

## Mobile & Wireless Roundup #70 (see original on [LinkedIn!](#))

By Zahid Ghadialy

Welcome to the 70th edition of this newsletter. We are in the ultimate month of the year with Christmas and New Year just round the corner. Sometimes I feel like everyone waits till the end of the year to plan their events and deliverables. While I have some 5-6 events to attend in the next couple of weeks, I have a lot more documents to catch-on, that might now be pushed on to the new year.

I also just received my press/analyst pass for [MWC 2024](#). I couldn't make it to MWC this year as I caught Covid just as I was about to fly. Hopefully no similar surprises next year.

I also got a [chance this week](#) to go to University of Bristol, in the southwest of England, UK. I enjoyed seeing all the cutting edge stuff they are working on from RF to Metaverse, Beyond 5G & 6G technologies to cutting-edge Quantum networking. While researchers and universities are expected to come up with advanced technological innovations, we as an industry have not succeeded in creating something compelling to motivate end users to desire the latest technologies.

Take for instance 5G. Users in countries which did not have good 4G speeds quickly moved to 5G. On the other hand, users that were happy with their 4G services are moving to 5G only when their devices get upgraded. There was a lot of talk on 5G network slicing back at MWC 2019 but over the years there hasn't been a compelling case for operators to move on to 5G standalone and offer the network slices.

As I and others in the industry have pointed out, the operators feel that they are being taken for a ride with every new generation costing them more, forcing upgrades and investment in newer equipment while the returns are not worth the investment. This is one of the reasons NGMN has emphasised 'Evolution', not 'Revolution' as mentioned [here](#). We have to wait and see if the operators stick to this or a killer application/device will change their approach to upgrade at earliest possible opportunity.

For those of you who don't know me, I am a technologist with over 24 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 others news that caught my attention since the last newsletter.



## 6G

- Free 6G Training: Standards Development Organizations (SDO) Chairman Panel at B6GS 2023 ([link](#))
- ITU advances the development of IMT-2030 for 6G mobile technologies ([link](#)) - Recommendation ITU-R M.2160 is available [here](#).

## 5G

- Theoretical data rates for IMT-2020 and 3GPP's 5G Standards ([link](#))
- A Tutorial on 5G Positioning ([link](#))
- RCR Wireless: Hyped and humbled – five things the '5G bashers' said about industrial 5G ([Part 1](#), [Part 2](#))
- Operator Watch Blog: 5G Development Strategy & Plan of Turk Telekom ([link](#))
- 5G Availability and Reliability ([link](#))

Reliability / Availability				
Reliability %	Downtime per year	Downtime per month	Downtime per week	Downtime per day
99% ("two nines")	3.65 d	7.31 h	1.68 h	14.40 m
99.9% ("three nines")	8.77 h	43.83 m	10.08 m	1.44 m
99.99% ("four nines")	52.60 m	4.38 m	1.01 m	8.64 s
99.999% ("five nines")	5.26 m	26.30 s	6.05 s	864.00 ms
99.9999% ("six nines")	31.56 s	2.63 s	604.80 ms	86.40 ms
99.99999% ("seven nines")	3.16 s	262.98 ms	60.48 ms	8.64 ms
99.999999% ("eight nines")	315.58 ms	26.30 ms	6.05 ms	864.00 μs

• Availability is a measure of the % of time the equipment is in an operable state while reliability is a measure of how long the item performs its intended function.  
 • Generally speaking a reliable machine has high availability but an available machine may or may not be very reliable.

#Free5Gtraining #3G4G5G

## 4G/LTE

- Operator Watch Blog: Grenada is Slowly Progressing Towards High Speed 4G ([link](#))

## 🕒 2G/3G

- Commsupdate: Sunrise confirms mid-2025 date for 3G shutdown ([link](#)) – see official press release [here](#).
- Light Reading: More 2G and 3G shutdowns loom in the US ([link](#))

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

- TelecomTV: Orange CTIO embraces the ‘era of open’ ([link](#)) – Good discussion on Geoff Hollingworth’s LinkedIn post [here](#).
- Jinsung (Alex) Choi on LinkedIn: Intent-Based Autonomous O-RAN (Part 2) OpenAI Q\* (Q-STAR) and STaR ([link](#))
- Jinsung (Alex) Choi on LinkedIn: Enabling Advanced Features over O-RAN RIC E2 Open Interface ([link](#))
- Light Reading: Deploying vRAN could be considered a natural progression on service providers' virtualization and disaggregation journey, says AMD's Gilles Garcia. ([link](#))
- John Baker on LinkedIn: What you have been waiting for - version 16 of the Open RAN Ecosystem ([link](#))



## 🕒 Spectrum

- Frank Royal: Recap of the Canadian 3800 MHz C-band Spectrum Auction ([link](#))
- Dean Bubley on LinkedIn: “Another #spectrum and #private5G idea I've been musing about... linear networks...” ([link](#)) – fantastic comments as well.

## 🕒 Private Networks

- Private Networks Technology Blog: Sony and Mitsui are Testing Dynamic Spectrum Access Technology for Local 5G Deployment in Metropolitan Expressways ([link](#))

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

- NICT, Japan: World Record Optical Fiber Transmission Capacity Doubles to 22.9 Petabits per Second ([link](#))
- Paul Rhodes on LinkedIn - Thursday School : Back to Basics; Fibre (& Wireless and Optical Transport) ([link](#))

## 🕒 IoT / M2M / Smart Homes

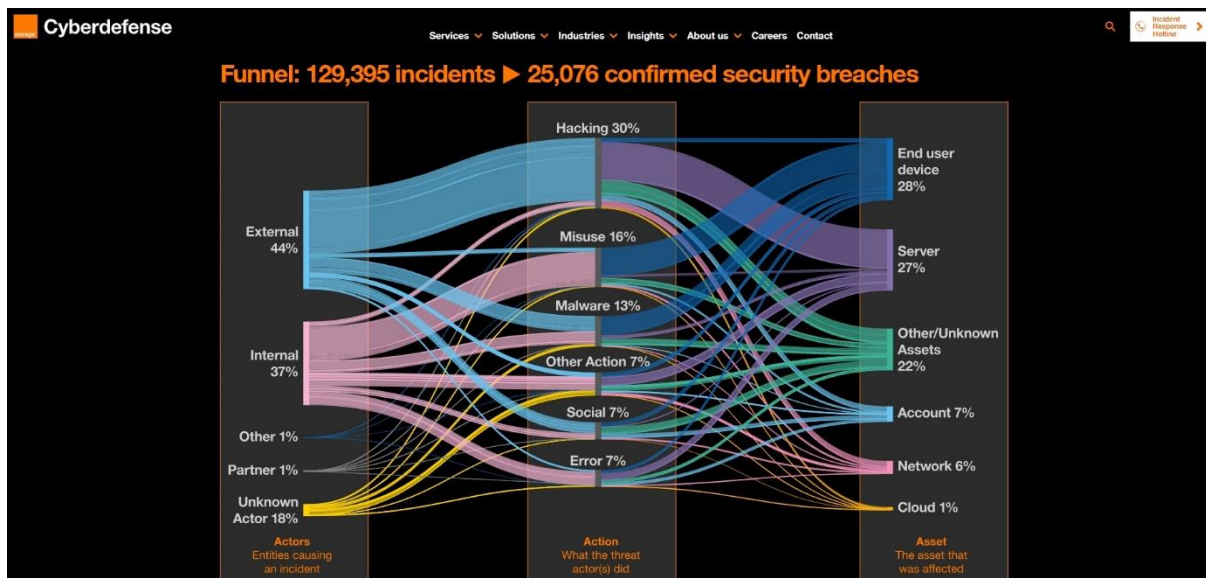
- RCR Wireless: Carlsberg makes beer taps smart with cellular IoT and cloud analytics ([link](#))
- RCR Wireless: IoT market for critical infrastructure monitoring set for 28% CAGR surge ([link](#))

## 🕒 Smart Cities

- Loti: What can we learn from Sunderland's Smart City? ([link](#))

## 🕒 Security & Privacy

- NTT Technical Review: Trends in Security Standardization at ITU-T SG17 ([link](#))
- MWL: Ericsson, Canadian universities to tackle 5G security with AI ([link](#))
- NL Times: Chinese spies had access to Dutch chip maker NXP's systems for over two years: report ([link](#))
- KPN: The number of phishing attempts at companies increases tenfold in just one year ([link](#))
- Orange Newsroom: Security Navigator 2024 reveals highest number of Cyber Extortion victims ever recorded, with an increase of 46% worldwide in 2023 ([link](#))



## 🕒 Smartphones, Devices, Wearables & Gadgets

- CNBC: Inside Apple's chip lab, home to the most 'profound change' at the company in decades ([link](#))
- CCS Insight - Apple Embraces RCS: The Devil Is in the Detail and the Reason Is the DMA ([link](#))

## 🕒 AI, ML & Automation

- The 3G4G Blog: AI/ML and Other ICT Industry Trends in the coming decades ([link](#))
- The Fast Mode - Part 2: AI Impact on Wireless Networks and Wireless Consumers ([link](#))



- Telecom TV: AI to dominate telecom trends in 2024 – report ([link](#))
- Tech Brew: Google’s AI brainstormed thousands of potential new materials ([link](#))
- A5G Networks Blog - Novel Class Detection: Necessity and Significance in Machine Learning Applications ([link](#))
- Jinsung (Alex) Choi on LinkedIn: LLMQ\* as the Ultimate Network Operating System ([link](#))
- Jinsung (Alex) Choi on LinkedIn: GenAI Open RAN as-a-Service ([link](#))
- Jinsung (Alex) Choi on LinkedIn: GenAI in Building, Operating, and Providing Network Excellence ([link](#))
- Jinsung (Alex) Choi on LinkedIn: Super-Accelerated Computing and Networking for AI-Native O-RAN ([link](#))

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

- Spark New Zealand sends first satellite text message and announces plans for a network of satellite-connected cell towers ([link](#))
- Amazon: Project Kuiper will offer private connectivity into AWS, giving commercial and government customers even more flexibility, security, and control over their data ([link](#))
- Amazon’s Project Kuiper and NTT/SKY Perfect JSAT Form Strategic Collaboration to Bring Advanced Satellite Connectivity Options to Japan ([link](#))

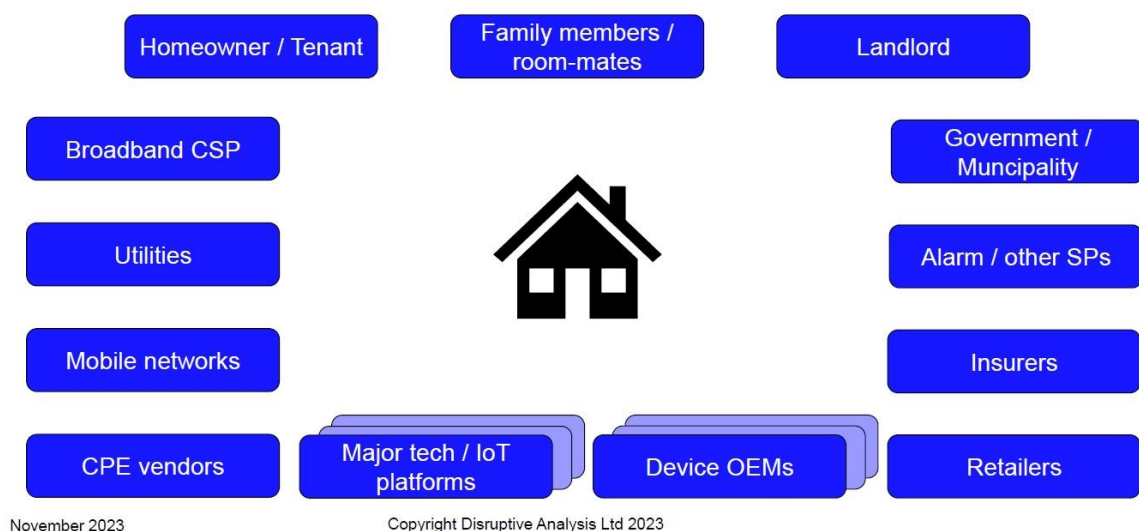
## 🕒 Wi-Fi

- Dean Bubley on Twitter: "Last week I spoke on a webinar run by Wi-Fi NOW Claus Hetting about the Smart Home IoT standard Matter, which is now a year old. It follows on from a report which I wrote much of the content for..." ([link](#))



**Disruptive Analysis**  
Don't Assume

## The smart home is a “multi-stakeholder” environment



## 🕒 Metaverse & Extended Reality (XR)

- Telecom TV: SKT forges new metaverse partnerships ([link](#))
- MWL: SKT boosts metaverse content deals ([link](#))

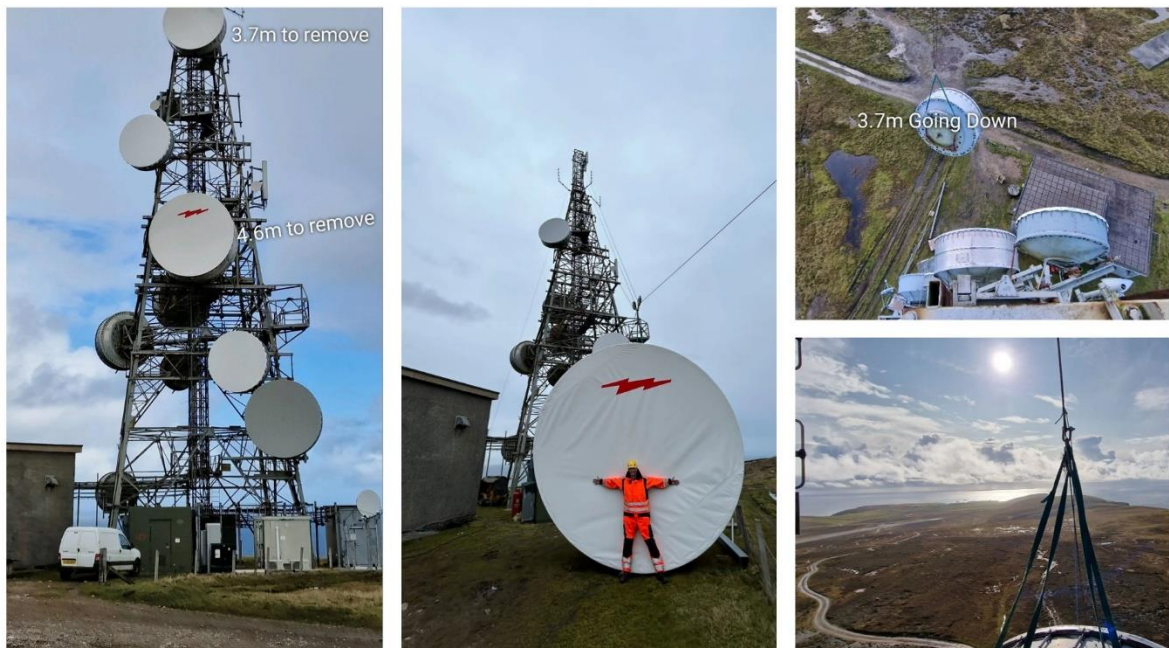
## ☉ Sustainability

- TMN: Elisa says operators can become power suppliers ([link](#))

## ☉ Other News and Technology Stuff

- IEEE Comsoc: Celebrating Women In Communications (YouTube [Playlist](#))
- Geoff Hollingworth on LinkedIn: De-mystifying APIs for Non-Engineers ([link](#))
- Toshiba developed a lithium battery that does not use cobalt and can charge 80% in 5 minutes ([link](#))
- Forbes – Tiras Research: Quantum Computing Is Coming Faster Than You Think ([link](#))
- James Crawshaw on LinkedIn: "NEC Corporation's investor day has provided an update on its Telecom Services business which includes Telecom Systems (networks), OSS/BSS (Netcracker Technology), IT Infrastructure/Business Service Applications, and Submarine Cable Systems..." ([link](#))
- Developing Telecoms: Has mobile money had its day in Africa? ([link](#))
- Singtel to develop Singapore's first Nationwide Quantum-Safe Network Plus for enterprises ([link](#))

☉ **Picture of the week:** This week's picture courtesy of James McDonald who shared their trip out to Fair Isle between Shetland and Orkney for 10 days to remove a 3.7m microwave dish and a 4.6m microwave dish from the Arqiva tower. Great pictures [here](#).



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](#).