THE UPCOMING CHALLENGES OF THE TELECOM INDUSTRY

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As society becomes increasingly digitalised, reliable ICT infrastructure is crucial. At the same time, the shifting landscape of technology, politics, economy and public health means the telecom market is faced with enormous challenges.

The COVID-19 pandemic has shown that connectivity plays a critical role in enabling social activity and economic stability. In a time where dependable digital networks are needed more now than ever, telecom operators are working to ensure the resilience of their services.

Cybersecurity, lagging investments, slow 5G rollout, sustainability, and geopolitical tensions are just some of the elements the telecom market needs to consider in order to deliver connection at a time it is needed the most.
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France has fallen “slightly behind” in embracing the opportunities that come with transitioning to a 5G network, according to Secretary of State for Digital, Cédric O. EURACTIV France reports.

O added that 5G is meant to enable the transition to a fully digitised and optimised industry commonly termed Industry 4.0.

“To make our industry more efficient, we need tools. 5G is one of them. It should help strengthen our competitiveness and potentially help decarbonise the sector,” Jean-Marie Danjou, director-general of the Alliance Industrie du Futur network, told EURACTIV.

The French executive has proposed two things to ensure France does not miss the mark.

It has proposed to open an experiment desk in the 3.8-4.0 GHz band. France’s regulatory body for electronic communications, known as ARCEP, will be responsible for allocating a maximum of 100 MHz of the spectrum so that voluntary operators can experiment on these frequencies close to the “core” band of 5G (3.4-3.8 GHz).

ARCEP has also launched a new digital portal that will aggregate requests for authorisation for professional mobile networks in the 2.6 GHz band, which is already reserved for future industrial use, to simplify the procedures required until then.

These measures align with an expert report the government received at the beginning of March.

Philippine Herbert, who authored the report, was mandated in October...
2019 to conduct a mission with the aim, in particular, to identify what was slowing down the industry's 5G deployment.

According to the report, "the overall posture of French manufacturers concerning 5G is lagging compared to a limited number of 'activists'" in the field, despite "a real voluntarism and strong public policies". The report also pointed to industrial 5G experimentation projects rising.

"The vast majority of French manufacturers are in a position that is sometimes ‘informed’ and most often ‘wait-and-see’ with regard to a technology that they are waiting to have a better understanding of and more feedback on," Herbert also said.

However, one of the main obstacles to developing 5G deployment at industry level includes access to frequencies, the report also noted. “Many comments and questions on this subject were raised” while collecting testimonies from companies for the report.

"The modalities of access to frequencies as they exist today have been the subject of mixed feedback," Danjou acknowledged. "The enthusiasm for industrial systems seems to be correlated with a certain ease of access to frequencies," he added.

ACCESS TO FREQUENCIES

For now, manufacturers wishing to have a private or hybrid network have two options.

They can approach ARCEP to obtain frequencies in the 2.6 GHz band via a desk opened in 2019. This option is "too complicated" and comes at a "prohibitive" price of €70,000 per year for up to 100m² of coverage – far more than most manufacturers need.

The time taken to award a licence – up to six months – is far too long, according to the report, which noted the 12 already-issued licenses.

It is also possible to turn to national telecoms operators, to whom the government has exclusively allocated the 3.5 GHz band, the "core" band of the 5G network. In theory, they must meet "reasonable requirements according to its preference [...] either through its mobile network by means of a tailor-made offer or an available offer [...] or by making available locally all or part of the frequencies of the 3490 – 3800 MHz band which it owns".

According to Herbert, this access is "difficult to implement", mainly because of the lack of clarity surrounding the notion of "reasonable demand" and the difficulties expressed by manufacturers in contacting these operators.

"These are obligations in the licences that can be monitored by ARCEP," Michel Combot, director-general of the French Telecom federation, told EURACTIV, pointing out that the telecoms watchdog had never issued a warning to operators for such a breach.

THE GERMAN CASE

Hebert also compared France's approach to that of Germany, noting a certain enthusiasm from German manufacturers, particularly in the car industry.

"By 2020, 73% of [German] industrial companies with 100 or more employees considered it important to have 5G available at their site. By 2021, this figure was already 85%," Angelina Marko, an Industry 4.0 specialist at German digital association Bitkom, tells EURACTIV.

"The activism of these industrial ecosystems around 5G usage seems to be correlated with a certain ease of access to frequencies for private 5G networks," Herbert also noted.

Unlike France, the German regulator has made a 100 MHz frequency band between 3.7 and 3.8 GHz directly available to manufacturers through a "procedure deemed simple and fast by the German stakeholders audited", which has resulted in 170 allocations to date.

Combot has justified France's choice, saying more spectrum was to be initially allocated in Germany since, in France, ARCEP chose to leave out the lower part of the band, which "is not yet usable". The German industry is also further ahead in digitalising its industry as a whole, but faces the same problems as France in terms of industrial applications of 5G, he added.

Succeeding in the industrial 5G transition "requires a strong mobilisation of the industrial sectors and at the same time of the telecoms and equipment manufacturers", the Director-General of the Alliance Industrie du Futur also said.
The risk of fragmentation for international standards

By Luca Bertuzzi | EURACTIV.com

The EU’s standardisation strategy is trying to prevent the lagging of European companies but might open the door for the regionalisation of international standards.

Earlier this year, the European Commission presented its standardisation strategy which aims to regain its leading position in the setting of international standards, a strategic objective in terms of digital sovereignty.

Standard-setting bodies are usually open to everyone and based on consensus-building between technical experts. However, this open model also means that companies with more resources can send in higher numbers of specialists whose sole job is to influence standardisation.

“The weight of Europe in standardisation bodies has been eroded by the growth of American and Asian companies that have deeper pockets to invest in trying to influence the technical discussions,” said Santiago Tenorio, director of Network Architecture at Vodafone.

HEADING EUROPEAN STANDARDISATION BODIES

For the Commission, the growing weight of non-European actors in the European standardisation bodies raises the risk of decisions being made that go against EU interests. Thus, the strategy was accompanied by a proposed amendment to the Regulation on standardisation.

At the press conference, internal market commissioner Thierry Breton made the example of Galileo, the EU’s navigation system. In ETSI, a European standards organisation, the request to include Galileo in smartphones was rejected because of what the commissioner considered “undue influence” from non-European companies.

This was the only standardisation
request that hadn’t been accepted by ETSI in their over 30-year history, Jorge Romero, ETSI Director-General, told EURACTIV. “But this was due to scope and timeline reasons and not to non-European influences.”

A Commission spokesperson told EURACTIV that “the technical committee dealing with the standardisation request indeed had many non-European companies as members.”

While ETSI includes representatives from 48 countries, only the votes of EU bodies count in case of disagreement. Moreover, only EU representatives give the final green light for legally-binding harmonised standards.

With this amendment, the national standardisation bodies will also be involved in the intermediary decisions, which have so far only been taken by ETSI members and/or the Director-General.

**POLITICS OR INDUSTRY**

In international fora like the International Telecommunication Union (ITU), the European position is that technical standards should not be politicised, as they should be industry-driven. In ITU, the West might find itself outvoted as China has heavily invested in countries from the Global South with its Belt and Road Initiative.

ITU is the only standardisation forum where countries from the Global South can make their voice heard because governments mainly drive it. Companies from emerging economies do not have the resources to shape standards like Western and Asian companies.

However, as European companies see themselves outspent in European standardisation bodies, the European Commission calls for a heavier involvement of national delegations.

“The European standardisations strategy is at odds with the EU’s multilateral commitments to the WTO. In particular, the EU must base its standards on truly international standards,” said Rob Strayer, EVP at the Information Technology Industry Council and former ITU Ambassador for the US.

American stakeholders are particularly puzzled at the European approach, calling on Brussels to counter China’s growing influence with a common front based on shared values.

“Political solutions are not the right solutions to solve this problem. If you’re not ahead in technology, you just need to build it, even if it takes time,” said Stefano Cantarelli, executive vice president at Mavenir.

**RISK OF FRAGMENTATION**

The EU executive requests European standard-setting bodies to create harmonised standards for legislation, for example through the AI Act, Data Act and Cybersecurity Act. The Commission has not hidden its ambition to be a global rule-maker in the unregulated tech sector.

While the EU might enjoy a first-mover advantage in regulatory terms, it could find itself outpaced by non-European players regarding how the rules will be applied in practice. However, the Commission’s attempt to close the standard-setting process might become a dangerous precedent for other jurisdictions.

“There is no single thing that can lead to more loss of value than fragmentation of technical standards. It could lead to a delay in technological advances of 5 to 10 years,” Vodafone’s Tenorio said.

Europe’s standardisation strategy inserts in a context of geopolitical tensions between the West and China. The politicisation of technical standards might have a substantial detrimental value on technological development, reducing scalability and competition.

“The Commission supports the work of international partnerships developing global standards and avoiding fragmentation of the standards,” the spokesperson added.

Europe’s falling behind is certified by the massive delay in the rollout of 5G networks compared to China and the United States. Meanwhile, the EU is facing a balancing act between trying to regain a leading position and keeping things together.

“Digital sovereignty does not mean isolation. It means being able to produce what you need when you need it. A possible way to address this would be investing in R&D to develop the most effective solutions
Commission mulls digitalisation of visa system to fill in skills gap

By Molly Killeen | EURACTIV.com

Languages: Deutsch

The EU’s Schengen visa system is set to be fully digitalised under a new European Commission proposal, part of a broader initiative to attract skills and talent to the EU.

The proposal would see the EU’s visa application and payment processes shifted almost entirely online, a move the Commission says will streamline the process to reduce costs and increase security.

The passport-free Schengen area covers 22 EU countries, plus Iceland, Lichtenstein, Switzerland and Norway.

Digitalising the visa system was an aim originally established by the EU’s New Pact on Migration and Asylum, launched in 2020, with the deadline to reach this goal was set at 2025.

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Under the proposal, announced on Wednesday (27 April), a new visa platform will be established through which applicants can apply and pay for visas to any Schengen country. For those wishing to travel to more
than one country, the platform will automatically determine who is responsible for reviewing their visa application.

The new process will replace the existing visa stickers, and in-person attendance at a consulate will only be required in select circumstances, such as for the collection of biometric data from first-time applicants.

Streamlining and digitising the application process, the Commission argues, will help to tackle “visa-shopping”, whereby applicants register for visas in EU countries with faster processing times, rather than in the one they intend to go to.

This shift will also reduce security risks, the Commission says, as the existing visa stickers are more prone to falsification, fraud and theft than their digital counterparts.

Digitalising public services more generally is one of the four key facets of the EU’s Digital Decade targets, central to which is the goal of making 100% of key public services fully available online by 2030.

The Commission’s 2021 eGovernment benchmark, which compares levels of digitalisation of public services across EU countries, found that more than eight out of 10 government services are available online, with their transition to digital having been accelerated by the pandemic.

This finding was echoed by a white paper on the state of digital skills in the EU, released this week by EY, Huawei and AllDigital, which noted that there is an identifiable general trend towards the digitalisation of public services in Europe, primarily spurred by the constraints of the COVID-19 crisis.

In all the case study countries covered by the paper, significant portions of the EU pandemic recovery funds they received have been dedicated to improving and evolving their digital infrastructures. The use of e-government services by the EU population overall is substantial, with an average of 57% of individuals having accessed them in 2020.

Deficiencies in digital infrastructure and skills, however, will be key barriers to facilitating this shift.

As of 2019, the paper notes, almost 15% of European households lacked access to fast broadband coverage, and very high capacity networks were available in less than half (44%) of households overall, and in just 20% of those in rural areas.

While the Commission noted in its digital visa proposal that shifting the system online will help to make it more secure, the paper’s authors cautioned that the more public services go online, the greater the opportunities for attacks by malicious actors.

Ensuring basic levels of digital skills here will also be key, the paper concludes. In a 2019 survey, the Commission found that the number of Europeans who felt confident when it came to protecting themselves online had decreased from 71% in 2017 to 59% two years later.

Accordingly, while the Digital Decade targets include the goal of ensuring that 80% of the EU’s population have basic digital skills by 2030, the paper notes that when it comes to ensuring diffuse online capabilities, it is important that cyber hygiene and security skills are included.

The EU also has a dearth of ICT professionals; the Commission has set the target of ensuring 20 million specialists in this area by 2030.

“We know that there is a large untapped potential among us, especially in the ICT sector,” said Tony Jin, Huawei Chief Representative to the EU Institutions, announcing a €150 million investment in talent programs over the next five years.

This gap is similarly a focus of the new direction of migration policy announced by the Commission this week, in its encouragement of people with these specialised skills to
Radio spectrum: inside the next challenge for 5G deployment

By Luca Bertuzzi | EURACTIV.com

Languages: Slovak

A significant new spectrum needs to be attributed to 5G usage for the new generation of networks to carry out their full benefits, as the next years could be crucial for Europe to catch up or further fall behind in this technological race, Luciana Camargos told EURACTIV.

Luciana Camargos is the Head of Spectrum for the GSMA, the global organisation representing mobile operators and organisations across the mobile ecosystem.

What is the situation of the mid-band spectrum in Europe?

The International Telecommunication Union (ITU) defined the Minimum Technical Performance requirements for 2020 and beyond, IMT-2020, setting out the requirements for 5G networks, devices and services. So we asked ourselves, how much spectrum is needed if we have to deliver these requirements?

Our first analysis was on mid-band. We found that, based on population...
density, an average of 2 GHz is needed for 5G networks. That is a lot of spectrum, especially in this range as many services operate.

Europe has, on average, 1 GHz that can potentially be made available for mobile operators. The question now is where we are going to find the other one. That is what we are discussing at the ITU umbrella of the WRC-23 [World Radiocommunication Conference 2023], which takes place next year.

Several bands on the table are being discussed for the mid-band spectrum. For what concerns WRC, the 6 GHz is the crucial one. There are 700 megahertz potentially available in this band that would go a long way in finding the needed spectrum.

For the 6 GHz, there is a competition between telecom operators pushing for 5G allocation and digital companies making a case for Wi-Fi allocation. What is the status of this competition in Europe?

Wi-Fi has already been given 500 MHz in 6 GHz, in addition to 5 GHz and 2.4 GHz that they had acquired before that. The discussion is on the top 700 MHz of the 6 GHz band and if this should be allocated to 5G or Wi-Fi. It will be highly challenging for Europe to get to 2 GHz of mid-band 5G spectrum if we take the 6 GHz out of the equation. The question for us is, if 5G does not get the 700 MHz, there is nowhere else in mid-band to satisfy our demand.

What are the risks of too-scarce radio spectrum allocation for 5G technologies?

We published a report in February about the socio-economic benefits of 5G networks, particularly the benefits of mid-band allocation.

This study found that in 2030, mid-band spectrum would generate approximately 65% of the overall $960 billion socio-economic value created by 5G for global GDP, with the rest being split between low and high bands.

So we see mid-band as a critical driver of the 5G benefits. Keeping the spectrum assignments to the current level will reduce the boost to the GDP in 2030 by up to $360 billion. It is not just mobile operators providing a service that is not precisely what the ITU identified it should be. It is the whole society losing that potential benefit.

Is spectrum allocation a problem specific to Europe, or do you see similar issues in other regions?

Spectrum allocations in Europe are not particularly fragmented. The fact that you have European decisions, so region-wide decisions, does help with the harmonization issue. It’s always challenging to find more spectrum. All the regions of the world are getting closer to the 2 GHz of spectrum for 5G because they are looking into various bands available on the table.

Japan is maximizing every single bit of spectrum available to ensure that they get as much spectrum available as possible. We see the United States maximize the use of 3.5 GHz, getting up to 4 GHz.

Each region has different challenges and different current uses of the spectrum. It’s up to each region to look at the current users, the current demands, and the challenges to find how to get to the 2 GHz.

Europe is already not excelling in 5G deployment compared to other regions. Do you think that this spectrum allocation might put Europe on the backfoot?

It will depend on what decisions Europe makes in the upcoming years, starting with the WRC-23. Europe has enormous potential to catch up and eventually lead in those discussions.

previous communication networks like 2G and 3G? That is something that has started in other countries.

The assessment we did for 2 GHz of spectrum already accounts for every single technology being migrated to 5G. In other words, it accounts for every single piece of spectrum that mobile networks have, being used in a 5G environment. We are a long way from that. And even then, we would still need additional spectrum.

Since you need spectrum to be freed if the upper 6 GHz band is not allocated to 5G, what about phasing out