



Saving Telco From Itself: Overcoming the Top 5 Challenges in 2024

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KEY THEME – ESSENTIAL BUT UNDERVALUED, 2024 WILL BE A KEY YEAR TO EMBRACE A SOLUTION MINDSET AND MAKE THE TRANSITION TO SOFTWARE DRIVEN SUCCESS

There are many industries undergoing their own transformation. Metal benders like the automotive manufacturers, industries including healthcare, pharma, agriculture – but one of the most wrenching and challenging industrial transformations is happening right now in telecommunications – or telco.

A common theme that is creating tension and challenges across all of these industries is the rise of software, silicon and the edge as critical enablers – whether it's the via disruption of AI, the re-working of operations around software development, deployment and support, or the deconstruction of proprietary tech stacks into “open” hardware, software, and services combinations. These are causing not only business aftershocks but also cultural upheavals within these industries, and tremendous opportunities for companies that help them through these transformations.

And perhaps no more profound is this transformation than in the telco industry, which has a long history as quasi-governmental utilities that deliver essential connectivity 24 hours a day, 365 days a year . . . for decades. They are forever in our pockets, and our pocketbooks, connecting our home offices, our businesses, and more recently our vehicles and our equipment. They are essential yet they have perpetually struggled to be more than a “dumb pipe.”

Historically, telcos struggle with the pace of change that is associated with tech companies. When you run an essential network 24/7/365 for decades, and you derive the vast majority of



your revenues on subscriber add, you build up processes and cultures that are extremely cautious to the kinds of risk-taking and pre-emptive efforts that successful tech companies have to embrace. After you spend billions on spectrum, you are biased to make conservative bets, count your new subscriber metrics, focus on your SAC and churn, and provide predictable returns for your shareholders.

With the advent of the multiple technology innovations of 5G, although arguably one of the most over-hyped technologies in a decade, telcos expected to finally break the “dumb pipe” curse and transform themselves from telcos to “tech cos” – and some actually have, with varying success. But most didn’t - yet - and now the infrastructure and technology providers selling into telcos and selling into that 5G promise are struggling as well.

How does the industry “save telco from itself” and successfully transform? Here are five key areas:

- 1) **Own a solution mindset**; Decades ago, people paid for a dial tone. No more. Connectivity in and of itself, is a commodity. APIs are an ingredient. Architecture is a means to an end. Businesses are looking for technology solutions, not chemistry sets.

In some cases, this means telcos should act as a supporting partner in services that customers want. In other cases, it means having commercialized and integrated solutions readily available for customers to deploy. Now is the time for a telco to pick a lane – either solve your customers problems by being the most efficient and performant smart pipe or be a well-integrated and commercialized solutions provider with connectivity as your superpower.

This solution mindset is much easier said than done and requires investments in not only product but also people and processes, including not just defensible product innovations but also flexible and partner-centric sales operations, partnership strategies for co-engineering, and the ability to make big bets over the long term.



A good case study here is Telstra. Although they originally date back to 1901 as the Postmaster-General’s Department, and ultimately as Telecom Australia, they had the foresight to invest in a solutions mindset and positioned themselves as the largest technology company in Australia that also underwrites solutions across Australian industries, with many solutions including WiFi connectivity as well as cellular. They now power a wide range of solutions across Australia, including innovation edge AI solutions

that leverage 5G as well as LPWA capabilities.¹

- 2) **Invest In Software Excellence.** Software had traditionally been a hidden asset at telcos. It's been embedded in proprietary equipment for decades, but it's been there. It's been an essential part of handset and UE (user equipment), although telcos have traditionally been more focused on certifications and the FOTA process more than the software itself.



That's changing. Being able to embrace software as a differentiator is crucial. Not only is it becoming fundamental to virtualizing the network and software-based packet cores, but it's also essential to AI driven processes and secured and optimized user equipment across the edge. However, not all software has the same leverage. We've also seen softness in demand for developers to use network APIs from Ericsson and others – there is a place for it – it does add value, but it's not the panacea.

When we say, “invest in software” we don't mean “buy software.” We mean invest in not only developing software, but deploying, maintaining, and supporting software using cloud native devops. This not only strengthens telco operations and innovation, but also help onboard and procure software at the right levels in the stack with the right functionality. It's a hard lesson that automotive manufacturers are struggling with as well – every company, including telco, needs to be a software company.

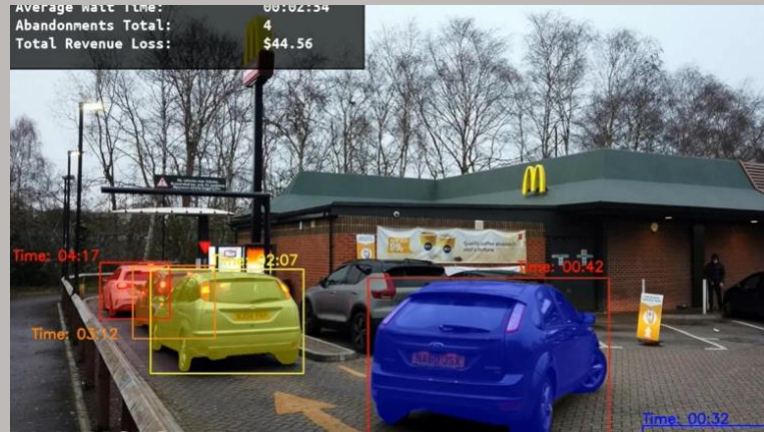
An interesting example here is Singtel with their Paragon platform² – a full suite of software capabilities for multi-cloud management network slicing and solution on-boarding.

¹ [Telstra Spatial Insights™](#)

² [Singtel Paragon](#)

- 3) **Embrace the Edge.** Edge computing is providing a critical opportunity for connectivity providers like telcos. The “digital solution plane” is becoming deconstructed to include the public cloud, network edges, and on-prem equipment, including sensors that can run their own AI workloads.

Inasmuch as we conflate edge with latency, it’s not always about latency. “Latency is currency” is a great maxim but the value prop for edge goes far beyond low latency. Edge capabilities don’t necessarily mean edge equipment in telco cages – but it could mean edge equipment on-prem that acts as a secure and logical extension of the cloud through telco connectivity, giving business the flexibility to process workloads “locally” and mitigating hyper-scalar costs while maintain data sovereignty.



Solving problems that intelligently use the edge will drive new connectivity – and not always cellular – but it will drive best cost routing, CAPEX/OPEX leverage, business model innovation and inherently reinforce the telco as a trusted solution partner for business.

An interesting example is Softbank, who is partnering with NVIDIA to build out distributed edge AI Factories across Japan.³ It’s a bold bet to own a key dependency – not without huge risks – but a way to own a highly optimized part of the infrastructure that leverages connectivity as well as AI compute.

³ [SoftBank Teams Up With Nvidia to Create Advanced AI Data Centres in Japan](#)

4) **Follow The Gravity of Open Architectures.** There has been a lot of hand wringing about the move from D-RAN to C-RAN to V-RAN to O-RAN. Those are significant transitions for an industry that can struggle with change. It all makes logical sense in the long term. But admittedly, that doesn't mean that telcos need to rush to singularity tomorrow. Aside from some outliers/challengers, we expect to see more O-RAN adoption in private 5G before major telcos make the switch, but every telco needs a plan to get there, because that's where the gravity is.

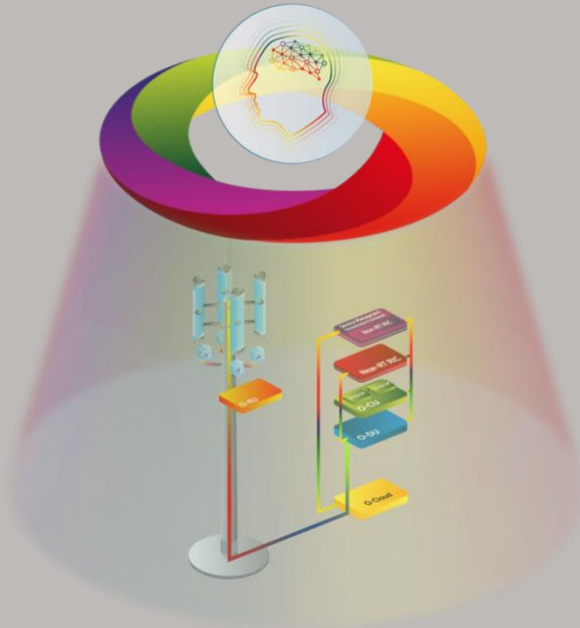


Figure 1 - courtesy of the O-RAN Alliance

In a similar vein to open architectures for the network stack, other open architectures need to be embraced by telco, like cloud native DEVOPS and MLOPS. Orchestration that leverages Kubernetes is a crucible for telcos and the ability to embrace cloud developers, and leverage their CI/CD process, as well as the ability to orchestrate workloads across the edge, will be a key success factor to cost-optimize their operations, deeply embed AI into those operations, and frankly, just move faster.

- 5) **Dial Down The Futurama.** There should be some lessons learned and a reset on the metaphoric vision videos of jetpacks, flying cars, and living on the moon. How do telcos get better at explaining how we get from here to there and how businesses can accurately forecast and plan for connectivity technology that solves their problems?

The telco industry is a foundational asset of society that is challenged, and yet these challenges – which are themselves opportunities - are offset by tremendous demand by consumers, students, workers, and industries that must be connected.

Hence, the paradox of the business results – there is a good debate as to how much impact 5G has had on decidedly declining ARPU⁴. Certainly, new innovations in 5G standards are opening the potential to mitigate telco over-reliance on subscriber adds as a primary metric for success. In some cases, there has been an ARPU bump. In others, the jury is decidedly out.⁵ However, recent business results from telco infra suppliers and telcos themselves have not painted the rosy picture that we expected back in 2019.



Through these opportunities, some telcos will “embrace their lane” and succeed. Therein lies the opportunity for infrastructure, software, and equipment providers to help these telcos meet this demand with commercialized solutions, open platforms, and the partnerships they require.

We don’t need telcos to help us escape to the future, but rather we need them to embrace the revolution happening in edge, semiconductors, software, AI and open architectures, and figure out a way – operationally and culturally - to save themselves from their own inertia and transform their commercial customers in the process.

⁴ [5G adoption and mobile ARPUs: is there a connection? \(gsmaintelligence.com\)](https://www.gsmaintelligence.com)

⁵ [5G alone is unlikely to be sufficient to drive mobile ARPU growth \(analysismason.com\)](https://www.analysismason.com)