Mobile.

TOP 10

DAILY
WELLBEING
APPS

HOW **AR &
LIVESTREAM**
SHOPPING IS
POWERING
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ERICSSON'S
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LIBERTY GLOBAL
BUILDING THE
ENTERTAINMENT
PLATFORM OF
THE FUTURE

Pieter Vervoort, VP of Entertainment Products at Liberty Global
on bringing people together using the power of technology

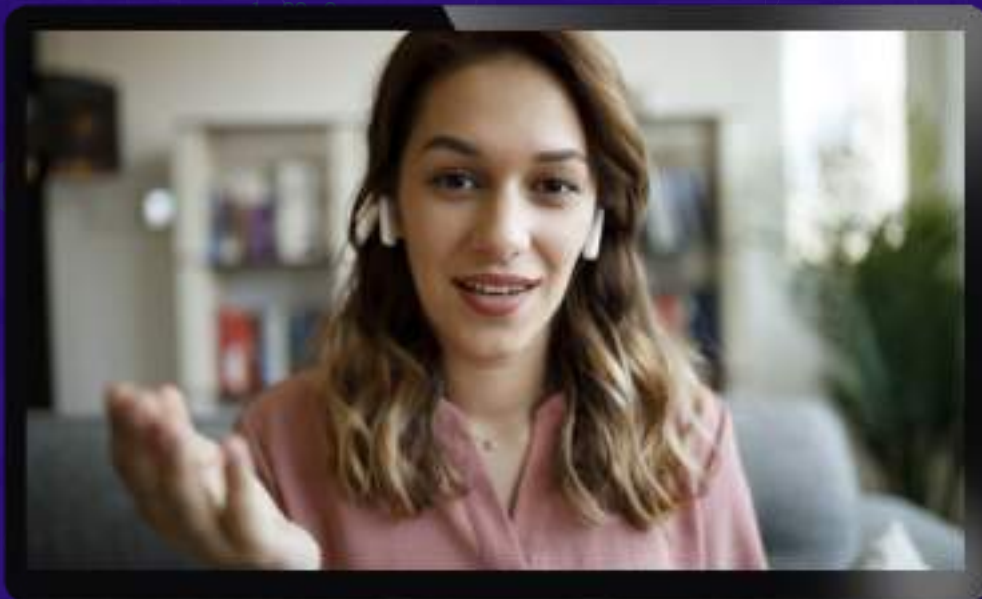**FEATURING:** FARADAY FUTURE | INDARA | ePLDT | SUNRISE GmbH

▶ Data Centre Live Virtual: Online Data Centre Conference 2023

Be prepared for disruption — Data, Cloud & 5G leaders are taking to the Data Centre LIVE Virtual stage on 17th May 2023

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ON THE CUSP OF A DIGITAL SHOPPING REVOLUTION

"If the reports are anything to go by, this is just the tip of the iceberg for online shopping innovation"

Although it was a shift initially instigated by the COVID-19 pandemic, the pace of digital transformation within the online shopping sector shows no signs of slowing

At the risk of sounding like a broken record, the 2020 pandemic had a monumental impact on countless industries. Unsurprisingly – in terms of shifts in technologies and customer expectations – ecommerce was among the most significantly affected.

In fact, by the start of 2021, ecommerce had grown by 25% and sales almost touched $5tn.

In the years since, extensive investments have been made in the omnichannel sales sphere. This includes the rapid adoption of apps, metaverse, AI, ML, and AR technologies, to name just a few.

In this issue, one of the key topics that we've explored is the rise of shopping technologies and how pioneering retailers are using these innovations to hit whole new CX heights.

This includes everything from insights shared by two of Infosys' leading digital service experts, to a showcase of big brands' investments into AR at London's Vogue x Snapchat: Redefining the Body AR exhibition.

It certainly poses some interesting questions about what shopping will look like by the dawn of the next decade.

JOSEPHINE WALBANK
editorial@bizclikmedia.com

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BIG PICTURE

Vogue x Snapchat: Redefining the Body through AR experiences

📍 London, United Kingdom

"This exhibition is at the crossroads of fashion and technology," says Vogue's inimitable UK Editor-in-Chief, Edward Enninful OBE, who is also Curator of the Vogue x Snapchat: Redefining the Body AR exhibition. "If you can see it, you can be it."

This latest collaboration between Vogue and Snapchat sees the fashion world break yet another boundary – between the virtual and the physical.

The deployment of AR in fashion marketing has long been discussed, but it has rarely been demonstrated by high fashion houses.

But now, Snapchatters across the world can use filters created by leading brands – including Versace (pictured), Dior, Kenneth Ize, Stella McCartney, and Thebe Magugu – to experience this exhibition in an entirely new, immersive way. ⭕

ADAIRE FOX-MARTIN

President of Google Cloud International

For this month's lifetime achievement award, we feature Adaire Fox-Martin, the recently-appointed President of Google Cloud International

At the start of this year, Google promoted the former head of its international cloud business to the role of President of Google Cloud International.

Now in the company's leading sales job, Adaire Fox-Martin comes equipped with over 25 years of experience at the forefront of the business-technology sector.

Prior to taking on this leadership role at the global tech giant, Fox-Martin led Google's EMEA region, served on the Executive Board of SAP SE, and held a number of key leadership roles at Oracle.

From secondary school teacher to President (of Google Cloud)

Few careers are as inspiring as Fox-Martin's. She holds a leading role at one of the most influential companies in the entire world and has an array of awards to her name — including being named as one of Fortune's 50 Most Powerful Women of Our Times.

EXECUTIVE BIO

ADAIRE FOX-MARTIN

TITLE: **PRESIDENT**

COMPANY: **GOOGLE CLOUD INTERNATIONAL**

» Fox-Martin leads efforts to help customers across the globe drive the complete transformation of their business in the cloud – from making core processes more efficient to improving how they reach and better serve their customers.

She is a passionate advocate of social entrepreneurship. She is Global Executive Sponsor for Social Enterprise at Google and is the founder of One Billion Lives, a global initiative helping organisations apply their core business, internal resources, and ecosystems to form social ventures that deliver humanitarian and environmental impact — with the ultimate aim to improve the lives of over 1bn people.

"Somebody saw something in me that maybe I didn't see in myself. They took a risk on me; I was a high-risk profile for that transition"

Munich Keynote (2022)

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"Somebody saw something in me that maybe I didn't see in myself. They took a risk on me; I was a high-risk profile for that transition," Fox-Martin explained.

"The person who interviewed me told me they had a notebook of interviews and that most of the people in that book had all of the product knowledge, the technical knowledge, the skills, but she gave me the job. And she gave it to me because she felt there was an attitude, an aptitude, and a willingness and a desire for the role – that I probably wanted it more than the others."

And the rest, then, is history.

Social Enterprise and One Billion Lives

As the President of Google Cloud International, Fox-Martin has had an immeasurable impact in the cloud adoption of the world's businesses. But her influence in the tech industry doesn't end there.

Fox-Martin is also renowned for her extensive social entrepreneurship work.

In addition to being the Global Executive Sponsor for Google's Social Enterprise, she also serves as the Global Buy-Social Ambassador for Social Enterprise UK.

What's more, Fox-Martin is also the Founder of One Billion Lives. This pioneering initiative helps organisations across the world build and develop impactful social ventures, driven by its ultimate aim of improving the lives of over a billion people.

"Ever since I founded the One Billion Lives platform at SAP, it has been my dream to drive social impact directly through our core business. By supporting social enterprises, we are one massive step closer to making that vision possible," Fox-Martin explained in a recent tweet.

What makes her success all the more impressive, however, is the fact that she actually started her career as a secondary school teacher.

After graduating from Trinity College in Dublin, Fox-Martin moved to London in the 80s, where she taught for three years.

"I learned a lot in that classroom," said Fox-Martin, in an interview with The Irish Times. "Suddenly, you're in charge of 30 individuals – and it's the only job in the world where you're almost an immediate CEO of 30 people, and your role is to keep them engaged while imparting knowledge."

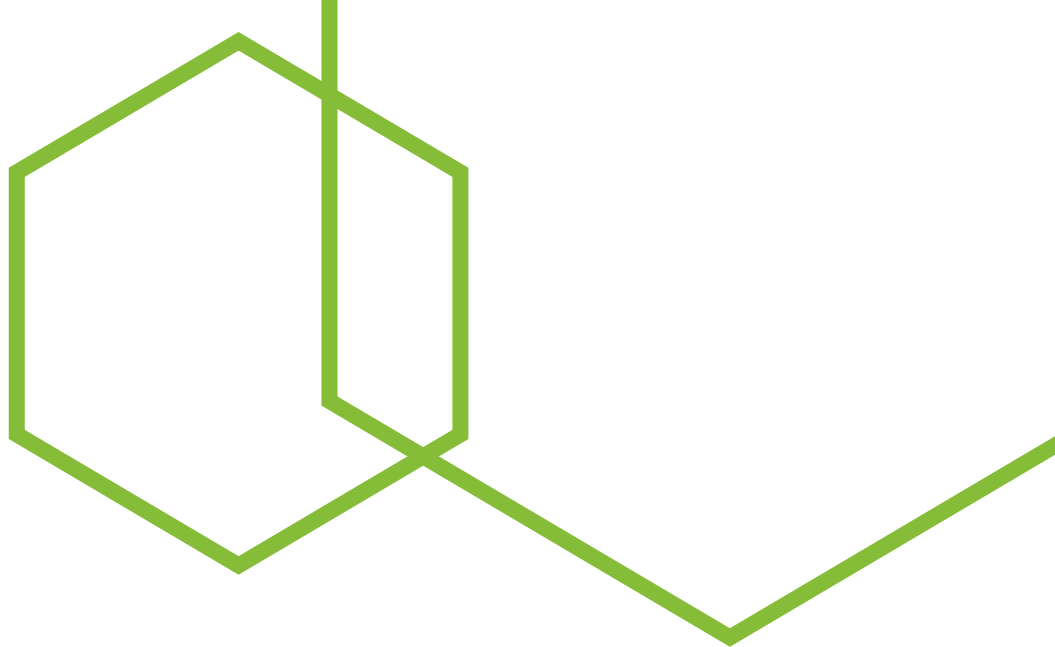After three years of teaching, she applied for an IT company that was conducting an experiment, so was looking to hire teachers.

JON *LUCAS*

Jon Lucas is Co-Founder and Director of Hyve Managed Hosting, a global hosting provider.

Alongside fellow Co-Founder Jake Madder, Lucas has been instrumental in driving Hyve's phenomenal rate of growth — from small-scale startup to award-winning cloud leader in 16 years.

Q. PLEASE INTRODUCE YOURSELF AND YOUR ROLE.

» I'm Jon Lucas, one of the Co-Founders and Directors at Hyve Managed Hosting.

Both my role and my Co-Founder Jake Madder's role are incredibly varied, covering every single aspect of the business, from top-line strategy to recruitment and cloud architecture.

Q. TELL US ABOUT YOUR EDUCATION AND CAREER PATH.

» I have a degree in Computer Science and began my professional career as a programmer in the financial services industry.

After 11 years of working in the city, Jake and I saw an opportunity to start our own business together, as our backgrounds are in different areas of tech. While I come from a more software-focused background, Jake has always been more focused on infrastructure. It was the perfect match to bring our knowledge together and start a cloud services company.

Nevertheless, it's amazing to think that our tiny startup has grown up to be a hugely successful managed cloud hosting company, with a global customer base.

Q. WHAT LED YOU TO THIS INDUSTRY?

» Both Jake and I had an early interest in computing and quickly developed a background in as many aspects of IT as possible.

We knew each other from childhood, later reconnecting during our university days. We both had similar views – that we could run a successful business together using our IT knowledge – and a passion to be our own bosses alongside an ambition to create an amazing work culture for the people we employ.

We saw a gap in the market, due to expensive competition that delivered poor service, and this inspired us to start our own business.

Q. HOW ARE YOU DRIVING DIGITAL TRANSFORMATION IN YOUR ORGANISATION?

» We provide our customers with private cloud solutions, enabling organisations to access the benefits of a dedicated server, without needing physical hardware, handing them the ability to embrace a cloud-first strategy as technology evolves around them.

During COVID-19, we did everything to ensure our company felt connected, even if the only platform to do so was digital.

Hyve at Cloud Expo Europe 2023

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This included providing employees with remote desktop products and the latest apps, to help them stay in touch online.

We continue to ensure this level of digital connectivity is not lost. But, we also want our employees to enjoy the office experience and really love coming in and collaborating in person. That's why we put in place a hybrid workplace model, while at the same time moving into an amazing new office space in Brighton to maintain a positive, buzzing culture for everyone.

Q. WHAT HAVE BEEN THE GREATEST CHALLENGES WITHIN YOUR ROLE?

» We believe the key to a successful business is having the right team needed to scale organically. We both had to learn how to delegate our tasks and trust other people to do their jobs efficiently.

At first, this was a challenge. But, as we continued hiring more experienced individuals, it became easier for us to trust that they would carry out the necessary changes incrementally.

Q. WHAT DO THE NEXT 12 MONTHS HOLD FOR YOU AND THE COMPANY?

» Our next big step will be to expand services into the US. We've already hired a Head of Sales and Marketing (for EMEA clients seeking a US presence) to start facilitating this. We are also dedicating more resources to reach global customers, leveraging cloud solutions, and deploying in regions based on customer needs (such as Australia and Africa, for example) while pursuing new customers globally. o

"THE KEY TO A SUCCESSFUL BUSINESS IS HAVING THE RIGHT TEAM NEEDED TO SCALE ORGANICALLY"

Sustainability.

TOP 100

2023

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Digital Content for Digital People

TRANSFORMING THE WORLD OF ENTERTAINMENT

WRITTEN BY:
MARCUS LAW

—

PRODUCED BY:
MICHAEL BANYARD

Global communications leader Liberty Global is building tomorrow's connections today, transforming the world of entertainment using the power of technology

Liberty Global is a world leader in converged broadband, video, and mobile communications, and an active investor in cutting-edge infrastructure, content, and technology ventures. With investments in fibre-based and 5G networks, Liberty Global plays a vital role in society, currently providing over 86mn fixed and mobile connections while also rolling out the next generation of products and services, as well as readying its networks for 10Gbps and beyond.

But as Pieter Vervoort, Liberty Global's Vice President for Entertainment Products, explains, there is much more to Liberty Global than providing networking solutions to customers.

"Our core mission is to build tomorrow's connections today," he explains. "We want to bring people together using the power of technology, and especially our network, but also, the services that we deliver to the end-user are then a central piece in those connections. We matter in people's daily lives. Especially during the pandemic period this became very clear to us but also to our consumers. Reliable connectivity and great entertainment were highly appreciated when working from and living at home."

An experienced executive professional with 25 years of international experience in the global technology sector, Vervoort spent 17 years working in consumer electronics

Pieter Vervoort,
Vice President
Entertainment Products

"Our portfolio and our markets have changed quite a bit — you could say that, nowadays, we are as much a mobile company as we are a fixed company"

PIETER VERVOORT
VICE PRESIDENT
ENTERTAINMENT PRODUCTS,
LIBERTY GLOBAL

before joining the telecoms industry a decade ago, starting with the innovative Dutch cable company Ziggo.

"When I joined the group in 2015 – when Liberty Global acquired Ziggo – Liberty Global was very much a traditional cable company," he comments. "At that time, we were active in over 12 markets in Europe and also in Latin America. Today, we are focused on fewer markets, but we are a fixed mobile converged player and have fully integrated broadband, video and mobile into these companies."

As Vervoort explains, Liberty Global is combining the best broadband and mobile networks under brands such as Virgin Media-O2 in the UK, VodafoneZiggo in The Netherlands, Telenet in Belgium, Sunrise in Switzerland, Virgin Media in Ireland, and UPC in Slovakia, creating what he describes as National Champions.

"In the markets where we are active, we like to think of ourselves as National Champions," he continues. "We are either the number one or two player in those markets in which we are active. Our portfolio and our markets have changed quite a bit – you could say that, nowadays, we are as much a mobile company as a fixed company."

PIETER VERVOORT

TITLE: **VICE PRESIDENT ENTERTAINMENT PRODUCTS**

COMPANY: **LIBERTY GLOBAL**

INDUSTRY: **TELECOMMUNICATIONS**

LOCATION: **AMSTERDAM**

» Responsible for the complete current and future Entertainment Products portfolio management of Liberty Global. The product portfolio aims to deliver a full, consistent and aggregated entertainment experience across several set top boxes and other relevant platforms for our consumers both in and out of the home.

Vervoort has been with Liberty Global since 2015, when he joined Liberty as VP Connectivity Products. Before that, he had been at Ziggo since 2012 as an executive leading its product portfolio & innovation for connectivity, entertainment, digital & programming. Prior to his tenure in telecom, he worked for 17 years with Philips in various executive international roles in finance, sales, marketing, product strategy and business management for the Philips TV group.

EXECUTIVE BIO

Liberty Global:
Transforming the world of entertainment

WATCH NOW

"We very much believe that consumers are overwhelmed with the amount of video content that they can get these days. As a result, it's important that they come back to a place where they find all their content, and it's served to them in an intuitive manner"

PIETER VERVOORT
VICE PRESIDENT
ENTERTAINMENT PRODUCTS,
LIBERTY GLOBAL

Transforming the world of entertainment
Rather than a sole emphasis on fixed-mobile convergence and broadband packages, Liberty Global instead offers an integrated entertainment experience to consumers, with what it describes as the super-aggregation of multiple services. Central to this strategy, Vervoort explains, is providing consumers with one place where they can find all of their personal content, all served in a very intuitive manner.

Its latest product, the Horizon 4 superfast all IP mini set-top box offers 4K Ultra HD picture quality and an upgraded version of Liberty's 'GO' mobile app, enabling customers to watch programmes on the go, whenever and wherever they want.

"In the last couple of years, we've been putting a lot of energy into developing our

next-generation video platform, which we call Horizon," Vervoort comments. This has been rolled out to millions of households, with consumer feedback very positive: it reduces churn, thereby increasing day-to-day usage.

"We have really seen that people have embraced that concept. The platform brings together the world of linear TV, time-shift TV, and on-demand, but also over-the-top streaming – all brought together in an intuitive way."

In addition to providing broadband, video, and mobile communications, Liberty Global is a very active investor in cutting-edge infrastructure, content, and technology ventures, such as ITV in the UK, Plume for smart wifi, Lionsgate for content, AtlasEdge for edge computing, and the motorsport series Formula E. Its content portfolio is positioned

to capture changes in the consumption of entertainment, sports, and gaming, providing a holistic experience to customers.

"We very much believe that consumers today are overwhelmed with the amount of video content that they can get these days," says Vervoort. "As a result, it's important that they come back to a place where they find all their content and it's also served to them in a straightforward way. This means that search and discovery journeys for content on the platform need to provide the end user with what they expect. This can be done very easily by just using our voice assistant."

In a competitive environment where consumers face overwhelming quantities of media, providing them with a frictionless experience is absolutely essential. As Vervoort explains, these 'digital journeys'

Placing sustainability at the center of product design

"CommScope Home Networks was thrilled to collaborate with Liberty Global on the design of the Mini TV Box, a device manufactured by CommScope, and could not be happier with its continued success. We are committed to continuing our support for Liberty Global, delivering solutions that achieve their sustainability goals. By embedding sustainability into the very product design, we can deliver the features and content consumers want, manufactured in a way we can all feel good about."

Joe Chow, President,
Home Networks, CommScope

CommScope Home Networks is pushing the boundaries of technology to deliver innovative solutions that are built with sustainability in mind. Our global team of employees, innovators, and technologists empower customers to anticipate what's next and invent what's possible.

LEARN MORE>>

"Our digital journeys need to be absolutely frictionless. We do have traditional channels as well. But our digital touchpoints — our apps, websites, and user interfaces — are critical to our success"

PIETER VERVOORT
VICE PRESIDENT
ENTERTAINMENT PRODUCTS,
LIBERTY GLOBAL

— combining high-speed internet with the capabilities of its streaming video platform — drive customer satisfaction.

"These digital journeys need to be absolutely frictionless. We do have traditional channels as well. We still have call centre agents, and we have engineers available to visit customers' homes in the case of an unforeseen problem. But our digital touchpoints — our apps, websites and user interfaces — are critical to our success."

Central to helping provide this seamless experience when it comes to video is the Reference Design Kit (RDK) platform, an open-source software platform supported by Liberty Global and Comcast, on which the Horizon 4 set-top box was developed.

"The RDK platform allows us to create a very rich and fully-integrated video experience," Vervoort explains. "It also allows us to be in full control of our own destiny and roadmap. That also comes with a challenge. So, you need to define the roadmap that you want carefully, and then make sure that, with the RDK software and your own engineers, you're building what you're aiming for."

**4K Mini
TV Box**

The next generation of services

Liberty Global currently provides over 86 million fixed and mobile connections and is rolling out the next generation of products and services, while readying its networks for 10Gbps and beyond.

Developing products with partners

To enable its broadband and video offer, Liberty Global works alongside many partners. Its partners include Nuance, Gracenote, ThinkAnalytics, Cadent, Conviva, and Adobe. When it comes to hardware partners, Liberty Global works with the likes of CommScope, Universal Electronics, and Omni for remote controls, while working with various software partners such as Infosys, Prodapt, and EPAM.

"It's not possible these days to innovate and do everything yourself," explains Vervoort. "We do a lot in-house. So, we have a huge, skilled products and software development team, but we also like to tap into the scale and skills of our partners."

One such partnership is with network infrastructure provider CommScope, which has been a long-term set-top box and modem partner for Liberty Global, with its latest Horizon 4 all IP mini streaming box featuring heavily.

"Together," Vervoort adds, "we have developed products that are now in consumer homes by the millions, and they've proven to be a very reliable, trustworthy partner. Our engineers and our product people work hand-in-glove with the teams at CommScope."

What's more, Liberty Global has an extensive network of content partnerships, from global streaming companies to local broadcasters, ensuring a truly comprehensive offering for customers.

"We have content partnerships with the global streamers – Netflix, YouTube, Disney Plus, Amazon Prime, and Apple. But we also have partnerships with a lot of local players, local broadcasters in most cases. Players like Sky, ITV, BBC, SBS, and RTL are critical in making sure that the end product that we deliver when it comes to video is a complete product.

"Without partnerships, something like Horizon is not possible. You cannot do that in isolation."

Further rollout to more customers

As Vervoort explains, the future at Liberty Global is looking bright. The platform will continue to be rolled out to more customers, while the amount of content available will continue to increase.

   "With our Horizon platform, we are now for the first time active in all the markets where we operate," he comments. "Now, we need to further penetrate the base and roll it out to more consumers so they can enjoy the latest and the greatest."

   Further down the line, the level of content will be expanded into new areas and possibilities, from audio and gaming to smart home integration, as consumers look for more holistic experiences.

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CES INNOVATION AWARDS 2023

> **"The challenge is to remain relevant in the fast-changing, very competitive video landscape.**
> **The amount of content is simply overwhelming. It's coming from every angle"**

PIETER VERVOORT
VICE PRESIDENT
ENTERTAINMENT PRODUCTS,
LIBERTY GLOBAL

"That expansion of the definition of entertainment is not something that we have come up with, but that's something that consumers are looking at the entire entertainment space. It's very logical for us, as a platform, to follow that definition and to

make sure that things like gaming and smart homes also find their way onto the platform."

As customers increasingly look for seamless experiences, Vervoort predicts that the future will see further convergence between fixed broadband services and mobile. "People less and less find it important to fully realise on what kind of platform they sit," Vervoort says. "As a result, the mobile experience and the WiFi experience need to be absolutely seamless. It also comes with the obligation that the WiFi coverage needs to be there at speed in every corner of your home. It's the same for mobile – every corner of your country needs to be covered with enough bandwidth."

Liberty's latest set-top box is designed with this increased fixed-mobile convergence in mind. "Our latest set-top box is very small and fully IP-based," Vervoort explains. "But it's also fully cloud-based. With that, it can run over a hybrid fibre coaxial (HFC) cable, it can run

| TV Box

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THE OLD MAN

GREY'S ANATOMY

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Disney+

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V

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Videoland

over fibre, it can run over DSL, and it can run over a mobile network.

"As a result, it becomes agnostic and independent of its video delivery from the network. That's critical to us because we also have various fibre rollout plans in some of the markets in which we operate with our brands."

Increased competition in the entertainment space

As competition between streaming platforms continues to increase, and consumers are faced with ever-more choices – with Netflix admitting last year that competition was eating into its growth – new strategies are necessary.

"If we look at the industry as a whole, I think there will be even more competition in future," Vervoort predicts. "We already saw the rise of global streamers with Netflix and Disney, and all the others are following. You can find video services everywhere now. And, with players like TikTok and Instagram, a lot of consumers get a bit overwhelmed."

As a result, with uncertain economic conditions globally causing consumers to re-evaluate and cut back on streaming services, providing bundled services will be central to Liberty Global's strategy in future.

"We foresee a need to offer an aggregated, integrated, curated experience," concludes Vervoort, "not only from a user interface perspective but also financially.

"Not everybody will sign up for 10, 11, or 12 different subscriptions, so there is an opportunity to also aggregate or bundle our services. By bundling various subscriptions, allowing people to pick and choose, this will allow customers to be more flexible in the way they consume their video content."

THE IMPORTANCE OF COOPERATION IN A MOMENT OF *MOBILE HISTORY*

Doreen Bogdan-Martin, Secretary-General of the ITU, outlines how the telecoms industry can achieve the UN's SDG vision for an equal, sustainable future

WRITTEN BY: JOSEPHINE WALBANK

Doreen Bogdan-Martin
Secretary-General,
International
Telecommunication Union (ITU)

Photo: ITU Pictures
© ITU/Trans.Lieu

The United Nations' Sustainable Development Goals (SDGs) represent the 17 critical objectives that the world needs to work towards. Its ambitions represent nothing short of fundamental transformation – tackling poverty, ensuring peace, reversing climate change, and ensuring equal opportunities for all people.

This blueprint has been adopted by all of the UN member states. And, through GSMA, the mobile industry was notably the first industry to commit to the SDGs.

Relating the SDGs to telecoms
The history of the International Telecommunication Union (ITU) long predates that of the SDGs. The ITU has a 150-year history, bringing governments, industry leaders and experts together under one roof to enact change.

"We're a vital part of the engine that powers the internet. We are the global platform for emerging technologies. Our role is key, in everything from harmonising the radio frequency spectrum and satellite orbits to developing the global technical standards that underpin the digital world, and to promoting digital development in the global south," asserts Doreen Bogdan-Martin, Secretary-General of the ITU.

Speaking at this year's Mobile World Congress, Bogdan-Martin outlines how the telecommunications industry can use the SDGs to measure its success, and why the digital cooperation ITU facilitates is more important now than ever before.

© ITU/S.Acharya

"THIS IS OUR MOMENT. IT IS IN OUR POWER TO SHIFT THE WORLD ON A SUSTAINABLE AND RESILIENT PATH, AND MAKE SURE THAT WE LEAVE NO ONE BEHIND"

DOREEN BOGDAN-MARTIN
SECRETARY-GENERAL,
INTERNATIONAL TELECOMMUNICATION
UNION (ITU)

Red Alert – How to meet the Sustainable Development Goals together | SDG Moment | United Nations

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"SOME CHALLENGES ARE TOO BIG FOR ANY ONE PLAYER TO FACE ALONE"

———

DOREEN BOGDAN-MARTIN
SECRETARY-GENERAL,
INTERNATIONAL
TELECOMMUNICATION UNION (ITU)

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What's at stake?

The SDGs were adopted in 2015. This means that we are now more than halfway through the period granted to meet the targeted agenda.

At this moment in time, Bogdan-Martin asserts, there are three possible scenarios that could arise – each directly depending on how we choose to use the second half of this allotted time.
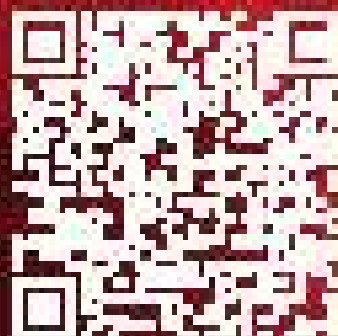
In the first scenario:

"Digital technologies help to put the SDGs back on track. Our industry enables the transition to net-zero emissions across the economy. New paradigms like Web 3.0 become mainstream.

"It's inclusive, so no more digital gender gap. It's affordable, it's secure. Farmers, teachers, students, doctors, patients – everybody has the digital skills they need to succeed. That's what universal meaningful connectivity looks like."

In the second scenario:

"We make some progress on the SDGs, but we're still falling short. Emerging technologies are going mainstream, but remain inaccessible to many. We're still playing catch up when it comes to closing the digital divide between developing and developed countries; between urban and rural; between men and women, younger and older. It'll take hundreds of years to achieve gender equality.

"And that's what happens, ladies and gentlemen, if we allow the status quo to continue."

In the third scenario:

"We fail to rescue. The SDGs' development is stalled or it's going backwards. The climate crisis has overwhelmed us and mistrust is rampant in terms of technology. Gender equality is a distant dream, and more and more people actually question the very value of connectivity."

DOREEN BOGDAN-MARTIN

TITLE: SECRETARY-GENERAL

COMPANY: INTERNATIONAL TELECOMMUNICATION UNION (ITU)

INDUSTRY: TELECOMMUNICATIONS

LOCATION: GENEVA

What is required from telecoms to achieve the SDGs?

So, the question that remains — arguably, the most pressing question in mobile history so far — is, 'what can we do to avoid that worst-case scenario?'.

According to Bogdan-Martin, there are four primary actions that we can take, right now, to drive progress.

"The first one is recognising that finite resources like radio frequency, spectrum, and associated satellite orbits are the building blocks of our advanced global communication system, for all humanity.

They need to be shared equitably and responsibly, while avoiding harmful interference.

"The second action is that we speak the same language. And by that, I mean that we reach a consensus on global technical standards to manage the integration of new technologies like AI and IoT into our networks, so that we can make them more connected, more performant, more efficient, sustainable and accessible."

Significant progress is already being made in this field. For example, the ITU vision for 6G – called the IMT for 2030 and beyond –

is due to be completed later this year. This, for the first time, will make energy efficiency and environmental sustainability part of the specifications of this new technology.

"The third action is to think innovatively about connectivity."

Taking school connectivity as an example, Bogdan-Martin outlines how Giga – a collaborative effort between ITU and UNICEF – is working to connect every school in the world to the internet by 2030.

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BDT Year in Review 2022

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"WE NEED YOU, THE MOBILE INDUSTRY, TO RISE TO THE OCCASION – STEP UP AND MAKE A PLEDGE"

DOREEN BOGDAN-MARTIN
SECRETARY-GENERAL,
INTERNATIONAL TELECOMMUNICATION UNION (ITU)

"The data that we have gathered while mapping and connecting schools has actually helped us to bring prices down by up to 50%. A couple of years ago, Brazil made school connectivity a requirement in its 5G auction; part of the proceeds were set aside to invest in school connectivity and the infrastructure for school connectivity. And that's what I mean about being innovative."

Bogdan-Martin stresses that partnerships are a core component of the SDGs, particularly for the telecoms industry. After all, as she asserts, "some challenges are too big for any one player to face alone".

"And that's why the ITU called on all stakeholders to come together, to connect the communities that are left behind."

A collaborative effort
Just over one year after this appeal from the ITU, it has received almost 600 commitments, which represent a total value of around $30bn.

According to Bogdan-Martin, however: "It's a great start, but it's not enough."

One of the key themes of this year's Mobile World Congress was the critical nature of collaboration, as we move towards an age where companies are becoming increasingly defined by the strength of their core partnerships.

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"We need you, the mobile industry, to rise to the occasion – step up and make a pledge," Bogdan-Martin urges.

"The fourth and final action is that we unite. That we all come together and we unite behind the SDGs, because failure is not an option.

"This is our moment. It is in our power to shift the world on a sustainable and resilient path, making sure that we leave no one behind. In fact, I would say it's our responsibility.

"At stake is the fate of the 2.7 bn people who remain offline today. At stake is humanity's relationship with technology and our ability to keep this planet healthy for future generations. Nothing less than an open, free, and secure digital future for all. So, let's build it." ○

SAP
SAP's Sam Castro on AI and risk resilience in manufacturing

WRITTEN BY: | PRODUCED BY:
HELEN ADAMS | LEWIS VAUGHAN

SAP's *Sam Castro* is a solution manager for Digital Manufacturing. He tells us about AI, risk resilience and supply chain sustainability

S AP is a global software provider and a leader for enterprise business process software, including solutions to manage supply chains. SAP provides technologies, supports the cloud and cloud platform environments, as well as artificial intelligence/machine learning (AI/ML) libraries, robotic process automation (RPA) and in-memory technology for high-end computers. SAP's solutions for manufacturing execution and insights are part of a portfolio of products for supply chain management and leverages these technologies.

"We're an enterprise business software and a technologies company," says Sam Castro Senior Director, Solution Management, LoB Digital Manufacturing.

Castro is a Senior Director at SAP and a part of the line of business manufacturing solution management team. The line of business covers the 27 manufacturing industries for which SAP provides software solutions.

"All of those industrial companies have needs around operations visibility, control and reporting," Castro explains. "The different industries have different targets that they're after. Some are heavier on the asset side, some of them are heavier on product quality and yields, others are all about logistics and moving products around on-time through the supply chain."

SAP is met with a diverse set of requirements and needs from its customers. Solution management takes these industry needs and applies them to market direction and invests them in the portfolio.

"We provide guidance on where to focus and the emphasis for development, and that strategy big picture where we want to take the products," Castro explains.

In college, Castro completed a Bachelor's in computer engineering and a Master's in computer science at the Rochester Institute of Technology (RIT).

"I came from the hardware bridge to the software bridge very naturally after graduating," says Castro. "I was dropped into the manufacturing floor because that is exactly where the hardware automation side bridges over into the software."

He was faced with a great deal of information and digital signals from the automation layer and was tasked to turn it into information — how does SAP make that translation?

"I started at the very lowest level and moved my way through Lighthammer Software, which was acquired by SAP back in July 2005," says Castro. "I worked my way through SAP into the role that I'm in today."

"Being a sustainable enterprise means that you're an efficient enterprise"

SAM CASTRO
SENIOR DIRECTOR, SOLUTION MANAGEMENT, LOB DIGITAL MANUFACTURING, SAP

Built for impact

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Digitally driven business is an imperative in today's uncertain landscape, but to thrive organizations will need digital supply chains that can anticipate disruption and evolve in lockstep with change—all while prioritizing sustainability and responsible practices.

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Envisioning the future
Ultimately, it's about flexibility—which can be elusive for many organizations. While optimizing supply chains over the years, some companies may have gained efficiencies without gaining the flexibility that they need in today's environment. For example, they may have gotten down to one or two key suppliers instead of 20,

but they may not have the ability to *sense* the need for new suppliers, in the event of a regional fuel or material shortage, for example. They also may lack the ability to seamlessly and quickly *integrate* any new suppliers into their digital ecosystem. And at the same time, they may lack visibility into what those suppliers will mean for their carbon footprint, their sustainability goals, and their impact on the planet.

With a Kinetic Supply Chain—covering planning, procurement, distribution, and operations—you can proactively address many of those challenges and become "disruption ready." More than a vision, the Kinetic Supply Chain is real, and you can see it in action at The Smart Factory @ Wichita. At this full-fledged manufacturing facility, housed in a net-zero-impact building, Deloitte, SAP, and others are collaborating to solve real business needs and understand what it takes to build and scale flexible digital supply chains. Contact SAP@deloitte.com to schedule a visit or to get more insights on enabling a built-to-evolve digital supply chain.

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SAP's Sam Castro on AI and risk resilience in manufacturing

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"**Here are the enablers of AI and ML type algorithms that you can use and put together how you see fit**"

SAM CASTRO
SENIOR DIRECTOR, SOLUTION MANAGEMENT, LOB DIGITAL MANUFACTURING, SAP

Risk resilience and sustainability in the supply chain

When you talk about risk resilience at SAP, it's about how to handle the real world, not setting up a plan and adhering to it day in and day out.

"You would like it to be like clockwork, for sure," says Castro. "Where everything always aligns and meshes the way that it's supposed to all the time, every second. But we know that's not always the case."

Weather events, pandemics, labour shortages or large sporting events can cause supply chain issues. For Castro, resiliency is the byproduct of having to have to handle these off-topic or out-of-sync scenarios and the ability to detect that you're out of sync

with the original plan and react to it in a coordinated manner.

"The faster you can do that, the faster you can correct that problem," says Castro. "Then you're able to identify how often those deviations occur — that frequency of occurrence, that is your opportunity."

Being able to quantify that opportunity and understand what those little deviations actually add up to, and how that impacts the business financially, is one of the key topics around what customers will hear about resiliency from SAP, says Castro.

"Sustainability is an overlay to that, sustainability is a byproduct of efficiency," says Castro. "Being a sustainable enterprise means that you're an efficient enterprise.

EXECUTIVE BIO

SAM CASTRO in

TITLE: **GLOBAL VICE PRESIDENT, CENTRE OF EXCELLENCE**

INDUSTRY: **MANUFACTURING**

LOCATION: **PENNSYLVANIA, US**

>> Sam Castro joined SAP in July of 2005 with the acquisition of a small company called Lighthammer. He was responsible for implementation consulting, field enablement, custom development, and training for the core products (Illuminator, Xacute, UDS, CMS). These products have since evolved into the core SAP Connected Manufacturing products (Mfg. Integration & Intelligence or MII and Plant connectivity or PCo) that you see today.

Sam is now part of SAP LoB Manufacturing Solution Management group, which is directly responsible for strategy, direction, and customer adoption of all of the manufacturing products at SAP. He is specifically responsible for Industrial Analytics, that is SAP MII, Digital Manufacturing for insights, and Digital Manufacturing for execution, and he is the solution owner for Process MES products. In this role, he is actively working on mid- and long-term features and deliverables and how they are positioned with the broader SAP portfolio; he also provides guidance for product development investment.

If things are running effectively, things are running safely, and in a very energy-friendly manner as well."

Castro views the impact of the cloud on manufacturing as a positive one.

"There are benefits for the IT team from a maintenance perspective and a continuous update and management of that software package," he explains.

Cloud users are not dealing out of sync or outdated documentation, they're not dealing with security issues that creep into the environment over time. Updates and patches are handled in real-time by the cloud hosting and software provider, that SaaS provider in the cloud environment. Castro views offloading that burden from the manufacturing layer and the IT teams that support them centrally and locally as a big deal for organisations and businesses.

"It keeps that barrier to entry for managing efficient production and tracking off of those teams, and it puts it firmly on the shoulders of the software provider. What does that mean for the business? It means that the end users aren't working with stale software. You're not working with software that has a UI from 15 years ago. You're not working with an ad-hoc analytical environment that used to be cool but now uses plug-ins and stuff that your browser doesn't support and ultimately causes it to have problems," Castro explains.

As businesses are not dealing with these issues from the end user perspective, they're able to take advantage of a very modern, easy to consume and use software experience and focus on their core business functions.

"Despite not directly interacting with it, the work around you is what's driving that environment for you," says Castro. "You're not putting that burden of three or four extra clicks on somebody, this is just software that's being driven from digital signals; from

€27.84bn
Total Revenue
(Non-IFRS)
in FY2021

1972
Year founded

2022
50th
Anniversary

#1
Software company
in Dow Jones
Sustainability
Index
for 15 years

integration, automation, and the tasks that the operator is performing."

This newer approach to software design is how SAP leverages the industry investment companies have made and it is what's ultimately reducing the impact that end users have on that environment themselves.

How manufacturers can focus on business value versus technology

There are different pillars within organisations, which have their own priorities. CEOs, CIOs, CTOs and CFOs are all working together and have overlapping needs that drive different business cases. But they need to have the right information at the top layer to make the right decision for the lowest layers within the organisation. This doesn't happen unless there is a framework in place for the distribution

"Sustainability is an overlay to that, sustainability is a byproduct of efficiency"

SAM CASTRO
SENIOR DIRECTOR, SOLUTION MANAGEMENT, LOB DIGITAL MANUFACTURING, SAP

and analysis of the data that is generated, from the very edges of the manufacturing and supply chain processes to the shop floor.

"If you don't have a way for that information to work its way up to the top, organisations really struggle to understand where the priority needs to be," says Castro.

For manufacturers to focus on business value versus technology, Castro believes that they need to intelligently manage profitability and investments. As a result of that additional profitability, they also need to protect that inflow of money and profitable behaviour for the company.

"Is that a CapEx investment? Is it an OPEX investment? Is it better granularity on product quality and an emphasis on quality for certain products or certain areas within a process that are very tricky and cumbersome?" asks Castro. "Maybe it's a new product that you're introducing and as a result, that process isn't fully stable yet. What is the emphasis in how

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112.6K+
employees
worldwide
(Sept. 30, 2022)

160
number of
countries

22K+
partner
companies

245mn+
Subscribers
in SAP's
cloud-based
user base

much we put into that project to stabilise it? Those are the goals that are very coveted from the C-suite down, but they really are reliant from all edges of the supply chain and having that information roll all the way up."

Enterprise-led manufacturing follows in tune with this exactly.

"The enterprise has to provide guidance to the manufacturing and supply chain teams as a whole," says Castro. Where they want to see improvements and how much they're willing to invest in those improvements, what's it worth? How do you build that community up?"

To understand the role that manufacturing plays in an organisation's reinvestment strategy, you must first understand where it matches up with other locales in the manufacturing environment.

"Manufacturing isn't just a single-faceted environment. It's often made up of plants that have been around for a long time, some that were built up by your own organisation, some that came into the organisation through acquisition," says Castro. "So you see different heritages and mentalities. They have this communal approach for how the plant manager wants to lead that group in the business forward."

SAP's AI standardisation journey

At SAP, being able to take advantage of AI standardisation in a universal way is important.

"You can take and apply these very technical algorithms in order to get information off them. Here's the technology, here are the enablers of data, here are the enablers of AI- and ML-type algorithms that you can use and put together how you see fit," says Castro. "Then that carries over into

"You want it to be like clockwork, where everything always aligns. But we know that that's not always the case"

SAM CASTRO
SENIOR DIRECTOR, SOLUTION MANAGEMENT, LOB DIGITAL MANUFACTURING, SAP

the application side, which says, we know we have these technologies, we know that this data is being generated from our transacting processes, so we have our own structured analytics pieces and now we can use these structures to drive our own models to influence our execution process."

SAP has global partners, as well as local partners, who rely on its technology. When Castro talks about partnerships, he does not put one partner over another.

"We try to keep the community as open as possible," he says. "We try not to promote one partner over another, because they're all very important to us."

The openness of SAP and the openness of its software is for its customers to take advantage of, but also for their partners to put their own industry expertise behind.

"It is what gives SAP the power that we have to leverage in our own technologies to leverage partner-led innovation using those technologies to intelligently power our applications." ○

EXCLUSIVE INTERVIEW:
KATHERINE AINLEY

INDOOR *5G:*
AN UNTAPPED MARKET OPPORTUNITY

In an exclusive interview with *Katherine Ainley*, UK & Ireland CEO of Ericsson, we delve into the connectivity leader's predictions for 5G advancements

WRITTEN BY: JOSEPHINE WALBANK

Although the world's 5G deployment is by no means complete, it's important to recognise just how far the industry has come.

"We are marking the four-year anniversary of the first commercial 5G launch this month and, despite a few hurdles – a global pandemic, an energy crisis, and a European war to name just a few – 5G is still the fastest deployed mobile generation in history," says Katherine Ainley, UK & Ireland CEO of Ericsson.

"It is fantastic that so many consumers have access to high-quality 5G coverage, but we also want to unlock the most innovative industry use-cases – like those witnessed at the Green Planet AR experience in London last year with EE, where our 5G technology powered an Augmented Reality journey with Sir David Attenborough through a secret kingdom of plants."

The immersive Green Planet experience used the power of 5G to transport viewers from the heart of London's Piccadilly Circus to five digital biomes: Rainforest, Freshwater, Saltwater, Desert, and Seasonal. Through the combination of 5G, AR, sound, visuals and storytelling

> "We can realise these advanced opportunities, but it requires the ultra-low latency of 5G standalone infrastructure"

———

KATHERINE AINLEY
CEO,
ERICSSON UK&I

(by David Attenborough himself) this hugely popular experience provided viewers with a deeply personal and completely fresh insight into the extraordinary power of 5G.

It's largely thanks to experiences like these that consumers are showing such interest in 5G-enabled technologies.

If we take the example of the metaverse, a recent Capgemini report revealed that nine out of 10 consumers say they are curious about the metaverse, while over half say they are excited by it and would use it when it becomes accessible to them.

What's more, 77% of consumers expect immersive experiences to impact how they interact with people, brands, and services; seven out of ten organisations, meanwhile, say that they believe immersive experiences will be a key differentiator in their markets, particularly in relation to the customer journey.

It's an exciting indication of the future of 5G. But, for these advanced opportunities to be successfully realised, Ainley explains that a number of key 5G developments still need to be made.

KATHERINE AINLEY

in

TITLE: **CEO**
COMPANY: **ERICSSON UK & IRELAND**
INDUSTRY: **TELECOMMUNICATIONS**
LOCATION: **LONDON, UK**

» Katherine is the CEO of Ericsson UK and Ireland, working alongside major mobile network operators and service providers to create world-leading mobile networks and game-changing technology for millions of subscribers and enterprise partners. She is also a member of the leadership team for Ericsson Europe and Latin America.

Katherine joined Ericsson in February 2021 from BT where she held a number of senior executive positions for more than 10 years, including the roles of Managing Director of Ventures in Enterprise, and CEO of Tikit, a then-wholly owned subsidiary of BT. Her career has also included management and consultant roles with Lloyds TSB and Ernst & Young in transformation and customer experience.

Responsible for a team of more than 2,500 employees across the UK and Ireland, Katherine is leading Ericsson's vision for 5G technology and deployment in the UK, focusing on supporting the business growth of network operators through continuous technology and product performance, enabling digitisation across new industries and delivering world-class connectivity for consumers.

Originally from Wigan in the North West but now living in South East London, Katherine has studied at the London School of Economics and Political Science (LSE).

The next wave of 5G market developments
According to Ainley, network slicing is set to be one of the biggest network developments of the near future.

"I believe one of the most exciting market developments we'll see over the next few years is the introduction of a new 5G feature called network slicing. It's starting to become a bit of a buzzword in the telecoms industry, and for very good reason!"

Network slicing is a functionality where a single, end-to-end, physical network can be separated into several

different virtual slices. Each slice is managed independently and tailored for bespoke business requirements. So, utilising this advancement, operators can finally meet the most demanding network requirements, such as connected ambulances or autonomous vehicles.

In fact, Ericsson's research teams believe that network slicing represents a £150bn business opportunity for CSPs by 2030.

To take full advantage of this emerging opportunity, Ainley stresses the importance of collaboration within the telecoms industry.

As consumers, over *80%* of the data we use is used inside

> "The fact is that relatively minimal floor space in buildings is currently served by indoor 5G connectivity – Ericsson estimates it to be at 10-15%. This makes for a huge addressable market, and one that operators will be targeting this year"

KATHERINE AINLEY
CEO,
ERICSSON UK&I

"The reason we're talking about network slicing now is because it's only possible on standalone 5G network infrastructure. So, as operators launch their standalone networks this year, we need to come together as an industry and deliver the next set of inspiring 5G opportunities.

"The UK needs to be at the forefront of this technology revolution to power our own economic growth in the future."

The growth of the indoor coverage market
Another of the avenues where the largest growth is anticipated, in Ainley's words, is that of indoor 5G.

"Indoor 5G coverage will be one of the biggest emerging markets in the UK telecoms industry over the next 12 months. As consumers, over 80% of the data we use is inside – think about the number of times you've scrambled to get a connection in an office, airport, train station, shopping centre or sports stadium," Ainley outlines.

"The fact is that relatively minimal floor space in buildings is currently served by indoor 5G connectivity – Ericsson estimates it to be at just 10-15%. This makes for a huge addressable market; one that operators will be targeting this year."

This is another area where 5G standalone networks will be a game changer: its lower frequency radio waves mean significantly better coverage can be delivered indoors.

"But, because this market is so huge, and the full benefits of 5G standalone networks are still some way off, 5G needs to be complemented with targeted indoor solutions," Ainley says.

The currently fragmented in-building market primarily consists of Distributed Antenna Systems and small cells. As a result, the indoor technology decision-making process is typically difficult and time-consuming. Ainley explains that Ericsson's additions to its indoor 5G portfolio have been designed to both support customers' simplicity and monetisation goals, while offering a scalable solution suitable for any indoor environment or situation.

"My hope is that 2023 will be the year that the telecoms industry finally starts to unlock the most dazzling, transformative, mind–blowing benefits of 5G in the UK"

———

KATHERINE AINLEY
CEO,
ERICSSON UK&I

To these aims, Ericsson's new suite of indoor hardware and software are designed to boost indoor 5G capacity, making indoor 5G easier for communications service providers, enterprises, and neutral hosts to deploy, scale, and monetise.

"Ericsson's latest additions to its product portfolio includes a feature called 5G precise positioning which, on top of high-quality coverage, delivers location services such as asset tracking and tool positioning for operators and businesses," Ainley explains.

Through this single family of products – which have become part of the Ericsson Radio Dot System portfolio – Ericsson has devised a solution that cost-effectively covers any indoor scenario or business environment. Ainley and her team are, as a result, eagerly anticipating growth in this sphere. ⭘

CONNECTING, EVOLVING, AND LEADING THE AUSTRALIAN MARKET

WRITTEN BY:
JOSEPHINE
WALBANK

PRODUCED BY:
STUART
IRVING

Scott Robson, **Executive Director of Deployment, outlines how Indara has achieved its trademark speed-to-market and become a leading Australian digital infrastructure operator**

With over 22 years' experience and over 4300 sites, Indara is a leading owner and operator of wireless digital infrastructure in Australia. With an ambitious build and growth programme, they have over 700 new Build to Suit (BTS) sites currently in development.

In charge of this extensive portfolio and its rapid expansion is Scott Robson, the Executive Director of Deployment at Indara.

"My role is to oversee the portfolio and infrastructure services growth of the business – and that includes the 700+ BTS programme, plus the professional services that we offer. Those services include site acquisition, town planning, site design, structural and radio frequency engineering, and construction services we perform on our infrastructure for our customers," Robson explains.

In an exclusive interview, we speak to Robson about his role and the factors that enable Indara to strengthen its reputation as a leading digital infrastructure provider.

Australia's No.1 choice in Wireless Digital Infrastructure

Indara is a leading owner and operator of digital infrastructure in Australia. Over the course of the last two decades, it has firmly established itself as a connectivity leader.

Scott Robson,
Executive Director
of Deployment,
at Indara

"**Our vision is delivered by our operational excellence and commitment to customer experience, underpinned by our organisational design and focus on ESG**"

SCOTT ROBSON
EXECUTIVE DIRECTOR OF DEPLOYMENT, INDARA

"Our vision is to accelerate a sustainable digital future – across all of Australia – being our customers' first choice provider of innovative wireless digital infrastructure, supporting smarter and more connected communities," Robson explains.

"We own, build, operate, and manage the critical physical infrastructure across the country. We've got deep industry knowledge and expertise delivering new infrastructure and services across our portfolio."

These sites are strategically located across both metropolitan and regional areas to enable our customers to deliver high-speed, reliable connectivity across Australia.

SCOTT ROBSON

TITLE: **EXECUTIVE DIRECTOR, DEPLOYMENT**

COMPANY: **INDARA**

INDUSTRY: **TELECOMMUNICATIONS**

LOCATION: **AUSTRALIA**

With more than 20 years' experience in the telecommunications industry, Scott is responsible for the management of Indara's infrastructure and services growth.

Scott has extensive turnkey mobile deployment experience and has been intimately involved in all major 3G, 4G, and 5G rollouts as well as public and private network deployments. Scott's role is to grow Indara's infrastructure portfolio focusing on the customer's experience and implementation of new infrastructure products and services.

With a strong proven track record of delivery, Scott is passionate about delivering outcomes in partnership with customers and suppliers.

Scott holds a Master of Business Administration from Macquarie Graduate School of Management and a Bachelor of Building (Construction Economics), from the University of Technology Sydney.

"Our vision is delivered by our operational excellence and commitment to customer experience and is underpinned by our organisational design and focus on ESG.

Speed to market – an invaluable competitive advantage

In a market like Australia, the main obstacles that providers face will, inevitably, include the cost to upgrade or expand a network over a vast land mass and geography. With over 4000 sites, the challenge that they always consider is, how quickly could a customer expand its coverage, upgrade, or add a new technology, like 5G? And how does Indara help navigate this?

EXECUTIVE BIO

![CPS Technology & Infrastructure logo]

We deploy the infrastructure and technology that connects the world.

With consumer demand for greater coverage and more data, the need for outsourced telecom infrastructure deployment has intensified over the last decade. As a leading service provider, CPS has a proven history delivering this infrastructure and deploying every technology generation (1G to 5G) to date.
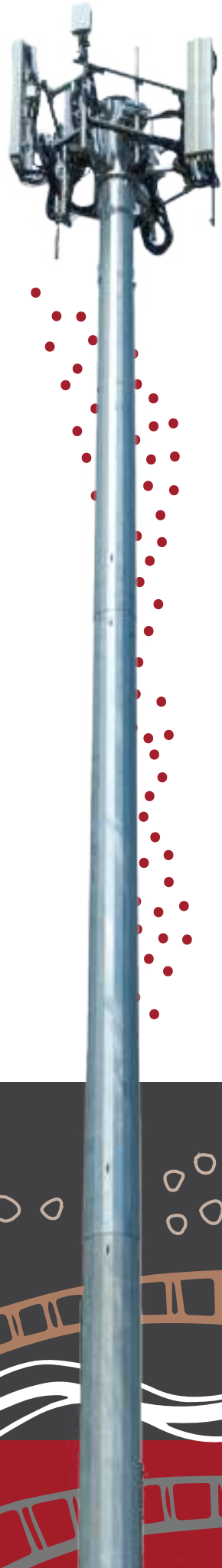
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Longest Serving

CPS commenced operations in 1992 and we are the longest running independent service provider in the Australian market.

Technology Agnostic

CPS Supports all OEMs and are therefore independent with our approach to project work.

WWW.CPSTECH.COM.AU

Founded in 1992, CPS is one of Australia's most experienced, trusted, and high-volume end-to-end infrastructure and telecommunications deployment partners. We are a certified Australian owned and operated company that provides a diverse workforce for the Australian telecommunications market. We have over 120 multi-disciplined employees with specialist skills. As an organisation, our vision is to be the leading enabler of technology, connectivity, and innovation that ultimately improves productivity, life, and leisure in Australia.

With a comprehensive and diverse portfolio, we have delivered over 3,000 projects from end to end over the past 5 years. Our core competency is delivering high volume, fast paced, micro projects, for leading infrastructure and telecommunication customers. CPS is focussed on ensuring we support our customer's local, state, and federal telecommunications demand. Consequently, we have invested in technological innovations that drive efficiency, productivity, and quality in our project management tracking and in service delivery.

Our approach is to continually strive for excellence and by seamlessly integrating our people, processes, and systems into our customer organisations, we become a natural extension of their organisation. This allows us the ability to cultivate a culture of collaboration and innovation, as we firmly believe in being in the project, rather than on the project.

Our rich heritage, approach to problem solving, and commitment to great service and performance, as well as our burning desire to listen and deliver our customer's goals, will see CPS remain at the fore of the infrastructure and telecommunications sectors.

Learn more

Australia Wide

CPS typically has projects running in every State and Territory in Australia

Safety & Quality

CPS works to the highest standards of safety and quality and uphold that with a passion.

Connecting, evolving and leading the Australian market

WATCH NOW »

"**Our vision is to accelerate a sustainable digital future — across all of Australia — being the customer's first choice, a provider of innovative wireless digital infrastructure, and to support smarter, more connected communities**"

SCOTT ROBSON
EXECUTIVE DIRECTOR
OF DEPLOYMENT, INDARA

"What we offer to the industry is speed-to-market. We continue to invest in our processes, systems, and site data to enable our customers to get on site faster and easier.

"While we understand our existing sites, one of the key factors (or barriers to overcome) in the deployment of new sites is the property acquisition and regulatory approval regime as there's a significant amount of time required to navigate through both local and state government approvals and processes. So, building community engagement and awareness strategies, understanding what matters most to each community, and building relationships with local councils and government agencies are what's required to develop infrastructure that meets the needs of our customers and that of the community."

When it comes to asserting – and consistently re-asserting – its position as a leading digital infrastructure provider, speed is a critical market differentiator for Indara.

"We exist as a company to accelerate the transformation to the digital world. Our growing infrastructure solutions empower a smarter, more sustainable digital future," Robson explains.

"We support new technologies to benefit all Australians. We shape the future of digital infrastructure, and with our extensive experience, we offer a diverse suite of services and solutions. Our longstanding reputation for operational excellence, engineering expertise, and our commitment to customer experience are major pillars of what we do and how we do things."

4.3K+

From circa 750 sites in 2000, Indara has grown to a vast network of over 4,300 sites, with an additional 700 currently in development

Rapid portfolio expansion to support customers and accelerate a digital future

Indara is implementing state-of-the-art and exceptionally reliable infrastructure solutions across Australia, extending its 4,300-strong portfolio at a rapid pace.

"As an organisation, we have an innovation and growth mindset. Our portfolio growth – both in the towers, rooftops, and other infrastructure – is designed to capitalise on the digital technologies that are shaping our lives now and in the future. And we leverage our technical partnerships, operational expertise, and long-standing experiencein the industry to make it happen.
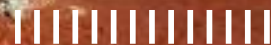
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Roam Engineering specialise in providing innovative and cost-effective telecommunications monopoles, towers, guyed-masts, headframes, and structure strengthening solutions.

We are a proud Australian business, with a reputation for quality, engineering capability, and customer service.

LEARN MORE

> **"What we offer to the industry is speed-to-market: having the knowledge, expertise, and data that supports faster and easier deployment solutions for all customers"**

SCOTT ROBSON
EXECUTIVE DIRECTOR
OF DEPLOYMENT, INDARA

"We have over 22 years' experience and, in that time, we've supported – or actively participated in – every wireless technology deployment for all the MNOs, government, and enterprise customers," Robson asserts.

"We've been involved, first-hand, in some of Australia's largest infrastructure projects and network deployments, from Australia's National Broadband Network, through to more recently partnering with TPG and Optus for their 5G network rollouts, providing new infrastructure and professional services across our portfolio. We've also partnered with the government on regional connectivity programmes, to expand infrastructure in underserved areas, and MNOs through our industry leading structural engineering services subsidiary Structel. So, we've either been a part of, or heavily involved in, the end-to-end process with all the major deployments for the last 22 years."

INDARA

With its vast and growing portfolio, Indara is able to provide their customers with more choice and more flexibility.

"How we differentiate ourselves lies in the way we develop and execute solutions for our customers through our vast, constantly growing digital infrastructure portfolio. For a customer, that solution might be a macro tower, it might be a small cell on our smart poles, or it might be a DAS through our inbuilding solution.

"Regardless, our focus is on developing the right outcome for our customers, and this approach is not simply anchored to a tower or infrastructure that we have today. As a company, we will continue to look for opportunities to expand our infrastructure and services to support our customers' future plans and we're supported by our shareholders – Australian Super and Singtel."

To that end, Robson explains that Indara simply couldn't exist without its partners. The company has built up an extensive partner ecosystem, working with leading providers such as CPS Technology and Roam Engineering.

"We have a curated panel of partners with national coverage and scope across professional services and construction, who make up our deployment ecosystem. And CPS is one of those key partners that spans both professional services and construction services."

"We depend on CPS to deliver on our national build-to-suit (BTS) programmes. We rely on CPS to find and acquire a new site, obtain all regulatory approvals, complete the engineering design, and then construct and integrate these towers into our network. So, CPS is along the journey with us from start to finish. And we absolutely rely on their expertise to provide our customers with our speed-to-market advantage."

"We exist as a company to accelerate the transformation to the digital world"

SCOTT ROBSON
EXECUTIVE DIRECTOR
OF DEPLOYMENT, INDARA

Similarly, Indara's partnership with Roam Engineering is key to maintaining the company's characteristic growth pace.

"A core part of our growth strategy is building new sites, and we've got many, many hundreds in progress. Roam is one of our major structure suppliers across the design, supply and installation of lattice towers and monopoles, and we use Roam structures right across Australia. So, whether it's a 50m lattice tower or a 30m monopole, we rely on Roam's engineering, talent, and expertise to supply us with towers that are designed to suit the location we've selected."

In short, Robson explains, Indara's partner ecosystem is essential to the work that it does and the results that it achieves.

"We work closely with our partners to succeed and we see them as an extension of our team."

Smart cities, smart cells and pioneering technologies – the future for Indara

Indara acquired ENE.HUB and HUB in the latter half of 2022. This company has been a global leader in the design and manufacture of multifunction poles and smart street furniture for the last 20 years.

"Through ENE.HUB as part of Indara, we deliver a wide range of products and services for public spaces. ENE.HUB smart poles, for example, are designed to support small cell deployment while also providing other smart city services. Integrated into the poles are features that provide local authorities with data to improve the safety and wellbeing of their community as well as supporting smart city services," Robson explains.

"A key differentiator for Indara is that we are able to develop coverage solutions. We are able to deliver integrated wireless functionality into the smart city space, be it via the smart.node, smart poles, or smart

"Speed-to-market remains key. Digital Twin provides our customers with the information that allows for straight through processing and, therefore, faster, easier access to site"

SCOTT ROBSON
EXECUTIVE DIRECTOR
OF DEPLOYMENT, INDARA

furniture. Another unique product development has been our tower.node, which was originally designed for community sports field lighting, now reimagined with telecommunications in mind as well."

This is just one component of Indara's growth and diversification plan.

Another key strategic initiative is Indara's digital transformation strategy, which consists of significant investment in all areas to improve our customer experience.

"Digital transformation is something we are continuously doing to change the way we interact with our customers and our ability to provide a consistent and high quality customer experience," Robson states.

"We're investing in the latest technologies and platforms that will support smart data and high-tech digital interaction to enable our customers to get on site faster and easier. Internally, this will improve efficiencies for our business and enable us to scale as we grow."

One of the areas that Indara is heavily investing in is its Digital Twin capability.

"Digital twins are digital representations of sites that provide Indara and its customers with access to up-to-date site information, including information of each of our customers' equipment on our infrastructure. Integrating that level of detailed data into our systems will enable our customers to make more accurate and informed decisions than ever before".

"Speed-to-market remains key. Digital Twin provides our customers with the information that allows for straight through processing and, therefore, faster, easier access to site." ⦿

LIVE

OMNICHANNEL RETAIL AND THE FUTURE OF LIVESTREAM SHOPPING

Infosys' digital service experts share their insights into omnichannel retail and the roles that social media, AR, and livestream shopping will play

WRITTEN BY: JOSEPHINE WALBANK

Over the last decade, online shopping has gathered a surge of momentum. Naturally, COVID-19 played a critical role in driving this growth, as e-commerce growth figures registered all-time highs during this period. In fact, e-commerce grew by 25% in 2020, with sales touching almost $5 trillion n in 2021.

In the years since, retailers have invested heavily in technologies that promise to boost omnichannel sales. These include social commerce, in-store interactive screens, and self-checkout apps, as well as AI, ML and AR technologies, which are continuously being leveraged to enhance the customer experience.

In an exclusive interview with two of Infosys' leading digital service experts, we explore not only the future of omnichannel shopping, but also how livestream services and advanced data analytics will enable seamless customer experiences (CX).

How data analytics underpins modern shopping experience

If retailers adopt a pioneering approach to data analytics, the rewards not only include improving the CX of their online channels, but also extend to bolstering customer retention and attracting new audiences.

"Data is the catalyst driving a seamless experience for online shoppers. Analytical solutions harness a customer's purchase and demographic data, shopping preferences, and buying patterns to personalise the experience," explains Ambeshwar Nath, SVP and Industry Head, Consumer, Retail and Logistics, at Infosys.

"Today, consumers have refined tastes and expect personalised services as well as enhanced and convenient shopping experiences. They're willing to experiment with different retailers in search of the best experience, leaving retailers to rely heavily on data to satisfy customers' requirements and ensure they have no reason to switch loyalties."

The analysis of shoppers' data – including the total time spent on the website, commonly purchased products, and the extent to which sustainability drives product choice, for example – generates critical insights, which can be deployed by retailers to accurately improve their services and create precisely targeted marketing campaigns. "Retailers across product categories and store formats can enhance the shopping experience by investing in analytical systems and recommendation engines that convert data into rich insights," Nath adds.

"Leading retailers make smart use of customer data to enhance convenience, maximise the basket size and even personalise the product offering.

"As more customers gravitate to digital channels, there will be an influx of unstructured data from primary and third-party sources. Retailers should capitalise on data to better understand customer needs, design personalised programmes to deepen engagement, increase wallet share and develop strategies to enhance

LIVE ●

LIVE ●

"Data is the catalyst driving a seamless experience for online shoppers"

AMBESHWAR NATH
SVP AND INDUSTRY HEAD,
CONSUMER, RETAIL
AND LOGISTICS,
INFOSYS

the shopping experience," Nath outlines.

To this aim, one of the most popular, heavily invested-in areas of social media shopping experiences is livestreaming.

Livestreaming – the future of social media shopping

Over the course of the last few years, all of the leading social platforms – including TikTok, Instagram, Pinterest, Twitter and Facebook – have all offered liveshopping capabilities.

And, when you look at the consumer trend statistics, it's easy to see why.

"Livestreams currently attract 17% of all internet traffic, thanks to popular social apps like Twitch, TikTok, and Instagram. Liveshopping – adding real-time shopping capabilities to livestreaming – drove $60 billion in 2021, globally," says Kunal Puri, Vice President and Head of Customer Success, Infosys Equinox.

"In China alone, 40% of shoppers have made at least one livestream purchase,

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> **"The ability to engage in real time with product experts, influencers and other shoppers provides a value-added, entertaining, and trustworthy way to discover and purchase products"**

KUNAL PURI,
VICE PRESIDENT AND HEAD OF
CUSTOMER SUCCESS, INFOSYS EQUINOX

and, this year, livestreaming is expected to generate 20% of all retail purchases."

According to reports from Forrester Research, 59% of European consumers are interested in liveshopping, and early retail adopters are reporting conversion rates up to 30% – 10 times higher than conventional online shopping.

"The ability to engage in real time with product experts, influencers and other shoppers provides a value-added, entertaining and trustworthy way to both discover and purchase products," Puri asserts.

These benefits can be extended further by businesses if they invest in adding a livestreaming platform to their e-commerce website or mobile app. This is because, while social platforms are a great initial way of experimenting with live commerce, they possess a number of limitations.

"For example, Instagram only allows up to 30 featured products per stream. Third-party platforms can't seamlessly integrate with customer accounts, wish lists, personalisation engines, loyalty programmes and other features of your online store – aside from click-to-buy buttons. And, in many cases, streaming platforms take a cut of your sale."

So, to fully optimise a liveshopping experience, businesses should consider adding a livestreaming platform to their own e-commerce platforms. In fact, according to Arvato research, 70% of liveshopping events are held on brands' and retailers' own websites – rather than through a social platform.

"Adding a livestreaming capability, integrated with your webstore, enables you to go beyond simple transactions. For example, it allows you to connect participants with their customer accounts; offer loyalty discounts or points for engagement; show personalised cross-sells based on purchase and browse history; show real-time inventory and remaining units in stock during flash sale events; and add interactive features like polls, spin-to-win, and other gamified experiences," Puri explains.

"In addition to livestream features, using your own livestreaming capability can help you track important KPIs like views, watch time, segmented customer engagement, conversion rates and delayed conversions."

Supply chain management, through fulfilment-first

Interestingly, taking a wider view of the potential CX benefits, harnessing customers' purchasing data can also offer an invaluable aid to supply chain management.

"A deep understanding of the shopping habits of customers helps retailers not only deliver a personalised experience, but also resolve inventory issues and potential supply chain disruptions that may dilute the experience," Nath advises.

From a supply chain perspective, the benefits to this approach are remarkably far-reaching.

"Data solutions track inventory levels and real-time sales, which is used by modelling

40%
In China alone, 40% of shoppers have made at least one livestream purchase

20%
Livestreaming is expected to generate 20% of all retail purchases this year

"A deep understanding of the shopping habits of customers helps retailers not only deliver a personalised experience, but also resolve inventory issues and potential supply chain disruptions that may dilute the experience"

AMBESHWAR NATH
SVP AND INDUSTRY HEAD, CONSUMER, RETAIL AND LOGISTICS, INFOSYS

systems to accurately predict SKU-level demand. Analytical insights help supply chain professionals identify bottlenecks, streamline inventory management, and amplify supply chain efficiencies at the backend."

"AI and ML-driven data solutions streamline supply chain operations and improve cost efficiency. A digital thread connects the enterprise, enabling retailers to ship items directly from the manufacturer's warehouse, when it has run out of stock," Nath adds.

"Analytics tools also help enterprises make informed decisions to reduce the carbon footprint through smart routing and logistics."

In essence, by implementing systems designed to align transaction and sales data with real-time inventory, fulfilment can be achieved faster, thereby unlocking a significant competitive advantage. ◦

ePLDT IS SECURING DIGITAL TRANSFORMATION IN THE PHILIPPINES

WRITTEN BY:
SCOTT
BIRCH

———

PRODUCED BY:
STUART
IRVING

**Artist impression of ePLDT
VITRO Sta.Rosa to go live
by early 2024**

The leading enabler of digital transformation in the Philippines, ePLDT is building and securing critical digital infrastructure for a brighter future

t has been an eventful 12 months for Victor S. Genuino. Since becoming President and CEO of ePLDT – the leading enabler of digital transformation in the Philippines – on 1 April 2022, he has overseen the company's own dramatic realignment.

That shift in business focus means an even greater emphasis on data centres, as Genuino doubles-down on the company's pioneering commitments – they built the first data centre in the Philippines, and are currently adding an 11th to the portfolio.

VITRO Sta. Rosa will have an initial power capacity of 14MW in early 2024, which will increase to 50MW when fully operational, making it the largest and most advanced data centre in the country.

Leveraging on the telecommunication infrastructure of the PLDT Group, ePLDT is best placed to deliver customised ICT services through its suite of multi-cloud and data centre solutions, which in turn enable enterprises in the Philippines to achieve their digital transformation goals.

"It's been a hell of a rollercoaster ride," says Genuino. "When I entered ePLDT we were into a lot of businesses that had low growth or low margin and it was an opportune time to rationalise these.

"We have to focus on where we think growth is going to come from and, more importantly, offer and provide solutions to customers to make the services of PLDT and ePLDT stickier for them.

ePLDT VITRO
Makati Data
Center Facade

ePLDT VITRO
Cebu

"We feel the Philippines will be primed as a regional hub in the next few years"

VICTOR S. GENUINO
PRESIDENT AND CEO,
ePLDT

"Hence the focus on cloud, cyber security and our data centre business, so it's been a very good year in the sense that we were able to clean house and focus on growth for the next 5 to 10 years."

Genuino says this shift in priorities gave the organisation clarity of purpose and allowed ePLDT to expand its partner ecosystem, focusing on hyperscalers like Amazon, Google, Microsoft, Palo Alto Networks and the like, as well as establishing partnerships both in the Philippines and the wider region that further enhances ePLDT's existing multi-cloud capabilities.

PLDT is the dominant telco in the Philippines and behind the wireless brand Smart. They also provide home and enterprise fibre and an international connectivity business serving enterprises, SMEs and the public sector. This background has powered ePLDT to

VICTOR S. GENUINO

TITLE: **PRESIDENT AND CEO**

COMPANY: **ePLDT**

INDUSTRY: **IT & SERVICES**

LOCATION: **PHILIPPINES**

"I've worked professionally for close to 30 years now. I have been involved in both local and international companies and have worked in Hong Kong and Singapore for the likes of Philips Electronics, Siemens Mobile, and Shell Oil. Because of that experience and opportunity, I was able to work for PLDT Global, which is the international arm of the Group based in Hong Kong.

From there I moved to a sister company called Meralco – the biggest electric distribution company in the Philippines – and I worked there for 10 years before moving back to PLDT.

First, I was the head of our digital office in charge of transformation, before being assigned to run ePLDT as President and CEO in April of 2022."

a leading 65% market share in terms of domestic data centre capacity.

"One of the main advantages of ePLDT is our relationship with the PLDT parent," says Genuino. "Being part of the dominant telco in the Philippines allows us to build substantial infrastructure that will future-proof our operations for years to come.

"We have the largest international submarine cable systems linking the Philippines through the rest of the world to the US, to Japan and through Southeast Asia. And our domestic fibre rollout has reached 1,000,000 square kilometres. We are easily three to four times bigger than the next best player in the market in terms of fibre footprint and connectivity."

EXECUTIVE BIO

ePLDT

IN BRIEF

Industry

IT service management company

Challenge

Secure premises and cloud environments for ePLDT and their enterprise customers for full visibility to prevent possible breaches and/or misconfigurations, and support enterprise customer's shift to hybrid or multi-cloud environments.

Solutions

For a Zero Trust strategy, ePLDT selected Palo Alto Networks best-in-class Network Security - including Next-Generation Firewalls (NGFWs), VM-Series Firewalls, and Prisma Access - to transform their network, infrastructure and perimeter security. For their enterprise customers, ePLDT has partnered with Palo Alto Networks to offer Cloud NGFWs, Prisma Access and Prisma Cloud as part of the cloud transformation journey.

Outcomes

+ Comprehensive single-pane-of-glass visibility and cloud compliance across hybrid and multi-cloud environments
+ Increase in operational efficiency and cost savings
+ Enterprise customers are assured of a secure digital transformation journey

Providing full visibility and compliance with end-to-end cloud security coverage for ePLDT and their enterprise customers

"At ePLDT, our success lies in the ability to push boundaries and help our customers embrace digi transformation, while keeping cybersecurity at t forefront. We need to work with a forward-looki cybersecurity partner, which we found in Palo Al Networks."

— **Victor S. Genuino, President & CEO, ePLDT**

Comprehensive security for changing cloud environments

As the industry-leading digital transformation partner of enterprises in the Philippines, ePLDT partners with technology leaders to offer innovative solutions to their enterprise customers. Since 2016, ePLDT has established their own Security Operations Center (SOC), servicing their parent company, PLDT Group (including Smart Communications). ePLDT, PLDT and Smart Communications have relied on Palo Alto Networks to secure their networks and infrastructure.

ePLDT and their customers are transitioning to a hybrid or multi-cloud environment. Cloud adoption opens up a whole new range of attack entry points and threat vectors for both ePLDT and their customers. Regulatory compliance is also a critical aspect that needs to be addressed to adhere to data protection standards.

A strong cybersecurity ally to deliver better business outcomes

Palo Alto Networks and ePLDT have a compelling partnership that has evolved over the years. For network, infrastructure and perimeter security, they use NGFWs and Prisma Access from Palo Alto Networks. As ePLDT and their customers embark on their cloud transformation journey, ePLDT and Palo Alto Networks are offering Cloud NGFWs (VM-Series), Prisma Access and Prisma Cloud. Prisma Cloud is the industry's most complete Cloud Native Application Protection Platform (CNAPP), providing code-to-cloud security in and across any cloud. Prisma Access, Palo Alto Networks flagship Security Service Edge (SSE) solution, protects hybrid workforces with the superior security of ZTNA 2.0 while providing exceptional user experiences from a unified, cloud-native security product.

ePLDT chose to partner with Palo Alto Networks for the following reasons:

+ leading cybersecurity vendor
+ end-to-end security for the network, cloud platform, workloads and users
+ ease of Zero Trust strategy implementation
+ security consolidation through platform approach for best-in-class security capabilities while reducing point products and inefficient allocation of resources
+ industry's largest threat intelligence and malware prevention engine

A single pane of glass to manage all cloud assets

With VM-Series, Prisma Access and Prisma Cloud, ePLDT has enhanced visibility, cloud compliance and audit across hybrid and multi-cloud environments within the company and for their enterprise customers. The Palo Alto Networks solution offers platform consolidation, compatibility and interoperability with several cloud service providers and applications.

Read more →

> "Having a secured and highly available infrastructure, whether on-prem or on cloud, translates to operational efficiency and significant dollar saving. The reputational value of partnering with a strong cybersecurity company cannot be measured. This collaboration of ePLDT and Palo Alto is a partnership born in the cloud and forged in cyberspace."
>
> **— Alexis Bernardino, Cybersecurity Evangelist and Customer Field CISO, ePLDT**

ePLDT is securing digital transformation in the Philippines

WATCH NOW »

"**Being part of the dominant telco (PLDT) in the Philippines allows us to build substantial infrastructure that will future-proof our operations for years to come**"

VICTOR S. GENUINO
PRESIDENT AND CEO,
ePLDT

Genuino talks about the importance of public-private partnerships when it comes to building transport infrastructure in the Philippines but also the need for a similar approach to digital infrastructure. He believes that in two years, ePLDT will have the capacity to transport massive amounts of data and traffic to and from the Philippines.

Geopolitical tensions in the region and a moratorium on new data centre builds in Singapore, he says, could force some hyperscalers to look for alternative sites to ensure available capacity for the growing data demands of customer.

"We feel the Philippines will be primed as a regional transit hub in the next few years and we are working very closely with the Government, with the Department of Trade and Industry, to be able to make Philippines

ePLDT VITRO
Makati Cooling Tower

the next hyperscaler hub of Asia," says Genuino.

"We are also working very closely with the government to ensure that we build out this infrastructure to be able to promote economic inclusiveness. We're working very closely with schools, with executive branches of government, and with SMEs to help fuel their digital transformation."

Driving digital transformation is all well and good but, as many organisations and governments learn too late, that also means increased risk in terms of cyber security. The COVID-19 pandemic was in some ways a gift to cyber criminals who were only too happy to take advantage of the sudden rush to move business operations to the cloud.

65%
Market share of ePLDT in domestic data centres

Securing the cloud

Alexis Bernardino is cyber security Evangelist/Customer Field CISO at ePLDT, and he says it is not simply a question of if an organisation will experience a breach but when.

"The $1,000,000 question really is, is your organisation ready to respond and recover?" says Bernardino.

"At ePLDT, how we adapt to this current cyber landscape is by veering away from the conventional 'preventive, detective, reactive' cyber security approach and we move the needle to a predictive and responsive mode of proactive cyber."

We operate on an "assumed breach mode" acting as if we have been already breached. With this strategy, we are already

ePLDT VITRO
Cebu

ePLDT VITRO
Cebu

"Cybersecurity is the most critical and crucial component to ensure the success of any digital initiative"

ALEXIS BERNARDINO
CYBER SECURITY EVANGELIST
/CUSTOMER FIELD CISO,
ePLDT

responding to and mitigating any attacks in our infrastructures. Moreover, the mindset of paranoia and vigilance is being inculcated in the culture of the entire organisation.

Digital transformation is the name of the game in business today, with organisations embarking on a journey of convergence and cloudification, each with their own strategy and approach. However, caution is required,

and Bernardino says organisations should never undermine or downplay security.

"Cyber security is the most critical and crucial component to ensure the success of any digital initiative," he says.

"Most organisations right now are evolving in the three best practises and trends in the industry today. Number one is convergence, number two is cloudification, and number three is zero trust – and ePLDT is well positioned to provide our customers with expertise with the facilities and the technology."

Many commentators believe that the role of the Chief Information Security Officer (CISO) has changed significantly since the onset of the pandemic. Long seen as a backroom function or someone the C-suite would only take notice of when there was an IT problem, the role

has been rebooted for 2023. Now, cyber security (and that means cloud security) is right at the top of the agenda, and CISOs have a new voice within the organisation. Bernardino is quick to agree.
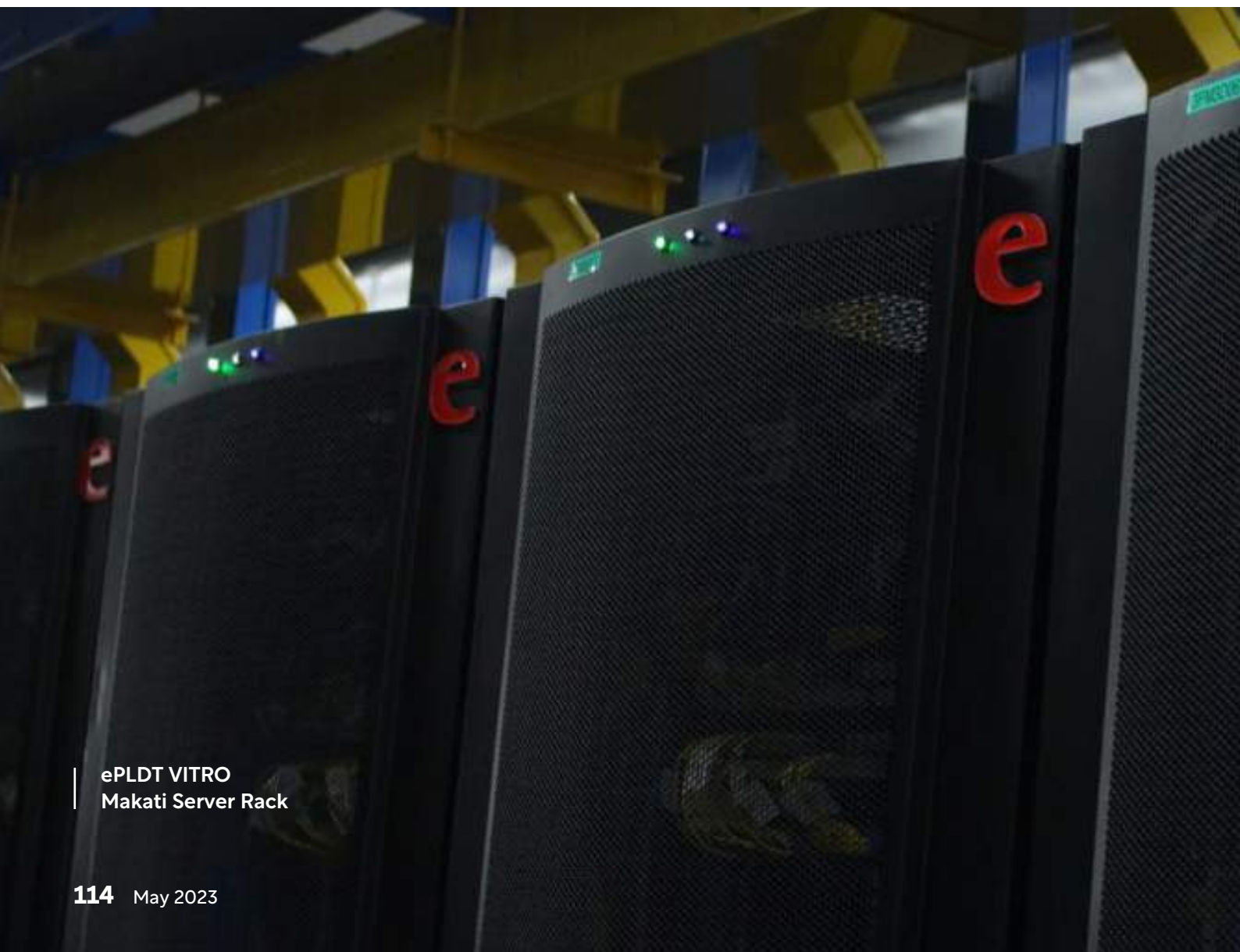
"The role of a CISO has evolved today from a purely operational focus to a business focus," he says. "The business has demanded somebody with cyber security subject matter expertise and a strong operational background to be in front of the customer – evangelising cyber best practices. It's a very unique skill set and proposition, trying to balance the technical and business aspects of cyber security and how it impacts the bigger picture of digital transformation of any organisation."

The *malasakit* difference

Being in front of customers day in, day out, ePLDT hears the actual needs and requirements that they have in the field and, as the leading and powerhouse data centre, multi-cloud and cyber security service provider in the Philippines, ePLDT is guiding its customers and clients as their trusted advisor and business ally.

Cloud can be a crowded and sometimes confusing environment for businesses taking their first steps, and that is why so many organisations in the Philippines turn to a local, trusted solution from one of the country's most respected brands.

CEO Genuino agrees but thinks there is an extra X-factor that sets ePLDT apart – *malasakit*.

**ePLDT VITRO
Makati Server Rack**

"When people ask what sets us apart compared to foreign consulting companies and systems integrators that we compete with here on a daily basis in the Philippines, I think it's a Filipino term called *malasakit*," says Genuino.

"It's hard to translate this into English, but it means extra attention and extra care for what the customer needs. It's a combination of care and empathy, and I think that's our advantage. We have been a strong partner of most of these enterprises through some tough times, and what we're doing now is adding another layer – cementing the partnership.

"With the strength of the PLDT organisation behind us, the infrastructure that we've

ALEXIS BERNARDINO

TITLE: **CYBER SECURITY EVANGELIST/CUSTOMER FIELD CISO**

COMPANY: **ePLDT**

INDUSTRY: **IT & SERVICES**

LOCATION: **PHILIPPINES**

"I actually started not in cybersecurity but rather in IP networking, so I'm an electronics and communications engineer by education, and I started my career as a field network engineer. But after a few years in the industry, I started thinking about what the next big thing would be to hit the tech market in the next three to five years, and I decided to shift to cybersecurity.

After that, doors were opened up to a lot of opportunities because cybersecurity skills are in very high demand here in the Philippines. That brought me to my current role as a cybersecurity evangelist for ePLDT."

EXECUTIVE BIO

ePLDT VITRO
Makati Lobby

"The $1,000,000 question really is, is your organisation ready to respond and recover?"

ALEXIS BERNARDINO
CYBER SECURITY EVANGELIST
/CUSTOMER FIELD CISO,
ePLDT

created and by hiring the right people to support our growth, I think customers should be able to look at us with a certain level of trust and confidence that we can deliver all of the digital requirements they're looking for."

That's one reason why ePLDT won Microsoft Country Partner of the Year Award in 2022, and testament to the hard work that has been put in to build the digital ecosystem, and validating the approach that ePLDT is taking. Awards like this are also important when it comes to attracting and retaining talent as it shows they can compete with the best-of-breed in the Philippines.

Genuino says his aim is for ePLDT to become not only the premier partner of Microsoft and Google, but also of Amazon and Salesforce and the rest of the cloud provider ecosystem.

"We have the capability, we have the infrastructure, and we have the customer relationships, given our 94-year legacy in the Philippines," he concludes. "I think if you put all of these ingredients together, it makes a very strong position. Customers can look at ePLDT as a one-stop-shop for all their connectivity and cloud transformation requirements."⚬

PROMISES & CHALLENGES: AI IN PHARMACEUTICAL DRUG DEVELOPMENT

We traverse the AI-fueled drug development space, hearing from **Paul Agapow** of GSK on the advantages and pitfalls of deploying AI & ML in the sector

WRITTEN BY: MARIAM AHMAD

Paul Agapow
Leader in Biomedical Data Science and Machine Learning, GSK

T he field of AI has revolutionised the way we do things — from the development of self-driving cars to breakthroughs in natural language processing (NLP) and computer vision, AI grows ever-more pervasive.

As the AI 'gold rush' rages on, in what seems to be an unrelenting fashion, it comes as no surprise that, increasingly, pharma companies are utilising AI for drug discovery and its development capabilities.

We explore some of the advantages, as well the drawbacks.

Mining through the data

Vast data sets are synonymous with the healthcare industry. Biotech companies are faced with the momentous task of mining through troves of patient data, including health records, chemical compounds, genetic information and medical imaging, in search of the next gem that just might be a new, breakthrough drug.

AI algorithms can be used to quickly and accurately analyse this data, identify patterns and trends, and also make predictions. This can help to speed up the process of finding new drugs, reducing the costs associated with traditional drug discovery methods.

Photo: © GSK

Photo:
© GSK

"A drug is not just a drug. There is this whole ecosystem around it"

PAUL AGAPOW
LEADER IN BIOMEDICAL DATA SCIENCE & MACHINE LEARNING, GSK

Paul Agapow, Leader in Biomedical Data Science and Machine Learning at GSK, says: "It's a data-rich process. It's the right optimisation and, if you could just lean on part of this process, make it 1% more efficient and so forth, there could be great benefits and great savings there."

GSK has made some major strides within the field, recently entering into a three-year collaboration agreement that provides GSK with access to Tempus' AI-enabled platform, including its library of de-identified patient data. Through its leading AI/ML capabilities, GSK will work together with Tempus to improve clinical trial design, speed up enrollment and identify drug targets. This will contribute to GSK's R&D success rate and provide patients with more personalised treatments, faster.

The problems with mass data

The process does not come without its pitfalls – specifically, the 'big data paradigm'.

AI algorithms rely on high-quality data to make accurate predictions and decisions. However, the data used in drug development is often incomplete, inconsistent or biased. This can lead to inaccurate or unreliable results from AI algorithms, which can, in turn, impede the drug development process.

"Software as a medical device – how can we use software to increase the accuracy of administering drugs?"

PAUL AGAPOW
LEADER IN BIOMEDICAL DATA SCIENCE
& MACHINE LEARNING, GSK

One of the major difficulties is the fact that complex human biology is context-dependent and that data can be hard to attain.

"We know that, for almost all of these ML models that have come up in various contexts, if we apply them to real patients, they fall apart. There were a couple of papers during the pandemic that concentrated on the point of the ML model, how we would diagnose, and outcomes. The result was that almost none of these models actually won. They were interesting exercises, they had good metrics, but they were not actually very good at treating real people because of the data situation," explains Agapow.

AI in drug identification and administration

AI has the capabilities to reduce human error, identify new drug candidates and carry out treatment plans efficiently.

In particular, ML can aid healthcare professionals in dosage optimisation – utilising algorithms to analyse data on a patient's medical history, genetics and response to treatment to determine the optimal dosage of a drug. This can help improve the treatment's efficacy and reduce the risk of side effects.

Further to this, there are opportunities for treatment plans and personalised medicine. AI algorithms can be used to analyse data on a patient's genetics and medical history to create personalised treatment plans. This can help to improve the effectiveness of treatment and reduce the risk of side effects.

We must move beyond seeing drug administration as just a simple task, and instead, one that is complex with many nuances, depending on the patient's needs and requirements.

"A drug is not just a drug. There is this whole ecosystem around it - the schedule, how it's administered correctly and so forth. This is a great opportunity for ML and AI," explains Agapow.

"How can we use the software as a medical device to increase the accuracy of administering drugs? So, using software ML models to diagnose people and monitor how they are doing following a course of treatment so we can intervene at the right time – we can prioritise patients."
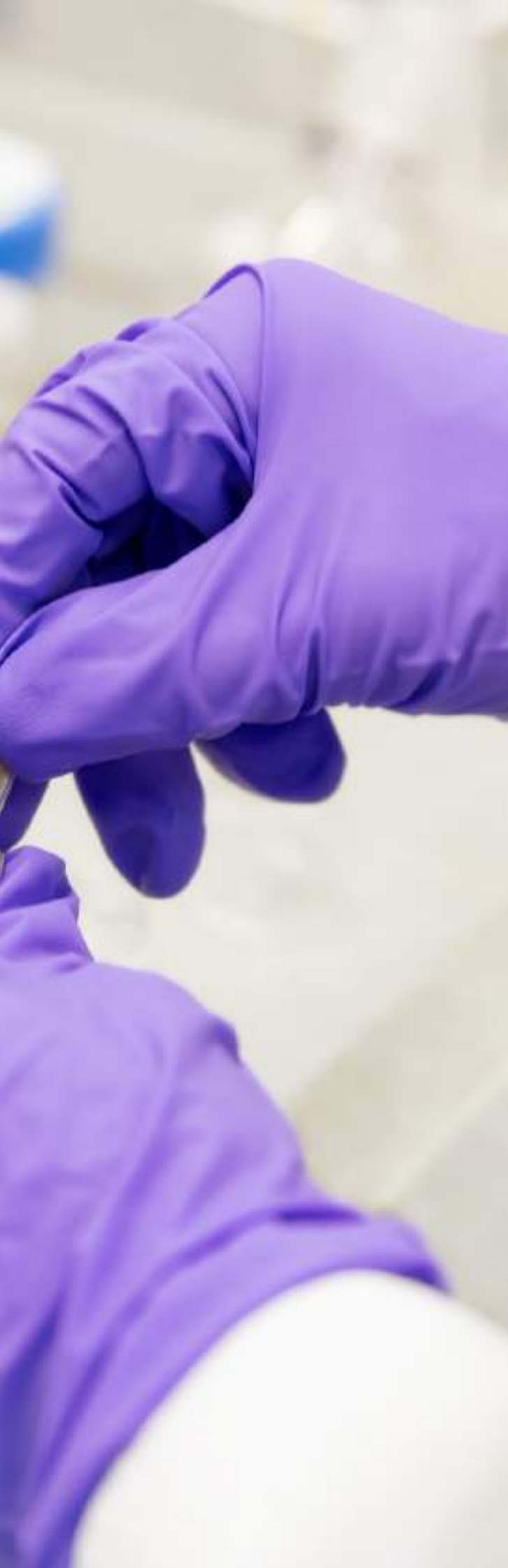
Challenges surrounding AI regulation

The increased application of AI within the healthcare industry – and more specifically, drug development – will depend heavily on laws surrounding regulations. AI-related risk mitigation

"Using software ML models to diagnose people and monitor how they are doing following a course of treatment... we can prioritise patients"

PAUL AGAPOW
LEADER IN BIOMEDICAL DATA SCIENCE
& MACHINE LEARNING, GSK

Photo:
© GSK

could spell avoiding high-risk consequences for companies.

FDA officials have acknowledged that the rapid pace of innovation in the digital health field poses a significant challenge for the agency. They say new regulatory frameworks will be essential to allow the agency to ensure the safety and effectiveness of the devices on the market without unnecessarily slowing progress.

Examples of approaches currently taken by the FDA include routine monitoring of SaMD products by manufacturers to determine when an algorithm change requires FDA review and premarket assessment of SaMD products that require it, among others.

The utilisation of AI in healthcare has the potential to bring about significant changes in patient outcomes, efficiency and cutting times in research and development. As a result, stakeholders – such as healthcare providers, software developers, and researchers – are continually exploring and creating new AI-based products, which push the boundaries of the current regulatory framework. Regulatory bodies, such as the FDA, are working towards addressing these challenges by devising policies that foster innovation while safeguarding public health.

There are, however, many issues that must be addressed to achieve this goal. As these policies are developed, it may also be necessary to consider legislative action to clarify the regulatory ambiguities within the field. ◗

Faraday Future

The leader in *luxury* electric vehicles

Barely a decade into the popularisation of electric vehicles, **Faraday Future** is launching the first ultra-tech luxury electric vehicle: meet the **FF 91**

WRITTEN BY:
CHARLIE KING

PRODUCED BY:
TOM LIVERMORE

Prashant Gulati is the esteemed Vice President of Strategy at Faraday Future. Now in his seventh year with the company, he handles the entirety of its strategic roadmap, which includes overseeing the business plan, mobility initiatives, manufacturing strategy, and directing fundraising efforts.
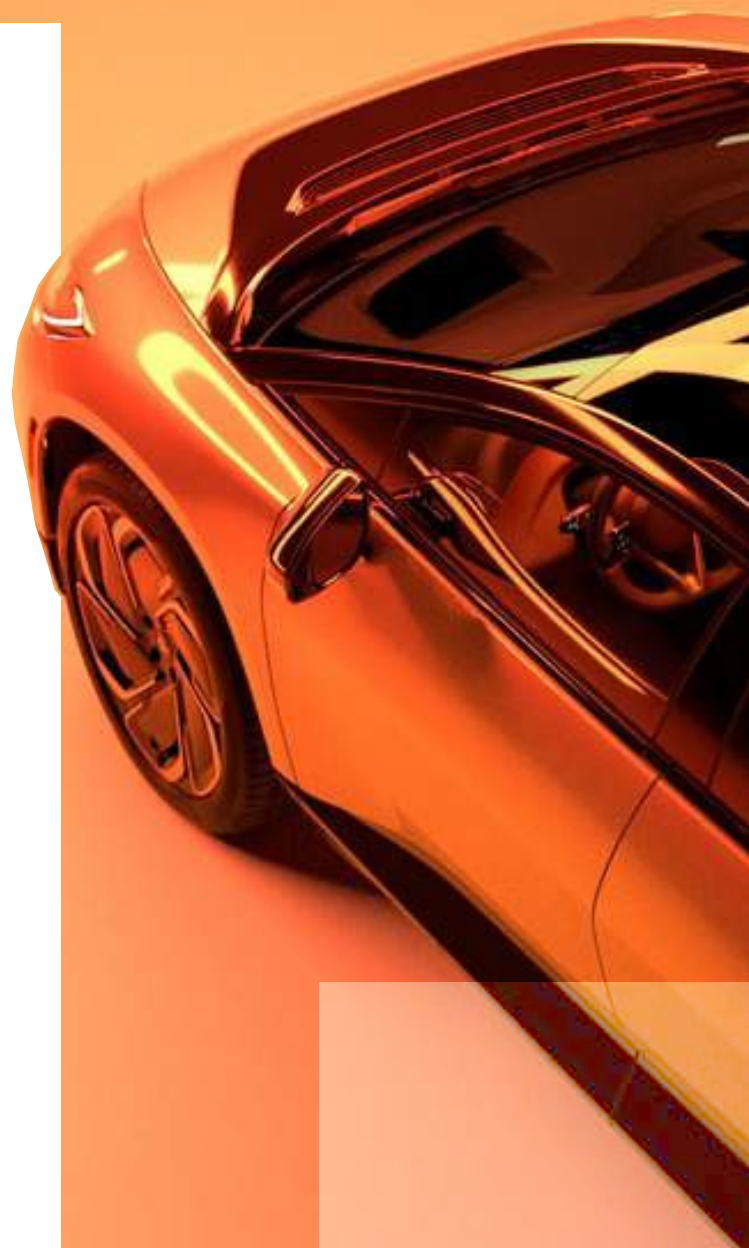
Fundraising is a key part of Gulati's role: "My proudest professional achievement has been co-leading the public offering, which helped the company raise more than $1bn through a listing on NASDAQ," he says.

With over 20 years of success in the technology and automotive industries, Gulati is an accomplished executive with a track record of scaling businesses. He has successfully led a public offering and held leadership roles to drive growth and expansion at several companies globally. In recognition of his industry contributions, Gulati was selected for the coveted Business Insider list of EV Industry Power Players.

Gulati holds a bachelor's degree in computer science and an MBA from the Indian School of Business.

Having grown up in India, Gulati has always had a deep affinity for the environment. This draw of environmental stewardship was heightened when Gulati and his wife were expecting their first child. "I had a sense of urgency to contribute to technology that could help slow climate change and create a better world for our children to grow up in," he explained.

"I explored numerous fields, including renewable energy, smart grids and energy storage, before focusing on EVs and finding

> "We were founded with the mission to help people live, move, and breathe more freely – and that's one of the things that drives a lot of us"

PRASHANT GULATI
VICE PRESIDENT OF STRATEGY, FARADAY FUTURE

Faraday Future. I immediately clicked with the company as it had such a bold vision and fit the environmentally-focused technological approach I was seeking. My journey into the auto industry has been quite unusual – almost accidental."

Faraday Future: driving the EV industry
"Climate change is the defining challenge of our time, and transportation is one of the largest contributors to it," says Gulati. "At the same time, the world cannot slow down. We need more growth, more productivity, more time to commit to our passions. So, at Faraday Future, we've been working on the intersection of these problems - of clean mobility and climate change on one

PRASHANT GULATI

TITLE: **VICE PRESIDENT OF STRATEGY**

INDUSTRY: **MOTOR VEHICLE MANUFACTURING**

LOCATION: **UNITED STATES**

» Prashant Gulati is the esteemed Vice President of Strategy at Faraday Future. Now in his seventh year with the company, he handles the entirety of its strategic roadmap, which includes overseeing the business plan, mobility initiatives, manufacturing strategy, and directing fundraising efforts.

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hand, and helping people lead productive, connected lives on the other."

Faraday Future has taken the first step towards achieving that mission by building the FF 91, which Gulati believes is the most connected, comfortable, and technologically advanced electric car in the world. The company achieved start of production of the FF 91 in California and plans to sell it through a direct sales model in its dual home bases of the US and China.

"The vision of the company is much more than building and selling electric cars, though," Gulati tells us. "We want to engage our users, build a community, and offer internet and AI services throughout the vehicle lifecycle."

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WE ENGINEER.
WE MANUFACTURE.

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LET'S TALK >   in

JVIS USA: BRINGING IDEAS TO LIFE IN THE EV INDUSTRY

In an exclusive interview, Jason Murar, President and CEO of JVIS USA, discusses how JVIS is pioneering the EV industry while supporting Faraday Future

JVIS USA is a world-renowned manufacturing leader boasting unrivalled proficiency across both design and engineering. Blending state-of-the-art technologies with vertically-integrated processes, the company guides a concept from the initial sketch to the final product launch, and everything in between.

By prioritising innovation, JVIS has established itself as a leader in the continuous shift towards electric vehicles (EVs). It specialises in delivering technology and components uniquely optimised for EVs, continuously seeking out novel concepts, technologies, and procedures.

JVIS has also played a vital role in supporting Faraday Future (FF) to unveil their vehicles to the market. Jason Murar, President and CEO of JVIS USA, explains:

"We've assisted FF in almost every facet, from the initial product development – where we identified key product innovations for their consumers – all the way through to the actual testing and validation, in compliance with automotive standards for those components and the continuous supply of critical components used in their vehicles.

Advancements in the EV market
Armed with impressive electrical solutions, JVIS employs the latest technology, such as capacitive touch surfaces and smart panels.

Murar says: "In the EV market, you see a lot of change with smart panels, which are now highly integrated into both the exterior and interior of vehicles."

JVIS is committed to leading the development of the EV industry, particularly as it plays a large part in the company's growth. "Our customers see how we're taking static panels and turning them into functional panels, giving expanded use of the vehicle," Murar explains. "These components include sensors and software to increase the user's experience, such as soft-close doors and ambient lighting.

"JVIS's continued investment in innovation and growth will enable us to make significant contributions to this dynamic field. If you are looking to turn your product ideas into reality, contact us today to learn more about how JVIS technology can help."

Throwing out the rule book in electric vehicle development

Faraday Future started from scratch, taking a "clean sheet approach" to building electric cars. Faraday Future's technology innovations include its proprietary Variable Platform Architecture (VPA), propulsion system, and Internet, Autonomous Driving, and Intelligence (I.A.I.) systems. The company has approximately 660 patents across these areas.

"So far, the company has invested billions of dollars in creating industry-leading product and technology," recounts Gulati. "Building cars is a capital-intensive business, and we've had our ups and downs.

"The way I would describe the ethos of the company is one of perseverance and tenacity; one of never, ever giving up in the service of our mission."

FF 91: A new species reformatting the future of mobility

The FF 91 has been designed as an all-ability car, possessing the handling of a sedan, the space, reliability, and comfort of an SUV, and the top-level performance and driving dynamics of a sports car.

"A lot of people liken it to a Rolls-Royce, with increased comfort, connectivity, and performance " Gulati tells us – and the statistics certainly speak for themselves.

video conferencing, and watch movies or live sports without driver distraction"

"There's a lot that has gone into developing and thinking about the design, driving experience, and the overall user experience" says Gulati who is incredibly passionate about the vehicle.

"There is no electric car in our segment right now – competing with Rolls-Royce,

"We are building what we believe is the most connected, most comfortable, most technologically-advanced electric car in the world: we call it the FF 91"

PRASHANT GULATI
VICE PRESIDENT OF STRATEGY,
FARADAY FUTURE

Bentley, Maybach – so we're quite excited about being the first EV of our kind, and we think it's going to redefine industry standards. The first ultra-tech luxury electric vehicle."

Faraday Future: the leader in luxury electric vehicles

WATCH **NOW** »

The technology under the bonnet

Faraday Future describes the technology behind the FF 91 within three pillars:

1. *Variable Platform Architecture*
    "Think of it like a Lego," Gulati explains: "You can change the size of the platform and build different vehicles of different sizes for different purposes. You can put different motor and powertrain configurations. This skateboard-like platform approach enables us to build multiple vehicles on the same platform, reduce time to cost, time to market, and more."

2. *In-house Propulsion Technology*
    Faraday Future has developed a proprietary inverter design and propulsion system. The drive units are fully integrated with the inverter, and transmission and control unit to enable leading horsepower, efficiency, and acceleration.

3. *Internet, Autonomous Driving, and Intelligence (I.A.I.)*
    "Our software, internet, and AI development is the most important of these pillars," says Gulati. "That's where the company shines compared to all of our competition." Faraday Future's commitment to these technologies supports the user experience in the car, both practically and luxuriously, ensuring seamless user experience through different elements, one of which is advanced voice control to manage complex queries without driver or passenger distraction.

FF 91

The FF 91 has:

- 3 motors

- 1,050 horsepower

- 0 to 60 in 2.27 seconds

- Class leading EPA and CARB certified range of 381 miles

- Charge Time (20-80%): 25 min @ 200kW DC Fast Charge

- Overall length: 5,250mm/ 206.7in

- Up to three 5G modems and a newly developed operating system, allowing customers to use apps and stay fully connected

- Industry-leading 49 inches of rear seat legroom
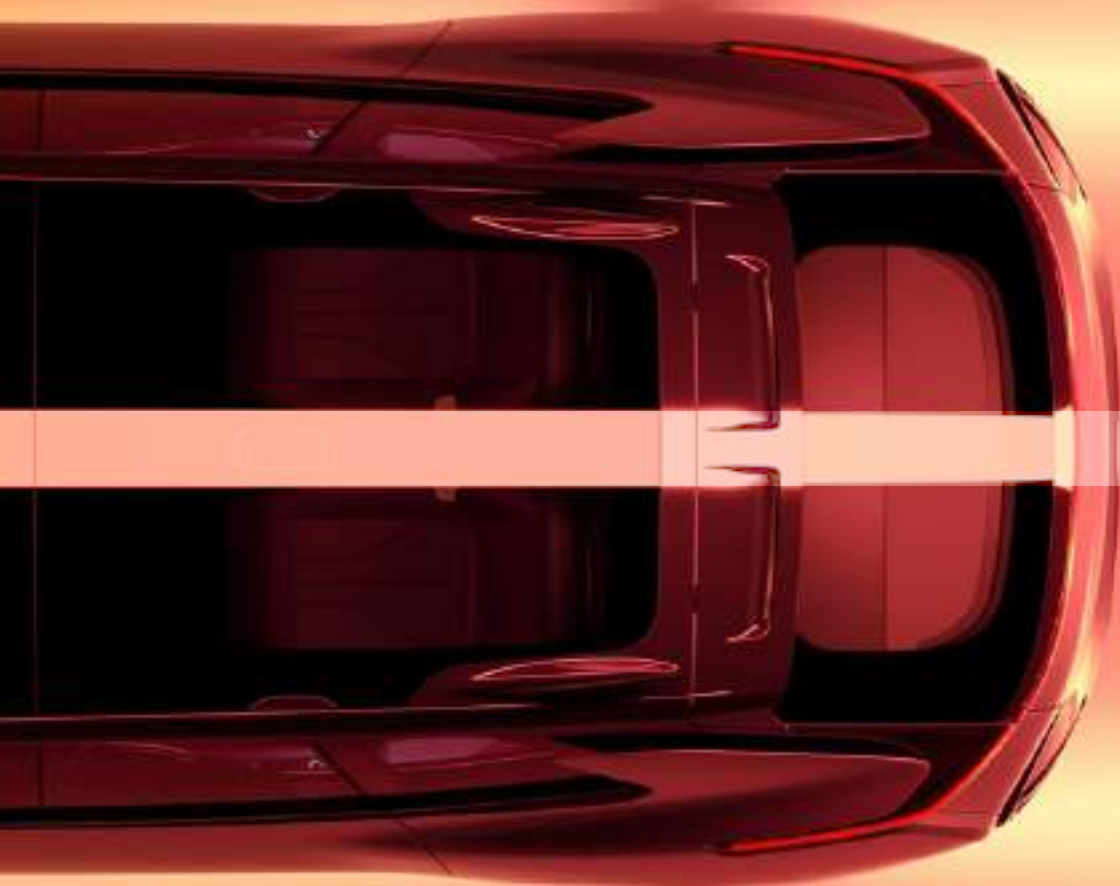
- 60-degrees rear seat recline in NASA-inspired, zero-gravity seats

Supply chain management

Faraday Future invested a lot in creating its own technology. "Some companies basically source parts and build a car, essentially becoming assemblers," explains Gulati. "At Faraday Future, we've invested a lot of time and capital on creating our own technology."

Faraday Future has strong partnerships with, and relies on, key suppliers to ensure the FF 91 is completed in a timely manner and with the high quality its users will demand. The company was affected to a lesser degree by supply chain issues during the pandemic because of planned low volumes at launch, and because many of the parts are created by suppliers uniquely for the FF 91, and so we don't compete with others for those. Notwithstanding, the company has taken lessons from that period and gotten even more diligent about planning and ordering across the supply chain.

In terms of scale, Faraday Future employs 590 people across the US and China, and with its production plant in California the company will ultimately be capable of producing approximately 10,000 vehicles per year. The current manufacturing setup is asset light, and the supply chain is built with expansion in mind: if needed, the company has a contract manufacturing partner for this anticipated expansion, allowing early-stage flexibility.

> ## "Climate change is the defining challenge of our time, and transportation is one of the largest contributors to it"

PRASHANT GULATI
VICE PRESIDENT OF STRATEGY,
FARADAY FUTURE

What does the future hold for Faraday Future?

"The company's DNA is completely global," Gulati says: "We've designed and defined the product with an abundance of cutting-edge technology to cater to a global audience."

The company is headquartered in Los Angeles, where much of the engineering and manufacturing takes place, but it also has roots in China – home to a Faraday Future engineering centre. The FF 91 will be initially launched in the US, followed by China, before being launched globally.

Distribution and beyond

"Looking to the next 18 months, we are very focused on the FF 91 production, sales, and

deliveries," Gulati explains. "We're going to be scaling our operation, ramping up supply chain – that's the key focus area making the FF 91 successful.

Gulati believes that the value chain disruption we're seeing now is going to continue, not only accelerating on the product and technology front, but on the sales side, too, as industry sales volumes increase.

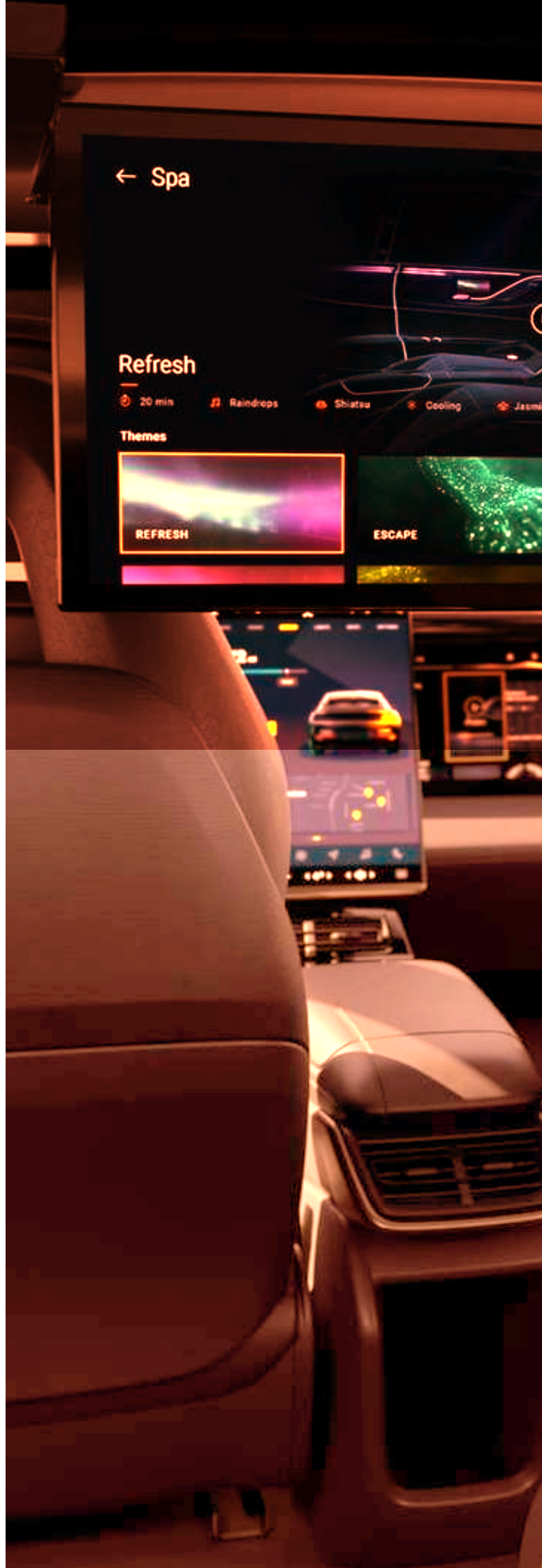"In the distribution model, quite a few OEMs have expressed a desire to sell directly to customers" Gulati explains.

"For the industry, this transition away from ICE (Internal Combustion Engine) vehicles is going to impact sales economics. Today, auto dealers mostly earn margins from selling auto parts and services, and financial services, and that's going to change. Maintenance and parts and services replacement in EVs is far less than ICE vehicles. So, we expect to see changes on the business side as well as on the product and technology side."

Despite this value chain disruption and anticipated global economic slowdown, Gulati himself doesn't forecast a slowdown for Faraday Future, citing research from McKinsey that shows the luxury vehicle market (vehicles $150,000 and above) is projected to grow significantly over the next 10 years.

FF 91: The mould for the future

Looking to the longer-term future, Faraday Future has ensured built-in capability to add further models to its Variable Platform Architecture.

"We have plans for our next model – we call it the FF 81 – which will share 60% commonality of parts with the FF 91," Gulati says. "Although, of course, such future developments are dependent on a number of things, including fundraising."

"We need more growth, more productivity, and more time to commit to our passions"

PRASHANT GULATI
VICE PRESIDENT OF STRATEGY,
FARADAY FUTURE

What is the future for the electric vehicle industry?

To promote long-term growth and success within the electric vehicle industry, Gulati says the focus is – and should remain – on batteries, reducing cost of materials, recycling, and developing new chemistries.

"Since 2010, the price of batteries has dropped significantly – until about 2019," Gulati recounts. "In the last few years, battery and raw material prices have risen again because of supply chain disruptions, due to the pandemic."

The second focus that Gulati expects of the industry is in EV infrastructure.

"We are seeing significant regulatory support to promote the transition to electric vehicles," he says. "Governments are allocating a lot of capital and policy support towards education, charging infrastructure, and local sourcing of electric cars, so we anticipate that will continue."

The future is on its way – and it looks electric. ◉

TOP 10

WRITTEN BY:
CHARLIE KING
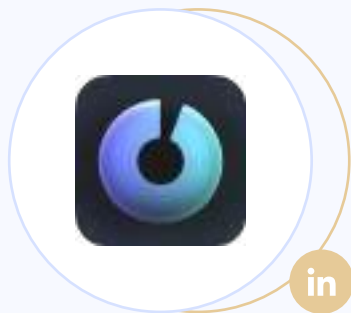
DAILY
WELLBEING
APPS

The 10 best mobile apps to support your wellbeing through daily actions, habit building, and tracking, as chosen by Mobile Magazine

There are countless ways to support our daily wellbeing. Yet, as busy lives get in the way, we often let them fall to the bottom of our priority list.

So, these 10 apps are our choice of the most effective, easily-accessible forms of support, which you can download straight onto your phone.

These apps can help users support their daily wellbeing in multiple ways, including via mental health support, screen time reduction, healthy recipes, exercise and meditation classes, positive habit trackers and period tracking.

10
ONE SEC

On average, an online user spends 17 hours per week on social media. Studies show that heavy social media use is associated with an increase in psychological distress, depression and anxiety. One Sec aims to decrease daily 'doom scrolling' by making you pause a second before you open certain apps and telling you how many times you've clicked on that app that day, giving you the power to break habits and actively choose, without putting up time limits or scheduled blockers.
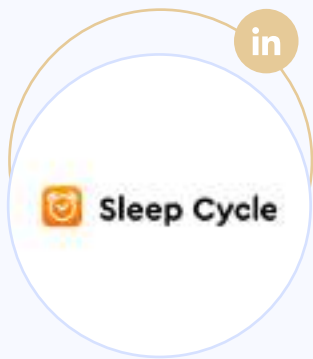
09
SHMOODY

Shmoody offers action plans, a supportive community and fun challenges in a less clinical approach to mental health.

With more than 100,000 users, it reports a 38% mood improvement and nearly 200,000 positive real-world actions, citing that "real mental health work happens once the phone is put down".

Its challenges and access to the community provide accountability and support, using daily interaction to facilitate long-term growth and fun, bright graphics to reach the people on the other side of the screen.
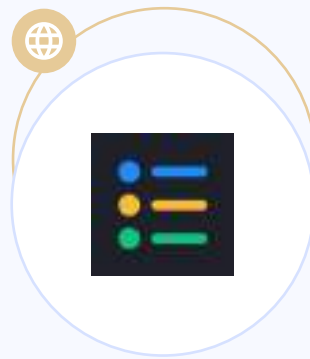
08

in

SLEEP CYCLE

Sleep Cycle aims to improve general health and wellbeing through daily sleep tracking; it believes that great, consistent sleep lays the foundations for nutrition, exercise and mindfulness – all things that contribute to good mental health and wellbeing.

The app tracks the user's sleep cycle through sound analysis, facilitating a deeper understanding of sleep patterns, before giving routine advice to aid better sleep. Launched in 2009, Sleep Cycle now has over two million active users in more than 150 countries worldwide and has analysed over two billion nights of sleep.

07

PRODUCTIVE

Habit-tracking app Productive is used by more than nine million people to build healthy routines, track progress and achieve their goals faster.

The app, which was developed by Apalon and voted Best Mobile App in 2018 and 2020, offers daily guided tasks and challenges alongside articles using expert insights to grow user awareness of routine building and personal improvement. The statistics and progress analysers work alongside the scheduled notifications to improve daily wellbeing in the fully customisable motivational app.
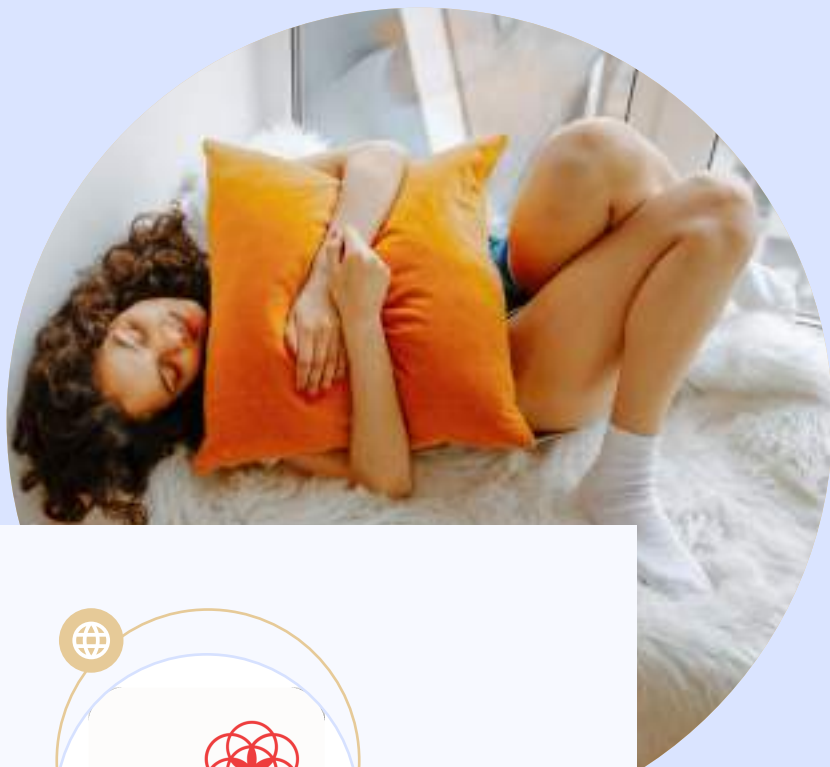
05
STREAKS

Streaks is the Apple Design Award Winning to-do list that helps you form good habits.

The app allows users to set up to 24 daily tasks and motivates completion through the development of streaks; if the task isn't completed, the streak is broken and resets to 0 days. For some tasks, the app can connect to Apple Health and automatically track them, for example, if you wanted to walk at least 7000 steps a day.

06
CLUE

Clue is a daily period tracker app with more than 11 million monthly users. It allows users to track their periods, ovulation and PMS, enabling them to see patterns and how their cycle affects things like mood, skin, energy levels, and much more. It also offers sleep, alcohol, contraceptive use, emotion, sex, and exercise tracking, providing users with insights into how their cycle interacts with their wider wellbeing, with an extensive range of articles available to enhance understanding of all things periods!

in

feel better
by deliciously ella

04

FEEL BETTER
BY DELICIOUSLY ELLA

Founded in 2014 by British vegan food blogger Eleanor Mills (known as Deliciously Ella), Feel Better is a one-stop shop for wellbeing. The app offers 800+ healthy plant- based recipes, meal plans and accompanying shopping lists, 300+ at-home exercise classes run by experts - including yoga, barre, strength and cardio, meditation – a podcast, articles, and more.

The daily tracker allows users to stay on top of the multiple features, alongside other key metrics like water intake and sleep. What's more, it can also link to Apple Health to include steps and movement monitoring.

VOS

in

03

VOS

Vos is a self reflection tool - created by mental health experts, psychologists and tech enthusiasts - that takes small, personalised, daily steps to improve user wellbeing.

Through questions, meaningful activities and affirmations that are personalised daily, users can track their moods and habits to continuously work on their mental health.

The app, which also offers a live chat with professional advisors, has over 1.2 million users worldwide and reports that 85% of these feel positive results within a week.

my possible self

02

MY POSSIBLE SELF

Featured on the NHS Apps Library, My Possible Self is an app created in partnership with world leaders in mental health and assessed by the NHS as clinically safe and secure to use. It contains clinically-certified content from Priory Healthcare, using cognitive behavioural therapy to help users manage anxiety, tackle depression, ease stress. and improve sleep.

It was founded in 2009, after Joanne Wilkinson was inspired by her own experience with therapy to create a platform that made mental health support accessible. Since then, it has gone on to win multiple awards, including Best Mental Health App GLAMOUR Wellness Power List 2022 and 2023, Highly Commended - Technology Solution of the Year, Leading Healthcare Awards 2022 and Personal Wellbeing App of the Year - Corporate LiveWire Global Awards 2022/2023. The platform also offers a wide range of supporting articles and workplace support.

my possible self
the mental health app

DataCentre.

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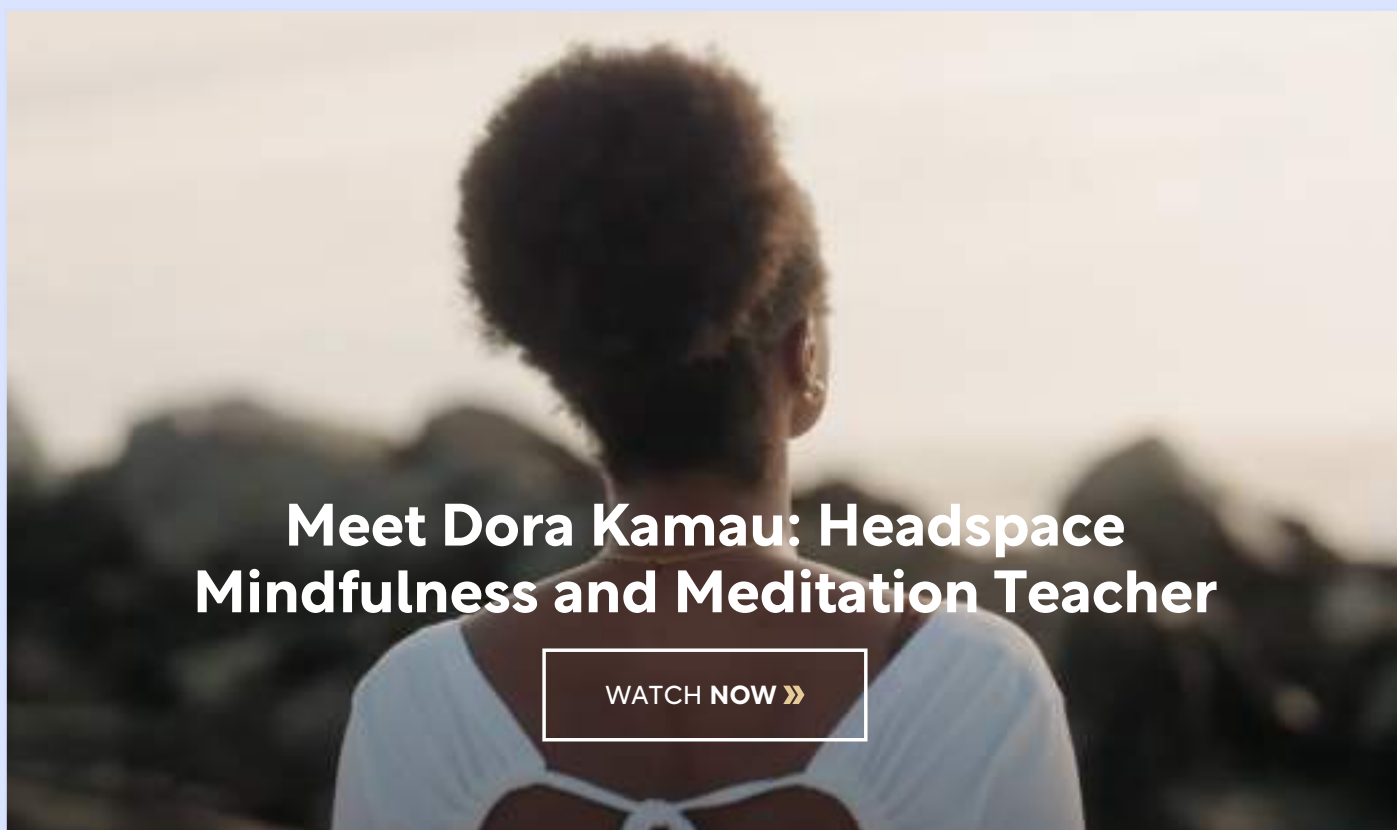
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DataCentre. TOP 100

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Digital Content for Digital People

01

Meet Dora Kamau: Headspace Mindfulness and Meditation Teacher

WATCH **NOW** »

HEADSPACE

Our number one choice for well-rounded, accessible daily wellbeing support, Headspace promotes users taking 10 minutes a day to check in with themselves, meditate, and clear their minds.

Founded in 2010 and led by former Buddhist monk and meditation expert Andy Puddicombe, the app has over 70 million downloads, is used in 190 countries globally.

With fans including Gwyneth Paltrow, Emma Watson and Antoni Porowski, Headspace reports its app users feeling 14% less stressed in 10 days. It offers a wide range of articles and sessions on topics including meditation, sleep, movement, stress, focus and alertness, all aiming to take a small part of the user's day for them to focus on themselves and their wellbeing – allowing that to improve the wider part of their lives.

Sleep sounds, focus music, yoga, mental health resources and workouts all contribute to Headspace's well-rounded approach to personal wellbeing, and the platform also offers Headspace for Work to be used in teams.

Sunrise

Transforming a digital media landscape

WRITTEN BY:
ILKHAN OZSEVIM

PRODUCED BY:
BEN MALTBY

Sunrise, the largest private telco provider in Switzerland, recently underwent a fundamental transformation; Senior Director Fabrizio Campanale reveals all

Fabrizio Campanale is Senior Director of Entertainment and In-Home Connectivity at Sunrise.

In this role, he's responsible for the video and connectivity platforms and services for Sunrise customers, serving over 1.5mn TV users and leading the deployment of new products in the Entertainment and In-Home connectivity domain.

Campanale's role involves managing – alongside his team – the local video network infrastructure, which consists of the engineering and operations that cover the collecting, processing, and distribution of video signals over the entire network, all the way up to the end of the value chain where it lands in the home of their customers. This in-home connectivity suite comprises the physical set-top-box or the app used by smart device customers.

Each element of the above falls in the remit of Campanale and his team, who are also accountable for the in-home connectivity hardware and software products, including all modem and Wi-Fi extenders used by their customers through multiple types of network – all aiming to have optimal Wi-Fi or internet experience – as well as the best interoperability between TV and in-home internet services.

Professional Journey

Campanale's professional journey at Sunrise began 10 years ago in UPC, when he led several innovation programmes in Switzerland's video and connectivity domain, such as the introduction of one of the first television "replay" services in Europe, the full analogue-to-digital TV switchover in Switzerland, and the introduction of the first 1Gbit/s modem, also in Switzerland.

"A superior customer experience is our obsession"

FABRIZIO CAMPANALE
SENIOR DIRECTOR ENTERTAINMENT
AND IN-HOME CONNECTIVITY, SUNRISE

He attained responsibility of the engineering department as VP for Network Engineering, and then for the Entertainment and In-Home unit – the latter being the function he retained in the newly-designed organisation following UPC's merger with Sunrise, leading the integration of the video and in-home platforms for the two merged customer bases.

Over the years, Campanale has had the opportunity to manage both commercial and organisational transformational initiatives, broadening the understanding of the business value chain alongside the customer journey and experience.

Before the UPC-Sunrise merger – except for a brief spell in a small, dynamic Swiss telco enterprise – Campanale spent the rest of his career in semiconductors at Philips, NXP, and STMicroelectronics.

Sunrise's services

Sunrise is the largest private telecommunications provider in Switzerland, strives to be the most innovative, customer-friendly telecoms company in the country.

As you would expect from a telco, they cover the full range of telecommunications – the key difference is the quality and integration of multiple connectivity services. Providing award-winning mobile voice and data, landline voice, landline internet, and IPTV (internet protocol television) services to residential customers, business customers, and other carriers across Switzerland, it utilises an integrated nationwide landline network and its Swiss mobile network.

The company is a wholly-owned subsidiary of Liberty Global, a world leader in converged broadband, video, and mobile communications that provides over 85mn connections – fixed and mobile – to customers in various countries, readying its networks for 10Gbps and beyond.

FABRIZIO CAMPANALE

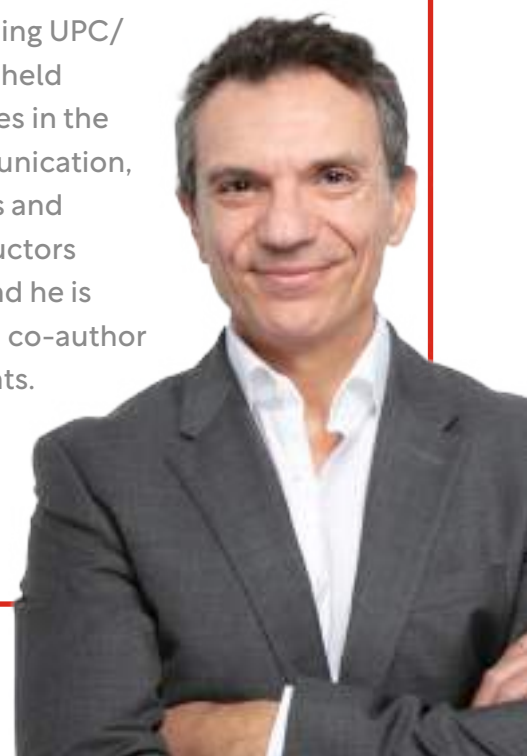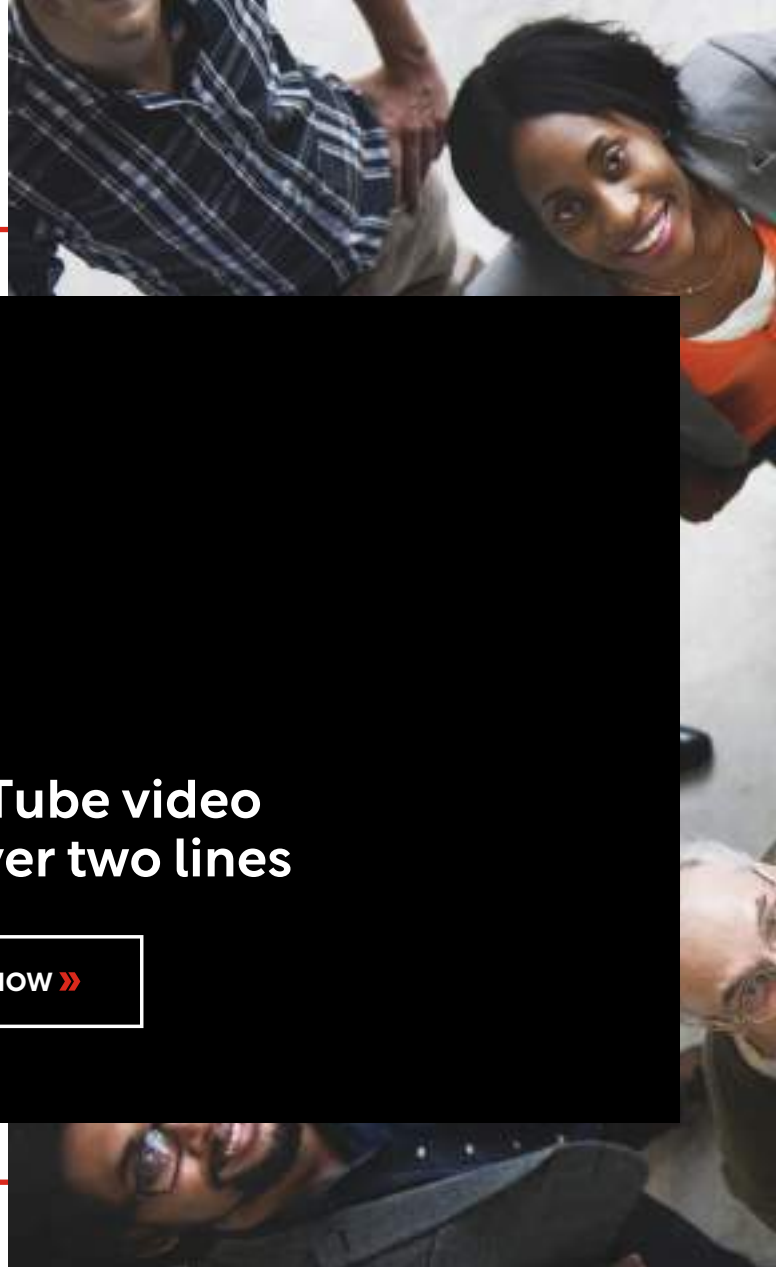TITLE: **SENIOR DIRECTOR ENTERTAINMENT AND IN-HOME CONNECTIVITY**

Fabrizio Campanale is responsible for the Entertainment and In-Home Connectivity platforms for Sunrise, managing with his team the product deployment as well as the infrastructure and operations, serving more than 1.5 million TV and Connectivity users and aiming for the best connected-entertainment customer experience in Switzerland. Leading the In-Home connectivity, he drives also the introduction and operation of Modems and Wi-Fi extenders and the adoption of cloud operated dynamic Wi-Fi, keeping the optimal Interoperability between TV and In-Home internet services. In his former role as VP Engineering in UPC Switzerland he has a track record of product launches including 1Gbps modem and the first RDK set-top-box in Switzerland. Before joining UPC/Sunrise he held various roles in the telecommunication, electronics and semiconductors industry and he is author and co-author of 16 patents.

EXECUTIVE BIO

Title of YouTube video often goes over two lines

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"The usage of AI – or, more appropriately, ML and big-data – is definitively taking-off as part of the industry transformation"

FABRIZIO CAMPANALE
SENIOR DIRECTOR ENTERTAINMENT AND IN-HOME CONNECTIVITY, SUNRISE

What's the relationship between UPC Schweiz GmbH and Sunrise GmbH?
Sunrise and UPC became one company in 2021 through one of the largest mergers in recent Swiss history. The two are now perfectly placed to meet the changing habits of their customers, perfectly complementing each other as customers benefit from the fastest 5G network from Sunrise combined with the extensive fixed Gigabit network of UPC.

"We are a leading provider of communication and entertainment with a focus on innovation, untethered connectivity, personalised entertainment and digitisation," says Campanale. "We offer a wide range of broadband, TV, mobile, and telephony services to almost two million customers."

"This includes an extensive range of TV channels, seven days of replay, and thousands of films and series available on-demand, plus the MySports channel and online platform esports.ch, which offer the best sports entertainment."

Sunrise's transformation journey

The last time Mobile Magazine spoke to Sunrise was two years ago – at the beginning of their integration. There's been a substantial volume of change and challenges in the period since.

Campanale says: "In these two years, we have undergone a successful transformational journey, which, no doubt, also came with its fair share of difficulties.

"The challenges, as in every transformation, lie in the relationship between integration and customer satisfaction, and in ensuring continuity of business and operations."

Since the beginning of the merger, Sunrise set and embraced clear and ambitious targets to boot-strap the new company in the best way possible without losing momentum, while doubling-down on the competitive advantage brought about by the corporate unification.

"And we are keeping our promises in moving our customers towards the best-in-class platform. It's challenging, but we keep growing and fulfilling this ambition."

As an example of these challenges, Campanale points to Sunrise accompanying customers in their journeys towards the new product portfolio, all while maintaining the

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company's promises of quality as a leader and provider of both telco services.

"A superior customer experience is our obsession," says Campanale. "We are aware that asking our customers to adapt to a new product, even if with more value, can prove to be cumbersome."

"Equally, bringing the two organisations together and ensuring that they work as one team; merging different systems, processes, and cultures is also no easy feat. This was even more difficult during the pandemic lockdowns, since there have been teams that only met physically for the first time a few months ago, following almost two years of working together remotely."

Collaboration platforms and the digitalisation of the company processes had been key in this phase. "Our IT did an incredible effort to sustain this need – but not without a good degree of flexibility from all the teams to navigate the turbulent period."

Campanale points out that, during these operations, it was paramount to harmonise the network infrastructures, service platforms, and product. A concrete example he gives concerns the migration of all Sunrise customers into the Liberty Global/UPC entertainment platform.

"We introduced a new TV set-top-box, which is 'Full-IP' and catered for those Sunrise customers who didn't have the traditional cable/hybrid access connection beforehand.

"In this way, this new customer base can now benefit from more mature technology, and Sunrise can have a single harmonised middleware and back office serving the entire base. This not only brings state of the art technology to the new customers, but also allows for a more efficient operation and customer support, providing them the same in-home technology."

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These mergers bring revised infrastructure, capacity, planning, and scaling opportunities, forcing even more attention in change management and operations. This helps to circumvent network interventions that could have a detrimental effect on the customer experience.

"It is impressive for a country like ours," says Campanale, "to be able to eventually connect and operate millions of customers. Every single mistake or operational hiccup could potentially leave a significant number of customers impacted. For us, it's a constant focus, while investing in increasing the network performances, to keep the infrastructure

"It is impressive for a country like ours to eventually be able to connect and operate more than a million customers"

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constantly stable and conceive the customer support in as smooth a manner as possible."

At Sunrise, experts and entire teams work day-in and day-out to check, fix, and improve every single case; to train agents; adjust processes; conduct call-backs; and support customers through their entire journey. Sunrise not only takes the customer experience seriously, but throws it up in their firmament as the guiding light of their operations.

Adapting to a world of digitalisation

"The world of technology and entertainment is constantly evolving, and it's important for us to keep up with the changes."

Sunrise runs an infrastructure-based business that provides also third-party services, particularly in the entertainment domain.

"However, the TV service consumption model is transitioning from traditional to a more advanced, making us an increasingly prominent aggregator of media content, streamlining the consumer experience."

"That's why the need of strong bundled offers in the FMC (fixed mobile convergence) market and the value of a competitive entertainment offer as part of the bundle, to drive the actual uptake."

Increased consumption of OTT content & video-on-demand driving IPTV growth

The global IPTV (Internet Protocol Television) market is expected to reach US$150bn by 2025.

As a telecoms operator, Sunrise is playing a key role in its growth, offering bundled packages of voice, video, and data services to their customers. The business pressure is multifaceted coming from big tech providers, DTC streaming services as well as the growing importance of Smart TVs and streaming devices as viewing gateways for OTT (over-the-top media services).

Partnerships between service providers and content libraries are also contributing to the growth of IPTV services. The IPTV sector is witnessing mergers and acquisitions as a relevant opportunity of this expanding market, as for instance Sunrise's collaboration with CH Media.

In other words, media consumption is increasingly digitising and moving net-ward. "Aggregation has become both an opportunity and competitive at same time," says Campanale, "Due to the shift of the pay TV market toward a supermarket model."

Retailers agencies and value-added services

In the traditional Pay TV model, service providers get licence content from suppliers and offer it to customers through predefined packages.

However today, operators are transforming more in a supermarket for third-party apps embedded in the set top-box and platform.

"That's why the value-added service is fundamental," says Campanale. "The more products are bundled, the more we are offering good value for money to consumers. Another example is the development of AVOD (advertising video on demand) – or personalisation in general."

Campanale says that on the technology side, the challenge surrounds the evolution of the platform: "We are strong on RDK, but it doesn't mean we don't look at the evolution of Android or SmartTV (such as Tizen and WebOS).

"The increase in Smart TVs and streaming hardware devices is putting pressure on technology and innovation, as well as Big tech companies such as Amazon, Google and Apple on the home ecosystem."

Campanale says: "We are facing these challenges adopting for instance a modular frontend strategy in the entertainment development, covering multiple platforms

in a way that the common frontend solution can work across different devices, such as iOS, Android, web, Smart TVs, and STBs.

"This allows us to benefit from the group R&D and deliver a seamless experience in the different markets and brands, across different platforms , while possibly containing costs and improving time-to-market."

The role of data and analytics in digitisation

All of this is ultimately connected to the digital transformation that Sunrise is undergoing, which is changing the way people connect, watch and create content – and, of course, TV operators need to adapt to changing consumer demands.

Now that consumers expect better content, bundling, and more accessible delivery, as well as quick resolution of issues, it only stands to reason that TV operators can use analytics to anticipate and correct problems before they arise, offering a continually more responsive service.

The road ahead for TV operators involves embracing digital transformation and finding ways to use technology to meet evolving consumer demands. By focusing on lifetime customer value and using data to offer a more responsive service, operators can quickly develop a competitive edge.

SUNRISE GMBH

2021
Year Founded

2780
Employees

The global IPTV (Internet Protocol Television) market is expected to reach

US$150-200bn by 2025

"If we look at the way entertainment and media content is consumed today, we need to guarantee smooth accessibility to content everywhere."

This consumption model, according to Campanale, poses two key questions:
- Are we providing our customers with the best connectivity service to access their content?
- In our technology stack, can we offer value through aggregation?

Service as an experience
Again, this is where the value-added service comes into play. Bundles both attract and retain customers.

"If we talk about customer experience, then we need to look at how remote monitoring and how digitalisation can be used to achieve it. We have intense investments in prioritising the customer experience throughout their individual journeys.

"In the technology space, in entertainment and connectivity services, we talk about how the ability to remotely

monitor the service equipment is becoming increasingly important for businesses, with remote connectivity being a key trend. We need to look at 'service as an experience' operating model, with the entire business chain paying particular attention to this shift.

"The usage of AI – or, more appropriately, ML and big-data – is definitely taking-off as part of the industry transformation: we collect millions of anonymous customer data points and elaborate correlation to understand where and how to improve the customer experience.

"But we aren't yet through this journey as we are an incumbent, and we need to find the right balance between serving the customers and business continuity and operational excellence, while transforming. The good thing is that we have several teams and initiatives, at both a local and a global scale, and it's clear there is no way back; keeping momentum will bring us to the full transformation.

"This is also valid for the way we work and operate, from enabling the agents to better serve and support (pre-emptive diagnosis and interventions) to our internal processes. Just think about the enterprise tools or collaborative tools adopting chatbots"

Concluding, Campanale says: "The combination of Sunrise and UPC is now well ahead in its journey and is forging its own identity as a company and as a post-pandemic modern telco operator. We are still working hard to get ahead in this journey and provide the best product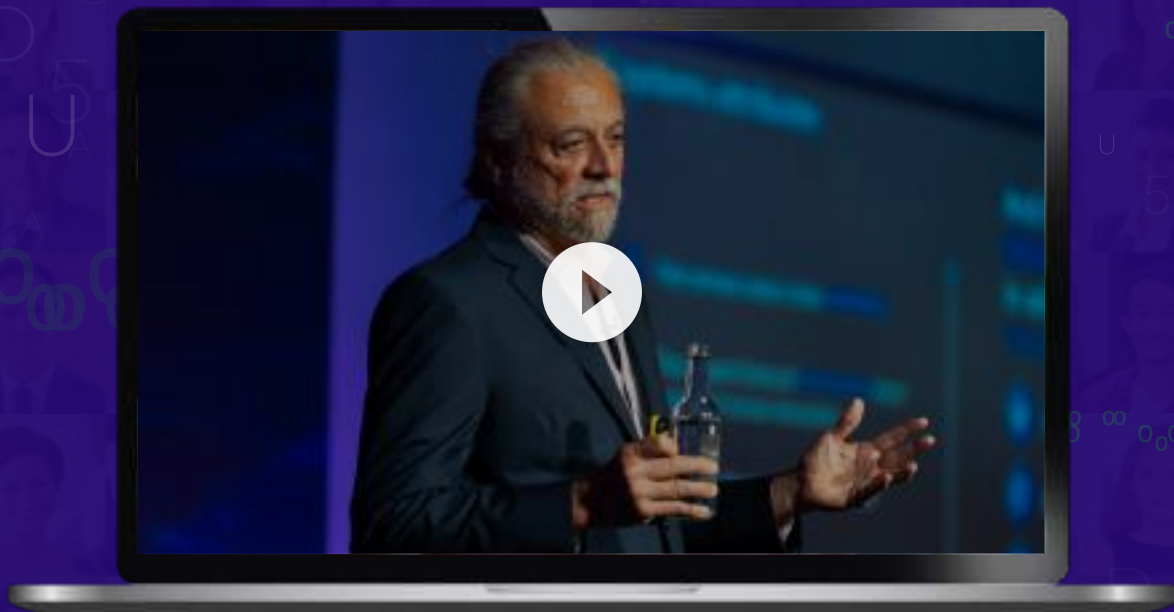 and service to our customers." ⊙