

GCCM MAGAZINE

 **Carrier
Community**
GLOBAL TELECOM CLUB

ISSUE 20, JULY 2020

THE ORANGE VALUE OFFER

INTERVIEW WITH
JEAN-BERNARD WILLEM
AT ORANGE

MOBILE ENGAGEMENT

IS FOR ALL
**JAMES WILLIAMS is
MrConnectivity**

CC-WEBINAR.LIVE

EXECUTIVE
INTERVIEW WITH
PAOLO MAGRELLI
AT SPARKLE NETWORK

DIVERSITY AND INCLUSION IN TECHNOLOGY

THE OTHER 50%
GAGUN GAHIR
AT TELSTRA

INTERVIEW WITH **FABRIZIO SALANITRI**
CEO OF HORISEN

THE REAL NEEDS OF NOWADAYS RETAIL MESSAGING



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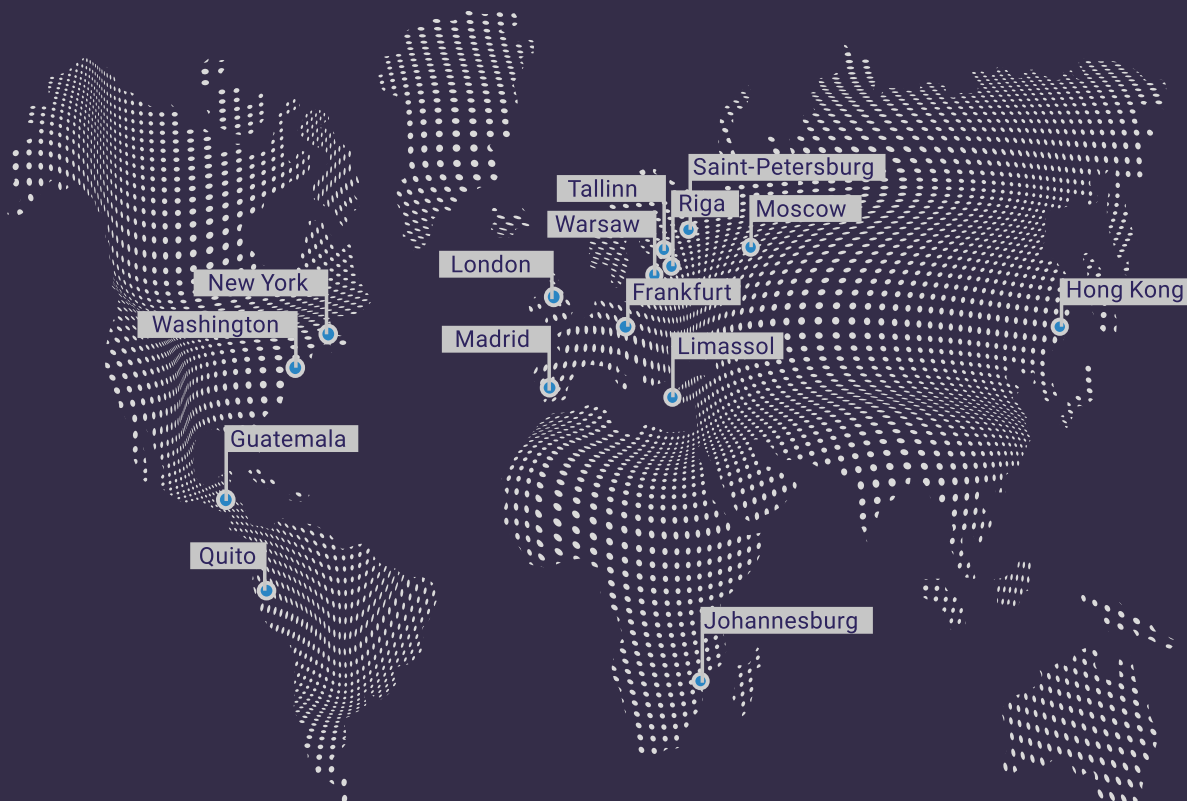
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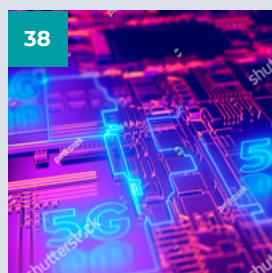
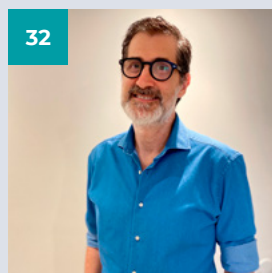
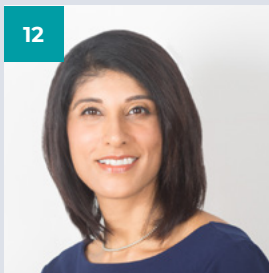
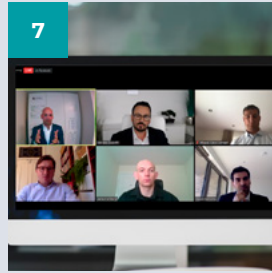
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delivered
annually

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countries
covered

1,200+
partners
worldwide

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EDITORIAL LETTER

Dear CC-Members and Partners, *Carrier Community (CC)* welcomes you to the 20th edition of our *GCCM Magazine*, July 2020 issue. Whilst the world is still undergoing turbulent times, CC Team continues staying focused on helping our members to share their messages, promote their brands, and continue building their businesses whilst utilising our global CC-Media & Promotion channels — monthly *GCCM Magazine*, *CC-Webinar.Live* branded features, our Monthly Newsletters, CC-Social Media Channels, and Digital Advertising platform.

In this *GCCM* issue, our media team is happy to feature an interview with Jean-Bernard Willem Senior Vice President, Product Marketing and Development International Carriers, Orange highlighting the importance of taking the customer-oriented decisions for all carriers.

We are also delighted to include an interview with Fabrizio Salantri, CEO of Horisen where he shares his knowledge on retail messaging and discloses what are the current needs of marketers. Industry expert also addresses the need for Omnichannel and compares the conversion rates of New Media versus traditional SMS.

Moreover, in our *CC-Webinar.Live* Executive Interview with Paolo Magrelli, Head of Sales Enterprise, and OTT Region Americas at *Sparkle* our members can find out all about the latest developments and upcoming plans of the *Sparkle network*. Paolo explains to us how *Sparkle* as a global telecom player approaches new ventures with out-of-the-box thinking that puts them ahead of their competitors.

This *GCCM Magazine* issue is dedicated to our partners in the industry who continuously support us and motivate us in these challenging times to continue expanding our global CC Telecom club.

Thank you once again for your continuous support and trust. To subscribe for our *GCCM Magazine* monthly issues, please visit: <https://carriercommunity.com/gccm-magazine-sign-up/> or contact CC team at info@carriercommunity.com

Wida Schmidt
CEO at *Carrier Community*

A handwritten signature in black ink, appearing to read 'Wida Schmidt', written over a white background.



ABOUT CARRIER COMMUNITY

Carrier Community est. since 2008, is an exclusive global telecom club and industry media, branding and networking platform for wholesale telecom service providers, including Voice, Data, SMS, Mobile, Datacenters, VAS, MVNO, ISP, Cable Subsea, Telehouse and other related sectors. Since its launch our telecom club has qualified more than 8500+ members, representing 2300+ operators from more than 130 countries. Our members occupy C-Level, VP, Director and Manager Positions at incumbent, mobile and alternative and small operators.

Carrier Community offers the industry a meeting place where members can share ideas, contacts and business information. Members have the possibility to connect with their peers, have access to latest industry news, publish articles and advertise their companies on the club publications, attend various members conferences globally and other benefits. Please visit different members portals to learn more.

www.carriercommunity.com

To become a member of Carrier Community, please visit: www.carriercommunity.com

To find out more about CC- Events around the world, please visit: <https://carriercommunity.com/cc-events-calendar/>

CC-MEDIA

CC-WEBINAR

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KEYNOTE SESSION

DATE: **JUNE 23RD** 2020

TIME: 15:00 - 16:00 CET TIME ZONE

KEYNOTE SESSION SPONSORED BY:

Telefonica

TOPIC: THE MESSAGING MARKET TODAY AND TOMORROW. CAPITALISING ON THE API OPPORTUNITIES

PANEL DISCUSSION & KNOWLEDGE SESSION



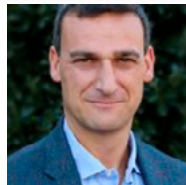
**KEYNOTE SPEAKER
/PANELLIST**
**IGNACIO GARCÍA
COMÍN**
DIGITAL SOLUTIONS & MOBILITY DIRECTOR AT TELEFÓNICA INTERNATIONAL WHOLESALER SERVICES



MODERATOR
JOSE GARCIA
OWNER AT GTC



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VP EMEA, SALES & OPERATIONS AT REALNETWORKS



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PANELLIST
FABRIZIO SALANITRI
CEO AT HORISEN



PANELLIST
ELLEN VELICKOVSKA
DIRECTOR AT TELXIRA

CC-MEDIA

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• LIVE



KEYNOTE SESSION

DATE: **JULY 2ND** 2020

TIME: 15:00 - 16:00 CET TIME ZONE

KEYNOTE SESSION SPONSORED BY:



TOPIC:

DIGITAL TRANSFORMATION. BUILDING NEW TECHNOLOGIES, STRUCTURES AND MODELS. HOW NEXT GENERATION 5G NETWORKS & SOFTWARE DEFINED TECHNOLOGIES RESHAPING INDUSTRY CHANGING NETWORKS?

PANEL DISCUSSION & KNOWLEDGE SESSION



MODERATOR
ERIK VAN STOKKOM
CEO AT VSC



KEYNOTE SPEAKER
/PANELLIST
RENÉ DE BAERDEMAEKER
DIRECTOR SUPPLIER MANAGEMENT AT EXPEREO



PANELLIST
IAN OLIVER
HEAD OF SOLUTIONS FOR NOKIA IN THE UK&I

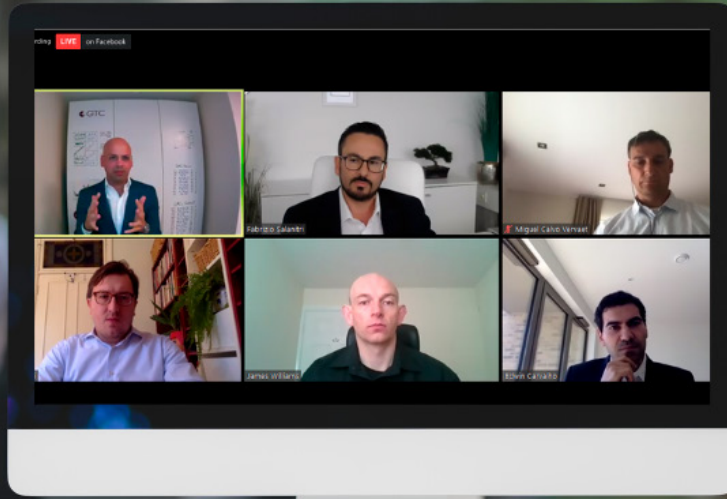


PANELLIST
BERNHARD PUSCH
HEAD OF GLOBAL INTERNET STRATEGY AT TELSTRA



PANELLIST
TAUFIQ HUSSIEN
CHIEF BUSINESS DEVELOPMENT OFFICER AT IX TELECOM

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CARRIER COMMUNITY CONTINUES EXPANDING ITS NEW **CC-WEBINAR.LIVE** FEATURE

Carrier Community (CC) hosted another three successful CC-Webinar.Live Panel Discussion and Knowledge Sharing Sessions

Berlin, 24th of June 2020, Carrier Community successfully hosted three brand new Webinars for its members. CC-Webinar.Live feature continues to expand and provide an opportunity for the sponsoring partners to share their message, industry experts to share their knowledge, for its audience members to stay up to date with the latest telco developments, and for the community to stay connected during challenging times.

On the 9th of June, CC hosted CC-Webinar. Live session on the Mobile Wholesale Industry, the 10th of June Panel discussion focused on the impact of Covid-19 on the Telecom Industry, and 23rd of May discussion covered the Messaging Market.

Every CC-Webinar.Live session addressed different areas across the industry, however, each of them, touched upon the impact of the Covid-19. It soon became clear that some sectors within the industry have been presented with new opportunities. As the demand for new solutions emerged, it was only natural that some sectors were positively impacted. Unfortunately, for some other industry players — this was not the case as some other areas have experienced significant losses.

'Carrier Community is proud of attracting more than 700 members who have joined and watched our CC-Webinar.Live branded Keynote and Panel discussion sessions. Since May 2020, we have been honored to receive support in these challenging times from our sponsoring partners: Orange, Sparkle, Telefonica, Brodynt, Expereo, and others, whilst sharing their valuable knowledge with our CC community members.' – said Wida Schmid, CEO of Carrier Community
CC team is looking forward to our future CC-Webinar.Live sessions. To learn more about online events organized by Carrier Community, or to become a supporting sponsor for our upcoming online events please visit our website: <https://carriercommunity.com/cc-webinars/> or contact CC team on info@carriercommunity.com

We are also looking forward to welcoming our members in the first CEE 2020 GCCM and CC-SMS Messaging event in Berlin on the 25th and 26th of August.

Contact:
Laura Matiukaite, Media and Communication Manager
laura@carriercommunity.com

INTERVIEW WITH FABRIZIO SALANITRI

CEO OF HORISEN

THE REAL NEEDS OF NOWADAYS RETAIL MESSAGING

Laura Matiukaite: What is the perspective of the retail and what do the marketers really want?

Fabrizio Salanitri: As we move into a new decade of communication, mobile messaging has undergone a serious revolution and is now booming more than ever. We no longer have just a standard SMS, but A2P SMS, OTT messenger applications, RCS, RBM (RCS Business Messaging), chatbots – a multitude of communication channels people across the globe use every day. This constant change, driven by technology, affects both marketers and consumer behaviors. Consumers' experience is everything. How it feels to use your product, the way customer service teams respond, the actual content within messages, and every channel you use to communicate. Marketers need to find a balance between driving short-term response activity and long-term brand-building. During this evolution of 360° communication, marketers strive for automation to lower campaign costs and to be able to react more swiftly to consumer signals of purchase intent. This is good news for the retail messaging market as the traffic volume will continue to grow in the years ahead. At the same time, communication platforms providing the most comprehensive array of channels, such as HORISEN Business Messenger, will play a significant role in the future. Spending on enhancing customer experience shows a significant increase year by year. Businesses that devise agile, responsive, and relevant communications and create a rich, emotional connection with the customer are likely to enjoy the rewards in the form of loyalty and business growth.

L: How the international retail market reacts to the new OTT messaging media?

F: OTT messaging platforms were a real game-changer. These platforms shook the market so severely due to several different reasons: they are free communication channels, offering rich content, and they are easy to use. To mention just a few: WhatsApp (and WhatsApp for Business), Facebook Messenger, Telegram, Viber, Apple's iMessage, WeChat, Line, Kakao Talk, etc. The international retail market fully embraced these new channels, also adding RCS / RBM to its scope. However, RCS and its business version RCS Business Messaging (RBM) are still struggling with a few problems. One is the relatively low number of operators and handset providers offering the service, and the second one is the lack of a clear pricing strategy. On the other hand, predictions say the total traffic attributable to instant messaging apps will continue to grow over the next five years. However, SMS will continue to dominate the business messaging landscape

pie, I think messengers will be the ones getting a bigger stake in the market.

L: The need of the Omnichannel – how can aggregators be prepared for facing new changes?

F: The way people interact today has fundamentally changed. We now have so many communication channels that it became pretty hard for businesses to follow the clients through their customer journey. It became normal for people to switch seamlessly between devices and different channels. This is the reason why enterprises now seek A-Z communication solutions. Preferably in a single platform that implements as many touchpoints as possible, enabling a single access point and centralized database. For aggregators, this means that they will have to adapt and be ready for a fast-paced evolution of the messaging that will no longer be reserved for SMS but will incorporate OTT chan-



as primarily the A2P channel. This means that the global retail market should fully harness the power of A2P SMS while preparing for RBM and the further increase of messengers in the following years. Instant messengers will keep their traffic volumes growth. Even though many predict RBM will get the largest piece of the

channels, RBM, chatbots, email, etc. all at once. This way, each customer receives a seamless, personal journey, regardless of how they choose to interact with a brand. Businesses need to research the right blend of media that combines performance and brand-building elements to best effect, ensuring that every interaction adds value, or creates it.

WE ARE YOUR SMS PLATFORM

Sales-driven. Carrier-neutral. Built for SMS.
Focus on growing your business, let us manage your software.



L: Is the conversion rate of the New Media more effective than traditional SMS?

F: The latest example from Japan, where RCS-based «+Message» service was launched in 2018, is demonstrating strong consumer adoption. Besides being an alternative to P2P SMS, the service also allows people to interact with a range of brands and services. The results showed that Japanese subscribers opened more than 85% of the RCS business messaging. This might indicate how potent RCS is, or it could just show how curious users are to find out how this new channel works. Yet, although predictions say RCS and RBM traffic will have a substantial annual growth over the next few years, this traffic will account for only 2% of all A2P SMS by 2023. On the other hand, even though the forecasts show OTTs will maintain their growth in traffic volumes, these platforms and business messaging apps will continue to suffer from customer base fragmentation across so many different channels. As marketers and brands are now seeking an all-in-one messaging solution, many of these communication platforms will have to enable fallback onto SMS protocol to ensure message termination. We can conclude that SMS still is and will be the most lucrative communication channel, having the highest conversion rate due to

its ubiquity, simplicity, and traffic termination security. Wider reach, better open and response rates, and cost-effectiveness shows how mighty powerful it still is. And yet, the latest SMS marketing statistics show 64% of consumers think businesses aren't contacting them via text messages as much as they should. So, a well-defined, persistent SMS marketing campaign can help you gain an automatic edge over the competition.

L: What is next?

F: We expect to see further growth in A2P SMS traffic, powered by additional SMEs adoption of A2P as a communication channel. The messaging industry is now on the mission of going to smaller clients and explaining to them what they can do with messaging tools and helping them understand that business messaging is not reserved for the big enterprises only. SMS, with its prevalence and simplicity, will play a key role here. Hence, SMS will continue to dominate the business messaging ecosystem as primarily the A2P channel. At the same time, RCS is gaining momentum. At present, the operators are focused on implementing RCS at the P2P messaging level. With strong support from Google, Microsoft, Samsung, etc., RCS adoption is going to become much more ubiquitous over the next few years. Once RCS gains enough global traction,

we are going to see more and more companies utilizing RCS business messaging (RBM). Until then, operators will have to agree on the pricing model for RCS and RBM. At the same time, OTTs will maintain their growth, with WhatsApp at the forefront. The transformation of the messaging landscape is an ongoing process. However, considering all the obstacles on this road, we can conclude that SMS will unquestionably continue to be the central pillar of mobile engagement globally for a longer period of time.

Fabrizio Salanitri is CEO and founder of HORISEN AG, Swiss software company with 17 years' long experience in telecommunication software and application solutions. Fabrizio's in depth knowledge and experience in SMS business resulted in state-of-art SMS Platform, cloud based and carrier neutral suite for A-Z SMS Wholesale business. During his career, he's been working with companies and industries of all sizes. Therefore, all HORISEN's products and services are perfect for both enterprise and retail customers – and all of them have one thing in common: they are designed professionally and they are meeting the highest production quality and standards.

DIVERSITY AND INCLUSION IN TECHNOLOGY: THE OTHER 50%

**Gagun Gahir, Regional
Manager EMEA & Ameri-
cas, Carrier Voice**

Let's start with a global fact: 50% of the world's population is female. When more women work, economies grow. Women's empowerment in the tech industry doesn't solely mean greater productivity, it means upskilling women in critical areas like the new digital world which is rapidly transforming the way we live our lives every day. McKinsey's studies have demonstrated that organisations which are culturally and gender-diverse at leadership level outperform organisations which are not by up to 33% in profitability. Women reportedly undertake 75% of the "unpaid" work globally. This comprises of tasks such as caring for children, the elderly or unwell, cooking and cleaning... this list continues. When AI drives everything from our cars to our shopping lists and social interactions, how do we ensure those designing the platforms are diverse enough so that the outcomes they generate are not discriminatory? In 2018, the World Economic Forum cited that only 22% of AI professionals on LinkedIn were women. There is no evidence of improvement in recent years.

A study in 2019 showed that for every 100 men promoted into leadership, only 72 women are (McKinsey, Women in the Workplace 2019). When we consider that women do much of the unpaid work; add to this the poor understanding around women's health as they age; plus the number of women giving up their full time jobs (for which, on average, they are paid 23% less for globally), perhaps we have an explana-

tion for the reduced number of women climbing the ladder to Executive jobs. There simply are not enough women to promote. With this ferocity of competition for an apparent limited number of spots, there is a perception of women seeing each other as competition. This is dangerous and makes it more critical that our culture is one of allyship to ensure we are creating a psychologically safe place for women to thrive.

Overthrowing unconscious biases dictating the difference between an "ambitious" man and an "aggressive" woman for the same character traits is also key. I've been told I'm "scary". Taking into account biases towards women, I had a difficult choice to make. Do I tone down my personality in a conscious effort to be more

Allyship isn't limited to women for women. Through participation and active, conscious championship, men have the ability to create transformative change. Our CEO, Andy Penn, is one of Australia's Male Champions for Change, supporting 50/50 on interviewee lists - and on interviewer panels where there is a known gender divide. Recognising the challenges that women face from the top down is imperative.

Flexibility ranks as one of the top asks from female employees. Telstra has applied an "All Roles Flex" principle that allows our people to work hours that suit their needs and our customers' requirements. Employees choose the location of their work, be that from home, the coffee shop or a different Telstra office. The level of engagement from our people is clear - the

“Overthrowing unconscious biases dictating the difference between an ambitious man and an aggressive woman for the same character traits is also key”

approachable? My approach to it now is to question whether I would be "scary" if I was a man voicing his opinion. Mostly, the answer I come to is no. At Telstra, our ways of working using Agile methodologies encourages freedom of communication, removes hierarchy and empowers our people to work through healthy debate. Our varied opinions and backgrounds allow us to reflect our diverse customers that we serve. Diversity is about difference - reaching a consensus in a challenging situation shouldn't be without conflicting viewpoints.

option to work when it fits their lives best means we get the best productivity. My team help me look after a region that stretches from EMEA to the US and Canada - and I report to Asia. In a global community, we cannot maintain productivity without a look at our work/life balance. If we look at the expectations of millennials, these types of practices are not a bonus. They are expected. Offices with sleep pods and ping-pong tables seem counter-intuitive. Keeping people at the office for as long as possible is contrary to the way we are developing technology -

“Recognising the challenges that women face from the top down is imperative.”

seamlessly, with mobility in mind, accessible from anywhere and without physical boundaries. If we don't adapt our practices, we run the risk of not attracting the next generation of talent.

The industry is changing – but it will take more than 200 years for equality (Gender Parity on Boards, Leading Governance 2013, NBC News 2018). We must accelerate the rate of change with action. We're seeing profound changes in some countries such as Saudi Arabia where, similar to technology, generational change is leapfrogged in favour of sweeping transformation. The introduction of more than 10,000 women into one telecoms giant brought with it challenges to continue to respect cultural beliefs – but one conversation I had with a female graduate on campus stuck with me. I asked her if she was finding it exciting being in a workplace. From behind her burqa she smiled at me and said, “It is hard, for sure – and I am starting at the very bottom. But soon,” – she levelled her gaze at me defiantly, “Soon, with hard work, I will be just as good as the men. No-one can stop me now.” Until we work in an industry where every woman can say that – we have work to do.

The Telstra logo is displayed vertically, with the word 'Telstra' in a bold, blue, sans-serif font. The letter 'l' is stylized with a blue circular shape at its base.

COMPETITION IN THE DATA ECONOMY

As more people stay at home due to Covid-19, internet connection is the lifeline to the outside world to work, play and learn. Demand for online services such as shopping, food delivery, educational tools, medical platforms and entertainment has skyrocketed. As a result, more businesses are adopting digital technologies to expand their online offerings and facilitate digital payments.

Some describe these trends as a 'goldmine of data' being collected. This is good for consumers if it provides insights to deliver better, cheaper and safer online services during and after the pandemic. But what happens if this data is used anti-competitively, either by dominant players or by competitors colluding to charge higher prices or keep innovative rivals out?

Around the world, government agencies are studying the competition impact of businesses controlling and using data. For example, the UK, Europe, Australia and Japan are all analysing how their digital economies function, their key features and how to address any potential competition harm to consumers.¹ As Covid-19 changes consumer demand and supply patterns, many of which could become long-term, these studies have increased in importance in steering the data explosion towards a competitive digital economy.

Exponential growth in the volume and value of data

Data has always been a key resource for companies. However, technological developments have lowered the cost of collecting data and new data analytic techniques have multiplied its economic value. More businesses can now access different types of data and larger volumes, produced at high



speed from different sources.

At the same time, the number of internet users around the world is rising, creating mountains of data.² With the pandemic, over three-quarters of internet users (in different countries) are spending more time on their smartphones during Covid-19 lockdowns.³ Telecom operators have also reported a massive surge in data traffic.⁴ These trends are likely to continue generating e-business opportunities at a much faster rate than in the pre-Covid-19 world.

Data can help companies gain a competitive edge

With the breadth and volume of data available, selling online products or services has become more efficient, personalised and easier to advertise to different customer segments. Such online strategies will continue to be essential to compete and survive. E-commerce platforms are collecting and analysing a consumer's past browsing and purchasing patterns, and developing algorithms to carry out targeted marketing. Fintech companies are also analysing consumer spending patterns to offer personalised banking services based on age, gender and economic status.

But are businesses aware of the competition risks?

Many businesses may already know the dark side of data like cyber threats and breaches of data privacy. However, some may not be familiar with the potential competition harm. Yet competition regulators are monitoring or investigating companies that use and/or control copious amounts of data, to discriminate against or exclude competitors. For instance, the European Commission is investigating Amazon which operates its own retail website and an online marketplace for independent retailers. The Commission is assessing whether Amazon is using commercially sensitive data from its rivals, who sell on its marketplace, to boost its own business.⁵

Some authorities, for example France and Germany, are also proactively studying the competition effects of algorithms which are

fuelled by data.⁶ In 2015, the US Department of Justice charged two executives and an e-commerce retailer for using pricing algorithms to fix the prices of posters sold online.⁷ In Singapore, when the ridesharing company Grab acquired Uber, authorities were worried that Grab could use their algorithm to increase transport fares and ordered the company to keep its pre-merger algorithm.⁸

Industry-wide studies have highlighted that, in some markets, new entrants cannot replicate the scale and scope of data held by incumbents. The UK retail banking study found that new banks could be stronger competitors to traditional banks, if they used technology and had access to customer data to improve their offerings.⁹ In the automotive industry, digitalisation is producing large quantities and varieties of in-vehicle data. Vehicle manufacturers control that data, spurring third party suppliers to lobby for access to compete on a level playing field.¹⁰

Businesses may be required to share customer data

In light of the growing concerns, policymakers are looking beyond competition law to mitigate the competition risks around data and lower barriers to entry. One example, related to retail markets, is giving consumers control over their own data and the ability to request their data be transferred from one provider to another. Such rights have either been incorporated into data protection laws, applied to specific sectors (e.g. health sector in the US) or in the case of Australia, introduced in special legislation. The Australian Customer Data Rights Scheme will be introduced this year, first, in the banking sector and then in the telecommunication and energy sectors.¹¹

Businesses need to get educated

The pandemic has accelerated the volume of data being generated, creating an opportunity for businesses to compete and innovate. All businesses must comply not only with data protection law but also with competition law, which

prevents anti-competitive behaviour. This means businesses need to understand both the competition risks and the opportunities in the growing data economy.

Author: Nimisha Tailor, Competition and Regulation Specialist

Nimisha has international expertise in the field of competition and regulation and has worked in consultancy firms and competition regulators in UK, New Zealand and Singapore. She has led high-profile and complex merger investigations, drafted merger control guidelines and advised government agencies on competition matters involving regulation, policy and public procurement. She conducted economics research, supervised market studies and led a regulatory review at the Singapore Tourism Board. At the Competition and Consumer Commission of Singapore, as Deputy Director, Nimisha supervised a seminar on e-commerce and gained in-depth industry knowledge on credit cards, taxis, car parts, liner shipping and cruiseports. In 2015, Nimisha was seconded to the Australian Competition and Consumer Commission.

¹ UK Report of the Digital Competition Expert Panel 2019; Competition Policy for the digital era European Commission Report 2019; Digital Platforms Inquiry Australian Competition and Consumer Commission 2019, Report of Study Group on Data and Competition Policy, Japan Fair Trade Commission 2017

² DataReportal reported 4.57billion global internet users in April 2020, 7% increase since last year

³ GlobalWebIndex Coronavirus Multi-market Study April 2020

⁴ Keeping the World Online During Covid-19, Telstra Exchange May 2020

⁵ European Commission, Press Release, July 2019

⁶ Algorithms and Competition, Bundeskartellamt and Autorité de la Concurrence 2019

⁷ U.S. Department of Justice v. Daniel William Aston and Trod Limited 2015

⁸ Grab-Uber Merger, Competition and Consumer Commission of Singapore, Press Release, 2018

⁹ Retail Banking Market Investigation, Competition and Markets Authority 2016

¹⁰ Access to In-Vehicle Data and Resources, European Association of Automotive Suppliers 2019

¹¹ Australian Competition and Consumer Commission website

MOBILE ENGAGEMENT IS FOR ALL



Mobile is undoubtedly the key channel for instant customer and team member engagement. There is however a common misconception that most of the truly great stuff mobile engagement offers is the preserve of large organisations alone. That only they have the suitably deep pockets allowing for the levels of investment true multichannel/omnichannel offerings require; allowing them alone to build the supreme level of client engagement that smaller organisations can only dream of. Never mind the personnel, the support, required to maintain such solutions and relationships with connectivity

partners. This could all not be further from the truth. Mobile Engagement is for everybody, SMEs included.

SMEs are hugely important to industrial growth globally. Once you strip away the curve-ball inducing layer of economic sway the global Enterprise behemoths appear to have from statistics, it is clear to see that SMEs employ the majority of people globally and indeed provide most of the new jobs as well.

Extensive European Union (EU) research concluded that about 67% of the employment in the non-fi-

nancial business economy within the EU is provided by SMEs. Micro enterprises contribute about 30%, small enterprises about 20% and medium-sized enterprises about 17%. Apart from the effect SMEs have on welfare in the EU, SMEs also have a positive effect on economic growth. In other regions of the world (sub-Saharan Africa for example) the importance and opportunity to influence SMEs have is even higher.

SMEs affect all our lives on a daily basis. Whilst we may not give it too much thought, just think about the businesses that we interact with: from the local coffee shop you may

industry, a key contributor to the steadily increasing content delivery transaction numbers globally.

APIs allow organisations of any size to easily integrate SMS messaging, push notifications, email messaging and even location-based advertising. They can help support an omnichannel experience and offer the opportunity to track a customer's behaviour across multiple platforms which all helps to determine the real impact any campaign may have.

Apps are important (isn't there one for everything?!) and even small companies are seeing the real benefits of having and operating one brings, providing they push out only meaningful content which adds real value to subscribers and all in an unobtrusive manner.

The ability to promote continual app engagement is critical and I am helping businesses to connect their messaging across multiple channels and to better manage their engagement. I encourage you all to build relationships through customer interactions using multiple channels wherever possible. While this service is undoubtedly used by large enterprises today, it can be tailored to fit any size of business's needs and more SMEs should be taking advantage.

No matter how good the mobile engagement solution offered and

how many channels are integrated within it, the impact it has on any organisation's client base can all come to nothing if the element of timing is not taken into account. In fact, bad timing can hurt any organisation considerably.

An increasing trend and great use case for 2-way A2P SMS is for it to be used to seek feedback from clients. Logically, companies should only be asking us what we thought about their services etc. *after* we have had a chance to experience them but far too often, I see such surveys sent out even before we have had a chance to use them. This turns people off and if you are anything like me, you'd be inclined to ignore the feedback request. Continue to get the timing of such content wrong and peoples' perception of a brand can be negatively impacted.

Implemented and managed correctly, mobile engagement has the power to benefit every company and all their respective clients. Every player in the wider industry has an important role in ensuring the message of just how much a force for good it can be is successfully delivered. All members of the Carrier Community have a responsibility to do this and I look forward to continuing to educate and partner many of you through 2020.

pick up your daily Americano from the petrol station you fill up your car at and the gym you frequent on a good day when you are feeling motivated to do so, all have the opportunity to use mobile engagement to deal with us.

Thanks to the work many companies amongst us in the Carrier Community are doing, SMEs are being shown that they too can easily take advantage of everything mobile engagement has to offer. The key here is to make the world of APIs (Application Programming Interfaces) easy for all to comprehend and implement. We are seeing some real understanding in this area coming into play which is reinvigorating and growing our

James Williams is MrConnectivity. He has over 25 years' experience in the field of Telecommunications, the last 15+ years immersed in the world of Customer Engagement. He lives and breathes Mobile Messaging, Omnichannel, Customer Journey Orchestration, Mobile Subscriber Intelligence and Monetisation. A particular area of expertise is Mobile Messaging, the key pillar of which today is Application-to-Person (A2P) SMS. He has helped Mobile Network Operators (MNOs), Aggregators and Enterprises with all aspects of A2P SMS (a market worth over \$50 billion per year): Strategy, Training (Sales/Support/Carrier Relations), Vendor/Partner Selection, Marketing (including providing complete Website solutions), Service Launch, Business Development, Process Development, Monetisation and Revenue Assurance.

James speaks globally on Customer Engagement and works with both novice and seasoned entrepreneurs on scaling from an idea to a successful business. Leveraging his global network of industry contacts, James is also able to recruit personnel for clients rapidly and effectively.

Think Customer Engagement. Think MrConnectivity

CONSUMER BROADBAND AND CONTENT DELIVERY TO FILL THE REVENUE GAP FROM

5G DELAY



by **docomo digital**



JONATHAN KRIEGEL
CEO – DOCOMO Digital



RICHARD BEATON
CPO DOCOMO Digital

Recent attacks on the fifth generation (5G) telecommunications infrastructure mistakenly linked to the COVID-19 pandemic are arguably the least of the industry's problems right now. More severe delays to the rollout of 5G networks caused by a combination of staff shortages, lockdown restrictions and budget constraints are adding to the surge in bandwidth consumption and the resulting demands on telecom infrastructure worldwide. This pressure will compel telcos to look at creating revenue streams from digital services such as the surging over-the-top (OTT) and gaming segments.

Yet to fully capitalise many will have to accelerate the development of their payment infrastructure and deliver flexible billing options to suit different geographies, budgets and demographics while forging closer relationships with multiple OTT content providers and games' publishers.

US telco Dish provides an excellent example of the sort of problems

which now face aspiring 5G operators everywhere in the world. The company paid US\$3.6bn for spectrum and US\$1.4bn for Sprint's pre-paid mobile business. It is also committed to building a 5G network as a precondition of its purchase of Sprint's 800MHz spectrum following the latter's merger with T-Mobile to satisfy the competition regulation in the country.

Yet the company has been losing subscribers to its pay-tv services, also referred to as "cutting the cord", as more consumers sign-up to streaming video packages like Netflix, Amazon Prime Video and Disney+. This transition has inevitably accelerated since COVID-19 took hold and there are no more live sports tournaments being broadcast. Banks have pulled back on the loans Dish needs to continue funding an ambitious 5G rollout scheduled to roll out 10,000 sites by 2020. And its engineers face logistical issues thrown-up by lockdown restrictions on access to the sites earmarked for mast erection.



Cancelled auctions, supply chain problems and handset postponements

Political decisions driven by the urgent need to tackle the pandemic are also taking their toll. A host of governments in Europe have postponed auctions of the wireless frequency spectrum which 5G uses to transmit data. Spain has put its upcoming 700MHz frequency 5G auction on hold indefinitely with the Czech Republic has postponed its auction of 700MHz frequencies and 3.5GHz wavebands until the middle of 2020.

Austria's Telekom-Control-Kommission and France's ARCEP have postponed their second 5G spectrum auctions as has the telecoms regulator in Poland. Health concerns have played their part in delaying 5G installations in Switzerland, where protests and political opposition have led local telcos to halt antennae and mast deployments until more research data on any potential risks is gathered. Chinese telecoms equipment manufacturer Huawei has already reported that its customers' implementation plans around the world will be put back for various reasons, likely to include supply chain issues which have disrupted both the manufacturing and shipping of hardware coming out of China. Nor is it just disruption to the supply of backbone infrastructure equipment which is paralysing 5G service rollouts. The cancellation

of the showcase Mobile World Congress event in February had already set 5G back even before reports that smartphone makers like Apple will delay the launch of 5G smartphones scheduled for this September first emerged. A study by Strategy Analytics based on a survey of 1,300 consumers in China found that 37% have delayed buying a new smartphone, and 32% had put off adopting 5G. That lack in demand could, in turn, prompt smartphone makers like Huawei, Xiaomi, Vivo and Oppo to put plans for new 5G handsets on hold at least for the next two quarters. And though it would not impact consumer 5G services, it is believed that the deferral of the 3GPP's standardisation framework until at least June 2020 is likely to delay commercial rollouts of industrial Internet of Things (IoT) networks based on the technology until at least 2021.

Telcos and MNOs under pressure to fill the gap

Any lengthy delay to the launch of their 5G networks spells bad news for telcos which have invested significant capex in 5G development that needs to start paying dividends as soon as possible. Innovative applications which exploit the greater reach and reliability and lower latencies offered by 5G were expected to start bringing in new subscribers and revenue streams this year and expand into next. Some of those use cases involve

that need assistance during the pandemic – healthcare through remote consultations and high definition conferencing for example, and enhanced automation in agriculture and transportation to lessen dependence on scarce labour during lockdown restrictions.

Priority shifts to existing consumer service revenue

The yawning gap in finances left by any moratorium on 5G will put additional pressure on telcos and MNOs to find revenue elsewhere in the meantime after Analysys Mason already predicted that COVID-19 will cause a sharp decline in turnover from fixed and mobile business service revenue in developed markets.

There is strong evidence to suggest that people around the world are turning to video and gaming content to help them cope with the pressure of being restricted to their homes. A surge in registrations to Netflix' over the top (OTT) video streaming services added 15.8m new paying subscribers in the quarter ending March thirty-first 2020 as the virus began to take hold according to the company's own earnings statement. Verizon's latest Network Report for April shows a 36% increase in movie viewing compared to pre-COVID-19 levels and an enormous 115% expansion of gaming activity. With other telcos are seeing similar trends in network usage patterns, the opportunity to bring in incremental revenue from distribution partnerships with content providers cannot be missed. One way to do that is through direct carrier billing (DCB) platforms which are already closely aligned to fixed and mobile post-paid data subscriptions and offer simple click-through payment convenience for consumers themselves, especially in countries where credit and debit card ownership and usage is low.



CHINA MOBILE INTERNATIONAL PARTNERS WITH OMANTEL FOR ITS THIRD POP IN THE MIDDLE EAST

Muscat: 11 June, 2020: Deepening its collaboration within the Middle East, China Mobile International (CMI) has joined hands with Omantel to establish its third Point of Presence (PoP) in the region in the Sultanate of Oman. The new partnership leverages Oman's strategic location and the complementary strengths of CMI and Omantel to enable closer ties between the Middle East, Africa, Asia and Europe.

The new PoP will leverage Omantel's vast subsea network to provide latency improvement, prevent single point failure and connect with other CMI PoPs for resilient connectivity in the Middle East to support increased global connectivity for multinational businesses. Omantel has invested in 20 subsea

cable systems covering 120 locations around the world. It is also the first and only carrier within the six Gulf Cooperation Council (GCC) countries to land a submarine cable in Europe.

The Oman PoP connects to the Dubai, Fujairah and Djibouti PoPs through CMI's SMW-5 and AAE-1 cable system, and connect to other APAC cable systems in Singapore, such as SJC and APG going to Hong Kong. In the future, more new cables will be linked to the Muscat PoP to strengthen CMI's connectivity and provide an alternative path through the Middle East.

"In an era of digitization and global cooperation, CMI and Omantel are coming together to provide secured and reliable connectivity for businesses working in GCC

countries, Africa, Europe and beyond," said Andrew Niu, CMI Chief Partnership Officer, "As part of our commitment to the GCC region, CMI will be investing in backhaul to connect our new Oman POP with our PoPs at SmartHub and Datamena and globally to our infrastructure in Djibouti, Singapore and other key hubs. This will bring Oman into a CMI network that covers China and across six continents."

The partnership with CMI underscores Oman's economic potential and business-friendly climate, as a secure and stable Gulf state. It also reflects Omantel's growing reputation as a trusted global player. With modern high-speed infrastructure and ultra-low-latency connectivity, Omantel supports enterprise customers and as a state-owned company and experienced in

“
With the globalization of the telecommunications sector, we are looking at an exciting future of our partnerships and expansion with CMI
 ”

submarine industry helps major telecom service providers with cable landing and terrestrial fiber construction to expand their reach.

Sohail Qadir, Vice President, Wholesale, Omantel said, “With the globalization of the telecommunications sector, we are looking at an exciting future of our partnerships and expansion with CMI. Omantel became the preferred choice to help CMI take its strategies forward in part because of the Sultanate of Oman’s geographical location, policies that feel the pulse of a digital future, and an infrastructure network that enables us to reach further. Forming the backbone of this partnership will be Omantel’s robust infrastructure, subsea network, professional facilities management and access to power.”

As the Sultanate’s first and leading integrated telecommunications services provider, Omantel capitalizes on ultra-low latency networks to enable innovation and digital transformation globally. It utilizes Oman’s geographic advantage at the absolute nexus of the east, west, north, and south to enable its customers and partners to deliver their services with the best possible end-user experience.



INTERNATIONAL

About CMI

China Mobile International Limited (CMI) is a wholly-owned subsidiary

of China Mobile, mainly responsible for the operation of China Mobile’s international business. In order to provide better services to meet the growing demand in the international telecommunications market, China Mobile established a subsidiary, CMI, in December 2010. CMI currently has 70 terrestrial and submarine cable resources worldwide, with a total international transmission bandwidth of over 70T, and a total of 170+ POPs. With Hong Kong, China as its launchpad, CMI has significantly accelerated global IDC development, creating a strong network for data centre cloudification. Leveraging the strong support by China Mobile, CMI is a trusted partner that provides comprehensive international telecom services and solutions to international enterprisers, carriers and mobile users. Headquartered in Hong Kong, China, CMI has expanded its footprint in 36 countries and regions. For more information, please visit www.cmi.chinamobile.com.



About Omantel

Omantel Wholesale is the international and domestic wholesale arm of Oman Telecommunications Company S.A.O.G. (Omantel), the first and leading integrated telecommunications service provider in Oman. Founded in 1970, Omantel is a joint-stock company listed in

Muscat Securities Market and is 51% owned by Oman Investment Fund (OIF), a wholly owned investment arm of the Omani government. The company has laid the groundwork for telecommunications and technological advancement in the country and it continues to invest heavily within its own borders and abroad. As a result, Omantel has acquired a controlling stake in Kuwaiti Mobile Telecommunications Company (Zain Group) last year, making Omantel the third largest telecom group in the MENA region.

Omantel Wholesale capitalizes on ultra-low latency networks to enable innovation and digital transformation globally, utilizing Oman’s geographic advantage at the absolute nexus of the east, west, north, and south to enable its customers and partners to deliver their services with the best possible end-user experience.

Omantel finds the simplest and easiest way for its partners to access some of the most challenging and high-growth markets in the world. Its business is about being open and easy to work with so that its partners can take full advantage of its global infrastructure and unique geographic position. It has investments in 20+ submarine cable systems and offers direct and rapid access to the developed markets of Europe, Asia and North America as well as unique destinations like Iran, Pakistan and Yemen. When partners choose Omantel, they gain simple, trusted and high-performance connectivity.

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The Orange Value Offer

Interview



Jean-Bernard Willem
Senior Vice President,
Product Marketing and
Development, International
Carriers, Orange

Market-driven and customer-focused

Outstanding service is a must-have for carriers today. What can your customers expect from Orange that will improve their experience?

“Customers should be confident that they can rely on their telco partners to keep pace with today’s needs. The world is changing faster than anyone could have predicted. It has become more challenging and more digital, and unimagined paths to the future are opening

up in this fully connected environment. Markets are evolving towards more convergence with continuous growth in data consumption and vital security imperatives. Additionally, crises reveal that we need to be more reactive and to anticipate when rapid capacity changes are necessary. At Orange we have seen an opportunity to create additional customer value by launching a new and innovative approach that offers fully adapted services.”

Going further to meet business expectations

Orange has one of the widest, most comprehensive ranges of solutions in the industry. How do you enhance the experience for your customers?

“Orange is one of the few operators in the world that offers such depth of service and support, with an unrivalled experience in wholesale and retail marketplaces. To remain close to our customers, we have adopted a “design thinking” approach where we discuss together and test solutions in order to better meet their end-users’ expectations. Through our exchanges we have identified opportunities to improve business for our customers by providing more flexibility, a better digital experience and more inclusive solutions.”

■ **Simplifying offers to better serve specific customer needs**

We are making offers clearer and simpler so they are easier to understand. By adapting our range of solutions, we are able to respond to segmented requirements.

■ **Adapting offers to the developing digital environment**

Our customers want to do more business online so we are introducing offers that are more adapted for digital distribution. We are enhancing our online channels with new automated information tools on our website, making digital interactions easier with online quotation and ordering facilities. We are also providing real-time service monitoring, management and feedback on our dedicated customer portal.

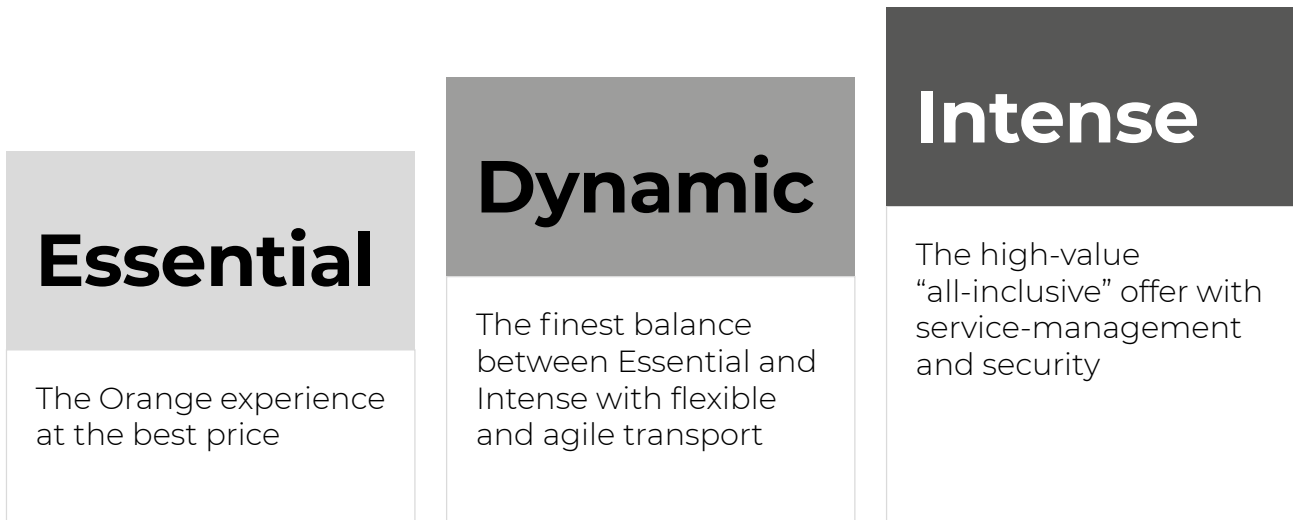
■ **Including more value-added services: customer care and anti-fraud**

Premium customer care means that securing our offers and our platforms is a value-added must-have. Voice, messaging and Internet traffic all have security built-in to maintain business activity, reputation and revenues.

Customer oriented



A new customer experience



Transforming the business for customers

This is an ambitious program. How is Orange positioned to roll-out these changes? What advantages will this bring to your customers?

“The first step was to launch the [Orange Service Pledge](#) to put our customers at the centre of all activities. We plan to incorporate new features progressively in order to raise the bar and improve quality for carriers, operators and more importantly, for all end-users. In addition, we have worked to create a new, customer-centric

segmentation for a large selection of Orange wholesale services: Roaming, Messaging, Voice, Bandwidth, IP and Content Distribution, Security and Anti-Fraud. It is possible to evolve and customise our current three-tier service model according to needs. Our aim is to improve our customers' journey and to make it more adaptive, direct and efficient. Thanks to our expertise, we can bring a pioneering multiservice, convergent range of offers with different levels of security, digitalisation and adapted service management.”



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HUAWEI HAS LOST THE CANADIAN 5G MARKET

China is losing the battle against the United States and now, Huawei's dream to become the leader of the Canadian 5G market has ended. In fact, three Canadian Telecom giants have decided to collaborate with Ericsson and Nokia to rollout 5G networks.

According to the government of Canada website, The Communication Research Center Canada (CRC) started working on 5G technology since 2014 and they began demonstrating the technology starting 2017.

The fifth-generation technology is critical to Canada, as it will help industries, government, and governmental agencies. According to a study conducted by Accenture Strategy, 5G will help reduce time stuck in traffic by 10% using smart traffic management. In addition, 5G technology can diminish the use of pesticides by 85% due to precision agriculture technologies. According to Wired Guide to 5G, the estimated economic impact of 5G deployment in Canada will reach \$40B of annual GDP uplift with 250K permanent jobs added to the economy by 2026.

On June 2, 2020, Canadian communications service provider Bell Canada selected Ericsson 5G Radio Access Network (RAN) technology to support its nationwide 5G mobile and fixed wireless access deployment, according to the Sweden-based company Ericsson. However, it has put the technology on hold due to the Covid-19 pandemic. Bell CEO Mirko Bibic said during a conference: "Customers are not paying attention to this technology right now, they have other priorities". Moreover, he added, "We are ready with our initial 5G network, but frankly we don't think it's the right time now to officially launch it for marketing purposes".

On the other hand, Telus announced it has selected Ericsson and Nokia to support building its 5G network, with the goal to revolutionize wireless connectivity for customers. This came out after the company suggested it would use Huawei equipment. Back to February 14, 2020, Telus avowed that the deployment of its 5G technology wireless network could be delayed and more expensive if Ottawa chooses to ban equipment from Huawei, according to Global News. Nevertheless, all scenarios are under control. "A ban on Huawei 5G equipment wouldn't impact the timing of when Telus brings

5G to market," said Telus Chief Executive Officer Darren Entwistle.

Telus has invested almost \$148 million in network infrastructure, spectrum, and operations to enhance the coverage and speed of its network in the Canadian 5G market. Moreover, it has committed to invest a further \$40 billion over the 3 years to support the rollout of 5G networks.

Since March 6, 2020, Canadians have access to 5G at no extra charge. This service offered by Rogers Communications would last until March 6, 2021 after which, Canadians will have to pay a \$15 surcharge. Rogers, on the other hand, started its 5G rollout in January with vendor Ericsson. In fact, on January 15, 2020, Rogers officially turned on its Wireless 5G network in the Downtown area of Toronto, Ottawa, Vancouver, and Montreal. However, devices were not authorized to connect to it. Jorge Fernandes, Chief Technology Officer said, "Over the next 12 to 18 months, a 5G stand-alone core will become available".

On June 5, 2020, the Minister of Innovation, Science and Industry, Navdeep Bains announced the delay of a planned auction of 3,500-megahertz wireless spectrum. This decision will allow the telecommunications industry to maintain its focus on providing essential services to Canadians as a response to Covid-19.

There were 1506 licenses available in the auction initially set for December 15, 2020. Canada will be split into 172 geographic locations where the licenses will be distributed. In addition, different amounts of spectrum will be available for each area. These licenses will be considered 'flexible'. Carriers will be able to decide what services the band will be used for- 5G networks or fixed wireless services. The sum of all opening bid prices is \$558 million.

During an interview with Yahoo Finance Canada, Minister Bains said that Telus and Bell have to reduce their prices by 25% target for plans that offer 2GB to 6GB of data "in the next two years." Reductions in high-end plans

and low-end plans have happened in the past but targeting the area between two and six is so important because the average Canadian uses 2.5GB per month. These companies will be held accountable by producing quarterly updates that will be available to the public according to Bains.

Senior military officials have told the Canadian Government to ban Huawei as it might pose a national security threat. In fact, Canada is the only country in the five-eye intelligence-sharing alliance that did not execute a ban on Huawei. Other countries in the alliance are Australia, New Zealand, the UK, and the US. Recently, UK PM Boris Johnson's decision regarding Huawei was critical because if the UK breaks its ties with Huawei it might persuade the Canadian authorities to take similar steps.



In May 2020, Philip Lind, Vice-Chairman of Rogers Communications said that Huawei would be a real threat to Canada and should be banned from its 5G network. As such, Rogers Communications announced a three-year partnership with Communitech to open a new 5G innovation lab that will accelerate and launch smart city, IoT, and enterprise 5G applications.

On May 26, 2020, Prime Minister Justin Trudeau said that the government have not yet decided if they will partner with Huawei. He pointed out that the government is still consulting a security agency in order to come to a decision regarding the China telecom giant.

Source: <https://www.insidetelecom.com/huawei-has-lost-the-canadian-5g-market/>



DATA CENTRE OPPORTUNITIES IN THE NORDICS

PART 2

An analysis of the competitive advantages

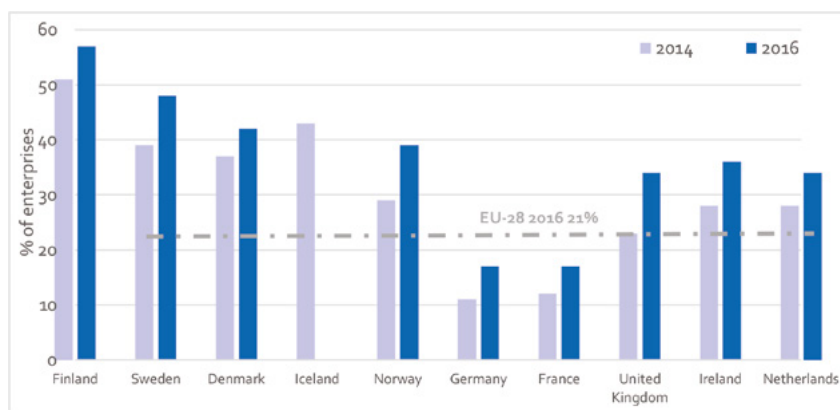
Strengths and value proposition of the Nordic region

The Nordic region is a global leader in the digital economy. The citizens of Denmark, Sweden, Norway, Finland and Iceland are actively engaging in a multitude of online services, including business digitalization and e-commerce activities. Hence the Nordic countries head the EU Digital Economy and Society Index (DESI4). For example, some Nordic nations from the region already in 2018 are adopting 5G networks, which will amplify further the digitalization of industries and the IoT. The region has developed Long-Term Evolution (LTE) infrastructure and has a high penetration of fibre broadband services both domestically and internationally, which gives opportunities for businesses to develop data analytics and the IoT innovations. Moreover, the percentage of Nordic enterprises using cloud computing services is the highest in Europe, as illustrated in Figure 6.

Figure 6: Nordic and FLAP-D

adoption of cloud computing (% of enterprises)

a strong growth environment, as it will make it easier to run a busi-



Source: Eurostat https://ec.europa.eu/eurostat/statistics-explained/index.php/Cloud_computing_-_statistics_on_the_use_by_enterprises

The Nordic public sector is playing a key role in digitalizing the region. For example, Nordic governments have adopted e-Government strategies aiming to spur the digitalization of public administration, making printed forms or letters redundant, creating new welfare services and spurring the sharing and reuse of available public sector solutions and data. This public sector digitization could provide

business. Hence the administrative burden from reporting to public authorities is removed through automatic business reporting and thus reducing costs for both the public and private sector. Nordic governments are also preparing strategic guidelines for big data. The guidelines are proposing to concentrate on removing the restrictions of the data economy development in order to better utilize the potential of digitalization. Additionally, with the decline of domestic cash use, some Nor-

dic central banks consider to issue digital currency. Such policies are anticipated to drive further the exploration of HPC5 and blockchain based solutions, which will create even more demand for digital infrastructure, such as data centres.

The Nordic countries have an outstanding “human capital” with above 90% of the population being regular internet users. In this context, the workforce in some of Nordic countries have the highest proportion of ICT specialists in the EU relative to its population. Similarly, the Nordic region is characterized with a growing share of enterprises using cloud computing (in fact, the highest in Europe). The increasing number of enterprises in the cloud for business operation, information storage and stronger computing power continues to grow. Additionally, there are a number of initiatives which explore digital technology solutions in the areas of smart mobility, e-health, smart lighting, smart energy, extended user experience and more.

The Nordic region’s global leadership in digitalization provides the foundation of an attractive business opportunity for DC operators and investors. In order to materialize this opportunity, there are a number of factors impacting the costs and risks of data centre owners. COWI has identified 16 “factors of importance” which impact the decision for DC site location. Those factors can be grouped into the following four categories:

- Energy factors such as reliability of the power supply, low energy prices, the abundance of energy & other resources, the availability of renewable electricity supply and other innovative energy solutions for reducing OPEX;
- Connectivity factors such as the links with other regions through networks and fast data connections, proximity to international airport, and closeness to customers;
- Nature given factors such as cool temperatures and natural disaster-free climate;
- Other business factors such

as time-to-market, taxes and duties, the access to affordable land with opportunities for space scalability, the availability of competent workforce, political stability and long-term predictability.

Aligned with these four groups of factors, a desk study provides evidence that the Nordic countries are having an overall advantage when compared to FLAP-D markets. For example:

When it comes to the energy factors – they are crucial to data centre decision makers as they have a strong impact on the associated costs and risks of data centre investments. Energy is one of the areas in which the Nordic countries have a significant advantage from a European and even global perspective.

For example, the Nordic region is characterized with its high reliability of energy supply with some of the best-performing grids in Europe. For the period 2002–2016, the average annual planned and unplanned outage times in the Nordic region were rarer in the range of 20–150 minutes, when compared to 30–168 in the FLAP-D region.⁶ This implies that the reliability of the grid and power supply in the Nordic region could result in a lower risk of interruptions of the data centre operations due to power outages.

Moreover, when the grid reliability is combined with attractive electricity prices which for industrial consumers are significantly lower in the Nordics (ranging between EUR 0.06–0.10 per kWh, against EUR 0.08–0.15 per kWh in the FLAP-D region)⁷, the value of the Nordic region emerges even further. Please note that these prices are indicative and presented only for overall benchmarking purposes. Individual prices could be even lower as reports suggest EUR 0.03–0.04 per kWh in the Nordic region.

Furthermore, the Nordic region has an abundance of clean energy resources. For example Denmark has plenty of biomass and wind power, Norway and Sweden have a lot of hydropower, Iceland has geothermal energy and Fin-

land biomass. In this context, the Nordic region is a global leader in clean energy with renewable energy consumption in the order of 32–98%, against 6–16% for the FLAP-D region. This is another important factor for the majority of hyperscale data centre investors.⁸ Nordic deregulated wholesale and retail power markets make it easy for corporates to directly purchase renewable energy to their data centres via PPAs etc. With the growing focus on sustainability, the Nordic region thus becomes increasingly attractive due to its high share and abundance of renewable resources.

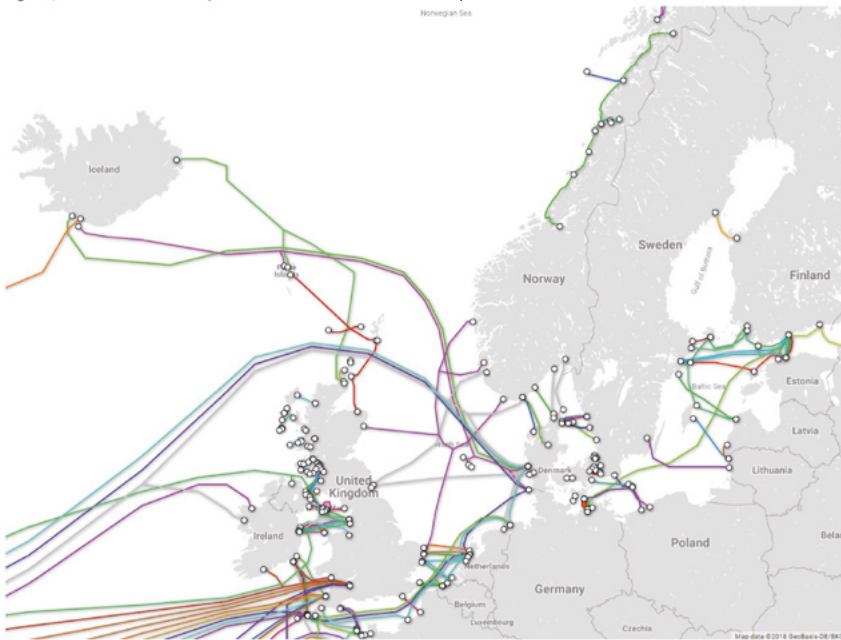
In terms of international connectivity, there is no single parameter which can be used for comparison. Growth in digital traffic has made connecting with multiple networks characterized by higher speed connection, lower latency and high security desirable. As seen in below Figure 7, the Nordic region is currently differentiating itself from the FLAP-D region by adding new fibre links to markets in the US, Asia and Europe, aiming to attract global traffic routes via the North. A vital benchmark is the specific latency between users and data exchanges, which comes down to distance, and terrestrial and submarine cables connecting the world. As visible in the illustration presented below showing the international connectivity through subsea cables, both the Nordics and FLAP-D regions are well connected. This being said, it is evident that currently the FLAP-D through its heritage holds the largest data exchange services in the EMEA region.

Other parameters for benchmarking could be global indexes such as the GSMA Mobile Connectivity Index (which is built for the wider international community to deliver on the ambition of a universal internet and the mobile industry). This index in 2018 ranked the Nordic countries much higher, with a score in the range of 66–80, as compared to 58–72 for the FLAP-D region. This demonstrates strong performance of the Nordic region.

Another indicator could be the Global Connectivity Index⁹, which encompasses the entire chain of

ICT development and digital transformation to provide a 360-degree view of the digital economy building on four pillars (supply, demand, experience and potential). The index tracks 40 indicators which are key enablers that will drive the next wave of economic benefits resulting from ICT investment including in broadband, data centres, cloud services, big data and IoT. According to the 2018 ranking of the Global Connectivity Index, all Nordic countries are positioned within the top 10 worldwide with scores in the range of 65–73 (against 61–70 of the FLAP-D region which spans in top 20).

Figure 7: Submarine cable map 2018



Note: The grey cables are “in planning”.
Source: Submarine Maps 2018.

When it comes to nature given factors, the relative cold locations in the North help data centre owners and operators optimize costs for power and cooling (Table 5).

This enforces further the attractiveness of the energy factors such as reliable power supply and abundance of renewable energy resources at competitive prices.

Table 5: Climate data on FLAP-D and various Nordic sites, average monthly temperature in °C

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Reykjavik, Iceland	0.7	0.4	0.9	3.4	6.7	9.8	11.7	11.1	8.5	4.6	2.2	0.6
Tromsø, Norway	-3.3	-3.2	-2	1.6	6	9.3	12.6	11.5	7.8	3.3	0	-1.8
Dublin	5.3	5.5	6.6	8.1	10.7	13.2	15.2	15	13	10.3	7.4	5.4
Luleå, Sweden	-8.4	-9.2	-4.6	0.7	7	12.8	16.2	14.4	9.1	2.8	-3	-6.5
Billund, Denmark	1.1	1.2	3.2	7.3	11.1	13.8	16.5	16.3	13	8.8	4.7	1.7
Amsterdam	3.7	4.1	6.5	9.7	13.1	15.5	17.8	17.7	15	11.3	7.2	4.1
Oslo, Norway	-2.6	-2	1.2	6.4	11.4	15.2	17.9	16.9	12.4	6.6	2.2	-2
Helsinki, Finland	-4.8	-5.4	-2.3	4.3	10.2	14.3	18.2	16.1	11.8	6.2	1.9	-1.9
London	5.8	5.4	8	9.7	13	15.8	18.8	18.5	15.8	12.8	8.7	7.4
Stockholm, Sweden	-1.6	-1.5	1.3	6.7	11.7	15.6	19.2	17.8	13.2	7.6	3.6	0
Frankfurt	1.9	2.8	6.5	10.2	14.2	17.7	20.2	19.8	14.9	10.3	5.4	2.4
Paris	5.3	5.9	9.1	12	15.5	18.5	20.5	20.3	17.4	13.3	8.5	5.6

Source: Ashrae Meteo (2017).

In terms of other business factors, the Nordic economies have a regulatory environment which is conducive to the starting and operation of a local firm. The Nor-

or overthrown by unconstitutional or violent means¹¹. The predictability of the Nordic political structure is thus also playing a role in making the region attractive for foreign investment.

Ranking of most important factors for site selection

COWI has collected and assessed data regarding the most important factors that key decision makers consider before selecting a location for their future data centres (no matter the region). The decision makers perform due diligence considering a variety of factors, which could have an impact on their final cost and the associated risks on the potential data centre investment.

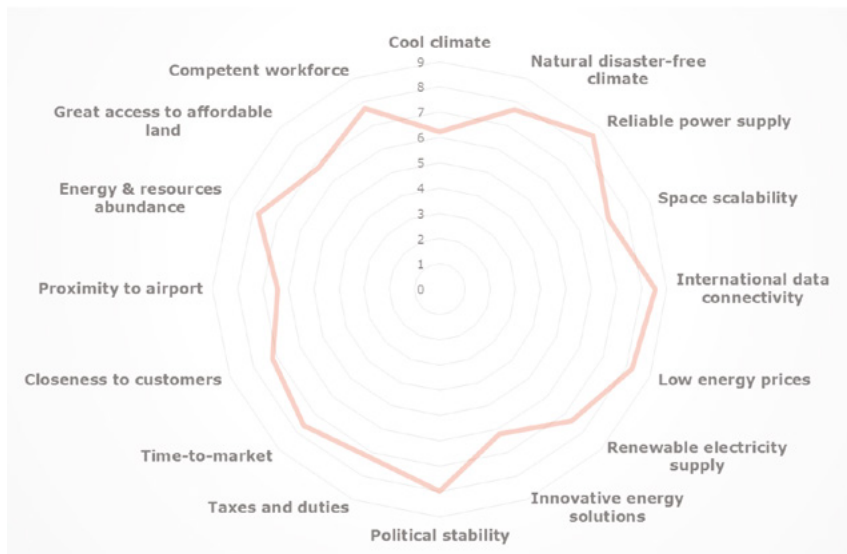
While there are many factors to consider, COWI found that factors perceived as most important for selection of data centre locations are:

1. “Reliable power supply” and “international data connectivity”;
2. “Low energy prices”;
3. “Political stability”;
4. “Time-to-market”, “abundance of energy and other resources”, “competent workforce” and “natural disaster-free climate”.

Figure 8 illustrates the importance of all major factors for selecting a data centre location – scored on a scale of 1 to 10 (10 indicates the most important). The figure shows that energy factors points out as the most important factors for site selection.

Figure 8: Most important factors for selection of data centre locations (scored on a scale from 1-10)

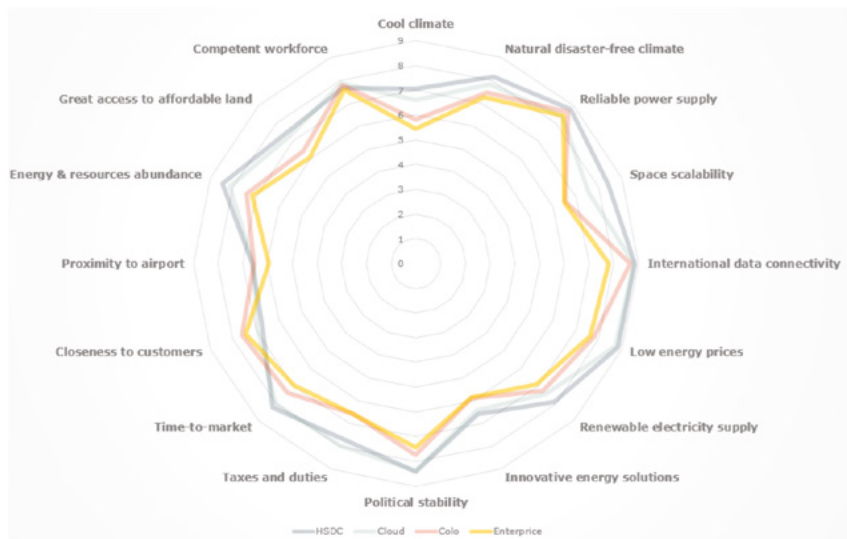
dic region is characterized by ease of doing business, swift and agile authority handling of zoning and local planning, dealing with construction permits, getting electricity and registering a property which involves less procedures and thus associated time and costs savings. These are some of the findings also from the World Banks’ Doing Business Ranking, which scores the Nordic region with a better average aggregated ranking of 11, as compared to 21 for FLAP-D.¹⁰ Additionally, the Political Stability Index 2018 ranks the Nordic region high on indicators such as political stability and absence of the likelihood that the governments will be destabilized



Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).

In the 30+ interviews conducted during the study, the interviewees in addition scored the importance of the factors according to the different types of data centres (Figure 9). This provided the following ranking of factors, split into the four DC segments: hyperscale, cloud, colocation and enterprise on a scale of 1 to 10 (10 indicates the most important).

Figure 9: Importance of factors for different types of data centres (scored on a scale from 1-10)



Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).¹

It appears that the key finding of the differentiated scoring is, that hyperscale (HSDC) facilities score highest on almost all parameters,

except closeness to customers. Therefore, in order to attract investment in hyperscale facilities, almost all factors appear very important and need to be satisfied. To some extent this could be explained by the fact, that the investment amount in a hyperscale facility is larger and will require more resources and due diligence to minimize the risks. The hyperscale segment appears to compromise only in terms of “closeness to customers”.

Table 6 below provides a detailed numerical overview of the factors importance per segment.

It also appears that cloud data centres have similar scorings as the hyperscalers and the interpretations therefore are similar. The top five factors for hyperscalers and cloud segments are the same

(though in a different order). Also, the five least important factors are the same (also in different order). Therefore, from a site selection perspective, hyperscale and cloud facilities could be considered together (even though they have different business models).

Colocations and enterprises appear similar as well. Some interviewees emphasized that dedicated enterprise data centres are expected to be replaced by enterprise data centres integrated in colocation facilities in the future. Moreover, both segments received a lower average score of all factors, but a higher score than hyperscalers and cloud on closeness to customers. Power issues and connectivity are also the most important factors for these two segments. Though, when compared to hyperscale and cloud segments, colocations and enterprises prefer to be closer to their customers. Other major differences are that colocation and enterprise data centres tolerate better warmer climate and less space scalability.

3.2 Value proposition of the Nordic region

Considering the same factors important to senior management in companies owning and/or operating data centres, we have collected data on the attractiveness of the Nordic region and the FLAP-D markets. In the context of the most important factors outlined above, we found that in the Nordic region is ranked as very attractive in terms of:

- Reliable power supply;
- Low energy prices;
- Political stability;
- Time-to-market;
- Abundance of energy and other resources;
- Scalability.

The FLAP-D received a more attractive score in terms of:

- International data connectivity;
- Availability of competent workforce;
- Taxes and duties (for Dublin only)

Table 6: Ranking of importance factors to each data centre segment

HSDC	Cloud	Colo	Enterprise
International data connectivity	8.9	8.8	8.7
Low energy prices	8.8	8.7	8.7
Reliable power supply	8.8	8.4	8.4
Energy & resources abundance	8.5	8.4	7.8
Political stability	8.4	8.1	7.7
Space scalability	8.4	8	7.6
Time-to-market	8.2	8	7.5
Natural disaster-free climate	8.2	7.9	7.4
Renewable electricity supply	7.9	7.8	7.4
Taxes and duties	7.7	7.6	7.3
Competent workforce	7.7	7.5	6.6
Great access to affordable land	7.4	7.3	6.5
Cool climate	7.1	6.9	6.5
Closeness to customers	6.7	6.6	6.4
Proximity to airport	6.6	6.6	5.9
Innovative energy solutions	6.6	6.4	5.8
Average	7.9	7.7	7.2

Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).

As a result, the value proposition of the Nordic region for all data centre segments, building on the most important site-selection factors for DC owners and operators

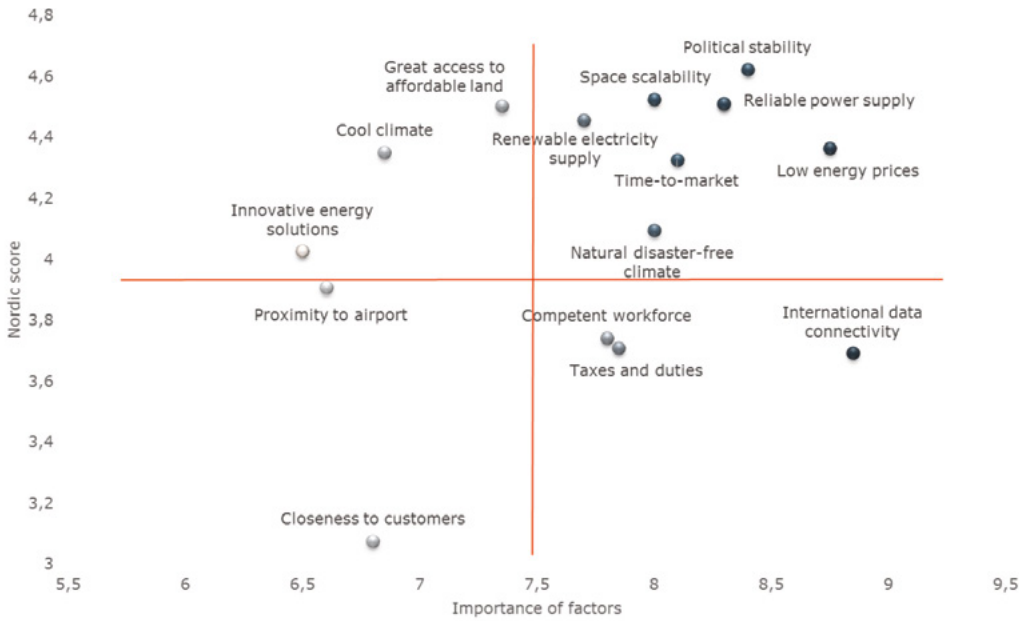
is illustrated in Figure 10.

As a result, the value proposition of the Nordic region for all data centre segments, building on the most important site-selection factors for DC owners and operators is illustrated in Figure 10.

Figure 10: Value proposition of the Nordic region as a data centre location (a score of 5 indicates “very attractive”)

Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).





Nordic value proposition for hyperscale and cloud

The Nordic region appears very attractive for investment in the hyperscale and cloud segments according to the most important site-selection factors. When the most important factors for the hyperscale and cloud segments are compared with the attractiveness of the Nordic region under the same factors (Figure 10), it appears

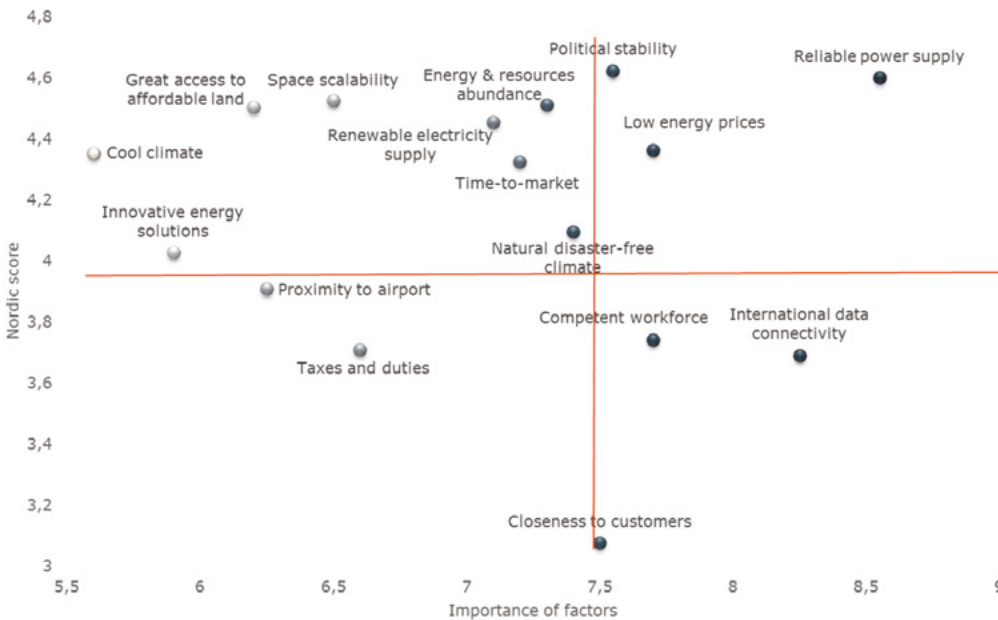
quadrant (the most important factors are colored darker).

Overall, the Nordic region seems to be a very attractive location for long-term hyperscale and cloud investors. The time to market, space scalability and the energy related factors are very important to the hyperscalers and the Nordic region scores very high on all of them.

both low population density and planning acts. The low population density is probably permanent, whereas it requires political focus to maintain planning acts allowing for upscaling of data centres. Additionally, access to affordable land, a cool climate and innovative energy solutions are notable Nordic attraction parameters. They are not perceived that important, but also have a role to play. Closeness to customers is one of the factors where the Nordics score lower, but this seems less important for hyperscalers and cloud investors (when compared with the other two segments). Other factors in which the Nordics score lower are international connectivity, availability of competent work force and tax levels.

Figure 11: Nordic value proposition for hyperscale and cloud data centre segments

Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).



Nordic value proposition for colocation and enterprise

The Nordic region appears attractive for investment in the colocation and enterprise segments according to the most important site-selection factors. The major difference between hyperscalers and cloud on the one side, and colocations and the enterprise data centre segments on the other, is that the latter segments score the importance of the majority of factors lower. This implies that even though the Nordic region is attractive on those param-

that the Nordic countries score very high. The vertical axis of Figure 11 illustrates the Nordic score (5 indicating very attractive) and the horizontal axis (10 indicating very important). As visible, there is a strong match on the top right

Maintaining a reliable, renewable and cost-efficient electricity system, combined with political stability and short time to market also contribute significantly to the Nordic region's value proposition. Space scalability is a function of

eters, they are less important for those two segments (Figure 12).

Figure 12: Nordic value proposition for colocation and enterprise data centre segments

Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).

This provides an opportunity for the Nordics to attract additional colocation and enterprise data centres. For instance for HPC DCs and colocation investors specialized in sustainability and low cost, the Nordics can appear very attractive. Moreover, with the rise of IoT and autonomous cars we can also expect to see “edge” facilities in the metropolitan Nordic areas. With the advanced progress on digitalization, the Nordics provide opportunities for establishing homogeneous test environments and show cases.

We expect the demand of future colocations to increase in the Nordics, both due to growth in data generation and the increasing needs of hosting services for Nordic enterprises. The Nordic countries have the opportunity to focus on attracting larger colocations, which have sustainability as part of their business model. Similarly, as with the hyperscale and cloud segments, improved connectivity and education of workforce and tax regimes in favor of DCs can improve the framework for attracting colocation investments.

A growing opportunity for investment in the Nordics

The Nordic countries present unique conditions for operating data centres amplified by a reliable power supply, abundant access to renewable energy at competitive cost and easy-to-do business environment. While important for all data centre segments, such factors reduce costs and risks and are crucial to attracting hyperscale and large cloud investment.

Our data centre investment outlook on activities in the Nordic countries identifies:

- In the short-term, upcoming data centre construction with a potential additional power capacity of 280+ MW to be operational within the coming years;

- In the long-term, a potential of an additional 2,500+ MW in data centre power capacity, as indicated in master planning activities. More than half of these projects have undergone planning process, while the remaining are in process.

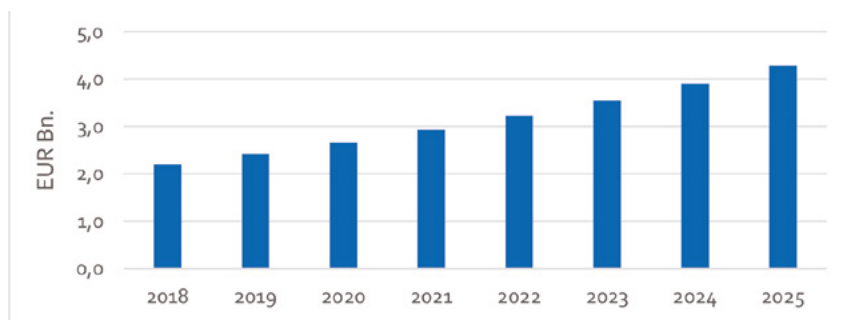
COWI estimates that approximately EUR 2.2 bn. have been invested in the Nordics on initiated data centre construction works over the last 12–18 months. Mainly within hyperscale and cloud infrastructure. This number could exceed EUR 4 bn. annually within the next five to seven years as a result of increasing market demand and a pipeline of planned future projects, without explicitly defined

perscalers have a larger potential to move to the lower end of the range in the coming years due to economics of scale and innovative cost- optimization solutions. Such planned Nordic data centre power capacity, if fully developed, would account for a significant addition to the European data centre capacity.

A Nordic 2025 outlook of the construction investment in data centre ranging between EUR 2–4.3 bn. annually is presented in figure 13.

Figure 13: Investment in data centres in the Nordics (EUR bn.)*

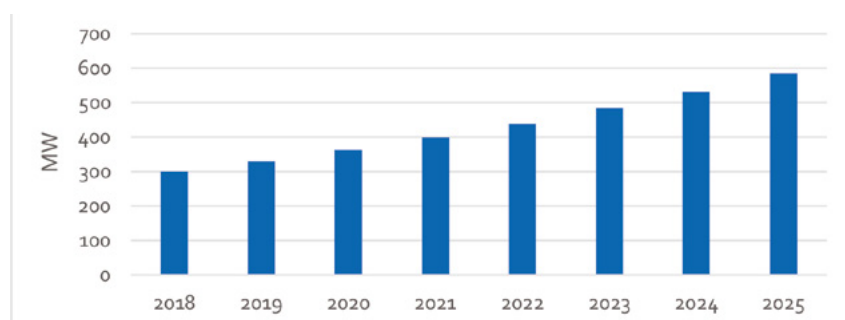
Note: *The outlook is in 2018 prices.



Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).

A Nordic 2025 outlook of the power capacity in data centre with additions ranging between 280–580 MW annually is presented in Figure 14.

Figure 14: Power capacity of new data centres in the Nordics (MW)



Source: COWI, Analysis of Data Centre Investment Opportunities in the Nordic Countries (2018).

time commitments¹². This outlook should be viewed as a potential and includes investments in peripheral buildings, as for instance administration, power substations and buildouts for utilising excess heat in the district heating system. The outlook considers the construction investment in buildings, energy infrastructure and land. It does not take into account the investment in computer servers, storage and racks.

The price per MW of data centre capacity is in the range of EUR 3–7 million, depending on the data centre segment and the size of the facility. The overall tendency is that large facilities such as hy-

Conclusions

The world is seeing an exponential development in the need for processing and storing of data. This has resulted in significant investments in data centres throughout the globe. In recent years, the Nordics have seen a substantial increase in data centre investments. This is especially valid in connection with the planning and building of the infrastructure related to hyperscale facilities, where significant investments are already conducted and a number are under planning or construction.

The reasoning behind the selection of the Nordics as a preferred investment seems prudent. On a number of investor relevant parameters influencing the costs and risks associated with data centre investments, the Nordics appear very attractive. And the Nordics would have an even stronger investment case assuming that in the near future, investors further increase their focus on sustainability.

For large investments in the hyperscale and cloud segments, the Nordic value proposition seems

to provide an exceptionally strong match. This includes fast time to market, space scalability and energy related factors. In relation to the colocation and enterprise segment, the many Nordic propositions seem of lesser importance. Closeness to the costumers is becoming less relevant when new fast connections are in place. Also, when the demand for more environmentally sustainable solutions arise, the relevance of the Nordics as a site for colocations and enterprise can increase further as well.

While overall the Nordic region is perceived as less connected than the FLAP-D markets, the Nordic region is well connected to the UK, continental Europe, and the US with many new fibre connections in planning over the next few years, including to Asia. Access to a polar fibre route from China is expected to cut Asia to Europe latency by half. In the coming years, we may be seeing the quickest routes to moving traffic globally via the Nordic countries, however this is not the current market perception yet.

From an operations perspective, the Nordic region continues to maintain a high demand for qualified talent while experiencing a slight employment shortage of technicians. Career tenures for data centre technicians tend to be longer than when compared with other European data centre markets. The Nordic region is furthering the supply of a qualified workforces with data centre dedicated courses for example from the Danish Technological Institute, the Regional academies of higher education and different trade organizations and many others. Other initiatives like for example the current cooperation between DC operators and Norwegian technical colleges also provide courses in "data centre infrastructure engineering". There is also a lot of Nordic R&D activity with focus on data centre innovation, for instance RISE SICS North, which is the world's first open big-data re

Source: Christensen et al. (2018) Data centre opportunities in the Nordics: an analysis of the competitive advantages. Nordic Council of Ministers.



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CC-GLOBAL AWARDS CATEGORIES

- BEST GLOBAL OPERATOR OF THE YEAR
- BEST SUBSEA CABLE CONSORTIUM
- THE FUNKIEST OPERATOR IN THE COMMUNITY
- THE MOST INSPIRATIONAL & INFLUENTIAL WHOLESALE EXECUTIVE
- TELECOMMUNICATION WOMAN OF THE YEAR
- BEST NEW MARKET ENTRANT
- BEST DATA/CAPACITY PROVIDER OF THE YEAR
- BEST MOBILE OPERATOR OF THE YEAR
- BEST GLOBAL DATA CENTER SERVICE PROVIDER
- BEST REGIONAL DATA CENTER OPERATOR
- BEST UNIFIED COMMUNICATION ONLINE PROVIDER OF THE YEAR
- BEST REGIONAL SMS SERVICE PROVIDER
- BEST GLOBAL SMS SERVICE PROVIDER - WHOLESALE SOLUTION
- BEST GLOBAL SMS PLATFORM PROVIDER - RETAIL SOLUTION
- BEST SMS PLATFORM PROVIDER - WHOLESALE SOLUTION
- BEST GLOBAL NETWORK
- CUSTOMER EXPERIENCE EXCELLENCE
- BEST 'CONNECTING THE UNCONNECTED' OPERATOR
- BEST IOT OPPORTUNITY
- BEST OTT PROJECT OF THE YEAR
- BEST IPX SERVICE PROVIDER
- BEST WAN SOLUTION PROVIDER
- BEST VOLTE SERVICE PROVIDER
- BEST SUBSEA CABLE OPERATOR OF THE YEAR
- EURO-ASIA REGIONAL OPERATOR OF THE YEAR
- CIS REGIONAL OPERATOR OF THE YEAR
- NORTH AMERICA REGIONAL OPERATOR OF THE YEAR
- LATAM REGIONAL OPERATOR OF THE YEAR
- AFRICA REGIONAL OPERATOR OF THE YEAR
- CENTRAL EASTERN EUROPEAN REGIONAL OPERATOR OF THE YEAR
- ASIA REGIONAL OPERATOR OF THE YEAR
- MIDDLE EAST REGIONAL OPERATOR OF THE YEAR
- BEST 'CLOUD' INNOVATIVE OPERATOR
- BEST VOICE/DATA SERVICE INNOVATION
- BEST SECURITY SOLUTION PROVIDER
- BEST INTERNET EXCHANGE OPERATOR OF THE YEAR
- BEST INNOVATIVE SOFTWARE PROVIDER
- BEST INNOVATIVE APPLICATION PROVIDER
- BEST BLOCKCHAIN SOLUTION PROVIDER OF THE YEAR
- BEST MVNO REGIONAL OPERATOR OF THE YEAR
- BEST MOBILITY INNOVATIVE PROVIDER
- BEST INNOVATIVE VALUE ADDED SERVICE PROVIDER
- BEST INNOVATIVE ACQUISITION OF THE YEAR

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CC-WEBINAR.LIVE EXECUTIVE INTERVIEW WITH **PAOLO MAGRELLI**

The Latest Development of Sparkle Network: New Paths and Upgraded Assets

On the 28th of May, 2020 Carrier Community (CC) hosted CC-Webinar.Live Executive Interview between Erik van Stokkom, CEO of VSC and Paolo Magrelli, Head of Sales Enterprise, and OTT Region Americas at Sparkle. Paolo has had an opportunity to reveal some information about the latest developments of the Sparkle network, give us a glimpse into a new project Curie and discuss the impact of Covid-19 on IP transit dynamics and its trend.

Erik: Tell us a little bit about the latest developments and any new paths, or upgraded assets within Sparkle? What is new?

Paolo: Well, 2020 is pretty busy, as it is the end phase of a great investment that started in 2018, with the Seabras-1 cable from Brazil to the USA.

Erik: How big was the investment?

Paolo: Seabras was a pretty huge investment if you consider the 3 fiber pairs, equipment, backhaul upgrades, and other additional costs.

Then in 2019, we have planned some further developments, and in 2020 we have announced new routes such as BlueMed, a brand new subsea cable connecting Palermo to Genoa. BlueMed will cross the Mediterranean Sea, providing a new, diversified route for capacity and IP traffic. At the same time, we are launching a new landing station in Genoa - directly connected to Milan - that is set to become the alternative priority access for other upcoming submarine cables looking for

a diversified entryway to Europe. If you consider that Sicily today is hosting landing stations for eighteen different subsea cables, you can easily imagine the importance of this project.

BlueMed will be a 240 Tbps cable and 1000 km long. It will be a game-changer for the Med Basin infrastructure and will consolidate Sparkle's positioning as an innovative player in the wholesale industry.

However, BlueMed is part of a wider project aimed at making the journey from the Middle East to Europe shorter, more efficient, and more reliable.

On the IP side, we have recently launched an IP PoP in Aqaba, Jordan, a strategic IP backbone footprint development for Sparkle. Broadly speaking, we are trying to establish new routes to interconnect Asia and the Middle East with redundant paths. But this is something that you'll see going live during 2020.

Erik: Because Sparkle is a global player, any other new parts around the world?

Paolo: We publicly announced just a few weeks ago the investment we did on Curie, a Google-owned subsea cable that directly interconnects Santiago, Chile, to Los Angeles. The cable is ready for service and we are already receiving pretty warm feedbacks from the industry. Curie is a new generation cable, a game-changer for the Latin American market. As we did in 2017-2018 with Seabras-1, we are changing the point of interconnection from North America to South America; the Pacific route from Latin America is historically quite complex, while instead on the Atlantic side we have a plethora of

recent subsea cables.

The Pacific side was something that was a little bit neglected; with Curie, we are taking a big step ahead, and we are pretty confident that this cable is going to have an effect on the whole Latin American set up as well as on the telecom industry in general.

Erik: We are now living in these unusual Pandemic times. Paolo, tell me what impact Covid-19 had on let's say IP transit dynamics? And maybe you can elaborate a little bit on the trends?

Paolo: During these challenging times, many other industry businesses started to look at the internet and TLC industries, saying: 'Okay, now let's see what they can do'.

The situation ended up being a test for the telecom industry.

I am pretty proud of what the TIM Group and the whole telecom industry did. Because telecom operators, OTTs, service providers, as well as the main local and regional players have demonstrated that we are a solid industry that knows well our business.

In pretty challenging times, we have demonstrated our ability, the technology, on top of the great commitment of the people. People never lost their focus on the business, keeping the network healthy and running.



It was like a stress test for the Telecom industry as a whole and the test has been successfully passed. We have proved that we can face hard times.

As far as *Sparkle* is concerned, we have witnessed a significant increase in traffic. Traffic profile changed a bit with live applications contributing massively to the traffic peak. We also saw the popularity of webinars, newspapers, forums increasing. I believe that this will now become part of 'new normal', and I believe this is something that we will see only gaining more importance over time. I am sure that *Sparkle* is prepared to face this growth. We are ready, and we are not scared about what can happen. Our people, our network, our technology, and our investments are so far well prepared to face this famous 'new normal'.

It seems to me that the trend is to move from global to local: more and more applications like gaming or video conferencing are bringing traffic local. We are traveling less; we are keener on having an efficient conversation within the same country, a region with applications that require low latency and great performance. For *Sparkle*, which has focus on Europe, the Middle East, Africa, and Latin America, the effort is to strengthen the regional interconnections with more Points of Presence (PoPs) close to the main cities and countries. We are ready and this new challenge is a great opportunity to support customers.

Erik: You have referred to 'new normal' — but I also know *Sparkle* as a very efficient and also out-of-the-box thinker from the strategic point of view. Can you share with us a couple of examples of that out-of-the-box thinking in the near future projects that *Sparkle* has for us?

Paolo: In the last couple of years *Sparkle* tried very hard to re-elaborate its business paradigm and I guess that 2020 is showing the first effects of this change. New routes, new investments, alternative locations, and new markets demonstrate our approach and idea. In other words, we want to be disruptive, we want to be new, innovative. We want to provide the right combination of technology



and bring our industry towards new paths. And I mean physical new paths — changing the rules a little bit, proposing something new. Because, again, the pandemic was a tragic example but this industry has to react immediately to changes. We believe that we can set the path to being innovative and thinking new things, new way, 'new normal'; this is going to be our ticket to a bright future.

Erik: Future, or the near future — what do you see in the IP and Data globally coming at us. Because again, *Sparkle* is a global player, and you are among the top ten players in the world on the data side. So can you reveal a little bit how do you, or how *Sparkle* sees that near future?

Paolo: We are going to integrate the latest technology to expand

our IT package towards new locations, regions, and countries because we need to keep closer to the customers. We are keeping our attention on new assets like we did with Seabras before and Curie now. And something big will come again soon. Most of all, this stays in developing new ideas and a new approach to supporting the growth — not just the 'new normal', but the growth that is still steady and promising.

The video interview is available on CC-Media portal: <https://carriercommunity.com/cc-webinar-live-gallery/>

Written by Laura Matiukaite



EXECUTIVE INTERVIEW

Paolo Magrelli

Head of Sales Eterprise and OTT
Region Americas at Sparkle

FROM: MAY 28, 2020

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CC-TV INTERVIEW WITH **TAREK ALASSAR** UK COUNTRY MANAGER AT LEGOS

Erik van Stokkom: I am happy to have Tarek from Legos here at CCTV with me. Tell me about Legos and describe to me a little bit about the company.

Tarek Alassar: We are an MVNE and a declared operator in several countries, mainly in Europe, with our headquarters based in Paris. We also have an office in Singapore as well and our servers and data centers are located all over the world. We cover most aspects of the telecom industry, from same-based solutions, which can have data, voice, and SMS to the traditional fixed operator solutions in several countries.

Erik van Stokkom: Legos has been granted in 901 prefix by the ITU in January. Can you explain what is a 901 and what it will be used for?

Tarek Alassar: 901 is an international prefix, which means it is not assigned to one country but recognizable in every country around the world. It is a status given by the ITU, which gives advantages to MNVEs or any other operators like us to have prices that are more competitive when it comes through with local MNOs worldwide. Basically, 901 is used for m2m IT projects and at Legos, we are very happy to have

this status to help all OTTs companies to focus on their core business and leave all the telecom connectivity business to us while this gives them a better advantage to focus too on what they're good at.

Erik van Stokkom: I know you are uh you are quite strong on IoT as well, so tell me what are the next milestones for Legos?

Tarek Alassar: We try to be the local partner for every business and in every country that we operate in, so our next step is to continue our expansion. Right now, we have many local interconnections that go on along with historical operators, as well as new projects going through our office in Southeast Asia to expand in this region. Meanwhile, we are continuing to strengthen our position within Europe, which is our main market whether it's France UK and Germany, as well as to focus more on OTT companies by providing them solutions with more diversification and differentiation than the rest of the players in the market.

Erik van Stokkom: Being on so many continents and in so many countries, I can imagine that regulation can be an issue. Is it

sometimes hard to cope with the local laws and in that case is regulation and an obstacle for you?

Tarek Alassar: Most people think that there are always complications between operators or MVNOs and regulations. We try to look at it on a different way so that regulators became our friend, we try to offer this to OTPs as a service that allows them to focus on what they do while we help them with the regulatory services. We have a team of admins who are well-acknowledged of all the information in all the countries in which we operate. Actually, at Legos, we offer this as a consulting service for those who want to act in a local place.

Erik van Stokkom: Therefore, you make their lives easy, which is good to know. You mentioned OTTs and you work with a lot of them. What trends will influence this market in the coming years according to you?

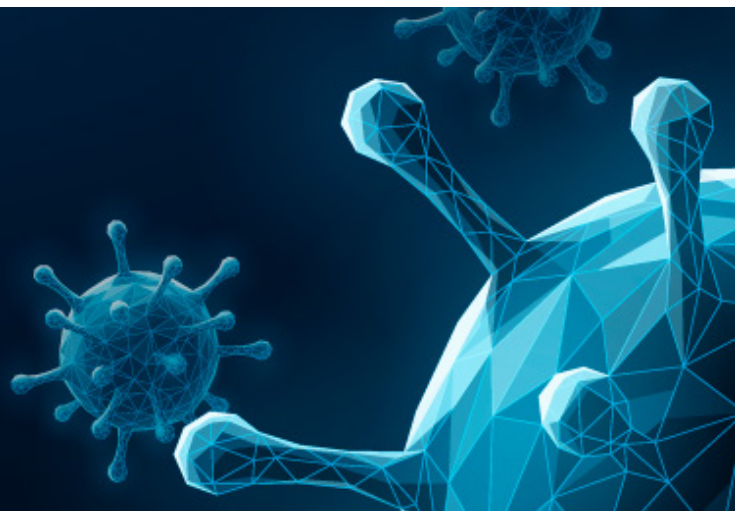
Tarek Alassar: There are two main points that I believe are going to be important in the next few years and even right now. The first one is data privacy regulations: for many companies now that is a pain because the regulations are changing from time to time and they are changing wherever they go, whether it's in North America, the European Union area, or in the Middle East, which is very difficult. I guess that the strategy will be focused on how to be flexible to adopt those new regulations wherever you go or wherever you decide to expand your business. The second point is programmable Wireless, which is going to be a new service and its solutions for OTTs to move from SMS to solutions like WhatsApp and to work more wirelessly; this will help them to develop and push their IT and m2m solutions worldwide.

Erik van Stokkom: So you are going to help and support your peers in telecom to enable all these services?

Tarek Alassar: Exactly, we try to make their life easy by focusing on what we do best and let them focus on what they do well.

Erik van Stokkom: Thank you very much, Tarek.

How is COVID-19 Shaping the Future Mobility Landscape?



By Paul Skeldon on 8 June 2020

During the COVID-19 outbreak, the automotive industry has been hit hard by shutdowns of factories and sales around the world. The pandemic has slowed down global car sales and is shifting consumer behaviours in travel. Over the long term, COVID-19 could have a lasting impact on the mobility landscape.

As the pandemic spreads, social distancing has become the theme of 2020, which has been having a huge impact on mobility behaviours, especially for shared mobility. In the past few months, we have seen a significant drop in the operation and usage of public transportation. The same happened to mobility-as-a-service (MaaS) such as ride-hailing.

According to Lyft, its ride-hailing business was down 70% year on year in April 2020. People are switching mobility preferences towards those that make them feel less vulnerable to infection, such as private driving, walking or cycling. At least in the short term, we will see an increase in private driving miles for those who already own a car.

For those who cannot afford a car, alternative mobility modes, such as micro-mobility and car sharing, that have less risks than public transport can have some opportunities if service providers apply strict disinfection measures. Such measures could include, for example, frequent disinfection

of vehicles, safety guidance and updates, restriction on the number of passengers per vehicle or even free sanitizers to passengers.

In the mid and longer term, the pandemic could cause some dramatic shifts in future mobility. Autonomous driving can provide a valuable mobility solution in the new world where social distancing awareness continues. During the pandemic, autonomous driving tests and pilots have been suspended due to lockdowns.

However, autonomous mobility could experience even faster development as the world recovers from the COVID-19 crisis. In China, as the mobility industry is slowly recovering, we have also seen many autonomous driving companies resume tests and pilots across the country. Tech giant Baidu launched a free robotaxiservice in the city of Changsha in April, which allows all users in the city to hail a free ride via its popular search engine app Baidu and navigation app Baidu Maps

Unlike ride-hailing which suffers a lot during the pandemic, robotaxis which do not require a driver in the future can support physical distancing and thus greatly complement public transport as well as private driving.

As the world recovers from the COVID-19 crisis, significant shifts will happen in both the supply and demand sides of mobility. The pandemic has caused a heavy blow to the world of MaaS and the indus-

try players need to think about new norms and better understand the opportunities for MaaS. The pandemic could accelerate the development of autonomous driving as people would like to be prepared for the future.

The autonomous car and robotaxi market will be worth \$2.5 trillion per year by 2040, according to research by IDTechEx on Autonomous Cars and Robotaxis 2020-2040.

Autonomous driving requires a full technology stack of hardware such as sensors and computing platforms, as well as non-hardware components including AI software and high-definition maps, which are completely different from the traditional automotive approach.

As the autonomous driving technologies mature, as well as the scale ramps up, the cost of self-driving systems is expected to drop significantly over the next decade.

The latest report from IDTechEx, "Autonomous Cars and Robotaxis2020-2040", builds a detailed technology roadmap and a granular market forecast for autonomous mobility. It offers an in-depth analysis of key enabling technologies including lidars, radars, cameras, AI software, HD maps, teleoperation, cybersecurity, and 5G & V2X. Key technology trends as well as market players are presented for each of these enabling technologies.

Source: <https://www.telemediaonline.co.uk/how-is-covid-19-shaping-the-future-mobility-landscape/>

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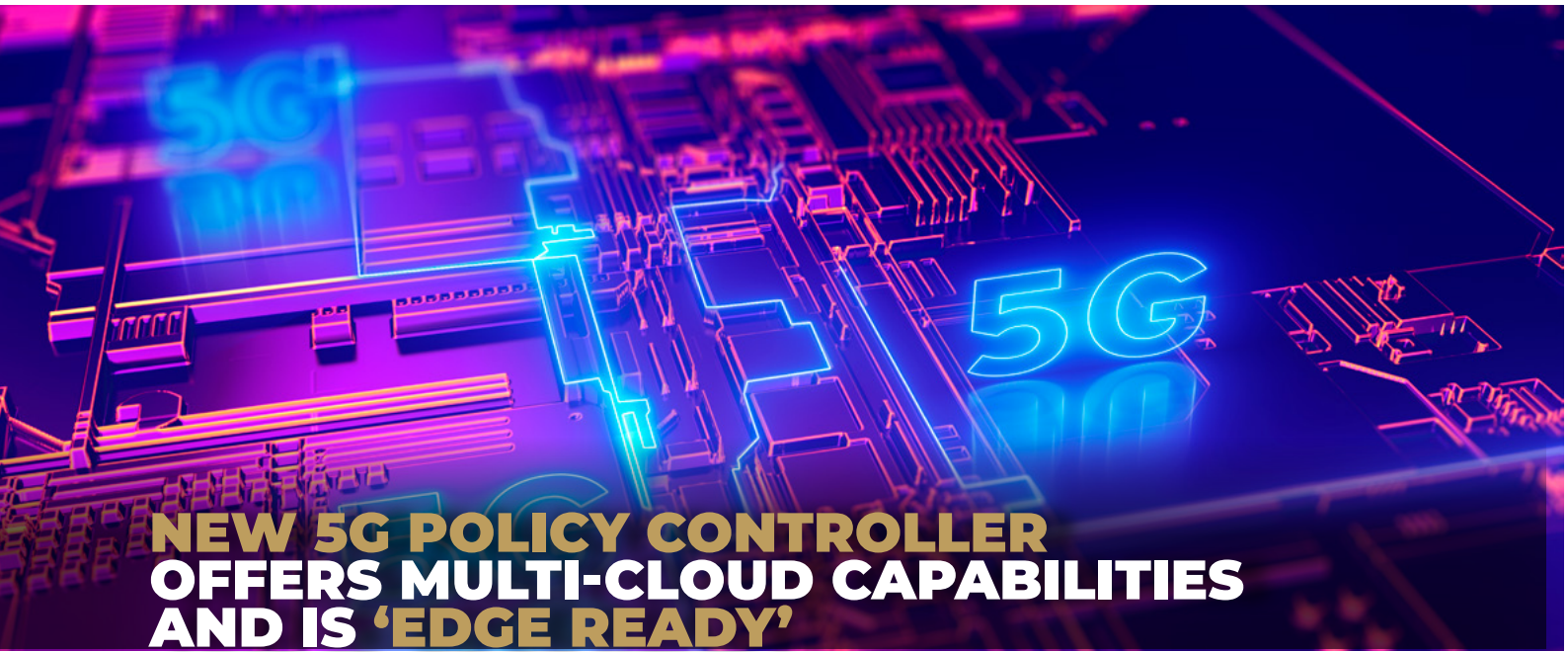
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NEW 5G POLICY CONTROLLER OFFERS MULTI-CLOUD CAPABILITIES AND IS 'EDGE READY'



Tony Gillick of Openet

Openet, a provider of Digital BSS, announced the launch of Openet Policy Controller (OPC) 2.0. This is the latest version of Openet's 5G policy management system. As a multi-cloud system, OPC 2.0 is available on AWS and Microsoft Azure public, hybrid and private cloud.

As well as being cloud-native OPC 2.0 is containerised and based on a Service-Based Architecture (SBA). Designed as a low code system, OPC 2.0 delivers configuration over customisation. This increases system agility as well as significantly reducing OpEx. OPC 2.0 uses a combination of open source software such as Docker, Kubernetes, elasticsearch and Kafka. This along with Openet's own software and 5G expertise delivers the most effective multi generation network

policy controller. As OPC is built on Openet's microservices continuous software updates ensure faster time to market and no downtime for system upgrades.

The system is built to cater for very low latency and infinitely scalable edge-based use cases. Openet has evolved its own service mesh software, rather than rely purely on open source and this has delivered improved latency as well as 30% increased processing efficiency, designed more specifically for telco environments. These gains are important when designing software to run on edge based clouds to support 5G URLLC use cases.

OPC 2.0 also contains 'blueprints' which provide service providers with the ability to configure network slice characteristics, such as Quality of Service and latency. This, integrated with Openet's 5G charging system and our 5G network exposure function, can provide the foundation for an efficient 5G partner ecosystems and a more efficient range of 5G offers to different industry verticals. These offers can then be provided to companies via a cloud-based enterprise marketplace, which will automatically provide the pre-configured 5G service offers 'on demand'.

Tony Gillick, VP product management, Openet, "Multi-cloud is important since 5G is all about openness and interoperability and we've worked with both AWS and Microsoft Azure in service provider environments. With 5G and a move to more open environments we're also seeing the emergence of best of breed approaches to new 5G Core Networks. Our service based architecture (SBA) and RESTful APIs ensure openness and ease of integration enabling best of breed Network Core".

Openet is seeing renewed growth in the policy market with 5G. Tony Gillick explained, "5G is seeing an increased focus on policy control as effectively it's the control plane network brain that manages the QoE of the 5G network. As many 5G use cases, especially in the enterprise segment, will be tied to Quality of Service and potentially service level agreements, being able to manage and control the performance of networks down to sub-slice level is key for many service providers to offer and generate revenues from new use cases. We see OPC as the "brains" of 5G".

Source: <https://www.vanillaplus.com/2020/06/10/53206-new-5g-policy-controller-offers-multi-cloud-capabilities-edge-ready/>

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KEYNOTE SESSION

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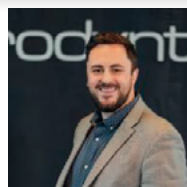
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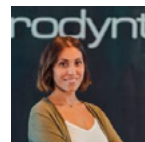
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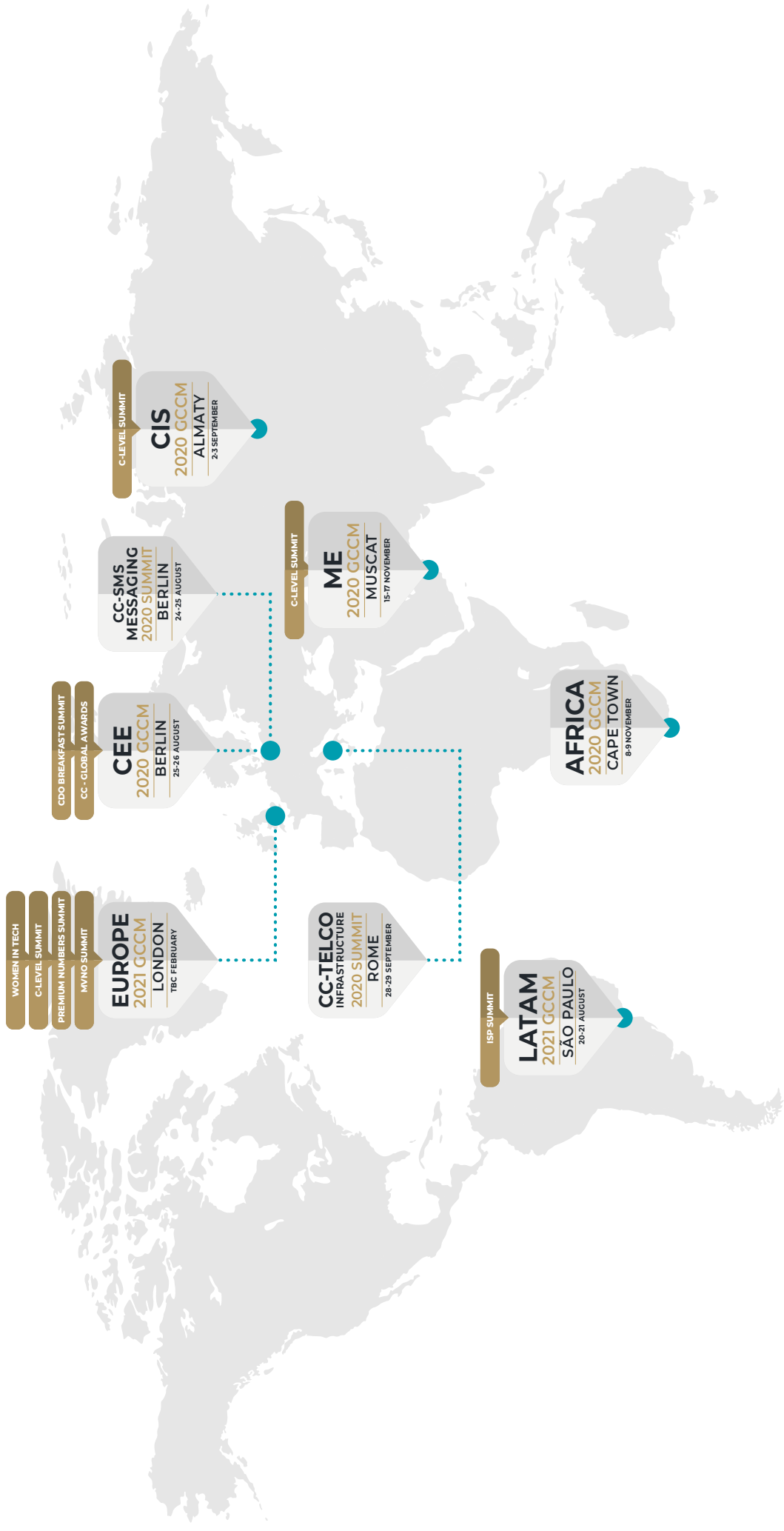
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