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From: Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director

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To: Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union

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Subject: ANNEX to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions **2030 Digital Compass: the European way for the Digital Decade**

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Delegations will find attached document COM(2021) 118 final ANNEX.

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ANNEX

**ANNEX**

*to the*

**Communication from the Commission to the European Parliament, the Council, the  
European Economic and Social Committee and the Committee of the Regions**

**2030 Digital Compass: the European way for the Digital Decade**

## Proposal of common Targets to mobilise public and private actors

When selecting **targets**, the Commission looked at existing **Key Performance Indicators (KPIs)**, having in mind that targets need to be measurable in order to be monitored. For each target we present the baseline and source of data. The choice of lead KPIs hereafter was made based partly on existing KPIs which are monitored e.g. in the Digital Economy and Society Index (DESI) monitoring system set up by the Commission since 2014. There are, however, also potential KPIs where studies (ongoing or future) or other sources would be needed, methodologies would still need to be developed or relevant data would still need to be acquired. Moreover, it is to be recalled that even if a particular KPI is not mentioned in the below list of lead KPIs, this does not mean it is not monitored. Many other KPIs will continue to be monitored and reported via an enhanced DESI<sup>1</sup>.

### Targets of cardinal point 1: A digitally skilled population and highly skilled digital professionals

<i>EU's objective for 2030: "A tech savvy continent where all are digitally empowered"</i>		
<b>Dimension</b>	<b>2030 EU Target vs baseline</b>	<b>Source</b>
ICT specialists <sup>2</sup>	<b>20 million</b> employed ICT specialists, with convergence between women and men <sup>3</sup> (2019 baseline: 7.8 million)	DESI, ESTAT

<sup>1</sup> DESI is a composite index that summarises dozens of relevant indicators on Europe's digital performance and tracks the evolution of EU Member States, across five main dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology and Digital Public Services. DESI has been in continuous evolution since its first publication in 2014. It is the main analytical tool developed by the European Commission services to provide evidence-based input for the assessment of digital development in the EU as a whole as well as in Member States. The data included in DESI is mostly collected from the Member States through the European Commission services Eurostat and DG Connect and by ad-hoc studies launched by the Commission services. DESI is a dynamic index. Its constituent indicators are extended and change to reflect new priorities and changing trends. The indicator list is reviewed and improved every year to keep up with latest technologies and policy priorities.

<sup>2</sup> In addition to the target on basic digital skills established in the European Pillar of Social Rights Action Plan that 80% of citizens aged 16-79 have at least basic digital skills (2020 baseline: 58,3%).

<sup>3</sup> DESI indicator "2b1". Currently the share of women among the employed ICT specialist is merely 18%.

## Target of cardinal point 2: Secure and performant sustainable digital infrastructures

<b>EU's objective for 2030: "Top-notch trustworthy and secure Digital Infrastructures"</b>		
<b>Dimension</b>	<b>2030 EU target vs baseline</b>	<b>Source</b>
Connectivity	<b>All European households</b> will be covered by a <b>Gigabit network</b> , with <b>all populated areas</b> covered by <b>5G</b> <sup>4</sup> Baseline: - Gigabit Coverage (2020 baseline <sup>5</sup> : 59%) - 5G coverage in populated areas <sup>6</sup> (2021 baseline: 14%)	DESI Study on Broadband coverage in Europe by Omdia
Semiconductors	The production of cutting-edge and sustainable semiconductors in Europe including processors is <b>at least 20% of world production</b> in value <sup>7</sup> (2020 baseline: 10%)	Data source to be confirmed in the digital policy programme
Edge/cloud	<b>10,000 climate neutral highly secure edge nodes</b> are deployed in the EU, distributed in a way that will guarantee access to data services with low latency (few milliseconds) wherever businesses are located <sup>8</sup> (2020 baseline: 0)	Annual study on edge deployment under CEF2 (as of 2022)
Quantum computing	<b>By 2025</b> , Europe will have <b>its first computer with quantum</b> acceleration paving the way for Europe to be at the cutting edge of quantum capabilities by 2030. (2020 baseline: 0)	Data source to be confirmed in the digital policy programme

<sup>4</sup> Continuation and extension of the Gigabit society targets for 2025, which are that all European households, urban or rural, will have access to internet connectivity of at least 100 Mbps upgradable to Gigabit' and 'Gigabit connectivity for all main socio-economic drivers (...) as well as digitally intensive enterprises'. All urban areas and major terrestrial transport paths to have uninterrupted 5G coverage by 2025.

<sup>5</sup> Please note that current DESI measurement is via DESI indicator "1b2" (Coverage of households covered by any fixed Very High Capacity Networks (VHCN)). The technologies, at the current state of development, considered for VHCNs are "Fiber to the Home" (FTTH), Fiber to the building ("FTTB") and Cable "Docsis 3.1", as all of those technologies are able to deliver 1Gbps downlink. Space-based assets can be an important contributor towards the 100% target by covering the remote and/or sparsely populated areas hard to reach otherwise. For a legal definition of VHCN, see Art. 2(2) of Dir (EU) 2018/1972: 'very high capacity network' means either an electronic communications network which consists wholly of optical fibre elements at least up to the distribution point at the serving location, or an electronic communications network which is capable of delivering, under usual peak-time conditions, similar network performance in terms of available downlink and uplink bandwidth, resilience, error-related parameters, and latency and its variation; network performance can be considered similar regardless of whether the end-user experience varies due to the inherently different characteristics of the medium by which the network ultimately connects with the network termination point.

<sup>6</sup> Percentage of populated areas (i.e. percentage of all places where households are located, including remote areas) with coverage by 5G - measured as the total coverage of telecom operators in each country.

<sup>7</sup> Meaning manufacturing capacities below 5nm nodes aiming at 2nm and 10 times more energy efficient than today. The smaller the technology node means the smaller the feature size, producing smaller transistors which are faster and more efficient.

<sup>8</sup> The target is to materialise the vision set out in the data strategy that is to have 80% of data processing done at the edge by 2025. Many of the future data services and 5G applications, such as Connected Automated Driving, smart farming, intelligent management of energy grids, smart manufacturing require a latency of a few milliseconds. To achieve such a latency in return requires an edge node in every 100km. 8-10,000 edge nodes correspond to this deployment of a mesh with a node every 100km. This density of edge nodes will conversely stimulate the demand from European user industry for novel and innovative digital services based on local data processing, and allow these users to be more in control of their data. The current baseline is 0 as the technology is just emerging and there has just been a few pilots (an IDATE study of 2019 identified 62 implementations in Europe).

### Target of cardinal point 3: Digital transformation of business

<i>EU's objective for 2030: "The continent with a high share of digitalised businesses"</i>		
Dimension	2030 EU Target vs baseline	Source
Take up of digital technologies	<b>75% of European enterprises</b> have taken up: <ul style="list-style-type: none"> <li>- Cloud computing services (2020 baseline: 26%)</li> <li>- Big data (2020 baseline: 14%)</li> <li>- Artificial Intelligence (AI) (2020 baseline 25%)</li> </ul>	ESTAT, IPSOS
Digital "late adopters"	<b>More than 90% of European SMEs</b> reach at least a basic level of digital intensity <sup>9</sup> (2019 baseline : 60.6% )	DII, ESTAT
Innovative businesses/scale-ups	Europe will grow the pipeline of its innovative scale ups and improve their access to finance, leading to <b>doubling the number of unicorns</b> <sup>10</sup> (2021 baseline: 122)	Dealroom (used by Atomico in its state of European tech)

<sup>9</sup> The Digital Intensity Index (DII) is a micro-based index that measures the availability at firm level of 12 different digital technologies: internet for at least 50% of employed persons, recourse to ICT specialists, fast broadband (30 Mbps or above), mobile internet devices for at least 20% of employed persons, a website, a website with sophisticated functions, social media, paying for advertising on the internet; the purchase of advanced cloud computing services; sending eInvoices, eCommerce turnover accounting for over 1% of total turnover and business-to-consumer (B2C) web sales of over 10% of total web sales. The value for the index therefore ranges from 0 to 12. The list of the aforesaid 12 indicators is reviewed and improved every year to keep up with latest technologies and policy priorities.

<sup>10</sup> By unicorns we understand here both: 1) realised unicorn, i.e. companies founded after 1990 that have had an IPO or trade sale above \$1 billion and 2) unrealised unicorn, i.e. companies that have been valued at or over \$1 billion in their last private venture funding round (meaning the valuation has not been confirmed in a secondary transaction). In 2019 there were 703 unicorns in the US and 206 in China (<https://blog.dealroom.co/uk-unicorn-tech-update-for-london-tech-week/>).

## Targets of cardinal point 4: Digitalisation of public services

<i>EU's objective for 2030: "Modernised public services responding to society's needs"</i>		
<b>Dimension</b>	<b>2030 EU Target vs baseline</b>	<b>Source</b>
Government as a platform	-100% online provision of key public services <sup>11</sup> available for European citizens and businesses -100% of European citizens have access to medical records (e-records) -80% of citizens will use a digital ID solution  2020 baselines: -key digital public services: 75/100 (citizens), 84/100 (businesses) -citizens with access to medical records: N/A <sup>12</sup> -digital ID: currently no baseline for take-up of digital ID <sup>13</sup>	Online service completion indicator, e-Government Benchmark <sup>14</sup>

<sup>11</sup> "key public services" are services related to the following "life events": Regular Business Operations, Moving, Owning and Driving a Car, Starting a Small Claims Procedure, Business StartUp, Family life, Losing and Finding a Job and Studying. (source: e-Government Benchmark).

<sup>12</sup> Can be developed through e-Government Benchmark or administrative sources.

<sup>13</sup> As regards availability, the current baseline for the percentage of key services that are e-ID enabled is 58% (services accessible domestically) and 9% (services accessible cross-border).

<sup>14</sup> Revised Online service completion indicator.