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Reflections on 2030 Digital Compass: the European way for the Digital Decade

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Colophon

**DEPARTMENT OF
ECONOMY, SCIENCE & INNOVATION**

Flanders
State of the Art

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1. Introduction

On 9 April 2021, the European Commission published '2030 Digital Compass: the European way for the Digital Decade'. This document is a reflection of the Department of Economics, Science & Innovation (Department EWI in Dutch) and the Working Group 5 - Digitalisation of the Flemish EU Platform (WG5), on this communication. In the development of this position paper, Department EWI consulted with members of Working Group 5 - Digitalisation of the Flemish EU Platform, who were able to give substantive feedback on the Digital Compass.

Furthermore, this position paper is based on spearheads of the Flemish Coalition Agreement, policy texts on digitalisation, input from different Flemish departments and input from the Department of EWI itself. This paper is therefore a logical collection of various visions and points of view of both the Flemish stakeholders and the Flemish policy on the Digital Compass.

The Communication defines a vision on digitalisation and four pillars with concrete objectives. Furthermore, it focuses on digital citizenship and the ethical and legal issues involved. Finally, along with the monitoring system, possibilities around further internationalisation are also unfolded.

2. Main messages

1. Flemish stakeholders welcome the European Commission's idea of accelerating digital transformation.

2. Attention throughout the text to cybersecurity and the security of the digital economy and society in the context of digital sovereignty.

3. Flemish stakeholders call for special attention to be paid to the link between the circular economy and digitalisation and ask that solid objectives be drawn up for this as well. The best way to make the link here is between the European strategic objectives for digitalisation and the Green Deal.

4. The term 'ICT Specialists' needs to be clarified. In addition, the objective regarding skills should also focus on experts in other fields who can use advanced technologies.

5. Flanders supports the objective concerning 5G but asks that European Research Centres and companies be involved in its rollout.

6. The KPI on 'Edge Nodes' should not be limited to small data centres. The focus should be on AI in the equipment itself, which can be achieved through standardisation.

7. Flanders asks to include a KPI that focuses on the amount of venture capital available in Europe.

8. Flanders supports the rights-based approach to digitalisation, but points out the importance of integrating ethics into the workings of organisations. In addition, we ask for the best possible alignment with the legal work that is already being done in the Council of Europe.

9. Finally, Flanders asks that monitoring the proposed objectives be made possible at regional level. This will benefit the charting of the effects of regional digital policy.

3. Context

The COVID-19 pandemic has revealed some weaknesses in terms of digitalisation while disinformation has increased significantly in times where correct information and communication are of utmost importance. But also the degree of dependence on other global players who do not always share the same values. In the light of these challenges, it is crucial that the European Union, independently of other global players, has control over the data of its citizens and the digital infrastructure within its territory.

Digital transformation is also a driver for achieving the Green Deal objectives. To guarantee Europe's digital sovereignty and sustainability, solid objectives are necessary. To this end, at the Council's request, the Commission has drawn up and presented this Digital Compass for the next decade. It is a strategy for adapting the legal framework and for setting up a common direction in the digitalisation policies of all Member States.

The European way to a digitised economy and society is based on three pillars: solidarity, wealth creation and sustainability. These three pillars are responsible for empowering its citizens and businesses and creating a safe and resilient digital ecosystem.

In general, Flemish stakeholders look favourably on the European Commission's willingness to accelerate the digital transformation. The need to reduce the level of dependence on other world players and to stimulate correct and transparent information exchange is also endorsed by Flemish stakeholders.

As stated in the Flemish coalition agreement, Flanders is positioning itself as a competitive, innovative and sustainable federated state that is taking on a strengthening and participatory role in European initiatives. According to the coalition agreement, the Flemish Government will do this by actively following the European agenda and responding to the programmes adopted by the Commission. In doing so, Flanders sends positive signals towards supporting the European plans for digital transformation.

Intended initiatives such as the Digital Product Passport to stimulate the reduction of the ecological footprint of digital products by including eco-standards are positive. Flemish stakeholders are asking that this be made concrete by including a separate KPI for circularity. The KPI will be crucial in monitoring the degree of circularity and ensuring that the ambitions are also effectively fulfilled. Only this way can we achieve a win-win situation as digital technologies can be used to intensify circularity and digital technologies can consequently contribute to the circular economy.

Circular economy combined with digitalisation will ensure that we do not have to sacrifice our prosperity if we reduce the use of primary materials and focus on the reuse of these materials. As a result, Flanders is aiming for a climate-adaptive and circular (digital) industry and service sector.

In this context, Flemish stakeholders propose to include an extra objective in the Annex in the infrastructure section, i.e. an objective/target on "Green IT: reducing the footprints of IT & electronics" (see page 9.).

Finally, throughout the text and the various pillars, we ask for more attention to be paid to cybersecurity. Not only to increase the protection of our companies but also to protect our critical infrastructure. In our view, this is an integral part of digital sovereignty.

4. The four cardinal points with specific objectives

First of all, it addresses digital skills in the European population, it then focuses on rolling out solid infrastructure networks on 5G, Cloud, AI and so on. The third pillar concerns supporting the digital transformation of companies. The last pillar focuses on the digitalisation of public services.

4.1. Skills

Proposal Digital Compass objective: by 2030, 80% of adults should have basic digital skills and 20 million ICT specialists should be working in the EU.

Flemish stakeholders are in favour of raising the digital skills of citizens and employees in the European Union. Not least because this objective is a precondition for all the other objectives specified in the Digital Compass. Also, the establishment of a new STEM action plan will address the shortage of technical and scientific profiles, with attention to gender.

However, we find the term 'ICT specialists' in the target problematic for several reasons. To put this into perspective, we can look at the occupational monitor of the Department of WSE, which shows that between 2017 and 2019 there were 120,400 IT specialists working in Flanders on average:

- Managers in the field of information and communication technology (ICT): 16,500.

- Software and application developers and analysts: 69,300.

- Database and network specialists: 12,700.

- Information and communication technology and user support technicians: 12,200.

- Installers and repairers of electronics and information and communication technology: 9,700.

This immediately raises a first question: what does the European Commission understand by 'ICT Specialists'? If we convert the proposed objective to the population of Flanders (1.48% of the European Union), there should be some 296,000 ICT specialists in Flanders. This means that more than a doubling (+146%) is needed to reach the proposed objective in Flanders. In comparison to the 2011-2013 period, Flanders has improved by 26%. This shows that Flanders will have to increase its efforts to reach the proposed objective. Furthermore, the question can be asked which inhabitants of a country are taken into account, does this include, for instance, asylum seekers, expats with IT skills or people who have been attracted from other countries to fill the shortage?

In addition, Flemish stakeholders advocate paying attention to the spectrum between people with basic digital skills and pure ICT specialists. In between, there is also a large group of employees with a certain expertise in their profession who need to be able to use advanced digital technologies and to help design them. Think, for example, of people in healthcare who must be able to set up teleconsultations or lawyers, researchers and teachers who must be able to use the latest digital technologies. The definition of ICT-specialist also doesn't take data scientists into account, which are essential in the new digital economy and society. This necessity of a broad definition is also included in the training courses that are being set up by Flanders under an ESF-call for training in the labour market and its programme for the stimulation of more AI courses in lifelong learning and with PhD's: the Flemish AI Academy.

The problem of a proper definition also arises when it comes to basic knowledge. What is meant by that? Shouldn't we be moving towards defining a critical set of literacies for citizens to live in the new digital society? Is it about purely practical skills or also about competences such as media literacy and digital responsibility? How does this relate to the DigiComp model? Here the committee will have to come up with clear proposals, linked to the concept of Digital Citizenship. Finally, knowledge about digitalisation must be properly disseminated in both urban and rural areas

4.2. Infrastructure

Proposal Objective 1 Digital Compass: by 2030, all EU households should have gigabit connectivity and all populated areas should have 5G coverage.

Flanders sees this as a necessary objective through which other objectives regarding the digitalisation of governments and companies can be realised. The rapid availability of a secure and high-performance 5G network also contributes to reducing dependence on other world players for innovation. Indeed, the deployment of critical infrastructure helps to accelerate innovation processes and to anticipate technological developments, thus contributing to Europe's digital sovereignty. It is no coincidence that the rollout of a 5G infrastructure in Flanders is also included in the Flemish Coalition Agreement for 2019 - 2024.

Flanders believes that the roll-out of 5G will also ensure that the latest rush-hour technologies can be used here. As a result, traffic flows will be better coordinated while much more energy will be saved. Furthermore, this is an opportunity to make information exchanges more efficient and, for example, to introduce disruptive robotics technologies. We think it would be good to involve European companies and knowledge institutions as much as possible to increase knowledge about this technology in Europe.

The Flemish Government also supports the focus on the digital economy and innovation and sees potential in digital innovation hubs as well as the promotion and support of digital applications to increase the reach of services and information in rural areas. However, the Flemish Government also emphasises the importance of digital solutions and infrastructure in social sectors, especially medical services and education. Strong public-private partnerships, complemented by academic and civil society stakeholders, can contribute to this.

Proposal Objective 2 Digital Compass: by 2030 the share of European semiconductors should be 20 per cent of total world production

Flanders is actively pursuing this through the continued support of the Strategic Research Centre IMEC, which is able to present sound R&D in this respect. In addition, the entire Flemish ecosystem holds special trump cards in terms of training, research, design and process techniques. Flanders is brimming with top talent in that area, with both IMEC and cutting-edge universities.

Currently, there are three chipmakers that hold the majority of the market at global level: Intel, TSMC and Samsung. It would therefore be good if this could be diversified by investing more in European chipmakers. However, a mere call for funding is insufficient. Specific guidelines on funding models and a distinction between the development of different types of chip are needed to achieve the desired objective.

Proposal Objective 3 Digital Compass: set up 10,000 climate-neutral and highly secure 'edge nodes' across the EU, distributed in such a way that low-latency data services can operate (a few milliseconds) where businesses are.

The definitions provided for the term 'edge nodes' are inconsistent at first sight. They are first defined as interfaces to a wireless network, allocated in both distributed data centres and in the computers/devices themselves that generate data. However, in the annex to the Digital Compass, they are defined as small, geographically distributed data centres, which do not include local digital equipment.

From an energy saving and privacy standpoint, it is problematic to focus solely on the rollout of smaller distributed data centres. The increased use of Artificial Intelligence and high bandwidth sensors makes a focus on hyperlocal data processing preferable to transferring data to larger distributed data centres or cloud systems. Therefore, limiting the objective to the deployment of small data centres goes against the trend of obtaining more distributed technical solutions, as also defined in the AI White Paper under the term edge computing.

Flanders has a strong reputation in the field of different AI components such as automated AI and ML, AI-driven Data Science, and on top of that it explicitly focuses on the roll-out of Edge AI (AI in the equipment itself) through the top strategic research within the Flemish AI Policy Plan. A stronger emphasis on pan-European standardisation in this regard can contribute to a broader ecosystem and lower dependency on data centre operators, and reduce the risk of monopolising these resources

Presentation Objective 4 Digital Compass: by 2025, Europe will have its first quantum computer.

Highly advanced stakeholders of the Flemish Innovation Domain welcome the objective of having a European quantum computer by 2030. Currently, we can only conclude that little action is being taken in

Flanders and Europe in this regard. If we do not want to be left behind, a coordinated European action with a clear roadmap by 2025 is indeed necessary.

Suggestion for an additional objective 5: by 2030, make data centres and ICT infrastructures climate-neutral.

Today the ICT sector accounts for 5-9% of electricity use. This is more than 2% of global greenhouse gas emissions (as much as all air traffic). If unchecked, the ICT footprint could increase to 14% of global emissions by 2040. An objective for reducing the ecological footprint of IT & electronics (green IT) is therefore very much needed. Measures need to be taken to improve the energy efficiency and circular economy performance of the ICT sector from broadband networks to data centres and ICT devices.

Circular economy combined with digitalisation will ensure that we do not have to sacrifice our prosperity if we reduce the use of primary materials and focus on the reuse of these materials. As a result, Flanders aims for a climate-adaptive and circular (digital) industry and service sector.

Intended initiatives such as the Digital Product Passport, to tell consumers and industry about the origin, composition (including hazardous and rare materials), end-of-life handling and recycling of products and to stimulate the reduction of the ecological footprint of these products by including eco-standards, are positive. Flemish stakeholders are asking that this be made concrete **by including a separate KPI for circularity**. The KPI will be crucial in monitoring the degree of circularity and ensuring that the ambitions are also effectively fulfilled. Only this way can we achieve a win-win situation as digital technologies can be used to intensify circularity and digital technologies can consequently contribute to the circular economy[1].

4.3.   Digital transformation of businesses

Proposal Digital Compass Goals objective:

- 75% of European enterprises use cloud computing services, big data and artificial intelligence.

- More than 90% of European SMEs achieve at least a basic level of digital intensity.

- Doubling of European unicorns by improving facilitation and funding opportunities for European enterprises.

Flemish stakeholders are in favour of these objectives since the digital transformation of companies will contribute to a digitised European economy and society. This digitalisation of companies will strengthen the European economic base and our resilience, and guarantee the digital sovereignty of the European Union. This will make the European Union stronger in competition with other global players.

Flanders advocates not losing sight of the objective of the policy and to focus on effect indicators. What do we want to achieve: more e-commerce, higher productivity and/or effectiveness? We note that we are now working mainly with input indicators. This will allow us to monitor the effects of the policy better. We also wonder what is meant by basic level in concrete terms.

The Flemish Policy Plans on Artificial Intelligence and Cybersecurity give substance to our ambition to further stimulate the application of digital technologies through research, training and practical applications in companies. In doing so, we coordinate our digitalisation projects i-Learn and Mobilidata with Flemish companies. Within the recovery measures resulting from the European Recovery and Resilience Facility fund, some large new digitalisation projects are also included that will be rolled out in the course of 2021 and 2022 and contribute to the digitalisation of companies.

Flanders, however, is asking for a specific KPI regarding the large venture capital investments for digital technologies in Europe. Since the breakthrough and growth opportunities of a start-up and scale-up are based on these investments, it is very important to pay special attention to this. Flanders provides support in that respect by financing Flemish start-ups via the Do and Venture Fund (PMV) and the Flanders Future

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[1] In its Council Conclusions of 17/12/20, the Environment Council asks the Commission for "targeted initiatives to address the interplay between the European digital strategy and the European Green Deal targets and thus exploit the opportunities of digitisation for environmental protection, climate action and nature conservation" (preamble). Among other things, reference is made to the digital product passport and AI at the service of climate challenges (§31).

Techfund. In doing so, both government and private venture capital funds need to be identified. To ultimately increase the availability of these funds.

4.4.   Digititalisation of public services

Proposal Digital Compass objectives:

- 100% of public services are available online for businesses and citizens.

- 100% of EU citizens have online access to their medical data.

- 80% of EU citizens use an eID.

The Flemish Government has already included in the Flemish Coalition Agreement 2014-2019 that all administrative transactions between government or local authorities or businesses will be offered via digital channels. This objective has not yet been achieved, but a recent benchmark has shown that we are moving in that direction. This objective has been confirmed in the new coalition agreement. Flanders can therefore certainly identify with this objective at the European level.

Within the Flemish recovery measures that arise from the European Recovery and Resilience Facility fund, there is a strong focus on the further digital transformation of the Flemish authorities, more specifically into a data-driven government with user-oriented services.

Achieving the target for medical data is a federal competence, but Flanders is also contributing to this by investing in the Vitalink system. The aim is not only to make the medical file available to citizens, but also to share it with innovators, provided they have the patient's consent. When making medical data available, we must also consider access to these data for innovation and interoperability at the European level. Europe must ensure that no silos of health data are created along national borders.

Thanks to the access management of the Flemish government (ACM/IDM), citizens, civil servants and companies can access the digital applications and information of the (Flemish) government in a safe and efficient manner and are increasingly using them. Both the Belgian electronic identity card (eID) and the authentication tools derived from it (e.g. itsMe) can be used for this purpose. Within the context of the revision of the eIDAS regulation, the feasibility of the possible introduction of a European electronic identity card is currently being examined.

A KPI on the extent to which sustainable and circular criteria are used in public procurement and the extent to which IT material is managed in a circular way would also be welcome.

5.   Digital Citizenship

Europe wants to distinguish itself in terms of digitalisation through the creation and establishment of Digital Rights. The following are currently being proposed:

- Universal access to Internet services.

- A safe and trusted online environment.

- Universal digital education and skills for people to actively participate in society and democratic processes.

- Access to digital systems and devices that respect the environment.

- Accessible and people-centred digital public services and administration.

- Ethical principles for human-centred algorithms.

- Protecting and empowering children in the online space.

- Access to digital health services.

The European Commission will elaborate on this, which should lead to the recognition of Digital Rights by the Commission, Council and Parliament.

Flanders supports the rights approach proposed by the Digital Compass. However, Flanders asks for attention to be paid to the proper guidance of companies and other users of digital technologies such as

artificial intelligence and data-driven application in the integration of these new regulations, as is happening here in Flanders with the Knowledge Centre for Data & Society and Mediawijs. Flanders is also asking for attention to be paid in this context to the impact of digital technology on (the integrity of) citizens: e.g. data privacy, automatic face recognition, location data, etc.

In addition, a lot of preparatory work is already being carried out for such a rights approach, not in the least with the Council of Europe in the ad hoc CAHAI Committee which is focusing on regulation on Artificial Intelligence. We ask here that maximum use be made of that work and that duplication and overlap be avoided.

6. Monitoring and Multi-country projects

The monitoring of digitalisation initiatives will be based on the DESI index, while the reporting by the Commission will be published in the European State of the Digital Decade Report. In this respect, it is especially interesting to set up a Flemish monitoring system with concrete reference points to possibly also compare in depth with other regions.

It is important to take into account the complexity of digitalisation of small businesses. For example, 97 percent of companies in Belgium are micro-enterprises – enterprises with less than 10 FTE - and it is known that the DESI index only focuses on companies with more than 10 employees. This does make monitoring by means of the DESI index more difficult.

7. Internationalisation

Finally, the Commission emphasises the opportunities for cooperation with international partners. The Commission aims to build on a renewed transatlantic relationship as a pillar of digital international engagement. The EU must show the way to a broader coalition of like-minded partners who share the same vision around a people-centred digital transformation.

Flanders supports the European Commission in the removal of so-called "digital" barriers, the conclusion of agreements including provisions to promote cross-border data flows, as well as its active role in the WTO work for an agreement on e-commerce. All this must be accompanied by adequate protection of personal data and privacy of citizens. At the same time, it must be avoided that this leads to disguised barriers to trade or data localisation requirements. Flanders also endorses the importance of the Team Europe initiatives to close the digital gap and to work on digital inclusiveness at global level.

Furthermore, the pursuit of digital sovereignty should be accompanied by coherence in EU policies. Digital partnerships developed under this strategy need to be coherent with the approach to such trade or partnerships. In this respect, it is important to note that for Flanders, digital sovereignty pertains to the development of our own capacities and the reduction of our deficiencies, not to protectionism. For this reason, when entering into international digital partnerships, special attention needs to be paid to openness, obviously with the necessary pragmatism.

8. Conclusion

Overall, Flemish stakeholders have a positive view on the communication of the European Commission and endorse the idea that the proposed objectives will contribute to a comprehensive digital society. If monitored and followed up well, the European Union will take a great step forward towards accomplishing the Green Deal objectives and reaching digital sovereignty. However, to do so, Flemish stakeholders believe that certain matters should also be taken into account.

Some terms need to be clearer while KPIs at certain areas need to be adopted for an effective follow-up of the objectives. Furthermore, we need to pay attention regarding securing the digital transformation, and thus emphasise more on cybersecurity. Especially the attention to be paid to the link between circular economy and digitalisation is crucial to successfully facilitate the twin transition.

We also support the rights-based and human-centric approach to digitalisation as this will lead us to a stable digital future in which the European values will take precedence. Lastly, to accomplish these proposed objectives, an integrated approach such as the quadruple helix model is favourable. As this will enable a higher potential by benefiting from the knowledge and resources available at a diverse spectrum of partners.

9. Annex

This position paper prepared by the Flemish Department of Economy, Science and Innovation (EWI) is the result of the joint effort of many individuals whom we would like to thank for their effort and involvement. In particular, the members of the thematic team Flemish EU-platform and the members of the Working Group 5 of the EWI stakeholder platform on European digital policy (WG5).

This stakeholder platform brings together civil servants from the relevant Flemish governmental departments and agencies as well as representatives from all types of stakeholders (academia, industry, civil society) and official advisory boards to discuss issues related to international science and innovation policy with a focus on European issues.

However, their individual contributions and involvement do not necessarily imply their (or their organisation's) consent on the entire position paper, precluding them (and their organisation) from expressing divergent opinions in other papers or at other occasions.

The list of contributing stakeholder organisations (WG5) is as follows:

Ministry of Education (Onderwijs Vlaanderen), Department of Economy, Science & Innovation (EWI), Department of Culture, Youth & Media (CJM), Department of Chancery & Foreing Affairs (KBuZa), Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding (VDAB), Agentschap Innoveren en Ondernemen (VLAIO), Informatie Vlaanderen (AIV), Flanders Marine Institute (VLIZ), Openbare Vlaamse Afvalstoffenmaatschappij (OVAM), Provinciale Ontwikkelingsmaatschappij Limburg (POM), Kenniscentrum Data & Maatschappij, Interuniversitair Micro-Elektronicacentrum (IMEC), KU Leuven, Universiteit Gent (UGent), Unie van Zelfstandige Ondernemers (UNIZO), Vlaams Netwerk van Ondernemingen (VOKA), Siemens.