

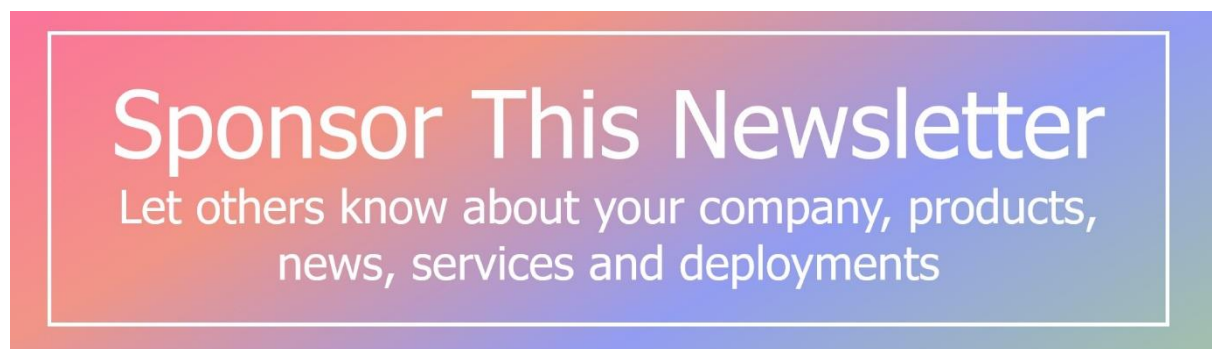
## Mobile & Wireless Roundup #30 (see original on [LinkedIn!](#))

By Zahid Ghadialy

Welcome to the 30th edition of this newsletter. Every time a generation of technology matures and the next generation is not ready, companies have to re-evaluate their strategies and as a result many people lose their jobs. I fell victim to these cuts during 3G and 4G days. Now many of the people I worked with in mobile cellular communications are going through the same fate with 5G deployments slowing and no 6G in the horizon.

There are quite a few challenges with 5G, many of which I have written about in various blog posts. The bottom line is that most operators are happy with 5G NSA Release-15. The adoption of 5G Standalone has been slow. This means that many of the advanced features that should be coming with 5G SA haven't yet seen the light of the day. The 3GPP standards are working on Rel-18 and have a list of items for Rel-19 but who knows when even Rel-17 features will be deployed.

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 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: Maximizing the Impact of European 6G Research through Standardization ([link](#))
- Connectivity Technology Blog: Next Generation Multiple Access – New Challenges & New Opportunities ([link](#))
- Ookla: Latency is the Next Frontier of Consumer Experience. Are You Ready? ([link](#))

### 🕒 5G

- Managing 5G Signalling Storms with Service Communication Proxy (SCP) ([link](#))
- Ericsson's Massive MIMO handbook 2022, First edition extended, is a valuable resource for anyone interested in RF ([link](#))
- 5GCoreNetSDK is an open source project that provides a set of APIs to access or provide services in 5G Core Network. The APIs are based on the 3GPP specifications and are implemented in Golang. ([link](#))
- Tefficient on Twitter: "The annual report from @Swisscom is full of criticism re. Switzerland's 5G build processes: "Customers complain about gaps in coverage, but at the same time

Swisscom alone has more than 2,000 outstanding objections to building applications for 5G masts."

[https://reports.swisscom.ch/download/2022/en/swisscom\\_geschaeftsbericht\\_gesamt\\_2022\\_en.pdf](https://reports.swisscom.ch/download/2022/en/swisscom_geschaeftsbericht_gesamt_2022_en.pdf) Swisscom currently covers 99% of the Swiss population with a basic version of 5G and around 74% with 5G+” ([Tweet](#))

### 🕒 4G/LTE

- Twitter discussion on Fixes Wireless Access (FWA) by Stephen Speirs ([Tweet](#)) – fantastic discussion on Tefficient [Tweet](#) as well.

### 🕒 2G/3G

- Total Telecom: Bouygues Telecom, the French operator, said it will shut down its 2G networks in 2026, followed by its 3G network in 2029 ([link](#))

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

- MWL: Mavenir takes open RAN to Paradise ([link](#))
- TIP: OpenRAN Orchestration Lab Testing Successful Completion ([link](#))
- Telecom Infra Project on Twitter: “One year ago, the TIP Community Lab in Indonesia opened. The TIP Community Lab was the first of its kind in South East Asia, but it’s already proven to be a worthwhile investment. Learn more: <https://telecominfraproject.com/clabs/#telecominfraproject#openRAN>” ([Tweet](#))



### 🕒 Small Cells & other Telecoms Infrastructure

- Light Reading – USA: The small cell waiting game starts again ([link](#))

### 🕒 IoT / M2M / Smart Homes

- RCR Wireless: Quickening scale with LoRaLAN, says LoRaWAN stalwart – TTI passes million mark ([link](#))

### 🕒 Security & Privacy

- A good summary of Expected Security Work by 3GPP SA3 in 3GPP Release-18 ([link](#))

## Expected security work

Topic	Motivation	Potential objectives
Edge	Based on SA2 and SA6 EDGE architecture enhancement: <ul style="list-style-type: none"> <li>• SA2 topic: System enhancements for enhanced edge computing support</li> <li>• SA6 topic: enhanced architecture for enabling Edge Applications</li> </ul>	<ul style="list-style-type: none"> <li>• Study the potential enhancements to the security procedures for roaming</li> </ul>
Real Time Communication (RTC)	Based on SA2's topic: The SA2 objective is to study the system architecture for the next generation real time communication services based on IMS enhancement requirements from stage 1.	<ul style="list-style-type: none"> <li>• Study the potential enhancements to the caller authorization and authentication procedures in order to provide more assurance to the callee during call placement</li> </ul>
Multicast and broadcast services (MBS_Ph2)	Based on SA2's architecture enhancement: <ul style="list-style-type: none"> <li>• Group paging with TMGI may lead to the leakage of group info and DoS attack</li> <li>• Enabling UE's receiving Multicast MBS Session data in RRC Inactive state</li> <li>• Study whether there are any identified performance issues for high number of public safety UEs</li> </ul>	<ul style="list-style-type: none"> <li>• Study the security issues and potential enhancements to the group paging procedure</li> <li>• Study the key management for UEs in RRC Inactive state</li> </ul>
Generic group management (GMEC)	Based on SA2's topic: Generic group management, exposure and communication enhancements, including group communication for a 5G VN which supports multiple SMFs.	<ul style="list-style-type: none"> <li>• Study the security issues and potential enhancement to protect the traffic pertaining to LAN groups</li> </ul>
Network slicing (FS_eNS_Ph3)	<ul style="list-style-type: none"> <li>• Leftovers from R17 eNS WID re-align to the SA2 R18 objectives</li> <li>• Enhanced support of NSAC based on SA2's involvement, e.g. roaming cases</li> </ul>	<ul style="list-style-type: none"> <li>• Continuation of the work on the NSAC procedure</li> <li>• Study the security issues and potential enhancements based on SA2 progress</li> </ul>
Location services (FS_eLCS_ph3)	Based on SA2's objectives: <ul style="list-style-type: none"> <li>• Usage of PRUs and a specific UE to improve the accuracy of positioning, and reduce the signaling</li> <li>• Some cases which are about the UE accesses 5G via satellite access</li> </ul>	<ul style="list-style-type: none"> <li>• Study how to authenticate and authorize the PRUs</li> <li>• Support network verified UE location and network controlled positioning</li> </ul>

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#Free5Gtraining
#3G4G5G

### 🕒 Smartphones, Devices, Wearables & Gadgets

- With Dual SIM Dual Active (DSDA) smartphone launches getting popular, it's worth refreshing the Multi-SIM Terminology & Jargon ([link](#))

### 🕒 AI, ML & Automation

- FutureNet World - Telefónica's network automation: the whole is greater than the sum of the parts ([link](#))
- DCD: Meta to cut data center spend by \$4bn, says new AI facilities will be cheaper & faster to build ([link](#))
- TIP RIC-Rolls OpenRAN innovation with RAN Intelligence and Automation (RIA) Group ([link](#))

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

- Telecoms Infrastructure Blog: Evolution of AT&T's Flying COW (Cell on Wings) ([link](#))

### 🕒 Wi-Fi

- Tbhaxor: Offensive Wi-Fi Security ([link](#))

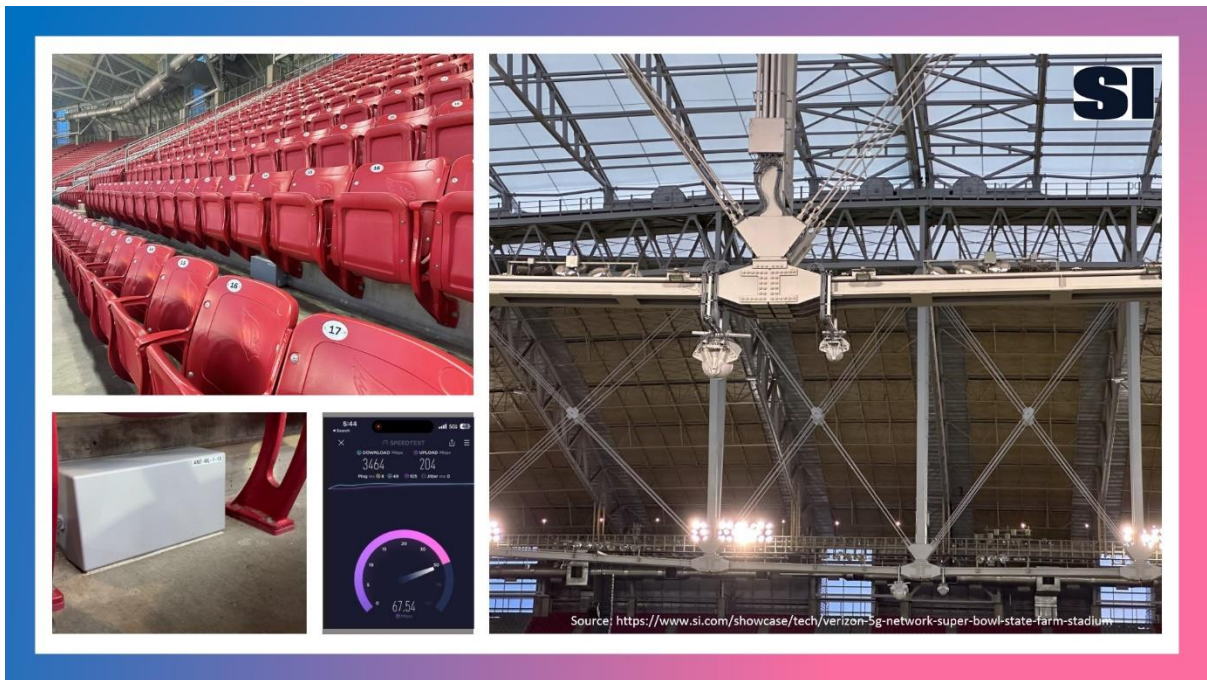
### 🕒 Sustainability

- Norton Rose Fulbright - Short update: the European Council adopts the Corporate Sustainability Reporting Directive (CSRD) ([link](#)) – you can also follow this discussion on Twitter [here](#).

### 🕒 Other News and Technology Stuff

- Nick Hunn: The Silicon Black Swan Event ([link](#))
- Chronos: Benefits of Multi-Band and Multi-Constellation GNSS ([link](#))
- A good summary of Interoperability testing (IOT) ([link](#))

📌 **Picture of the week:** The US operators invest heavily in making sure that the fan experience is the best for people visiting during Super Bowl. This [article](#) from Sports Illustrated details some of the Verizon infrastructure upgrade from State Farm Stadium in Phoenix, AZ, for Super Bowl LVII. You may also enjoy reading our old blog posts [here](#), [here](#) and [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](#).