANTRA Subgroup ([link](#))
- Experimental Evaluation of Multi-Vendor 5G Open RANs: Promises, Challenges, and Lessons Learned ([link](#))
- Paul Rhodes on LinkedIn: Is OpenRAN(-Ready) Default in 2025? ([link](#))

Spectrum

- KDDI: Successfully developed wireless relay technology that dramatically expands millimeter wave coverage area ([PR](#))

🕒 Private Networks

- New Wireless Broadband Alliance Report Drives Seamless Wi-Fi and Private 5G Inter-working for High-Speed, Low Latency Private Enterprise Networks ([PR](#))
- Private Networks Technology Blog: Kyushu Electric Power Revolutionizing Power Plant Operations with Local 5G and Wi-Fi ([link](#))

🕒 Telecoms Infrastructure, Small Cells, Antennas & others

- Telecoms Infrastructure Blog: Deutsche Telekom's Hydrogen-Powered Mini-Masts ([link](#))



- Paul Rhodes on LinkedIn - Thursday School: Small(-ish) Cells? ([link](#))

🕒 IoT / M2M / Smart Homes

- Matt Hatton on LinkedIn: "Major new report just dropped today. MNOs can expect a 0.4% revenue uplift from IoT connectivity tied to 5G SA functionality. Overall 5G comes to substantially dominate as a technology generation but mostly it's due to a need for future-proofing (i.e. most of use cases would work perfectly happily on 4G networks)..." ([link](#))

🕒 Virtualization, Cloud & Edge

- Telecoms Infrastructure Blog: How Samsung is Leveraging vRAN to Match Traditional RAN (T-RAN) Performance ([link](#))
- Fierce Network: Verizon breathes new life into MEC with Nvidia AI deal. Woot!?! ([link](#))

🕒 Security & Privacy

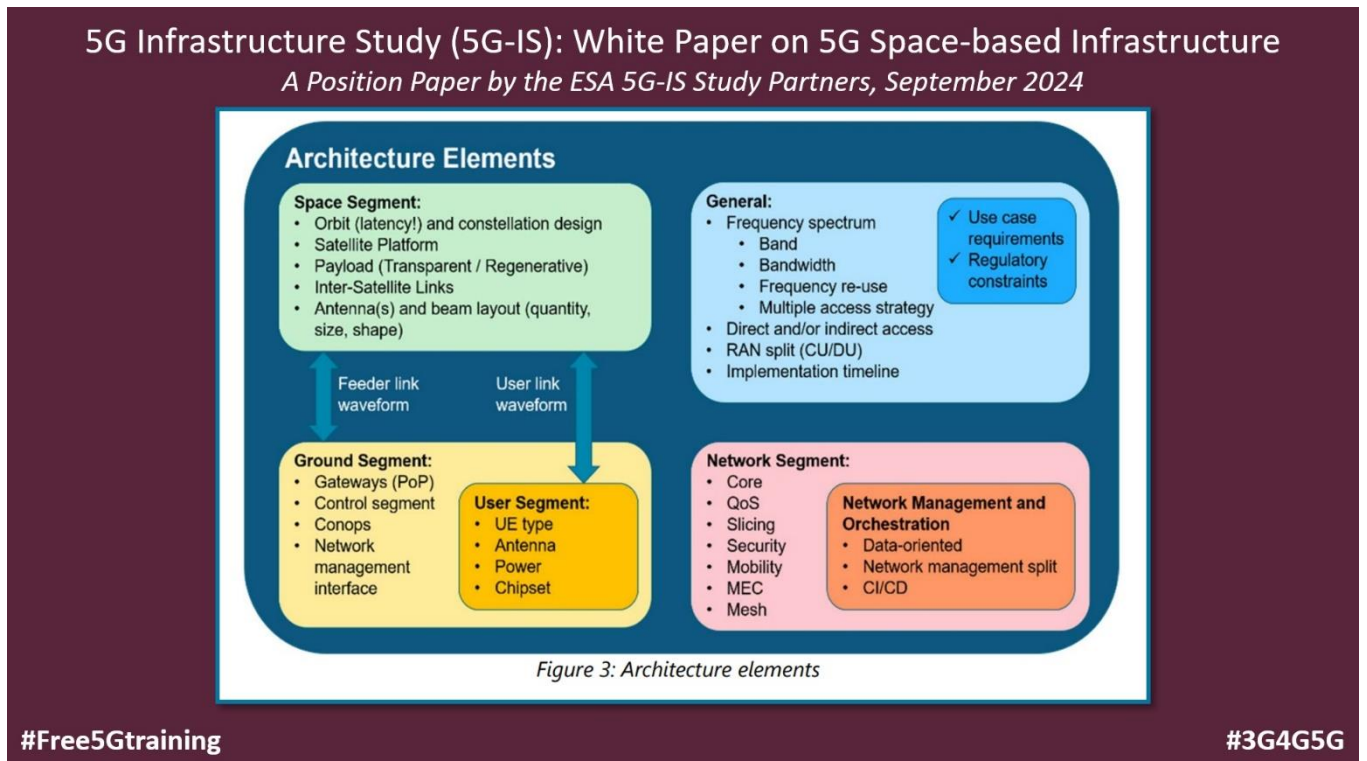
- Why Toyota Runs a Car-Hacking Event ([link](#))
- Fierce Network - Salt Typhoon: Bad for network security, good for open RAN ([link](#))
- The Guardian: US judge finds Pegasus spyware maker liable over WhatsApp hack ([link](#)) – to read testimonies of the victims see [here](#).
- Marnix Dekker on LinkedIn: "Working on #NIS2? We developed a lot of NIS2 material - infographics - short explainers - have a look, it is there for you to use it..." ([link](#))

🕒 AI, ML & Automation

- Benedict Evans: AI eats the world ([link](#))
- Jinsung Choi on LinkedIn - Beyond Automation: Agentic AI is Taking Over the RAN ([link](#))
- The Verge: Nvidia's \$249 dev kit promises cheap, small AI power ([link](#)) – NVIDIA Jetson Nano page [here](#).
- Jinsung Choi on LinkedIn: Why Low Latency Matters ([link](#))

🕒 Satellites, HAPS, Drones, UAVs & Space

- 5G Infrastructure Study (5G-IS): White Paper on 5G Space-based Infrastructure ([link](#))



🕒 Wi-Fi

- Ruth Brown on LinkedIn: Private 5G and Wi-Fi Convergence ([link](#))
- Dean Bublely on LinkedIn: "...Recently, he mentioned a report he'd written and had published by CTIA, titled "Lessons from the History of Wi-Fi", which argued against the need for more unlicensed spectrum, and claimed that the Federal Communications Commission approach to releasing 6GHz band was flawed..." ([link](#))

🕒 Metaverse & Extended Reality (XR)

- MWL: SKT abandons metaverse to focus on AI ([link](#)) – Telecom TV's take on this [here](#).
- Google Android XR: The Gemini era comes to headsets and glasses ([link](#))

🕒 Other News and Technology Stuff

- Japan's Telecommunications Carriers Join Forces to Strengthen Disaster Response ([PR](#))
- Nick vs Networking: Flash SMS Messages ([link](#))
- Mohamed Abbas on LinkedIn: What is a Multi-IMSI SIM? ([link](#))

📸 **Picture of the week:** Africa Mobile Networks ([AMN](#)) has been bringing connectivity to rural Africa for past many years. Here are some pictures of satellite backhauled mobile towers being deployed in the Democratic Republic of the Congo (DRC) from their LinkedIn [post](#). Give these guys a follow.



Happy to hear your thoughts. Feel free let me know what worked, what didn't, how I can make this better, etc. Get in touch over LinkedIn!

PDF version of this and previous newsletters are available [here](#).