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How Telco Sees the Gs



How Others See the Gs



One ring to rule them all or one world of many rings that rules everything

Why 6G Reset and why I support



Geoff Hollingworth

Not a normal CMO. Rakuten Whisperer. Rakuten Symphony



October 7, 2024

Introduction

This is me speaking. Not a company, not a vested interest on behalf of somebody else.

Just me.

I have lived through every G from 2G onwards. We did not call it 2G in those days. That should give you a clue as to the importance we placed on "Gs" back when the industry was delivering on the biggest unsolved basic human need - the ability to communicate from anywhere.

We then needed to manage a narrative, and we invented the Gs. And at some point the narrative included that Gs should have an average cadence of 10 year deployments. This came from a natural cadence at the time, driven by the industry's capacity to afford and need upgrades.

But what happens when the world changes around you? What happens when you do not adapt to the changing world? That is where I feel the industry is and that is why I am happy to support any initiative that can try to guide the industry back to doing what it is unique in doing - orchestrating the world to be more connected and enabling the world to maximize the value of that connectivity, as defined by those we serve not us who are serving.

I believe in the power of telecom. I have seen it change so much in my lifetime. But the only people that think it is the center of the world are people in telco. That does not diminish its role in the past or even now, but it does require acknowledgement and support of the children it has given birth to, that would not be alive today without its existence.

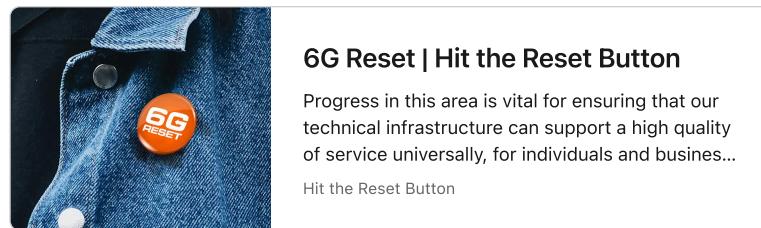
The children of telecom are the internet, broadband data, smartphones, the app economy, and now the new generation just reaching maturity - "Gen. AI". The telecom parent is still fundamental and increasingly important, but its role has changed and we need to acknowledge this.

This article intends to give my perspective on why a 6G reset is so important, not only for the industry, but to accelerate the next generation of children and have them fully grow and flourish. The strongest parents are the ones that can let go but grow alongside their children, not feel diminished by them.

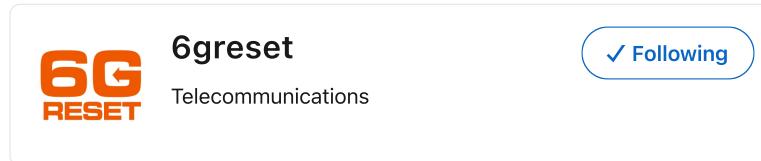
Telecom has so much to offer that is suppressed by habit and history. The need for change lies with all stakeholders - service providers, governments, and vendors. All need better outcomes versus what we see today. It is the perfect storm and the perfect time for change.

If you feel similar to myself then please follow, join, contribute to the 6G reset narrative.

For more background see here



We shall collate all posts and articles we think are relevant on the **6G Reset LinkedIn page**, to increase collective knowledge. Please tag any relevant post you see or make with the **#6greset** hashtag so we can collate all on behalf of those interested.



For people who really want to engage and potentially participate in live discussions then please request to join the LinkedIn discussion group [here](#).

There are simple rules of engagement:

1. All people represent themselves and not their corporate interests.
2. All interaction is constructive and polite engagement - we are here to collectively solve problems.

There is no hidden agenda here, other than the desire to return the industry to be a growth industry. This does not mean becoming what we used to be, but we need to decide what we want to be. The nucleus of this narrative has started with so many people and so many conversations. **Three of us** have made this space but do not own it and do not agree much of the time. This is a loose of collective of honest and diverse voices. We believe in open discussion leading to best outcomes and we hope if enough collective voices can discuss, a better conclusion can be arrived at by those with the power to reshape the future.

The rest of this article is a random collection of thoughts stating where I believe the challenges and opportunities lie and what we need to overcome to return to a growth industry in the middle of a growth ecosystem. Currently we watch from the side as many feel we pay for other people's growth. People who look backwards try to tax the past, leaders look forward and try to grow the future.

One network ubiquitous coverage is a false prophet

The standards work is peppered with advanced capabilities that are only applicable if ubiquitous coverage exists. This is given as a pre-existing condition.

There has never been ubiquitous coverage and there never will be. IF we come close to ubiquitous coverage it will be from the melding of many network technologies not just one version of one specific implementation e.g. 6G. This is increasingly clear as advancements happen around 3gpp networks with improving performance with new Wi-Fi generations and radical advancements in LEO based satellite technologies.

Why do we focus on implementing complexity into the access network of one version of one type of network?

A new definition of ubiquitous coverage

I believe there has to be a new more nuanced definition of ubiquitous coverage, one that is based in the needed outcomes of the needed business outcomes.

For example

1. A completely private 5G/6G network for ports, mines, extreme coverage scenarios, where devices are specially designed, connected to the one specifically engineered network and "normal devices" are not present.
2. Distributed locations requiring both support of both specialist and consumer devices, such as hospitals, manufacturing facilities, automated retail operations.
3. General office space requiring support of generic consumer and business devices such as smartphones, laptops, building automation devices.
4. Wide area coverage solutions (such as those provided by mobile network operators today)
5. Government incented "wider area" coverage solutions that include social responsibility non-economical rural coverage, and "not-

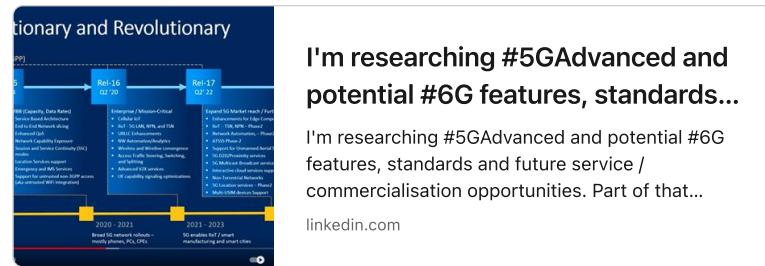
spot" lower income coverage areas.

I know this is a very naive list. It is not complete or consistent, but I believe the idea of a list is very important, more important than "use cases for all". To have each stakeholder define their own needed outcomes in alignment with others in the same space. Today we have misalignment of stakeholder outcomes from technology solutions and offerings. We are trying to solve everything with one solution that does not map to the landscape and context of those we are trying to solve for.

Let us standardize the brilliance of the access network as one equal citizen of many access network choices and allow each stakeholder community to innovate in their own unique spaces and industry cadence. This is how technology evolution is happening around telecom and having faster outcomes and larger impacts. Trying to punch through with one network technology as the answer also feels naive.

Standards improve business not define it

In the world we were born patents were secondary. Technology delivered on commercial needs rather than the technology tail wagging the dog in the hope of being fed. Standards lower differences when technology wants to be duplicated across supply from many vendors. They are not a gatekeeper in modern software solutions however. Rakuten Mobile built an Open RAN network in parallel to the standards being defined. Software shims were applied to enable traditional RAN radios to be used in a consolidated Open RAN operating model (CPRI <--> eCPRI). The internet is built on such practice allowing different webapps to run on different browsers with very different levels of standard support. And the presence of functionality in standards is very different from vendor implementation and service provider deployment. As pointed out in this post by [Dean Bubley](#).



The brutal truth is that only 20% of a telecom operation is **standardized** and within those standards there will always be requirements to ensure implementation compatibility between different vendors. Yet we behave as if we cannot move until standards are agreed, finalized, and brought collectively to market. We make it work in the other 80%, we should make it work everywhere.

For an interesting smell of a different perspective it is good to look at what [Qualcomm](#) is proposing with respect to the future core, and how functionality could be better served moving capability to the device and from the network.



6G foundry: Rethinking the control plane

By adopting a user plane-first design strategy for network services and leveraging the design principles of the Internet, we can create a more...

qualcomm.com

"The limited success of 5G-based control plane services poses obstacles to operators wanting to address promising new business opportunities" - [Gavin Horn, Sebastian Speicher, Miguel Griot](#).

Contact the above authors and [Dean Bubley](#) (who attended a related Qualcomm presentation) for more insights.

All animals are equal, some animals are more equal than others

Standards work is an expensive highly expert job. It is a volume people business. It is very hard for new entrants to build the influence required to ensure new voices are heard. Change happens despite the wishes of the collective not because of it, unless the change happening is in service of the historical collective. There is nothing evil about this, it is a natural response of any business performing to its defined task - efficiently executing the known business model.

I applaud this [provocative post](#) by [Alok Tripathi](#) for nothing more than stimulating a response in an area very little discussed. I applaud all subsequent comments.

One such very good comment from [David Lake](#)

"The problem we are facing is this problem of multiplying parallel infrastructures. In the 5G world, it is absolutely impossible to have economic returns on so many networks built in parallel," said Vodafone's CEO at MWC2024. "So why have multiple parallel infrastructures? We don't in roads. We don't in rail. We don't in electricity. We don't in gas. We don't in water. We don't in terrestrial TV and radio. We have a shared model where the infrastructure is owned in-common (my preference is state-owned as in the UK rail network but it really doesn't matter and the UK power grid is owned in a federate manner)."

and in response from [John Francis Nolan](#) - "Read this..."

fmn 401 UK Fibre ver Final.pdf

Fibre deployment within UK access networks – some observations Jul 23 John Francis Nolan BEng, CEng, MIET, SMIEEE Dr. Christopher John Li...

firstmilennetworks.co.uk

Is this a discussion we are having in the any of the standards discussions? - the basic discussions of wanted deployment topologies?

Does this, should this affect standards direction? Should this discussion be more prominent if it does exist? Is it a right model, a wrong model? This feels much more economically relevant than speaking about XR, or network sensing, which both might happen and if they do, are more likely to be driven by the market than the standard.

The market and new entrants cannot change what is happening. So the market and new entrants will go around it, like they did starting in 3G, accelerating in 4G and the trajectory will increase in 5G, 6G if there is no change. Full scale deployment of eSIM and similar technologies will further dislocate core telecom network technology from the customer:



eSIM, telecom and the cliff

When did customers stop mattering? When did we start taking them for granted? The existing ones that pay our bills. When did we assume they woul...

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Are we seeing this to some degree already with the slowing deployment of new technologies due to lack of market demand or understanding? This might magically change but it feels structurally more and more unlikely. Traffic will grow, new use cases will appear, but they will be unevenly spread, localized and very specific to the owners of the wanted outcome. The best place to see the future traffic patterns and potential network impacts are with the appearing design patterns for AI data pipelines and supporting distributed computing frameworks and operational models. This further supports the earlier narrative of clear owner outcome definitions and appropriate standards behaviour for each.

We as an industry need to ensure future needs are being met by our future networks. The change is not going to stop and the risk is that change will continue to not include telecom other than where necessary and increasingly telecom will continue to end up where it did not want to be - on the outside.

The market always wins, customers always decide winners.

Telecom is full of the smartest people on the planet. We need to decide what problems we are solving realistically and then we can apply our collective intelligence effectively.

([Alok Tripathi](#), [James Crawshaw](#), [David Lake](#), [John Francis Nolan](#), [Neil McRae](#), [Remy Pascal](#), [Evgeny Shibanov](#), [Ike Alisson](#), all others - hope to see "you being you" in [6G Reset](#)).

I stop here...

Changing the 6th generation of something is not easy. None of it is from the bad intention of any entity, person or company. We can decide if the results are bad, but we have to predict the proposed outcomes and define our costs and our eventual success or failure by those metrics.

Incentives, in existing businesses or careers do not reward change especially if it involves destruction of the core or additional risk without reward, so change is hard. You have to eat the billion dollar elephant one

(7) Why 6G Reset and why I support | LinkedIn
 dollar at a time unfortunately. It is how **Google**, **Amazon**, (and **Rakuten**)
 all started.



Eat a billion dollar elephant one dollar at a time

Startups discover business models, companies industrialize a proven business model.

All governance, process and management mechanisms in any established business are designed to maximize the delivery efficiency of the known business model, not a new business model. And discovering a new business model is not efficient, not predictable and often not aligned with the existing business.

It is also not the role of standards to standardize everything.

But somehow it feels like we are trying to standardize to the nth degree what would be better solved in the market, and we are trying to standardize at the speed of the pigeon rather than the fiber.

Please share your honest voice in **6G Reset**.

Please be respectful of others.

Please be you.

#6Greset

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60 · 31 comments · 1 repost



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Gareth Price-Jones (PGCert BA) · 1st
 Strategic Consultant | Experienced ICT Professional | bri...

Geoff great piece, one thing in here that really resonates with me is the over reach of standards. The attempt to standardize industries that use networks and to make the next G the centre of the universe for all applications just dilutes the value that standards have brought. GSM united most of the world and 4G united the rest of the world to ...more

Like · 2 | Reply · 5 replies

See previous replies



David Lake · 1st
 Senior Access Network Architect

Gareth Price-Jones (PGCert BA) Sorry - sense of humour is on the blink at the moment (for various other reasons...). I was part of a group in ITU-T called 'H.325 - AMS' which was trying to build an IMS-like system for the entire Internet. Face/Palm.

...more

Like | Reply



James Crawshaw · 1st
 Telecom technology analyst

In defence of pigeons, they are one of the fastest species of bird with recorded speeds over 100mph, albeit somewhat slower than light. Pigeon communications reminds me of the myth about Nathan Rothschild learning the outcome of the battle of Waterloo ahead of other bond traders in London and making a killing by buying bef ...more

Like · 3 | Reply · 2 replies

See previous replies



David Lake · 1st
 Senior Access Network Architect

Geoff Hollingworth RFC 1149 and RFC 2549.

Like · 1 | Reply



Carlos A. Ramos · 1st
 Principal Data Scientist Consultant | MBA | US Air Force Veteran | ...

Excellent!! Having been involved in telecom / wireless from 2g to 4g 20+ years with heavy deployment experience over our world, in year 2018 I decided to focus on my passion which is programming. Before AI and the Python revolution today.

...more

Like · 3 | Reply · 4 replies

See previous replies



Carlos A. Ramos · 1st
 Principal Data Scientist Consultant | MBA | US Air Force Vet...

Geoff Hollingworth agreed! Also god bless your parents

Like | Reply



Dean Bubley · 1st
 Tech Industry Analyst & Futurist | Influential advisor & sp...

Great post.

One extra piece of the puzzle that is important is the collection & proper analysis of how networks are used and why/where. There needs to be enough granular detail for proper decisionmaking & policy ...more

Like · 8 | Reply · 2 replies

[See previous replies](#)

 **Geoff Hollingworth**  Author (edited) 10mo ...
Not a normal CMO. Rakuten Whisperer. Rakuten S...

Dean Bubley hey - at least the tunnel worked! 😊

[Like](#) | [Reply](#) | 520 impressions

 **Gustavo Costa**  1st Wireless, Protocols and Software Systems Expert | Entrepreneur | ... 10mo ...

Wow. That is quite a post. Thanks for it.

>> Distributed locations requiring both support of both specialist and consumer devices, such as hospitals, manufacturing facilities, automated retail operations. [...more](#)

[Like](#) ·  2 | [Reply](#) · 1 reply

 **Geoff Hollingworth**  Author (edited) 10mo ...
Not a normal CMO. Rakuten Whisperer. Rakuten Symphony

I find it interesting how many of these real world examples people like us in the industry experience, where we have the knowledge to ask why and understand something is not working the way it should. It would be a good case study just to understand why. There will be good reasons, the question is what we can le. [...more](#)

[Like](#) | [Reply](#) | 167 impressions

 **Mohammad Yasin**  1st Problem Solver | Solutioning | OSS | Digital Transformation | 5G | ... 10mo ...

"G"reat Post with a "G"allant Idea accompanied by "Genuine" intent, presented "G"racefully covering telecom "G"alactic and I am "G"rateful for it. My first **#6Greset** small contribution to start with a **#6G** comment.

[Like](#) ·  2 | [Reply](#) · 1 reply

 **Geoff Hollingworth**  Author (edited) 10mo ...
Not a normal CMO. Rakuten Whisperer. Rakuten Symphony



[Like](#) | [Reply](#) | 113 impressions

 **Magnus Furustum**  1st Product business excellence | Business and digital transformatio... 10mo ...

Interesting perspectives Geoff!

[Like](#) | [Reply](#)

 **Gilbert Relou**  1st Strategic Advisor | Mobile Innovation Leader | Telecom Transform... 10mo ...

Telecom can be resilient when it embraces innovation on top of its own core values.

I recently made a comparison to the 'New Norm' introduced by the IOC which reimagines how the Olympic Games are organised. Taking values like partnership, efficiency and sustainability into account to lim. [...more](#)

[Like](#) ·  1 | [Reply](#)

 **Dr. David Soldani**  1st SVP Next Generation Advanced Research @ Rakuten Mobile, Inc. ... 10mo ...

Geoff, I couldn't agree more. Here my vision:

https://www.linkedin.com/posts/dr-david-soldani_5g-6g-cloudnative-activity-7249282082416271361-U9vF?utm_source=share&utm_medium=member_desktop [...more](#)



David Soldani on LinkedIn: 🌟 My vision on how to rethink xG networks. By decoupling worklo...
🌟 My vision on how to rethink xG networks. By decoupling workloads from the cloud-native platform an...

[Like](#) ·  1 | [Reply](#)



Timo Jokiah · 2nd
Telecom Technologist

10mo ...

Very nice opinion piece Geoff, I always like what you write.

[Like](#) · 2 | [Reply](#) · 1 reply



Geoff Hollingworth Author
Not a normal CMO. Rakuten Whisperer. Rakuten Symphony

10mo ...

Thank you

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David S. Wu

2

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