

Mobile & Wireless Roundup No. 170 (see original on [Web!](#))

By Zahid Ghadialy

**ChatGPT Prompt:** *Working on my weekly mobile & wireless newsletter. I am thinking about writing something from the novel 1984 as applied to technology today. Can you write it for me in my style.*

**ChatGPT Response** (Opening sentence and closing para is mine):

Welcome to the 170th edition of this newsletter. While thinking about what to write this week, I was reminded of 1984. Orwell imagined a world of omnipresent telescreens, constant surveillance and a state that shaped reality by controlling information. It was meant as a warning about political power. Yet reading it today, it is hard not to see parallels with the technology landscape we are collectively building.

In Orwell's world, the telescreen both transmitted and received. Today, our smartphones, smart speakers, connected cars and industrial sensors do the same. The difference is that we carry them willingly. The network is no longer just about connecting people. It connects everything. In 5G we spoke about massive machine-type communications. In 6G we speak about AI-native networks, integrated sensing and communication, and digital twins. The technical capability to observe, measure and analyse the physical world at scale is no longer theoretical. It is part of roadmap discussions.

Another theme in the novel was the manipulation of truth. There was a Ministry of Truth that rewrote history. We do not have a single ministry doing that today, but we do have algorithms curating what we see, ranking what we read and increasingly generating summaries of reality for us. AI systems trained on vast datasets are becoming intermediaries between humans and information. In telecoms, AI is also moving into the control plane, optimising networks, predicting faults and even steering traffic. This is powerful and necessary, but it also means decisions are becoming less visible to the end user.

There is also the question of language. Orwell's "Newspeak" reduced vocabulary to limit thought. In our industry, we often use phrases such as trusted AI, zero trust, sovereign cloud and AI-native as if they are self-explanatory. They are not. Language shapes perception. As we move towards 6G, it is worth asking whether we are being precise enough about what is technically feasible, what is commercially attractive and what is socially acceptable.

The important difference, of course, is that today's networks are not designed to control society. They are designed to connect it. Regulation, transparency and standards processes act as counterweights. Those of us involved in building and analysing mobile systems have a responsibility to think beyond throughput, latency and spectral efficiency. Architecture choices influence privacy, resilience and even trust in digital systems. Orwell's dystopia was about power without accountability. Our challenge is to ensure that capability is matched with responsibility.

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.



#### 🕒 4G/LTE

- Mohamed Abbas on LinkedIn: Comparison of 4G and 5G Core Networks ([link](#))
- Chris Cockings on LinkedIn: Field Testing: RSRP ≠ a Single Number - Always Check Both Receivers ([link](#))

#### 🕒 5G

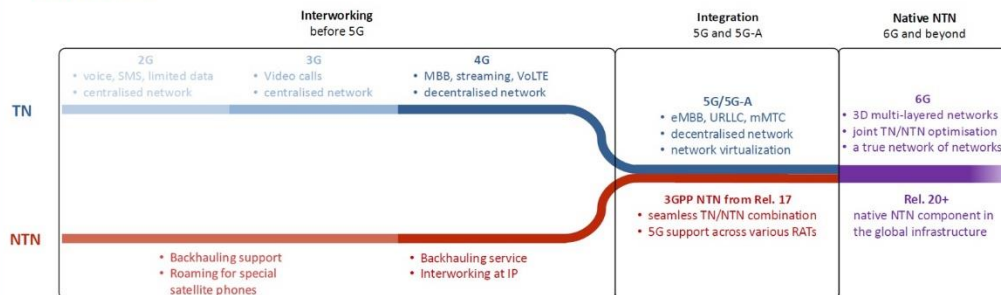
- TelecomTV: NGMN unveils 5G simplification framework ([link](#))
- Ookla: 5G SA, AI Demands, and Network Resilience Will Dominate the Mobile Market in 2026 ([link](#))
- GSMA: Accelerating 5G and 5G-Advanced in Philippines ([link](#))

#### 🕒 6G

- Fierce Network Opinion: The size of the 6G wave ([link](#)) – via Joe Madden on [LinkedIn](#).
- Free 6G Training: Toward Native NTN Integration in 6G ([link](#))

## TN-NTN: a path to unification

Legacy SatCom systems: typically based on **industry-driven technical solutions** that led to **proprietary architectures and protocol stacks** → difficult *a posteriori* interactions with terrestrial systems



3GPP NTN: a massive joint effort between the stakeholders of both terrestrial and satellite industries allowing

- 3GPP specifications to provide **global service continuity and resiliency**
- satellite industries to access the **economy of scale** and reduce the **manufacturing costs**

8 Prof. Alessandro Vanelli-Coralli – Integrated TN/NTN architectures in 6G: opportunities and challenges



#Free6Gtraining



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

- Light Reading: Open RAN faces life after multivendor death ([link](#))

### 🕒 Spectrum

- XGMF Japan Recommendations for Securing Mid-Band Spectrum for the 6G Era ([link](#))

### 🕒 Private Networks

- Berg Insight: The private LTE/5G market reached 6,500 network deployments and a market value of US\$ 2.4 billion in 2025 ([PR](#))
- Private Networks Technology Blog: Private LTE Reshaping IoT Connectivity Across the Maersk Fleet ([link](#))
- RCR Wireless: Vodafone on private 5G – 173 networks, 20 countries, 60% on site, new vendors coming ([link](#))
- Dean Bublely on LinkedIn: "I participated in the #Uptime2026 event on #Private5G last week, moderating a panel on UK #privatewireless. I came away with a renewed enthusiasm - but also a recognition that the #P5G market is essentially multi-dimensional, in terms of network size, duration of use, vertical sector, business model and application types..." ([link](#))

### 🕒 IoT / M2M / Smart Homes

- Telenor IoT Surpasses 30 Million Connected Units, Strengthening Global Leadership in IoT Connectivity ([PR](#))
- Denis Laskov on LinkedIn - Hacking IoT/SCADA with cellular connectivity: Rogue cells and how they work, in detail ([link](#))
- Chris Cockings on LinkedIn: Did you know 3GPP Release 13 is nearly a decade old? ([link](#))
- Afzal Mangal on LinkedIn: Will this go down as the slowest "revolution" in industrial history? ([link](#))

### 🕒 Telecoms Infrastructure, Small Cells, Antennas & others

- Telecoms Infrastructure Blog: Reconfigurable Antennas and the Infrastructure Implications For 6G ([link](#))

## 2.1 Hardware Implementation

### Electronically Reconfigurable Antennas

- Integrate RF devices into the antenna, and achieve reconfigurability to change antenna's radiation characteristics. Representative examples include metasurface antennas and reconfigurable pixel antennas (RPAs).
- RF devices

Semiconductor	PIN diode	Current controlled
	FET switch	Voltage controlled
Mechanical	MEMS switch	Voltage controlled

### Structurally Reconfigurable Antennas

- Dynamically adjust the physical structure of the antenna to modify the radiation characteristics by altering the radiating surface geometry.
- Leverage fluid-driven element arrays, liquid-metal-based radiators, deformable structural arrays, etc. to achieve antenna structural reconfiguration.
- Enable configurational flexibility through the physical movement of radiation components.

[1] J. Costantine, Y. Tawk, S. E. Barbin, and C. G. Christodoulou, "Reconfigurable antennas: Design and applications," Proc. IEEE, vol.103, no. 3, pp. 424-437, Apr. 2015.  
 [2] R. L. Haupt and M. Lanagan, "Reconfigurable Antennas," IEEE Antennas and Propagation Magazine, vol. 55, no. 1, pp. 49-61, Feb. 2013.  
 [3] J. An, Z. Han, D. Niyato, M. Debbah, C. Yuen and L. Hanzo, "Flexible Intelligent Metasurfaces for Enhancing MIMO Communications," IEEE Transactions on Communications, early access, Mar. 11, 2025, doi: 10.1109/TCOMM.2025.3550318.

- ianVisits: How London finally cracked mobile phone coverage on the Underground ([link](#))

### 🕒 Security & Privacy

- Denis Laskov on LinkedIn - Making hardware trojans using AI: artificial intelligence in hardware design and cybersecurity ([link](#))
- 6G Native Security from Qualcomm's 6G webinar ([link](#))
- Dmitry Kurbatov on LinkedIn - SIM Fraud and Account Hijacks: No Slowdown ([link](#))
- Eric Priezkalns on LinkedIn: Scam SMS Blasters Found Circling Malaysian Resort and Singapore Border Town ([link](#))
- Zero Day: Attack Against Poland's Grid Disrupted Communication Devices at About 30 Sites ([link](#))
- Jos Wetzels on LinkedIn: "With the December attack on parts of the Polish electric grid in mind, we just published part 1 of our blog where we delve a bit deeper into the destructive techniques used during that attack. We also outline the general technical aspects of attacks involving the bricking of embedded OT devices and why they have the potential to be so devastating..." ([link](#))

### 🚗 Connected And Autonomous Vehicles (CAVs)

- IEEE Spectrum: Sub-\$200 Lidar Could Reshuffle Auto Sensor Economics > MicroVision says its sensor could one day break the \$100 barrier ([link](#))
- Denis Laskov on LinkedIn: Eight(!) hacking events & 649 exploitable vulnerabilities in connected cars in China ([link](#))

### 🤖 AI, ML & Automation

- RCR Wireless: AI-native air interfaces explained ([link](#))

- ETSI AI & DATA conference Ecosystem Collaboration, Education and “AI-Native” Standardisation ([PR](#))
- FutureNet Insights: Agentic AI in telecom OSS: Practical execution amid industry realities ([link](#))
- Fierce Network Opinion - A reality check on AI latency: The 30 ms milestone ([link](#))
- Light Reading: T-Mobile builds AI agents into 5G network to translate calls ([link](#))

### 🕒 Satellites, HAPS, Drones, UAVs & Space

- TelecomTV: NTT Docomo preps satellite D2D service launch ([link](#))
- Tim Farrar on X: "This is the nail in the coffin for the ridiculous plan for a fully integrated GEO-LEO network with a single terminal and common air interface..." ([X post](#) with photo & quote)
- Terrestar Launches Canada-Wide Hybrid Satellite IoT Service Powered by Mavenir’s Cloud-Native Virtualized RAN and Core ([PR](#))

### 🕒 Wi-Fi

- Michael Thelander on LinkedIn: "I just spent a week playing / testing my ASUS ZenWiFi BE30000 Wi-Fi system and a couple of Verizon 5G FWA routers..." ([link](#))

### 🕒 Quantum Networks & Technology

- TelecomTV: KT claims major advance in QKD ([link](#))

### 🕒 Other News and Technology Stuff

- The Washington Post: Can these Super Bowl ads make Americans love something they don’t like? ([link](#))
- Dean Bubley on Substack: Spotting and avoiding Scale Extrapolation Errors ([link](#))



## Scale extrapolation errors

Dimension	What people assume	What actually happens	Typical failure mode	Fast diagnostic
<b>Scale up</b>	More customers / nodes / sites / area = more of the same	New constraints & thresholds appear; operations and reliability regimes change	Diminishing returns, fragility, blow-ups, inter-dependencies & cliff-edges, regulation	What breaks first at 10× or 100× current scale?
<b>Scale down</b>	Shrink the big thing and keep the benefits, business model & architecture	Fixed costs, compliance, and complexity don't shrink cleanly. Different stakeholders	Tiny / local versions are uncompetitive or unusable	Which costs / risks are non-scalable? Do new constraints occur a micro-scale?
<b>Organic growth</b>	We can grow within our current model without limits	Growth changes incentives, coordination, governance	Culture / ops / technical debt, process ossification, skills	Which internal dependencies multiply?
<b>Substitution</b>	X will replace Y because it's better at variable A	Systems are multi-variable; incumbents win on variables A + B, C, D ec	Niche adoption, hybrid coexistence, ride the hype & use valuation for M&A / pivot	Speak to adjacent domain experts. Identify B–K. Who owns them? Addressable?

- Business Insider: The guy who coined 'vibe-coding' says the next big thing is 'agentic engineering' ([link](#))

- Dean Bublely on LinkedIn: "*Rather scary story from a Google researcher about processors getting things wrong. Not software errors, but some underlying drift in the way the semiconductor gates work called an #SDC or #SilentDataCorruption which don't get detected or corrected...*" ([link](#))
- Ryan Jeffery on LinkedIn: The Next OSS Product Category is Hiding in Plain Sight ([link](#))
- Commsrisk: What Is a B2B2x Marketplace and Why Do Most Telcos Need One? ([link](#))

📷 **Picture of the week:** Shown here is Telenor Svalbard's base station, shared by [paopao0128 on X](#), operating in the harsh Arctic conditions of the Svalbard archipelago. Supplied by Ericsson, the site supports LTE Band 1 and Band 3 and serves the southern part of Longyearbyen as a standalone cell. The facility housing the base station has now been converted into a [restaurant](#). It is easy to talk about 5G Advanced and 6G roadmaps in conference halls, but keeping a single LTE site running in freezing temperatures, high winds and extreme isolation is just as impressive. At the top of the world, connectivity is less about peak speeds and more about resilience, coverage and engineering that simply works.



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](#).