Tech Policy Trends
2021

Access
Partnership

Foreword

Gregory Francis, Managing Director

Last year seemed to make the pessimists' case that life oscillates between pain and boredom. In between, technology kept our economies afloat on connectivity platforms, data analytics calculated our infection risk, home entertainment rolled and the lot gave markets whatever buoyancy they enjoyed. 2020 confirmed that, when put to good use, tech can drive solutions to monumental problems. But this last year has also made us more sceptical, even angry: tech solutions did not go far enough nor come fast enough to help everybody, and the concentration of resource in the sector seems asynchronous with a threadbare era. By contrast, 2021 will hold excitement aplenty, and while some of the predictions are easy – the normalising of remote business practices, increased liability rules, more focus on competition – others are not, so read on.

In 2021, Access Partnership's corporate and government clients will go on the offensive more than ever: to de-risk supply chains, drive social justice agendas, accelerate decarbonisation, safeguard competition and insert more fairness into the engagement between those who create technology and those who need it. As the pandemic leeches by, the recession it leaves will cause a short period of reflection and then, later in the year as circumstances normalise a little, governments will rush to regulate. Europe and the new American Administration will lead the way, and the regulation they seek will be excessive. Corporates will reflexively push back in apparent total rejection but, as they do, these companies will start to amass hard evidence of what they do well. They'll re-evaluate the darker days of 2020 and early 2021 and how they helped us limp through, amid which back-and-forth some effective, longer-term contracts between society and the technology that supports it will be born. 2021 will not see an end to that friction, but all stakeholders in technology policy – the appreciators and the sceptics – will start to agree a framework for dialogue that will last well beyond these 12 months. Our company will do its part to shape that long-term stasis.

Back to the present and to you, dear readers, partners, friends and families who have come through 2020: we salute you, gladder than we can say that you're back in the ring. And if normality still seems inaccessible, at least we know that our pathway to it only requires a return to our long-standing collective task: to build something more durable, fairer, better and (yes) to do it with technology, same as those optimistic engineers who paved the first roads into our shared future.

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Covid-19 and Tech Policy: Driving Digital Transformation

Simona Lipstaite

Few of us need reminding of the far-reaching effects of the Covid-19 pandemic, which has touched almost all areas of life. Different industries, including hospitality, manufacturing and airlines, continue to grapple with its implications.

For the digital sector, the pandemic has also been a transformative experience, driving a number of trends that will define the relationship between tech companies, policymakers and society in the years to come. Three notable trends in 2021 and beyond will be: tech companies and policymakers working more closely together on recovery and resilience efforts, the acceleration of digital transformation and sharpening tech legislation to incorporate lessons learned from the crisis.

> For the digital sector, the pandemic has been a transformative experience

Tech Companies and Policymakers Will Work More Closely Together

When the pandemic first hit large parts of the world in early 2020, we saw an unprecedented level of mobilisation among both policymakers and industry actors to counter some of the most immediate challenges, such as ensuring access to connectivity as work and entertainment moved online and diverting production lines to focus on manufacturing protective equipment.

Satellite communication companies diverted resources to address higher demand in rural areas as people increasingly drifted from major urban centres to the countryside for lockdowns. Video streaming companies such as Netflix quickly reached agreements with policymakers in Europe to reduce the quality of their entertainment services to free up sufficient resources for working from home. Large digital corporations assisted public services with obtaining personal protective equipment (PPE) – all in the space of a few weeks.

While this is not a revolution in the relationship between policymakers and tech companies, it will leave a mark on the way the two sides work together in the future. 2021 will see intensified cooperation between tech companies, whose products and services are key to driving connectivity, digital transformation, infrastructure resilience, safe hospitals and schools, and governments tasked with finding a way towards recovery and resilience.

Many companies have shifted their focus to accessing various post-Covid-19 recovery funds available around the world. While they have already begun to design projects alongside ministries and to prepare funding applications, 2021 will be the crunch year when much of this work is agreed upon and kicked off.

Digital Transformation: "Future of Work" Will Become the Present

What was widely perceived as the "future of work" will rapidly become the present way of working in 2021.

Where policymakers had taken proactive steps in planning to boost digital transformation before 2020, the pandemic has rapidly accelerated this process, especially in the public sector. Digital transformation and the shift to the future of work model will be urgent in 2021, moving from an aspirational plan to an immediate priority for many regions.

For example, in its EUR 750 billion Recovery Plan, the EU has asked Member States to dedicate at least 20% of national funds to digital. A key focus of these funds will be the digital transformation of public sector processes and ICT. Companies aspiring to become thought leaders and fill a niche in the future of work will need to stand out from a much larger crowd as different parts of the industry rush to fill this space in 2021.

The next couple of years may very well be remembered as the time that brought the future of work to regions like Europe and North America through practices and policies such as remote working for public sector employees and a much more urgent focus on digital literacy and skills.

Covid-19 Will Impact Future Digital Legislation

At the same time, administrations around the world will move forward with regulation they had planned before the pandemic hit and, in some cases,

with more gusto. For example, the European Commission had envisaged a revamp of cybersecurity legislation and rules on disinformation in its 2019-2024 working programme. With an increase this year in cyberattacks, including targeting hospitals and vaccine developers, and a wave of disinformation around Covid-19, these rules will likely be much tighter than anticipated and will take into account specific use cases in health and other sectors.

Similarly, in APAC, a number of governments are tightening regulation to boost funding for recovery efforts, including policies focusing on big tech. A number of Asian countries, such as Indonesia and the Philippines, have introduced digital taxes in 2020 or are in the process of deliberation. While these plans have been a long time in the making, these countries have been newly motivated to reap the benefits of the rapid boost in digitisation and thousands of businesses moving online.

2021 will be a year defined by the 2020 Covid-19 pandemic as governments, citizens and tech companies rally from the initial crisis to pave the way for a new way of working and accordingly evolving legislation.
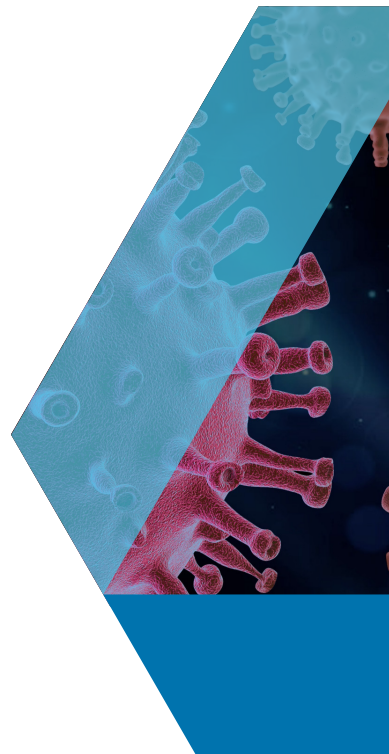
2021: The Super Year for Sustainability and Climate Policy

Gordon Mackay and Ivan Suarez

In the midst of lockdowns and economic collapse, 2020 was the year in which some of the world's largest countries, businesses and investors set their sights on cutting carbon emissions, aiming towards net zero. In a broad group of countries including China, South Korea, Japan, the EU, Canada and South Africa, almost all types of company, tech giants and industrial heavyweights included, are instructed by policy to become greener and less polluting by 2050.

The Year Ahead

In terms of Paris Agreement commitments, 168 states must provide updated and strengthened National Climate Plans (NDCs) ahead of the United Nations' 26th Climate Summit (COP) in November 2021. There is mounting international pressure for countries to move from the commitment stage to deliverables and practical solutions to reach ambitious, sometimes unrealistic, targets. Whether the focus is on halving emissions with the aim to limit the steady yearly increase in global temperature to below 1.5 degrees or slashing all atmospheric CO2 emissions by 2050, national governments are responsible for doing a lot more than incrementing targets and making public pledges.

> There is mounting pressure for countries to move from the commitment stage to deliverables and practical solutions

Global climate policy and internationally agreed climate commitments will therefore take centre stage in 2021 as the UN convenes the world's states in three treaty-binding conferences that will seek to legally compel countries to reduce their carbon emissions and promote biodiversity and ocean conservation.

The Gap Between Climate Ambition and Climate Action

While the pursuit of ambitious revised climate targets will occupy the lion's

share of international climate policymaking activity in 2021, expect national governments and policymakers, particularly in advanced economies, to start waking up to the urgent reality that climate ambition will need to be backed up by tangible climate policy action and that ground policy design and committee-based work will need to begin in earnest.

In classic policy design, the circular process from policy analysis to implementation and then feedback is widely known to be slow-moving and subject to many unexpected external influences. Unfortunately, in the emerging context of aggressively revised national carbon plans and the implementation of NDCs, governments and policymakers will not enjoy the luxury of trial and error. Ensuring that climate policies can be developed rapidly without sacrificing democratic oversight or policy vigour will require, at the very least, closer alignment between social partners (government, business and labour), if not specially adapted policy processes.

Governments can also accelerate their national policymaking efforts by activating multi-stakeholder consultations, utilising multilateral organisations of all types and sectors to identify adoptable best practices across a broad range of policy issues such as energy efficiency, procurement models, urban design and public services.

That said, state-centred climate governance in most national jurisdictions will remain weak, with no single country on track to meet 2030 emissions obligations and the necessary policy frameworks to deliver on 2050 net zero targets remaining little, if at all, addressed.

To drive home this overall lack of policy preparedness by governments, consider Sony's response to Japan's net zero announcement in September last year, when the company indicated it was considering shifting its manufacturing from Japan to overseas due to the country's strict new rules on renewable energy and carbon emissions, warning that government policy pronouncements were not aligned with market realities and highlighting the scarcity and premium costs of renewable energy in Japan.

In light of this, expect a greater share of the climate leadership burden to fall to business in general and to tech companies in particular. Governments' and policymakers' expectations of large business and big tech to not only reduce their own industry-specific emissions but also to provide leadership and practical technological solutions to decarbonise the entire economy will

only continue to grow.

Net Zero Is a Bet on the Tech Sector

In committing to net zero, governments are betting big on the tech sector to deliver rapid and sustained technological innovation capable of driving decarbonisation across the economy. The biggest obstacle to securing stronger business leadership and climate action is, according to our client engagements, the overall lack of policy direction and certainty coming from governments.

For businesses to take action means investing money in changing their entire business models, finding new technology to boost efficiency and adaptability or simply making sure they are informed and compliant – a series of long-term decisions that are entirely dependent on existing and future legislative and regulatory conditions.

If governments are to reap the rewards of their gamble, urgent clarity is required on how governments intend to use the legislative and regulatory instruments available to them to shape the market signals necessary for businesses to take transformative business decisions. Now is the time for enterprising business and tech companies to aid this process by engaging governments with firm proposals on the optimum mix of taxation, subsidies, loans, investments and grants that will support research and development, mobilise investment, support capital allocations, facilitate market access and drive consumer demand for green products and services.

In summary, 2021 will be a "super year" for climate policy, and while international policymakers will remain fixated on ambitious climate target-setting, national policymakers in advanced economies will begin the work of translating ambition into hard policy action. Climate governance will remain weak, and the challenge of acting within the tight deadlines required to stave off climate change will create opportunities for enterprising businesses and tech companies to engage with governments in developing the legislative and regulatory environments that will support the rapid and sustained technological innovation capable of driving decarbonisation and achieving net zero by 2050.

Social Justice Commitments Will Be Tested for Sincerity

Logan Finucan

2020 saw the tech sector make grand symbolic gestures on social justice issues. As the changeover in US administration turns down the temperature on these policy discussions and a gridlocked Congress stalls any major movements, attention may begin to turn to how companies follow through on their commitments. As a result, 2021 may be a bigger year for company policy than public policy, with companies being held to account by their relationships with stakeholders and a new environment shaping the approach to social justice issues going forward.

Social Justice in 2020

2020 was a momentous year for the tech sector for several reasons, not least its reconnection with social justice issues. Tech companies have long sought to stake out progressive positions in this area, motivated by young and idealistic executive leadership as well as pressure from employees who are given to activism.

> 2021 may be a bigger year for company policy than public policy

Starting with a situation of workforce diversity that was mediocre at best, the pressure cooker of the Covid-19 lockdown combined with the spark provided by the death of George Floyd and the Black Lives Matter movement created a conflagration that tech companies had to respond to.

Companies reacted in several ways:

- Senior leadership issued strong public endorsements of Black Lives Matter and calls to action for social justice.

- Founders made major donations to social justice organisations and groups supporting communities of colour.

- Companies announced new hiring decisions, HR commitments and policies to elevate those from disadvantaged communities.

- Several companies walked away from ethically problematic business opportunities, especially relating to bias concerns over AI. While the IBM jettisoned this business unit completely, Amazon announced a one-year moratorium on government sales of facial recognition technology.

Going Forwards

Companies have bought some good will through these actions. However, they have already faced criticism for making only symbolic gestures or failing to follow through with their commitments. While a more sympathetic Biden Administration can be expected to act on several fronts, a divided Congress is unlikely to make some of the major social justice policy overhauls that activists and company executives have called for.

At the beginning of 2021, we can expect companies to experience the following trends:

Companies will be measured against their targets

In response to racial justice concerns, many companies set very specific targets for hiring, board composition and promotion into senior leadership for persons from minority backgrounds. Microsoft, for example, has pledged to double the number of black senior leaders by 2025, while Google promises to increase the representation of disadvantaged groups in the top leadership ranks by 30% in the same period. These companies have also set new benchmarks for philanthropic giving, providing billions to institutions dedicated to advancing minority communities.

The consequence of setting such targets and making quantifiable commitments is that these companies can be held accountable for them. We can expect activists, watchdogs and civil society groups to do just that. While it may be easy enough for companies to splash the cash and continue to make philanthropic donations, taking steps to advance employees of colour may be challenging, given the abysmal starting point of many Silicon Valley companies. Those who are not making headway will find themselves under a spotlight.

Restraint on facial recognition will deteriorate

One of the most surprising responses by several companies in 2020 was the

choice to abandon or freeze certain lines of business. However, 2021 will test whether they are prepared to permanently leave money on the table for the sake of their non-paying stakeholders.

Amazon's self-imposed one-year moratorium on sales of facial recognition technology to the government expires in June 2021. Six months into their challenge to policymakers to adopt equitable rules, there remains little prospect of Congress doing so. The legislative agenda in 2021 promises to remain crowded by Covid-19-related relief and recovery measures, and there is a real possibility that partisan bickering over appointments will jam up the calendar and burn any of the goodwill needed to get AI and facial recognition regulation accomplished.

Come June, with no prospect of legislative action, it is likely we will see Amazon and other companies quietly go back to their old ways of selling AI tools to governments, perhaps with some fig-leaf nod to bias and ethics issues which will satisfy few, rather than cede the market to less scrupulous competitors.

Employee activism will enter a new stage

Setting clear benchmarks and making strong symbolic endorsements will only enhance the long-term trend towards aggressive employee activism in the tech sector. If companies fail to follow through on commitments they have made, or fall back into their old ways, they can expect a swift reaction from Silicon Valley's top talent.

The 2020 furour regarding the departure of Timnit Gebru, the technical co-lead of Google's ethical AI programme and a respected expert on AI and bias, may have provided a flavour of what is to come. As in the case of any prominent departure under less than friendly circumstances, there is sure to be some validity to the grievances on both sides, as well as untold personal backstory. Whatever the merit of her firing, it robbed Google of a prominent woman of color and respected voice on social justice issues and demonstrated at minimum a lack of awareness of how it would be perceived. The result was a PR disaster and employee backlash resulting in an ultimatum to the CEO.

This will not be the last ultimatum a company will face which demands them to "walk the walk" on social justice issues.

Why It Matters

After doing the damage control and picking the low-hanging symbolic fruit in 2020, companies face a choice in 2021: will they double down on their commitments to social justice and stakeholder capitalism, even when it means turning away from revenue opportunities or go back to pursing revenue and innovation without the same rigorous regard for the social and ethical impacts of their products and internal culture? In cut-throat competition with less scrupulous competitors in the global AI race, especially from China, the stakes are high, and the costs of slowing the development and deployment of AI are real. However, Silicon Valley companies live and die by the quality of their talent, and companies may bargain that they will innovate better in the long run when they keep their employees happy.

Downstream, these choices may shape the policy stances companies take. If they feel the pressure to continue demonstrating commitment to social justice, we can expect employee activism to be transformed into corporate policy activism. In the United States especially, a stalling of policy momentum in this area will cause pressure to push the Biden Administration and open-minded state governments to take more aggressive action ranging from AI ethics rules to corporate governance.

US Embraces Multilateralism as China Doubles Down on Tech Ambitions Regime

Richard Upchurch

In March 2021, China will formally unveil its 2021-2025 Five-Year Plan. Based on details revealed in 2020, the plan is expected to emphasise technological independence and indigenous innovation. While these themes have featured heavily in China's industrial policies for years, their inclusion as priorities in the new Five-Year Plan signals Beijing's intention to double down on its ambition to become a world leader in advanced technology.

Shortly before the unveiling of Beijing's plan, Joe Biden will be inaugurated as President of the United States. Biden has made clear his penchant for multilateralism and his intention to work with allies to develop a coherent strategy to confront China on trade and technology. Congressional Democrats and Republicans alike have expressed support for a multilateral approach, and the EU has put together a proposal for a new transatlantic partnership focused partly on tech.

> China will pursue its tech ambitions while the US will seek more robust collaboration with allies

As a result, we expect two trends to unfold in 2021: China will pursue its tech ambitions with renewed focus while the US will seek more robust collaboration with allies, namely the EU, to address the China challenge. These trends will shape policies and regulations related to trade, emerging and critical technologies, supply chain security, data governance, data security and privacy in the US, Europe, China and globally.

A Confident China Marches On

Beijing released the first details of its proposed 14th Five-Year Plan (2021-2025) in late October 2020 following the 5th Plenum of the Chinese Communist Party (CCP)'s 19th Central Committee, a meeting of China's top Party officials. According to the official communiqué, China's proposed goals for the next five years include significantly improving innovation capabilities, building an advanced industrial base and modernising supply chains. The plan also proposes an acceleration of China's effort to become a science and technology power, with innovation as its core driver.

These ambitions are not new – they have featured in China's development policies for many years, such as previous Five-Year Plans and the Made in China 2025 policy announced in 2015, which prioritised innovation and advancement in ten technology sectors, including high-performance computers, aerospace and new-generation information technology. The significance of the proposed 14th Five-Year Plan is that it reinforces these priorities and suggests Beijing will continue, and perhaps expand upon, controversial industrial policies and economic practices that have contributed to tensions with the US, such as subsidies, technology transfer and military-civil fusion (leveraging commercial gains for military development). China is expected to begin implementation of the 14th Five-Year Plan following its unveiling at the annual session of China's legislature in March 2021.

As it moves forward with the plan, China will continue to seek to exert greater influence over data governance, data security and technology issues, both domestically and internationally. The Regional Comprehensive Economic Partnership (RCEP), China's first and the world's largest multilateral trade deal, is expected come into force in the latter half of the year, boosting China's ability to shape regulations and standards in Asia and potentially paving the way for a China-South Korea-Japan free trade agreement. Furthermore, China will continue to seek partners for its proposed Global Data Security Initiative while developing domestic data security and personal information protection laws. Due to the country's unexpectedly effective management of Covid-19 and the upcoming 100th anniversary of the Chinese Communist Party in July, China's leaders will undertake these efforts with a renewed sense of confidence.

US-EU Collaboration

The US and EU will continue to face a China challenge in 2021, and conditions are ripe for the emergence of a reimagined transatlantic partnership to tackle it. Biden has stated that he will prioritise strategic collaboration with allies on China, while lawmakers on Capitol Hill are trending in favour of a more multilateral approach. The US and EU took a step towards closer collaboration in 2020 with the launch of a new bilateral dialogue on China. Sensing a once-in-a-generation opportunity to build upon the dialogue and deepen collaboration, EU leaders plan to propose a new transatlantic agenda for global cooperation, centred on areas where US and EU interests converge, where their collective leverage can be best used and where global leadership is required.

The proposed agenda would cover a range of issues relating to competition with China, including control of the development and use of critical technologies such as AI, supply chain security, international tech standards, trade barriers, innovation, forced technology transfers and intellectual property rights. The EU is proposing to establish a bilateral Trade and Technology Council to serve as the primary mechanism through which to tackle these issues.

The EU is proposing an EU-US Summit in the first half of 2021 to launch the agenda, and it has expressed support for Biden's proposed Summit for Democracy. While it is not guaranteed that both sides will agree on a reimagined partnership this year, perhaps due to irreconcilable differences over other issues, such as digital tax rules, on the proposed agenda, it is likely that they will at least begin discussions, given the interest among EU leaders and the trending preference towards multilateralism among the Biden Administration and lawmakers on Capitol Hill.

Recommendations

The trends outlined here have several implications for technology companies. First, expect continued, but more predictable, risks stemming from great power competition between the US/EU and China. Export controls, tariffs, sanctions and national security prerogatives will remain vital tools in the US and EU's toolboxes as they consider a new strategic approach to the challenges posed by China. However, multilateral policymaking tends to be more predictable than unilateral policymaking due to the planning and discussions involved (and a Biden administration will make policy in a more predictable and deliberative manner than the previous administration), giving companies more time to adapt to policy developments.

Second, efforts to establish a new transatlantic partnership will likely present opportunities for private sector input. Companies should not wait until an official announcement to get involved. Engage key officials now to increase the chances that your company has a seat at the table and your interests are taken into account. Prepare a compelling presentation with ideas on how your company or industry can help both sides maximise the potential of a new tech alliance. Prepare to take advantage of funding opportunities in the US and EU that emerge either independently of a tech alliance or as a result of one.

Finally, companies with operations in China should take a close look at the 14th Five-Year Plan when it is unveiled in March 2021 and determine what impact it will have on their industry. Increased government support for certain sectors could lead to new business opportunities. On the other hand, greater government attention could lead to increased regulatory scrutiny or discriminatory treatment. Companies that handle data should also monitor the development of the draft Data Security Law and the Draft Personal Information Protection Law.

Frictionless Data: Escaping the Gravity of Regulation

Michael Clauser

If the big trend since the Snowden NSA data collection controversy has been the regulation of data, 2021 may see how big tech could try to set it free again.

Data Is Born Free

Rules regulating data proliferated globally after the Snowden revelations, and to increasing fanfare. If the philosopher Jean-Jacques Rousseau were alive today, he may as well write, "data is born free, but everywhere it is localised, surveilled, regulated, breached, censored, biased and taxed".

Data localisation rules are increasingly widespread. India, under the guise of its draft data "privacy" law, may soon require entities to classify all data, labelling it for further yet unspecified regulator purposes like localisation, taxation or mandatory sharing with the state or competitors. China's Technical Committee (TC) 260 has issued a variety of regulations governing data flow, privacy and cybersecurity. Faced with peaking demand for data storage, the city-state of Singapore has placed a moratorium on constructing new data centres until it develops land-use, energy and environmental sustainability rules for future new storage.

The European Union's privacy law, GDPR, did not introduce data localisation rules but instead established extra-territorial rules governing data globally, dictating everything from data formatting to breach response, storage, erasure, processing, access and more. Lionised by GDPR's success, Europe now invites the US to a cage match at the OECD over taxing the delivery of digital services, while threatening uncoordinated national taxes if they demur.

The US is not excluded: it has a long history of requiring the localisation of certain government and financial service sector data and has no shortage of both state-level and sectoral laws at the national level dictating various aspects of data governance.

The problem is not that there are rules. The problem is that there are 195

countries in the world, each going their own slightly (or very!) different way on surveillance, lawful access, data privacy, data breach response, digital trade, digital taxation, online harms and more. While there are no doubt good intentions behind each, the results are market access barriers, burdensome regulatory requirements, soaring compliance costs, opportunities for corruption and an exacerbated global digital divide. Something less than Fair Tech.

Solutions Beyond Land

What are billionaire, libertarian big tech CEOs in Silicon Valley to do? One might be tempted to imagine outlandish schemes worthy of the most diabolical Bond villain: secret underwater lairs and commercial space travel to private space stations. In fact, industry news demonstrates that many such schemes are not just underway but at hand.

This year, Microsoft unveiled "Project Natick", an ambitious effort for sub-sea data storage. Microsoft submerged sealed data centres off the Orkney Islands of Scotland for two years to test the feasibility of offshore data centres. The tagline: "50% of us live near the coasts, why shouldn't our data?". Yet in addition to the benefits of proximity to population, natural coolant, sustainable energy usage and ultra-low rent, hosting data at the bottom of international waters also raises a lot of interesting questions, specifically about which laws are and aren't applicable to that data.

Not to be outdone, the "Spacebelt" satellite constellation seeks to provide highly secure cloud data to customers from low-earth orbit in outer space. Designed by the Cloud Constellation Corporation, the LA-based start-up's marketing collateral touts the ability to comply with "data sovereignty" requirements and avoid "jurisdictional hazards".

If they hadn't got there, Virgin Orbit, OneWeb, SpaceX and Amazon's Project Kuiper are not far behind. Each deploys broadband connectivity solutions in space: how long before the product shifts from connectivity to cloud-based services from orbit? Think Blue Origin's rockets plus Kuiper's satellites plus AWS cloud connectivity. All owned by Jeff Bezos, and all without the algae, barnacles and snooping submarines Microsoft's Natick may face. Besides, if you're a data centre architect looking for energy efficiency options, the only place that requires less coolant than the bottom of international waters may just be outer space.

A Regulatory Crossroads

It didn't have to be like this - data didn't need to go and hide in outer space or at the bottom of the sea. But what do data regulators expect? As rules for data flow, localisation, storage, processing, accessibility, readability, lawful access and tax accumulate in number and complexity, it is natural for heavily regulated companies to go venue shopping. Brussels isn't the only culprit. As America and China decouple, America doesn't want its citizens using "Chinese" tech, and China doesn't want its citizens using "American" tech. It is easier, less political and far more "green" to simply collect, process, store and move data outside of any national borders in order to reach any customer anywhere, globally.

Regulators have three choices. The first is to start now devising data regulations for companies that may soon operate from international waters or from outer space to pre-empt big tech circumventing law. This could be via a national act, a regional one by the EU or ASEAN or a multilateral initiative in a forum like the ITU. It's the easiest of the three because it plays to what regulators do best: regulate.

The second option is to work harder to align regulations globally across trading and economic partners. This option allows regulators to do what they do best but to do it hand-in-hand with global friends and allies so they can reap the benefits of technological deployment and adoption that come with providing technology companies with the opportunities for scale. This is slow work and hard going.

The third option is the hardest for regulators: regulatory humility. That means, instead of seeing big tech as the bad guy and its CEOs as modern Bond villains, taking a hard look at whether regulations both on the books and in train actually drive progress and innovation or stifle it. It means examining whether regulatory action designed to inflict harm on a basket of five highly succesful West Coast companies incidentally raises barriers to market entry for new competitors that could drive down price and drive up choice for consumers.

Better, higher quality choices and lower prices are foundational elements of Fair Tech.

Global Antitrust Takes Centre Stage

Seha Yatim

2020 has been a challenging year for everyone, and large tech companies have not been exempt, especially in terms of regulation. Data protection issues are now yesterday's news, and regulators have moved into the competition policy space. Unlike data protection or cybersecurity, competition issues are less straightforward and more dynamic. The moves that have been made by authorities around the world aim to shape several processes, which we discuss below.

> Regulators have moved into the competition policy space

Defining Anti-Competitive Conduct

We saw the Federal Trade Commission (FTC) and 48 state attorney generals suing Facebook on the grounds that the company is illegally maintaining its personal social networking monopoly through a years-long process of "anticompetitive conduct". The FTC will potentially require Facebook to divest assets including Instagram and WhatsApp, prohibit Facebook from imposing anticompetitive conditions on software developers and require Facebook to seek prior notice and approval for future mergers and acquisitions. A similar move was also announced by Australia's competition authority.

In Australia, the competition authority commenced its informal review under the Informal Merger Review Process Guidelines and recently shared its draft undertaking that restricts Google from utilising user data harvested from Fitbit and future wearables developed by the company for its own advertising purposes for 10 years or longer if necessary. China's recent draft Anti-Monopoly Guidelines on the Sector of Platform Economies similarly considered additional factors like the impact that a merger has on market concentration and the impact of concentration on technological progress.

In India, the competition regulator is investigating whether Alphabet Inc.'s Google was abusing its market position to promote its payments app as well as forcing app developers to use its in-app payment system. Similarly, Apple

was questioned by the House Judiciary Committee's Subcommittee on Antitrust, Commercial and Administrative Law for the cut it takes from app developers in its App Store. In India, the Competition Commission of India (CCI) is calling for the Karnataka High Court to resume its examination of alleged anti-competitive practices by online retailers Flipkart and Amazon.

Europe as Global Policeman

So far, these actions demonstrate a certain incoherence among competition regulators around the world. This may change in 2021 with the European Commission's Digital Markets Act (DMA).

When Europe introduced the General Data Protection Regulation (GDPR), there was no certainty that it would garner as much attention globally as it eventually did. Eventually, GDPR became a kind of "golden standard" for privacy, which has been emulated across markets. It allowed Europe to set standards for privacy through adequacy decisions and measures to ensure that recipient markets match the protections accorded by GDPR.

In the case of the DMA, the Commission knows that the world is watching. It is ready to play the role of global policeman once again and set the standards for the competition space. This is an ambition that the Commission has harboured for a while. Its Competition Cooperation Project, which started in 2018, provided the Commission with a platform for dialogue and the exchange of practices with competition authorities in Asia. The Commission's influence has been felt in the Asian competition policy space recently when markets like Japan and Korea emulated the Commission's Platform-to-Business Regulation. We expect the competition policy space to move rapidly in 2021 as the DMA provides a baseline for other authorities to study.

The DMA creates a "gatekeeper" category for "core platform services", which covers services such as search engines, social networking services, certain messaging services, operating systems and online intermediation services. Gatekeepers are expected to comply with the obligations in the DMA or face fines of up to 10% of the company's total worldwide annual turnover – higher than the 4% threshold under GDPR – and periodic penalty payments of up to 5% of the company's total worldwide annual turnover. The point of the DMA is to side-step lengthy and formal competition investigations and enable European Commission competition authorities to take speedier

action for perceived market-distorting behaviour.

Is the Europe Effect Enough?

Previous actions by the European Union to curtail the powers of American tech companies have been met with retaliation, but the tides are changing in the US. Columbia University Law Professor Lina Khan's call for a paradigm shift where antitrust triggers move away from consumer harm and towards concentrated market power, described in her 2017 article, may finally gain traction in 2021. The House Judiciary Committee's Antitrust Subcommittee's report, which was released in October 2020, discussed market concentration in greater detail. Like the European Commission, it examined how dominant platforms "exploit their gatekeeper power to dictate terms and extract concessions". Bipartisan determination to reign in the area of big tech companies has grown over the years and will likely gain momentum under Biden's administration. With the US on board and the FTC's lawsuit being a clear signal, it will be easier for global competition authorities to align their actions against the big tech firms.

Who Do the Rules Target?

It is easy to assume that the upcoming competition regulation policies will only impact the big tech firms. While that may be the initial intent of the regulatory moves, the eventual regulations and policies will impact the larger ecosystem. For example, when governments start considering additional factors like the amount of data that companies hold after mergers or acquisitions, all types of acquisition deals across industries will be impacted, especially given that all companies today hold large amounts of data. Moreover, start-up founders who want to rely on acquisition as an exit strategy may find it is no longer so easy. As governments meddle in acquisition deals, it may be more difficult for start-ups to turn to this strategy.

We also see competition arguments like "levelling the playing field" creeping into other policy areas such as tax. Even before the pandemic, many authorities were already contemplating digital services taxes aimed at creating more parity between domestic and foreign companies. The pandemic saw government revenue sources depleted, making the digital taxation issue even more pertinent. The OECD's recently released draft Inclusive Tax Framework Blueprints touch on "levelling the playing field"

between jurisdictions. Digital taxation policies will be implemented across the board and will not discriminate between companies that fall within the big tech sphere and those that do not.

Countries like India and Singapore are also developing data-sharing frameworks or policies that are aimed at giving companies a fair shot at innovation by enabling access to data held by other companies. Depending on how it is implemented in different markets, this may create risks like additional compliance costs or competitors gaining insight into business activities, since data-sharing will be a two-way street.

Recommendations

If your company falls under the category of big tech, whether you are a B2B or B2C company, competition will be one of the main risks for you to manage in 2021. If competition has been an area that has been traditionally managed by your legal team, the politicising of competition policies and the confluence of competition and other policy areas will mean that the government affairs and legal teams must work hand-in-hand.

For companies that won't be directly impacted, it is still critical to monitor the developments and understand the dynamics in each market. While regulators may borrow ideas from one another, the industry or segment they decide to target is dependent on domestic priorities. It is important that you keep abreast of developments so you are ready to intervene when it is needed.

One thing is for sure, competition issues are emerging globally, from the Americas to Asia and Europe. For companies with international operations, understanding the landscape and developing a long-term strategy is imperative.

DSA and Section 230: Shifting Intermediary Liability Regime

Sarah Skaluba and Heloise Martorell

Following over two decades of uninterrupted and loosely regulated growth, tech companies are now under an increasingly powerful microscope in Washington and Brussels alike. With lawmakers exploring legislative action to reform platform liability protections, 2021 may be the year in which the EU and US reshape the intermediary liability regime as we know it.

Europe: A New Wave of Tech Protectionism

In Europe, lawmakers have long taken a pre-emptive approach to regulation, with special attention paid to foreign companies. The EU confidently, and publicly, condemns non-EU companies for monetising data generated by EU consumers, while enabling the dissemination of illegal content and goods. Turning to regulation to increase companies' responsibility and overall transparency, the European Commission presented its new rulebook for the digital economy, the Digital Services Act (DSA), in December 2020.

> 2021 may be the year in which the EU and US reshape the intermediary liability regime as we know it

Under the new rules, online platforms will have to vet third-party suppliers with identity checks and warn law enforcement if they have suspicions relating to criminal offences. Further, once made aware of illegal content, platforms will no longer benefit from liability exemptions. They will also need to share data relating to illegal content moderation and meet stricter advertising transparency requirements. Under the DSA, companies must inform consumers about who is paying for the ads they see and why users are targeted. Failure to comply with these rules could result in fines of up to 6% of annual turnover, depending on the severity and frequency of the violation. In addition to increasing the responsibilities of tech companies towards their customers, the DSA is the embodiment of a new wave of tech protectionism in Europe. Driven largely by the concept of technological sovereignty, Brussels is creating new frameworks for the tech industry. Emboldened by the global impact of the General Data Protection Regulation

(GDPR), the EU will also look at the DSA to set international standards for the responsibilities of these companies moving forward.

Washington: A New Approach

Meanwhile, in Washington, Section 230 of the Communications Decency Act (47 USC §230) has become a driving focus of the Trump Administration. The 1996 law helps shield "interactive computer services", including online platforms, from liability by ensuring they are (1) not treated as a publisher or speaker of third-party content and (2) not held liable for efforts to moderate content in "good faith". This legal shield has powered US innovation across the digital economy for decades and has helped Silicon Valley start-ups grow into the global powerhouses they are today.

However, calls to reform Section 230 have grown louder from lawmakers on both sides of the aisle. With Democrats often citing the need for platforms to more effectively moderate violent content and misinformation, Republicans have voiced concerns about tech companies censoring conservative viewpoints. Thus, the 116th Congress saw a range of legislative proposals introduced to revamp the 1996 liability shield. Bipartisan proposals ranged from the Platform Accountability and Consumer Transparency (PACT) Act, which would require Internet computer services to maintain an acceptable use policy, establish a complaint management system and comply with 24-hour takedown requests, to the Eliminating Abusive and Rampant Neglect of Interactive Technologies (EARN IT) Act of 2020, which creates a Section 230 carve-out for cases relating to child sexual exploitation.

Partisan bills included Senator Lindsey Graham's [R-SC] Online Content Policy Modernization Act, which eliminates the "otherwise objectionable" category of content and narrows the scope of moderation actions protected under the statute, to the Department of Justice's proposal that removes immunity for providers "purposefully" promoting certain material online and opens companies up to new civil and criminal liabilities.

Within the executive branch, President Trump published an Executive Order on Preventing Online Censorship in May 2020. In this EO, the White House tasked the Commerce Department with filing a petition for rulemaking through the Federal Communications Commission (FCC) to propose new regulations to "clarify" Section 230. While Republican FCC Chairman Ajit Pai announced his intent to move forward with the rulemaking, he will be

stepping down in January 2021, when the new administration assumes office. While we do not expect further rulemaking on Section 230 from the FCC, however, future congressional action is likely.

Given bipartisan support to reform the statute, and President-elect Biden's interview with the New York Times in which he stated "Section 230 should be revoked, immediately", further legislative action is expected.

Transatlantic Shift

While the US and the EU have historically been at odds when it comes to regulating the tech industry, recent policy developments indicate a transatlantic shift in how lawmakers aim to hold platforms accountable and limit the liability protections afforded to these companies. Further, the Commission's ambitious EU-US agenda for global change, which recommends that Washington and Brussels "join forces as tech-allies to shape technologies, their use and their regulatory environment", could pave the way for closer cooperation and policy convergence under the next administration. This potential alignment represents a unique opportunity for industry to help define the parameters of a future EU-US global policy agenda and help shape the future intermediary liability regime across the Atlantic.

E-Commerce Takes a Leap into the Future

Juan Cacace and Pablo Marzocca

The impact of Covid-19 on the development of e-commerce cannot be overstated. In a context of social distancing and confinement, most brick-and-mortar stores were forced to remain closed for months and reopen only under strict sanitary guidelines. During this time, e-commerce emerged as a safe way to shop, accelerating a growth in popularity that was already underway. The significant increase in revenue and stock market prices for e-commerce companies will undoubtedly attract the attention of governments and regulators worldwide. Looking towards 2021, an inevitable question emerges: will governments begin to target e-commerce giants with the same severity that social media platforms have experienced?

> E-commerce has emerged as a safe way to shop, accelerating a growth in popularity that was already underway

Beyond Amazon

Amazon has been the subject of the most striking headlines, backed up by impressive numbers. In the second quarter of 2020, the company reported a yearly increase in operating cash flow of more than 40%. However, Amazon's dominance of media coverage must not obscure the staggering figures emerging from firms like Alibaba or Mercado Libre this year. The latter, for instance, is now worth USD 63 billion in Nasdaq, having more than doubled in value in the past year and overtaking Latin American powerhouses like Vale and Petrobras to become the region's most valuable company.

The case of Mercado Libre illustrates that attention focused exclusively on Amazon risks losing perspective of the broader e-commerce industry and its other players. Regional giants that have consolidated their positions in recent years have also benefitted from the unprecedented commercial conditions of 2020. In China, both Alibaba and Jingdong have grown substantially. In Japan, according to Statista, Rakuten has a market share equal to that of Amazon. Zalando, offering fashion and lifestyle items, commands around 5% of e-commerce in Germany and the Netherlands, with a well-established European presence. Indian national leader Flipkart

competes on equal terms with Amazon India for one of the biggest markets in the world, with a more significant domestic presence than companies like Alibaba.

Economic Shift

On Cyber Monday 2020, shoppers in the United States spent USD 10.8 billion over e-commerce platforms, according to a preview of Adobe Analytics Data. This represents a 15.1% yearly increase and a new record for the largest US Internet shopping day in history. In 2021, the OECD expects the e-commerce industry to grow by approximately 20%.

The pandemic appears to have accelerated an economic shift that was already rapidly occurring. In the US, the share of e-commerce in total retail had increased from 9.6% in the first quarter of 2018 to 11.8% in the first quarter of 2020. In the second quarter of 2020, this figure rose to 16.1%, and the UK and China show similar trends. While there are no reliable statistics for many other countries, indirect research methods, like monitoring Google search interest for the term "delivery", demonstrate that the pandemic has nudged consumers further towards e-commerce.

According to IBM's annual US retail index, Covid-19 accelerated retail trends by nearly five years in relation to previous forecasts.

Gaining Regulatory Attention

The shift towards e-commerce has consequences for market concentration. The number of companies and platforms competing in e-commerce is significantly lower than the number of companies competing in physical retail. This "concentration phenomenon" means that, in parallel with the transition towards buying and selling online, we are also seeing a shift towards an economy where each commercial platform has more power, something that always attracts the attention of governments and regulators.

On top of this, many e-commerce firms have begun to make decisive advances towards different markets, especially electronic payments and Fintech. Ant Group, formerly known as Alipay and an affiliate company of Alibaba, has become a major stakeholder in the Chinese payment economy. Its world-record USD 37 billion IPO was suspended by regulators in November, and its future is uncertain. However, one thing is clear: a significant part of Ant's

success comes from the big data collected through Alibaba.

In Latin America, Mercado Libre has followed a similar path, with Mercado Pago, its financial services and payments solution, now embedded in the marketplace and also used independently in day-to-day transactions. This type of advancement and diversification is also likely to turn government heads.

Competition policy is not the only relevant regulatory area. New e-commerce business models challenge traditional policy frameworks. One simple example is the operating of brick-and-mortar stores as points of product collection or returns or temporary storage facilities, something which is prevented in many cases by local licensing and zoning rules. A similar analysis applies to road and sidewalk regulations which conflict with innovation around "last mile" delivery solutions such as autonomous or unmanned vehicles. Trade policy is another noteworthy area: as more trade occurs in bundles of goods and services, legal uncertainty arises under existing trade agreements which rely on a traditional distinction between these categories.

Lack of Scrutiny

Retail companies, including e-commerce platforms, are, in some ways, less of a target for restrictive legislation than other members of the big tech family. They don't disseminate fake news or political campaigns and do not help protesters coordinate anti-government demonstrations or influence election results, and they are consequently subject to less scrutiny.

While the ongoing US antitrust investigation addresses the Big Four, which includes Amazon, e-commerce is not the main issue preoccupying politicians in this case. When anticipating the regulatory environment for e-commerce, it would be misguided to expect the same kind of scrutiny from governments and regulators that other digital sectors, such as social networks and platforms, receive.

It does seem likely, however, that e-commerce will gain attention as established companies begin to use their foothold in one market to advance to others. This is exemplified by the recent case where the European Commission charged Amazon with abusing EU competition rules. The issue is tied to the dual role of the platform as both a marketplace hosting

independent sellers and a retailer selling products. The violation occurs when data from the former function is used to gain competitive advantage in the latter.

Conclusion

E-commerce was already advancing at a steady pace prior to 2020, and this year has acted as a launchpad. We are now five years in the future, in uncharted territory where multiple regional giants have solidified their positions and are beginning to extend their reach into related markets. Governments and regulators across the world will undoubtedly attempt to have their say about this economic phenomenon, the extent of its impact yet to be determined, although the conversation can be expected to remain within more reasonable terms than those we have seen around other digital sectors.

OpenRAN Goes Mainstream

Colin Thomson and Mike Laughton

Geopolitics is poised to provide a boost to the quiet quest of opening telecom interfaces to the mainstream in 2021. Eclipsing even the previous policymaker preoccupation of winning the "5G race", the question of who builds 5G and even how it is built looks set to dominate debates on digital infrastructure for the next 12 months.

The "West" – largely Five Eyes countries led by the US and UK and, separately, the European Union – is trying to engineer a new global telecoms market and challenge the dominance of Huawei while avoiding a duopoly of Ericsson and Nokia.

Opening the Network

Mobile networks support billions of connections generating hundreds of billions in service provider revenues annually. These two characteristics establish mobile networks as some of the most important distributed network infrastructure in the world.

> Mobile networks are some of the most important distributed network infrastructure in the world

The radio access network (RAN), the infrastructure connecting your phone to the network, is a huge market but one dominated by just three players: Huawei, Nokia and Ericsson. They collectively represent 80% of the global market.

Mobile network operators who purchase this infrastructure have identified an opportunity to rebalance the market towards open components, giving them greater flexibility and lowering costs by using commodity hardware. They, along with select vendors, SMEs, investors and academia, are seeking to put forward an open network, OpenRAN, which will develop radio networks on a software-centric open network, disaggregating hardware components and software components. Bodies such as the O-RAN Alliance and Telecom Infra Project are now delivering standards-based technology solutions, specifications and trials. Rakuten in Japan and Dish in the US are also driving OpenRAN deployments.

Why Now?

The fillip for OpenRAN is geopolitical and commercial. Tensions between Washington and Beijing have crystallised around 5G. Already considered strategic infrastructure, the Covid-19 pandemic has made this paramount for Washington, which has pursued an aggressive strategy of sanctions and diplomatic pressure.

Washington's sanctions against Huawei caused ripple effects in several jurisdictions, in particular the UK and EU countries. The EU, driven by its own "technological sovereignty" agenda, sees a need to preserve European leadership in 5G and beyond, or be overtaken by Chinese and American firms. With the US, UK, France, Belgium, Spain and Germany taking action to limit or remove Huawei, policymakers are reluctant to rely on just two firms. With most banking on digital infrastructure to underpin their Covid-19 recovery plans, they perceive too great a strategic risk to rely on foreign firms.

Access to OpenRAN technology provides a vehicle for mobile network operators to address the supply chain security concerns brought about by heightened trade and security tensions, as well as a chance to develop national telecom champions after a decade of consolidation. OpenRAN is already being specified in mobile operators' RFPs for new network equipment but more work needs to be done to meet the needs of vendors and governments, and policymakers are willing to put their money where their mouths are.

Commercially, OpenRAN offers a chance to reduce the costs of complying with Universal Service conditions. A common obligation in mobile operators' service licences, Universal Service requires high-cost equipment to be deployed in low-return areas (in return for exclusive use of natural resources). Operators are now leveraging OpenRAN as a cost-effective way to deliver service. By migrating legacy 2G, 3G and 4G networks to OpenRAN architectures, operators are able to reduce the cost and complexity of meeting their Universal Service obligations in these areas.

OpenRAN Roll-Out

Having proven the OpenRAN technology with select deployments in their 2G, 3G and 4G networks, mobile network operators are now leveraging

the technology in their roll-out of 5G. This trend will increase operators' buying power, drive competition and result in cost-effective business-driven solutions to the challenges faced by operators and their clients.

This will be supported by taxpayers worldwide. The EU is looking for ways to support telecom innovation with funds from the EUR 1.8 billion Connecting Europe Facility Digital programme, the EUR 6.7 billion Digital Europe programme and the EUR 81.4 billion Horizon Europe programme (USD 110 billion in aggregate), not to mention Member States' individual initiatives. The US congress has passed a bill, awaiting the outgoing president's consideration, to establish a fund for telecom innovation and "rip and replace", but exactly how much will be allocated is unclear at the time of writing.

The UK has allocated an "initial" GBP 250 million (USD 340 million) toward its 5G Supply Chain Diversification Strategy and is likely to use its 2021 presidency of the G7 to drive this approach internationally.

The next 12 months will be when these headline commitments start to become concrete actions. For those countries, it is the year when they find out if they can still move world markets.
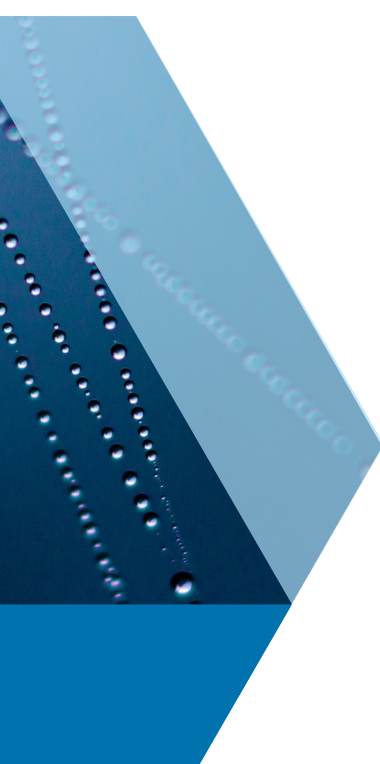
"Telecoms is Just Software": Regulators Wake Up to the Virtualisation of Telecoms

Maria Zervaki and Fabian Vevstad

The virtualisation of networks is disrupting the telecommunications industry. Physical hardware used in traditional telecommunications networks is being replaced by software, and virtual environments are being established in the cloud. In recent years, the industry has seen the rise of the virtualisation of telecommunications functionalities by Network Functions Virtualisation (NFV) and the use of software-defined networking (SDN) techniques. Both these technologies allow for certain functions of the network to become "software apps" and to run on the cloud through a centralised software instead of being developed in each part of hardware. These techniques facilitate more dynamic adjustments to networks and more flexibility on how the network is deployed, at a lower cost.

Policy and Regulatory Horizon

Like any developing technology, network virtualisation is slowly attracting regulatory attention. Some telecommunications rules may already be applicable to virtual network providers, where characteristics of a virtual network resemble the functions of a traditional telecommunications network. For instance, a virtual CDN provider (vCDN) is expected to be subject to similar regulations to a traditional CDN provider. While further rules on the virtualisation of networks may follow in the years to come, some regulatory frameworks may already be adjusted in 2021. A number of policy issues may arise from increasing regulatory attention to the virtualisation of networks.

Applicability of Telecommunications Network

In most jurisdictions, telecommunications licensing requirements apply to service providers that are responsible for the conveyancing of signals and the transmission of communications. Currently, the providers of virtual networks such as SDN and NFV do not transmit signals or communications per say or operate the telecommunications equipment that would define them as telecommunication network operators. However, a different regulatory approach may be applied in jurisdictions where the telecommunication regulatory framework is very broad and covers a wide range of providers,

including cloud service providers. Additionally, virtualisation service providers may decide to take a more active role in the telecommunications value chain, for instance by including dedicated connection services for their customers. This would involve them in the provision of connectivity.

We should expect this new era of the virtual network to be recognised in telecommunications regulatory frameworks. This is already evident in the new European Electronic Communications Code (EECC) coming into force on 21 December 2020, which fundamentally reforms the European view of what comprises a telecom service from the conveying of signal to a broader three-part definition which includes software-based over-the-top communication services. The EECC underscores the importance of adjusting definitions to keep up with technological development in order to ensure technological neutrality and refers specifically to SD-WAN as an example of such technological development, without establishing specific rules on it. These are clear indications that virtualisation is attracting regulatory attention.

Security of Virtual Networks

With the dramatic scalability brought about by virtualisation comes significant security risks. The systemic nature of these risks means box-ticking compliance measures is likely to be less effective. The risk-based compliance approach evident in recent regulatory activity in the realm of network security shows that regulators are catching on to the broader impact on risk caused by virtualisation.

In Europe, we have seen significant regulatory activity in this area, with the introduction of several regulations and directives which provide baseline security requirements while leaving much of the burden of regulatory analysis to subjected parties. The NIS Directive is the first EU-wide legislation dedicated to cybersecurity and aimed at operators of essential and digital services. It covers multiple sectors, from energy, transport, banking and financial market infrastructure to health, water supply and digital infrastructure. Under the NIS Directive, cloud computing services must take appropriate and proportionate technical and organisational measures to manage the risks posed to the security of network and information systems which they use to provide services. The NIS Directive definition of cloud computing covers all services which allow access to a scalable and elastic pool of shareable computing resources, and computing resources include

resources such as networks. While this broad definition gives a somewhat blurred scope for European cybersecurity regulation, it means the framework will be responsive to the technological change brought about by the virtualisation of networks.

The broad and risk-based approach taken by the regulators when drawing up the NIS is also evident in the GDPR, leaving subjected parties with the task of interpreting regulatory criteria and weighing up risks when implementing security requirements. This demonstrates a clear effort on the part of regulators to write rules fit for purpose in an increasingly virtual ecosystem.

Net Neutrality Implications

The new software-based control over networks also enables network slicing, which gives control over logically separate data flows. Network slicing and other benefits of network virtualisation raise the issue of net neutrality, a matter that is still debated in some parts of the globe, including in the US. As the virtualisation of networks expands, policy discussion is necessary to reconcile the contradictory opinions in the industry on net neutrality rules in order to avoid hindering the deployment of virtualised networks.

Conclusion

Policymakers can encourage innovation by providing a regulatory environment responsive to the agility virtualisation offers. This is challenging as new networks and services elude traditional definitions. However, regulators are increasingly recognising that the solution to this challenge is more dynamic and principle-based regulation coupled with close and continual industry engagement.

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