

**“The crucial problem isn’t creating new jobs.
The crucial problem is creating new jobs that humans perform better than algorithms.”**
- Sapiens author Dr Yuval Noah Harari

Welcome! Once again, we have been reminded of the potency of the interest rate lever. NASDAQ is down 30 percent. Even more amazing is that the median⁽¹⁾ stock was down 70 percent. When you combine war and energy issues to the mix, now is when smart companies and leaders take advantage of the global storm and ride through the other end much stronger. Example: three recent cybersecurity unicorns let go of over 1,000 employees. They are up for grabs!



I enjoyed hosting and presenting at two client events in June:

- “Everything you always wanted to know about SASE* (*But were afraid to ask)”
- “Rise of the MSP – disruption in an evolving technology landscape”.

A press release issued the day after the second highlighted one important conversation from the event: “Qantas calls time on IBM, Fujitsu in tech modernisation, in addition to ending its relationship with Telstra” [LINK](#). How times have changed.

This month we feature space technology and why two key advancements are enabling it to have a transformational impact on global internet connectivity. We have added a new section – a curation of standout product announcements with brief personal insights.

(1) Median is the middle number in a sorted, ascending or descending, list of numbers

Previous Newsletters, including this one, are available on our site in pdf [HERE](#)

CONTENTS:

- Space:**
 - Space technology advancement – not ‘pie-in-the-sky’
- AI:**
 - Photography’s second Kodak moment
- New Products:**
 - Standout Product Announcements *NEW*
- Innovation:**
 - Investment in marketing versus investment in research & development
- Maths:**
 - Math crazy - Cesàro sum
 - Gödel’s unresolvable paradox
- Book:**
 - Multipliers. How the best leaders make everyone smarter

Space technology advancement – not ‘pie-in-the-sky’

Nearly 3 billion people (37 percent) are still offline. 90 percent of the world’s surface has no access

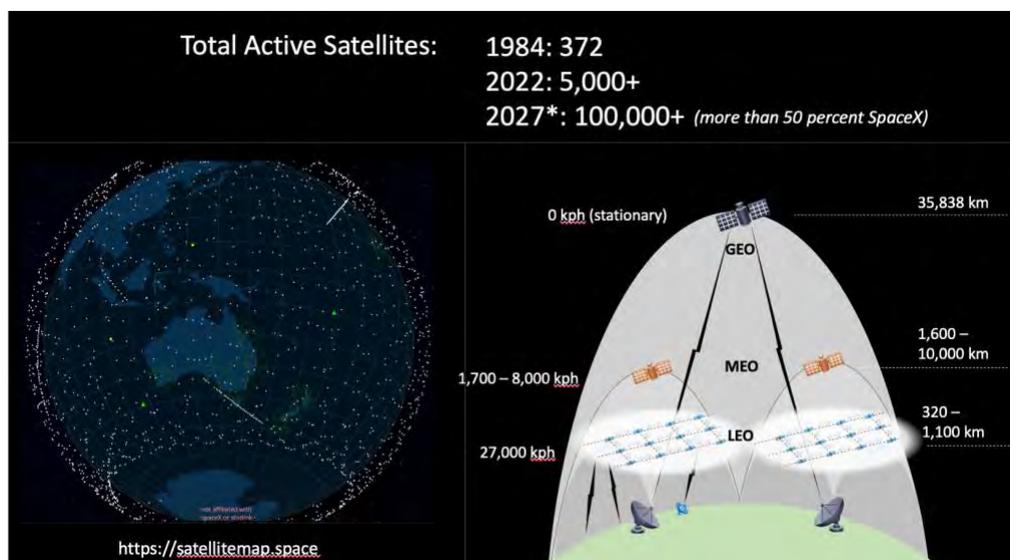
– April 2022 [LINK](#)

This is expected to change rapidly.

Recent advances in space technology are having significant impact on earth, from geopolitics, defence, telecommunications to energy generation (yes, solar generation from space!).

In acknowledgement of the growing importance of space, the Australian government established a new Defence Space Command in mid-January, with space being recognised as a fifth war fighting domain alongside air, maritime, land and cyber. The inaugural Defence Space Commander is Air Vice-Marshal Cath Roberts.

Until the early 2000s, the space industry was dominated by government and defence. Along came a host of new private commercial companies such as SpaceX, Blue Origin, Fleet, Starlink, OneWeb and Swarm. The changes have been swift and broad.



Live satellite map (June 2022). Low Earth Orbiting (LEO) satellites operate at about 600 km, non-geostationary

Two converging advancements have created an inflection point in space broadband connectivity:

- Rocket re-use - lowering cost from over \$85,000 per kg in 1901 to \$951 now, and as low as tens of dollars per kg by 2040
- Low earth orbit (LEO) technology - reducing satellite size and cost, connectivity cost and latency (latency getting below 20 mSecs)

LEOs operates at around 600 km from the earth surface and are not stationary. GEO satellites operate at 36,000 km and are geostationary (see diagram).

The numbers are astounding. Whereas in 1984 there were only 374 active satellites, today there are over 5,000 and this number is expected to swell past 100,000 in 5 years. [CommsDay 16.6.22]

The global stakes are high. Countries including UK, USA, Europe, China and Russia all have plans from the highest political levels to develop space technically, commercially and geopolitically.

The impact of Space 2.0 on the global internet will be significant and rapid.

Photography's second Kodak moment

DALL-E 2, from OpenAI, is a new AI system that can create realistic images and art from a description in natural language. [LINK](#)

Imagen, from Google, is a text-to-image diffusion model based on AI, with an unprecedented degree of photorealism and a deep level of language understanding. [LINK](#)

The art of creating images (and soon videos) is about to change forever. Models like Dalle-2 and Imagen will enable us to create images in a profoundly simple new way. With a verbal command, they (already) enable powerful capabilities that can do the following:

- Realistically edit and re-touch photos
- Fill in or replace part of an image with AI-generated images that blend seamlessly with the original (referred to as "in-painting")
- Take an image (eg portrait) and change the angle or style or lighting
- Create an image of a room. Furnish the room. Change colours, furniture, position – just ask it.
- Make inferences like 'show street after hurricane'

ImagenAI, a relatively new Israeli company, sells a personalised AI editing assistant. As an extension in Adobe Lightroom, ImagenAI learns your photographic preferences (or you can use expert preferences) and can automatically adjust your photo library including aspects such as lighting, focus, cropping etc. at a few cents per picture. [LINK](#)

Until the smartphone, photography was characterised by single-purpose cameras that captured images on film which could be printed on paper coated with specialised light-sensitive chemicals. Kodak, then the world leader in photographic equipment, didn't see the smartphone coming and its demise was swift. This inflection point has often been referred to as the industry's "Kodak moment".

Are models like Dalle-2 and Imagen signalling the next "Kodak moment"?



"An art gallery displaying Monet paintings. The art gallery is flooded. Robots are going around the art gallery using paddle boards." (L: Imagen, R: DALL-E) [LINK](#)

Investment in marketing versus investment in research & development

[LINK](#)

“The best way to make things better is to make better things”

For every vehicle sold, this is what popular brands spend on ads to sell one car:

- Tesla \$0
- GM \$394
- Toyota \$454
- Ford \$468
- Chrysler \$664

This is how much each brand spends on research and development per car they sell:

- Chrysler \$784
- GM \$878
- Toyota \$1,063
- Ford \$1,186
- Tesla \$2,984

It’s right out of the Apple text-book - “The best way to make things better is to make better things”.

Standout Product Announcements ***NEW***

Company	Category	Announcement	Link
Apple	Portfolio	Announcements at WWDC22 across operating systems, software, silicon, security and laptops, plus updates to platforms like CarPlay and SharePlay.	LINK
	Passwords	Replace passwords with new Passkey - a common password-less sign-in standard created by the FIDO Alliance and WWW Consortium <i>*Love this - now please address battery life!</i>	
	Finance	Apple Pay Later <i>*Walks like a duck, quacks like a duck (bank)’. Knockout blow to industry</i>	
Cisco	Portfolio	Announcements at Cisco Live 2022 across the portfolio <i>*Shifting from speeds-and-feeds to customer experience</i>	LINK
	Switching	Integrating Catalyst, Nexus switching portfolios into Meraki cloud management <i>*Huge switch base. Everything is going cloud including control, security</i>	
	Security	Global, cloud-delivered, integrated platform delivering secure access & connectivity <i>*Good move, better late than never</i>	
	Observability	AppDynamics Cloud, a cloud-native observability platform for modern applications <i>*Observability important. Integrated full-stack still illusive</i>	
	Webex	A Ford Mustang Mach-E previews Webex Meetings in-car capability <i>*Interesting innovation between Cisco and Ford – watch the video</i>	LINK
Google	Mobile	Private cellular network service portfolio <i>*Another hyperscaler providing more telco services. Telcos watch out!</i>	LINK
Juniper	SASE	Juniper's 'Full-Stack' SASE Is Here With Native CASB, DLP <i>*Better late than never. Claims of being first are questionable.</i>	LINK
Starlink	Broadband satellite	Starlink Premium tier offers speeds 150 - 500Mbps with 20 - 40 mS of latency <i>*Performance x2 cost x5. Expensive but significant announcement</i>	LINK

Math crazy - Cesàro sum

The following is an example of what is famously known as a Cesàro sum:

$$\begin{aligned} S &= 1 + 2 + 4 + 8 + 16 + \dots \\ S &= 1 + 2(1 + 2 + 4 + 8 + \dots) \\ S &= 1 + 2S \\ -S &= 1 \\ S &= -1 \end{aligned}$$



Here is the flaw: we cannot assume the sum of all those numbers to even have a value. For example, when we say $S = 1 + 2 + 4 + 8 + 16 + \dots$, we are assuming that they have a fixed sum as B. Only because we made that assumption, can we make these crazy examples that make no sense. [LINK](#)

Gödel's unresolvable paradox

Mathematicians used to believe that every true mathematical statement can be proven. But mathematician Kurt Gödel (pictured) first showed that there is a gap between the truth and the proof. Here is a simple example:

"This statement is false"

Is this statement true? But that will make it false! And if the statement is false, then it is true! This creates an unresolvable paradox. Before Gödel, we believed that mathematics cannot give rise to contradictions. Gödel showed that there are true statements that cannot be proved. [LINK](#)



Multipliers. How the best leaders make everyone smarter

By Liz Wiseman with Greg McKeown [LINK](#)

"It has been said that after meeting with the great British Prime Minister William Ewart Gladstone, you left feeling he was the smartest person in the world, but after meeting with his rival Benjamin Disraeli, you left thinking you were the smartest person"

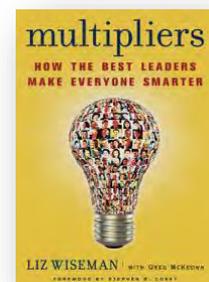
Bono, "The 2009 Time 100: The World's Most Influential People", Time 11/5/2009

While at Cisco, Liz Wiseman's book so inspired me that we bought a copy for every people leader – first in Australia, then around the world. With talent shortage as it is, the topic could not be more pertinent.

We have all experienced two vastly different types of leaders. The first type drains your enthusiasm, batters your self-esteem, drains your energy levels and are generally not someone you really want to spend any more time with than necessary. This type diminishes talent and commitment.

The second type of leader is the complete opposite – they inspire, motivate and activate capabilities that even you didn't know you had. These leaders draw you in, you want to be around them, and they amplify your energy and ability to contribute. When they walk into a room, ideas flow and problems get solved. These are the leaders who inspire employees to stretch themselves to deliver results that surpass expectations. These are the Multipliers.

Liz Wiseman explores these two leadership styles. She has identified five disciplines that distinguish Multipliers from Diminishers. These five disciplines are not based on innate talent; indeed, they are skills and practices that everyone can learn to use — even lifelong and recalcitrant Diminishers.



Multipliers can have a resoundingly positive and profitable effect on organisations — getting more done with fewer resources, developing and attracting talent, and cultivating new ideas and energy to drive organizational change and innovation.

Just imagine if you could get 120 percent out of each of your employees, sustainably without wearing them down!

Stay connected

Kevin