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Better conditions for the development of digital infrastructure in the EU

The Confederation of Swedish Enterprise is an umbrella organisation that represents 60,000 companies and 48 industry and employer organisations in Sweden. With reference to the “*How to master Europe’s digital infrastructure needs?*” White Paper, Swedish Enterprise would like to present the following opinions and proposals.

Trends and challenges within the digital infrastructure sector

The telecommunications market does not function satisfactorily in Sweden or within the EU. Meanwhile, countries such as China, South Korea, and the US are developing faster. For 20 years, the EU has been gradually working regulations for the telecommunications market and attempting to establish a harmonised internal market. But rules addressing frequency allocation, dominant actors, vertical integration and market consolidation have not brought us much closer to realising a common single market in telecommunications.

The White Paper provides an insightful and realistic market description of current and future challenges. However, it falls short in the following five ways:

1. It includes no targets that suggest that the EU is raising its ambitions or that the bloc has faith in market forces.
2. The importance of the interplay between stimulating innovation capacity in countries that are at the forefront of digital development on the one hand, and, on the other, the idea that all countries should be involved, is not given sufficient emphasis.
3. It lacks insight into how extensive the digital transformation is in all sectors of society and an in-depth analysis of what leading digital industries need – for example, cloud technology, data centres, supercomputers, digital technology areas and digital expertise – or how access to such resources can be ensured throughout Europe.
4. The increasingly strong dependency between the development of digital infrastructure and other digital resources in the digital industry.
5. The importance of the public sector keeping pace with digital development in terms of competence in the area and in the implementation of advanced digital infrastructure.

In section 3 of the White Paper, 12 different scenarios are presented on how various challenges should be addressed.

Swedish Enterprise supports ideas around a simplified and co-ordinated framework, less ex-ante regulation and fewer ‘country of origin’ requirements but questions the effect and relevance of several of the other proposals.

- Some proposals are repetitions – although also expansions – of previously introduced measures. For example, large EU testbeds, a small number of large research and innovation projects controlled by the EU, and more power to the European Commission.
- The White Paper highlights the need to achieve economies of scale to create an economy that drives future investment but assumes that this can only be achieved with vertically integrated telecom operators. Swedish Enterprise believes that economies of scale can also be achieved in other ways.
- Several proposals are not relevant for countries that are already leaders in digital, so-called ‘frontrunners’, for example in copper switch-off.
- There is a focus on lifting average standards in the EU and getting lagging countries to catch up. **It is important that the whole of the EU keeps pace, but it is even more important to stimulate frontrunners. The innovative power that these countries offer the EU as a whole is a vital resource and any measures that risk hampering it must be avoided.**

Greater spectrum harmonisation, more power to the EU and goals that fall short of frontrunners’ abilities risk inhibiting the development of new technologies, new business ideas and with them willingness to invest in Europe. **The overall approach outlined in Section 3 is to regulate and control innovation and leadership rather than relying on market forces.**

The White Paper also addresses the lack of skills as a key obstacle, but it includes few proposals on how this could be addressed. Sweden’s relatively rapid progress can be largely explained by a well-educated and technology-interested population. **Measures to increase the general digital abilities of countries’ population should be included in the proposals, which may be a more important individual measure that has greater positive effects than regulation.**

Six proposals for action that address current and future challenges

Based on the White Paper, Swedish Enterprise proposes the following;

1. Connectivity goals

The goals of the Digital Decade Policy Programme should be revised and made more ambitious going forward and with greater focus on application rather than simply access. The needs of business and industry need to be considered more. Goals and indexes are needed for technology shifts and liberalisation, as well as a greater focus on new technology in follow-up. Goals should not reward the continued use of copper and coax.

2. The importance of frontrunners

To compete globally, the EU needs to support frontrunner member countries and regions. The ongoing paradigm shift offers an opportunity to regain lost leadership, but this will require a more differentiated approach based on liberalisation and less protectionism. Current regulations and support have too much focus on markets in the EU that are lagging behind and thus have a levelling effect that inhibits rather than supports frontrunners. This needs to be addressed.

3. A free market and reduced fragmentation

It is important that the market can develop and consolidate, but the White Paper has too one-sided a focus on the consolidation of vertically integrated operators. It is the degree of liberalisation that determines the extent to which operators in the EU will be able to benefit from the opportunities offered by new technologies, which in turn will create the economies of scale that attract investors. National barriers need to be removed, not added to.

4. Security

Attacks on and risks to digital infrastructures have increased significantly. Companies generally need to do more to improve their own protection against security incidents. At the same time, the EU must produce a harmonised plan around levels of protection for public digital networks. Operators must be compensated for the additional costs of securing and protecting electronic communications networks that are neither reasonable nor proportionate to impose on commercial telecom operators.

5. The rapid technological shift

The EU should focus more on the importance of all member states being quick to implement new technology for digital infrastructure and making it available for the development of new services. For maximum effect, it is also important to stimulate the phasing out of legacy technologies. Developing new technology while retaining the old is costly and reduces the positive societal effects that derive from using new technologies.

6. Appropriate regulation

Incentives are needed to encourage faster technology shifts and innovation that improve competition in the telecommunications market, not an increased regulatory burden. We call on the European Commission to continue using its statutory veto power and stop all national attempts at fibre market regulation and urgently abolish sector-specific (ex-ante) legislation.

Further details on the six proposals are given in the following sections:

Connectivity goals

Reference to the White Paper page 6.¹ Swedish Enterprise supports the Commission's goal of making good digital infrastructure available for everyone and everywhere where it is

¹ Overall, and without considering population density and quality of connectivity, the EU has similar fixed and mobile coverage as the US but lags significantly behind other parts of the world in particular on fibre coverage and 5G stand-alone. However, what is more significant is which areas remain to be covered and more importantly whether the EU is in a good position to achieve its Digital Decade objectives for ubiquitous fibre and 5G coverage.

needed and demanded. Qualitatively expressed goals on the one hand have advantages in markets that develop rapidly or unpredictably, but on the other hand can be given a disproportionately large focus at the expense of other goals that are at least equally important.

Business needs. Just as households, businesses need fast broadband speeds, although broadband quality, stability and mobility are often even more important. Businesses' geographical digital infrastructure needs differ from those of households.

Scope of application. Deployment targets should be supplemented with targets for how many people use new digital infrastructures. It is only when digital infrastructures are used that they have positive effects on growth and generate returns for investors.

Liberalisation. A heavy regulatory burden risks stifling innovation and technological development. A target for the liberalisation of national markets – a liberalisation index – should be introduced.

Ecosystem. The telecommunications industry is facing a paradigm shift in which current value chains are under pressure. In the emerging more complex ecosystem described in the White Paper², there should also be targets for access to other digital resources, for example cloud services.

Follow-up. DESI has too little focus on investment in new technology and instead seems to praise countries that have chosen to retain their copper networks instead of phasing them out in favour of fibre, for example. This sends the wrong signals.

The importance of frontrunners

Sweden is a frontrunner and has in many ways come further than other countries in terms of both the expansion and application of digital infrastructures. Globally however, Sweden has fallen behind, just like the EU, overall.³

The White Paper (page 7, footnote 22 and exploratory consultation) states that we are on the threshold of a technological paradigm shift. It is reasonable that countries such as Sweden have high expectations of themselves in the face of this shift, but also that the EU supports those countries that have the ambition and potential to be at the forefront – within the EU and beyond.

Frontrunners in the EU cannot wait for countries that lag behind. Nor can frontrunners develop in an environment of protectionism and national barriers. Laws and

² This is expressed for example on page 7 of the White Paper: “Technologies are expected to drive the shift from traditional electronic communications networks to cloud-based, virtualised, software-defined networks, reducing costs, improving the resilience and security of networks, and introducing new, innovative services, while transforming ecosystem and business models. This new model of network and service provision relies not only on traditional electronic communications equipment, network and service providers but also on a complex ecosystem of cloud, edge, content, software and component suppliers, amongst others.”

³ <https://www.opensignal.com/global>

regulations that frustrate co-operation with leading actors and suppliers outside the EU inhibit progress, especially for frontrunners. The EU should therefore work for a market with access to the latest technology and ensure that technology is in demand and used. It is only when new technology is applied that the considerable societal benefits it offers can be enjoyed.

The development of digital infrastructure and other digital resources are strongly dependent upon each other. The EU must therefore work to ensure that the markets in which frontrunners operate are at the forefront in terms of cloud technology, data centres, supercomputers, digital technology areas, digital expertise etc.

Technological development is fast, and if the EU is to keep up, comprehensive digitalisation testing and development environments in which all resources are present are also needed. We note that even the European Commission in Scenario 1 draws attention to the importance of this.

Differences in digital infrastructure, connectivity and competition between EU countries are considerable and this is not good. Improving digital connectivity in countries that have fallen behind is an ambition that benefits the entire EU. National markets in the EU are in different phases of development and different measures are needed depending on how developed a market is. In a certain phase, the focus needs to be on access regulation by dominant players, in other phases, a focus on liberalisation is needed. In its current form, however, the proposed legislation is largely the same. There must not be a conflict between investing in frontrunners and harmonising a single digital market in the EU.

EU legislation needs to better reflect the fact that countries find themselves at various stages of development and that there are a variety of challenges that need to be addressed at different phases. Currently, legislation and grants come at the wrong time for those countries at the forefront. The Gigabit Infrastructure ACT (GIA) is, for example, largely irrelevant for Sweden and support for the expansion of fibre in rural areas is of little interest to Sweden and other countries that already have extensive network coverage.

An alternative to focusing on countries' leadership could be to look more closely at regions and their opportunities to co-operate within the EU. If the EU's main 'frontrunner areas' can be supported and connected with high-capacity digital highways, they can be enabled to co-operate in clusters. The EU's CEF⁴ funding programme could have a role to play in this respect.

A free market and reduced fragmentation

The market for electronic communications in the EU is too fragmented and essentially consists of 27 separate markets.⁵ Fragmentation prevents natural consolidation, and the

⁴ Connecting Europe Facility (CEF)

⁵ White Paper page 27: *At present, the EU does not have a single market for electronic communications networks and services, but 27 national markets with different supply and demand conditions, network architectures, different*

large number of actors counteracts opportunities to fully benefit from economies of scale and to attract major investors. To date, the EU has sought to counter fragmentation with more laws and more centralised control. However, the desired effect has not been achieved and the large number of new laws have instead caused and reinforced fragmentation, to some extent caused by large differences in how they have been implemented and applied in different member states. Fragmentation makes it especially difficult for actors who want to scale up and operate across borders and it discourages investment in the EU.

The solution lies to some extent in what appears on page 15 of the White Paper: *Yesterday's separation between "traditional" electronic communications networks/service providers and cloud or other digital service providers will tomorrow be superseded by a complex converged ecosystem.*

Technological development provides new opportunities for economies of scale and efficiency. Such benefits can also be achieved through the division of vertical value chains and layered specialisation, such as outsourcing and servitisation. The intelligence (active equipment) in fixed and wireless networks no longer needs to be physically distributed with computing power. Rather, it can increasingly be virtualised and moved to the cloud where global or European hyperscalers can provide it at lower cost. In short, fewer and fewer parts of networks need to be located locally.

In order to benefit from technological development, national barriers must be pulled down so that network operators are able to use the safest and best cloud services regardless of where such services are domiciled, for example. Furthermore, those offering such services must be able to address the EU as a single internal market, not as 27 separate ones. **An application of the country of origin principle to cloud services, for example, for active sections of digital broadband networks could make it easier for hyperscalers to offer this type of service to operators and achieve significant economies of scale. However, this does not address the obstacles that exist for operators that purchase such services, especially if they are produced outside their own country's borders.**

Operators that have operations in several EU countries are already uncertain whether they are even allowed to use the same employees for network operations, let alone outsource staff to actors in other countries. In Sweden, such obstacles exist in the permit conditions for 5G frequencies on national security grounds, for example. The EU must therefore work to liberalise the EU market to enable network owners and operators to benefit from new, more efficient solutions.

Security

Secure and resilient digital infrastructures should be a high priority issue for the EU. Attacks on digital infrastructures have increased significantly in recent years in Sweden and in other EU countries.

levels of coverage of very high-capacity networks, different national spectrum authorisation procedures, conditions and timing, as well as different (albeit partly harmonised) regulatory approaches.

An effective way of protecting digital communication networks is to phase out old technology in favour of new ones, which typically offer better levels of protection and security. Phasing out outdated communication networks such as copper, 2G and 3G as soon as possible is probably the most cost-effective way that EU countries can make networks more secure. Replacing IPv4 with next-generation IPv6 IP addresses is another example of measures that improve security, and this could be incentivised. However, measures also need to be taken to increase the physical and digital security of modern 5G and fibre digital networks.

Steps to guarantee network functionality, especially from more sophisticated threats, are costly. There is a certain level of network security and operational security that operators reasonably need to provide for themselves, both because this is cost-effective and because their customers demand it. There is also a certain increased level of security that at least some operators' customers are willing to pay extra for. However, the costs resulting from increased protection are of a completely different magnitude if operators are to have almost complete protection from attacks by state actors known as APT (Advanced Persistent Threat) or in the event of crisis or war.

The Code⁶ gives the NRAs⁷ a considerable degree of freedom to impose requirements on operators to adopt costly security measures. Such measures must ensure security levels that are appropriate to given risks, but assessments are made by respective NRAs and no clear guidelines are in place. Since the security situation also differs between countries, security requirements and costs are likely to vary. This risks further fragmenting the market and resulting in differences in potential returns on investment in digital networks. This cost issue has also been highlighted in a recently published report by Enrico Letta.⁸ It should therefore be clarified which obligations are reasonable to impose on operators and which should reasonably be paid for by central governments.

In scenario 12, the White Paper states that “*The Commission may consider harmonising security requirements in international fora, which may be recognised through a dedicated EU certification scheme.*” Swedish Enterprise supports measures aimed at countering fragmentation in this area. Scenario 12 also proposes a security certification for suppliers. In addition, we are more doubtful whether the benefits of such a measure would be in proportion to the administration and costs a certification would entail.

⁶ In Sweden implemented as the Law (2022:482) on electronic communication.

⁷ National regulatory authority, in Sweden the Swedish Post and Telecom Authority (PTS)

⁸ Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens: *At the core of the common public interest lie two pivotal elements: cybersecurity and digital sovereignty. The European landscape currently lacks a harmonised approach to lawful intercept, which necessitates a thorough review to explore paths towards greater harmonisation, all while safeguarding national security. A harmonised framework could significantly streamline networks and operations across Europe, without compromising on security. Notably, the disparity in handling the cost of law enforcement support across different countries poses a challenge; in several instances, the financial burden falls squarely on the operators. Instituting common rules for cost recovery could significantly ease the financial burden on operators and diminish barriers within national markets, thereby enhancing cooperation and efficiency in law enforcement assistance across the EU, especially in situations where challenges emerge due to differences in provider types and locations.*

On the other hand, more co-operation and the opportunity to engage leading experts and digital defence services is needed, regardless of where they live. To enable this, data protection and national security requirements should focus on information security through technical measures and solutions such as advanced encryption and not be based on data localisation requirements.

The rapid technological shift

We note that the European Commission draws attention to the importance of new technology and provides proposals for targets for the phasing out of copper networks, for example. There are considerable advantages to being at the forefront and being early in developing new services that can then be exported to other countries when they are mature. The White Paper refers to several studies that make the connection between new technologies and economic growth. Swedish Enterprise, however, feels that the benefits of rapid technological change are not sufficiently recognised in the White Paper.

It could be highlighted more clearly that the relationship between the two is time-critical, i.e., the faster a technology changes, the more tangible the effect on economic growth. If the EU is to become a global technology leader, offensive goals are needed to accelerate technological shifts. However, there is no point in working solely for the launch of a new technology long before there is a market for it and customers are willing to pay for it. Therefore, it is also important to stimulate leading countries, where demand for the latest technologies exists earlier.

Opportunities to stimulate rapid technological change in the mobile market are to some extent similar to those around the expansion and use of fibre broadband. However, the EU lacks direct influence over national allocations of radio frequencies for this purpose.

Increased co-ordination can be beneficial for everyone, but if all 27 EU countries need to agree on when certain radio frequencies are to be launched, 6G for example, there is a real risk that such improvements will be made far later than when frontrunner countries need them to be implemented.

Appropriate regulation

Swedish Enterprise welcomes the European Commission's proposal that no markets should be recommended for prior regulation, ex-ante.⁹ A market with such innovative and disruptive technological development, as the European Commission describes in the White Paper, should not still be subject to SMP rules. Competition is not perfect, but if the three-criteria test¹⁰ is applied to the Swedish market for electronic communications, the result is far superior than when the regulation was introduced 20 years ago. Nevertheless, the majority

⁹ Page 32 of the White Paper: *As markets subject to ex-ante regulation and the number of operators designated as having SMP have diminished in view of the growing deployment of competing network infrastructures, it is the right time to explore the possibility of not recommending at the EU level any market for ex-ante regulation. The possibility of leaving electronic communications networks to ex-post control alone could have merit in certain circumstances.*

¹⁰ Law (2022:482) on electronic communication. Market analysis and identification of companies with significant influence in sections 5 and 6: https://www.riksdagen.se/sv/dokument-och-lagar/dokument/svensk-forfattningssamling/lag-2022482-om-elektronisk-kommunikation_sfs-2022-482/

of all changes in the latest version of the Code address market issues that Sweden resolved several years ago.¹¹ We fear that Sweden is not alone in this respect.

Instead of regulating the market, the focus should be on stimulating new technologies, innovation and investment appetite. This is best done by accelerating technology shifts, reducing cost-driving obligations and removing national barriers that hinder potential market growth that the European Commission sets out in the White Paper. Technological development with the expansion of 5G networks and the parallel establishment of fibre networks are the surest ways to improve market dynamism.

¹¹ The benefits of GIA are extremely limited for Sweden because the country already has extensive fibre network coverage.