
Digital Europe: Next Steps

A European Agenda for the Digital-9+

Discussion paper

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1. The Economic Challenge

Overall, the European economy is doing well.¹ Gross domestic product in the 12-month period ending 30 June 2018 grew 2.1% in both the eurozone and the European Union (EU28) – a comfortable rate, slightly behind the United States, but respectable for an advanced industrial economy.² Unemployment, too, is falling, with some 114,000 Europeans finding jobs in August 2018, bringing the EU28 unemployment rate down to 6.8%, its lowest in nearly a decade.³

But the economic success masks many problems that lie just beneath the headlines. First and foremost is the staggeringly high youth unemployment. More than 3.3 million Europeans under the age of 25 are unemployed in the EU28 with Greece (at 39.2% youth unemployment), Spain (33.6%) and Italy (31.0%) particularly hard hit. Also troublesome is the extremely shallow footprint Europe has made in the technologies that will dominate the 21st century, from artificial intelligence to quantum computing to robotics.

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To be clear, this shortcoming is not technological. The MP3, CD-ROM, television, the model of music as a streaming service were all inventions that grew out of European research laboratories. But they found their commercial expression elsewhere. *The Economist*, for one, recently noted that of the

¹ The project team would like to thank Robert D. Atkinson, Fabrizia Benini, Madis Ehastu, Iarla Flynn, Mariana Ghitoi, Sir Peter Gluckman, Kristian Hedberg, Dmitri Jegorov, Tim Lyon, Dirk Pilat, Janna Tael, Kristi Talving, Silver Tammik, Vesa Vanhanen, Hettel Varik and Andreas Veispak. The views expressed in this policy brief are those of the lead authors alone and may not express the views of the Lisbon Council or any of its associates. All errors of fact or judgments are the authors' sole responsibility.

² Eurostat, "GDP Up by 0.4% in Both Euro Area and EU28," *Eurostat Press Release*, 07 September 2018. U.S. growth was 2.6% in that time.

³ *Ibid*, "Euro Area Unemployment at 8.1%," *Eurostat Press Release*, 01 October 2018. The figures in this and the next paragraph are from the October 2018 Eurostat data release.

world's 15 largest digital firms, all are American or Chinese.⁴ Only eight European firms are found within the top 200.

What, then, is the problem? How can Europe boast such evident technological prowess and produce such limited commercial success? Why are so many of our initiatives aimed at regulating companies that were created and are run elsewhere while we decidedly fail to develop and scale companies of that type ourselves? And how can we give this debate a decisive impulse – moving from ritual breast-beating over the slow growth of our best companies towards a series of certain-to-deliver reforms and broadly accepted political messages? How can we, in other words, recast and rebuild the European Union around an agenda that inspires, motivates and delivers? And how can we use that delivery to build a foundation for increased European prosperity upon which we can – and should – give democracy a firmer foundation in an increasingly fragile world and project our values firmly into a global society which so badly needs them?

These are not idle questions. They speak, in fact, to the central existential dilemma facing Europe. We have the world's most generous social welfare system. And some of the world's highest wages. But the requirements of that admirable lifestyle are sometimes overlooked; if we want to live better than the rest of the world, we need to be better than the rest of the world.⁵ And that puts

‘Basic wealth is the *sine qua non* that underlies all modern, successful and sustainable societies.’

heavy, incumbent weight on our ability to deliver sustainable inclusive growth across the continent and throughout the economy. In a recent paper, Robert D. Atkinson notes that productivity growth in Europe – after a long period of convergence – is again growing at a slower rate (0.6%) than in the U.S.

(1.1%).⁶ And, he notes, differences of this type matter. At the current rate of productivity growth, Europe's standard of living will take 50 years to double. And, while some may question the validity of economic growth as an indicator of happiness, the fact is this productivity growth is what allows us to pay for our high social standards. It may not be enough to deliver happiness. But basic wealth is the *sine qua non* that underlies all modern, successful and sustainable societies.

Where then does this leave Europe? Somewhere in the middle, it might be said. Blessed with some of the world's greatest knowledge assets, Europe can undoubtedly compete – the eurozone's persistent goods trade surplus with the rest of the world (currently at €11.7 billion) is a sign of that.⁷ But the outwardly rosy picture conceals great disparities. Standards of living vary dramatically within Europe. Luxembourg enjoys GDP per capita of \$110,870 per person – the highest in Europe. Bulgaria, on the other hand, has the lowest: \$23,154 per capita.⁸ And there are vast discrepancies within countries as well. Severozapaden, Bulgaria is Europe's poorest region with GDP per capita of only \$9396 per person (Inner London West, by contrast, weighs in with a staggering \$229,400 of GDP per capita).⁹ And, by the European Commission's own calculation, some 113 million Europeans are “at risk of poverty” or social exclusion.¹⁰

4 Charlemagne, “Europe's History Explains Why It Will Never Produce a Google,” *The Economist*, 13 October 2018.

5 This fact is particularly true given Europe's ice-cream cone shaped demographic pyramid, with a disproportionate and rising number of retired people versus people remaining in the work force. See Robert D. Atkinson, *How ICT Can Restore Lagging European Productivity Growth* (Washington: ITIF, 2018).

6 Atkinson, op cit.

7 By contrast, the EU28 is weaker in trade terms. In August 2018, it had a goods trade deficit of €8.4 billion. Eurostat, “Euro Area International Trade in Goods Surplus €11.7 Billion,” *Eurostat Press Release*, 16 October 2018.

8 International Monetary Fund, *World Economic Outlook Database*, April 2018.

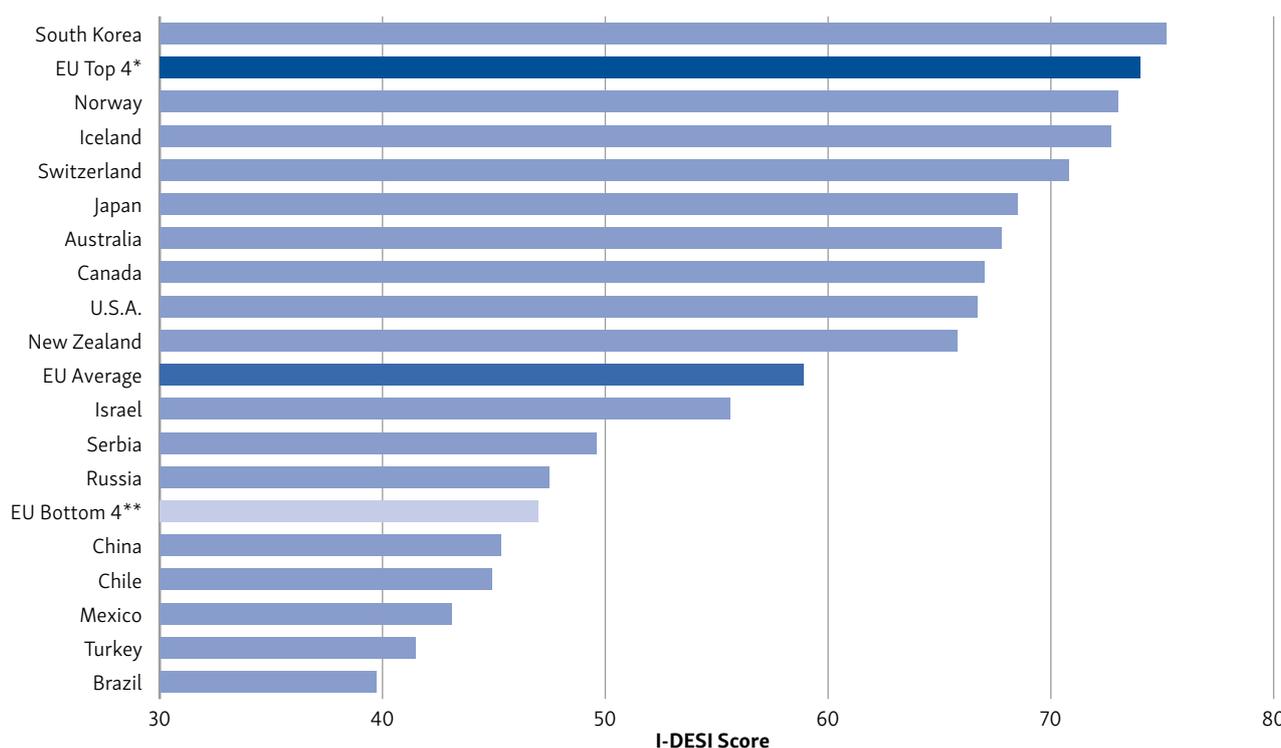
9 The figures have been converted to dollars at the January 2016 exchange rate. Eurostat, “GDP Per Capita in 276 EU Regions: Regional GDP Per Capita Ranged from 29% to 611% of the EU Average in 2016,” *Eurostat Press Release*, 28 February 2018.

10 The European Union defines risk of poverty as inclusion in one of three groups: 1) the person receives social benefits below minimal living standards, 2) the person lives in conditions of “severe material deprivation” defined as “enforced inability (rather than the choice not to do so) to pay unexpected expenses, afford a one-week annual holiday away from home, a meal involving meat, chicken or fish every second day, adequate heating of a dwelling)” and other criteria, or 3) the person lives in a household with “low work intensity,” i.e. where all working-age household members worked less than 20% of their total potential time in the last 12 months. See Eurostat, “Downward Trend in the Share of Persons at Risk of Poverty or Social Exclusion in the European Union,” *Eurostat Press Release*, 16 October 2018. The press release notes that, as the European economy improves, the number of people “at risk of poverty” is falling.

These divides see expression in the Internet economy as well, where differences between Europe’s top performers – and between the top- and bottom-performing regions within countries – are still vast. The most digitally developed economies in the world are all European, but so are many of the advanced-economy laggards. See Chart 1 below for a schematic representatives of Europe’s relative digital standing.

Chart 1. Leaders and laggards, a continent divided in the digital age

The European Union’s Digital Economy and Society Index (DESI) tracks countries’ performance on five criteria: 1) connectivity, 2) human capital, 3) citizen Internet use, 4) business technology integration and 5) public services. I-DESI ranks 17 non-EU countries alongside the 28 EU member states for a global comparison. This chart is based on 2013-2016 composite scores.



*Denmark, Finland, Sweden, the Netherlands. **Italy, Bulgaria, Greece, Romania. Source: European Commission

Denmark, Iceland, Luxembourg and Norway lead the global ranking of Internet users, with more than 97% of their population online.¹¹ But 12 European countries weigh in below the 83.8% OECD average of working-age population that uses the Internet. These countries include Czech Republic, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Poland, Portugal Slovakia, Slovenia and Spain.¹² And Europe is failing to adopt the fibre-optic broadband subscriptions that will be key for the next generation of products and services. In Japan and Korea, more than 76% of broadband subscriptions are supported with fibre optic cable.¹³ Austria, Belgium, Germany, Greece, Ireland, Italy and the United Kingdom weigh in with less than 5% of fibre broadband subscriptions.¹⁴

‘The most digitally developed economies in the world are all European, but so are many of the advanced-economy laggards.’

11 OECD, *Digital Economy Outlook 2017* (Paris: OECD, 2017).

12 Ibid.

13 In order to track broadband roll out worldwide, the OECD has created a dedicated webpage where the latest statistics can be uploaded and easily compared. Visit <http://www.oecd.org/sti/broadband/broadband-statistics/>.

14 Ibid.

Even more catastrophically, Europe falls squarely in the middle of the industrialised-world pack on digital skills. According to recent findings from the OECD’s Programme for the International Assessment of Adult Competencies (PIAAC), only one in four Europeans possess the skills to use ICT for problem solving.¹⁵ Across 17 leading European countries, 13% of the working age population either lacked any computer experience or showed such low levels of abilities that they couldn’t take the problem-solving module of the test.¹⁶ On average, 43% of people across 13 EU countries showed only basic levels of proficiency.¹⁷

Capacity and skills are like algebra; you can’t make two plus two equal five. And facts like these add up to a poor report card for Europe, with pockets of severe under-development in key areas (skills and use of broadband) where

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future economic success will be determined. Nor can the most advanced performers rest on their laurels. Alone, they are small countries

analogous to the most advanced regions in the U.S., but with a less advanced and more fragmented continental internal market to sell to. They need Europe as a whole to move.

We find ourselves on the verge of the “fourth industrial revolution.”¹⁸ Industry is just beginning to feel the effects of digital technology – and the capacity it brings to radically retool production and pro-actively rethink product offerings and services. This is an area where Europe should thrive; our advanced manufacturers are second to none, and have led for more than a century at the high-end of machine tools manufacture and deployment.¹⁹ But the new global economy is proving to be very complex.²⁰ Technological advances have enabled firms and individuals to merge services with production to create hybrid new economic offerings and new ways of producing top-of-the-line goods.²¹ Many things that were once routinely bought or sold are now leased and rented in elaborate packages, with companies themselves flogging long-term relationships where short-term products might once have been sold and managing supply chains where design is done in one place, manufacturing in another and the product itself sold to consumers around the world under great quality and price pressure.

At times, this has led to an oddly shaped “winner-takes-all” economy. Companies that can tap into this brave new world – and offer the outstanding service and value that consumers demand – have done very well. Others, including those stuck in small markets with legal barriers keeping them out of larger ones, are marginalised. In the U.S., for instance, 30 firms earn more than half of all corporate profits, mostly in the tech and finance sectors.²² But the existence of a large domestic market has other advantages for firms that grow to be successful on a smaller but equally important scale. In the U.S., for one, more than 58.7% of all companies have grown to have more than 250 employees.²³ In Germany, despite the country’s well-known leadership in industry and industrial production, the figure is 36.8%; in France, 36.7% and in league-lagging Greece, it is 11.6%.

15 The analysis here comes from a devastating 24-page analysis of the PIAAC results prepared by the European Commission. See European Commission, “The Survey of Adult Skills (PIAAC): Implications for Education and Training Policies in Europe,” *European Commission Report*, 08 October 2013.

16 Ibid.

17 Ibid.

18 Klaus Schwab, *The Fourth Industrial Revolution* (New York: Crown Business, 2017).

19 One of the best descriptions of European competitive advantage is still Michael E. Porter, *The Competitive Advantage of Nations* (New York: Macmillan, 1998).

20 Jonathan Haskel and Stian Westlake, *Capitalism without Capital: The Rise of the Intangible Economy* (Princeton: Princeton University Press, 2017).

21 Paul Hofheinz and David Osimo, *Making Europe a Data Economy: A New Framework for Free Movement of Data in the Digital Age* (Brussels: Lisbon Council, 2017).

22 Kathleen M. Kahle and René M. Stulz, “Is the U.S. Public Corporation in Trouble?” *Journal of Economic Perspectives*, Summer 2017.

23 The figures are from the OECD, cited in Robert D. Atkinson, “How ICT Can Restore Lagging European Productivity Growth,” *Information Technology and Innovation Foundation*, October 2018. See also, Robert D. Atkinson and Michael Lind, *Big is Beautiful: Debunking the Myth of Small Business* (Cambridge: MIT, 2018).

What's more, this relative isolation has led to fundamental weakness in other areas: These days, Europe's best and brightest companies are more likely to be snapped up by fast-growing U.S. firms than listed or brought to market in Europe – and allowed to remain fundamentally European-led concerns.²⁴ Given their massive lead in venture capital – and a culture that is always seeking “the next big thing” – U.S. companies acquire approximately twice as many startups per year as their European counterparts.²⁵

How is this possible? Europe has some of the best science and the best scientists; the research labs in Europe are all busy cranking out first-rate research, pre-competitive, exploratory and more. We invented the industrial revolution – and the enlightenment thinking upon which it is built. But in the modern era our knowledge too often fails to translate into commercial goods and services that change people's lives – at least on the European side of the Atlantic (many of our ideas migrate west for funding and development). The result is a strange anomaly: the world's richest economic area has some of the world's smallest industrial companies.

2. The Broader Challenge – and Opportunity

Meanwhile, technology and the social challenges that come with it have changed as well.

A new series of technologies (artificial intelligence, blockchain, big data, cloud, advanced robotics, application programming interfaces [APIs], microservices, the Internet of Things [IoT] and fifth-generation cellular communications networks [5G]) is finding increasing commercialisation, not just on their own but in combination. The precise contours of change are endlessly debated, but this new “technology stack” will bring digital disruption to sectors that have thus far been less affected by technological change.²⁶ The precise impact on various industries remains unclear, but there is much still to digitise. For instance, according to a recent McKinsey report, the industries with highest potential of automation are manufacturing (60%), finance and insurance (43%), arts, entertainment and recreation (41%), healthcare (36%) and educational services (27%).²⁷

‘This new “technology stack” will bring digital disruption to sectors that have thus far been less affected by change.’

The good news is that there remains space for Europe to catch up. China and the U.S. each face their own serious challenges and constraints. The U.S. is highly dependent on immigration for its skilled workforce (despite much recent rhetoric and several policy initiatives to the contrary), and most U.S. digital growth is concentrated in a few sectors and geographic areas.²⁸ China's digitalisation, too, is focused on a few sectors (the U.S. remains 4.9 times more digitalised than China), and China faces major demographic problems and the counter-reactions of a world worried about its authoritarian use of Internet tools and growing geopolitical power.²⁹

The Internet – once considered an unequivocal good – has shown that the great power it unleashes can be used in two ways: 1) to be sure, the Internet is still the most powerful communication tool the world has ever known, bringing citizens directly in touch with each other and the sum of the world's knowledge to the pocket of most people at zero marginal costs, but 2) the online world can also be

²⁴ Mind the Bridge and CrunchBase, *Tech Startups M&As 2018 Report* (San Francisco: Mind the Bridge and CrunchBase, 2018).

²⁵ A recent effort to unite the startup community was Scale Up Manifesto Community, *Scale Up Europe: A Manifesto for Change and Empowerment in the Digital Age* (Brussels and London: The Lisbon Council and Nesta, 2016), a 49-measure programme for European reform. The manifesto had attracted the attention of top policymakers before the associations behind it fell out in a bitter power struggle from which they are still trying to recover. Several manifestos have appeared since. Visit www.scaleupeurope.eu for more.

²⁶ The notion of a converging technology stack is elaborated by Sir Peter Gluckmann and Kristiann Allen, *Understanding Wellbeing in the Context of Rapid Digital and Associated Transformations: Implications for Research, Policy and Measurement* (Auckland: INGS, 2018).

²⁷ Michael Chui, James Manyika and Mehdi Miremadi, “Where Machines Could Replace Humans – and Where They Can't (Yet),” *McKinsey Quarterly*, July 2016.

²⁸ Mark Muro, Siddharth Kulkarni and David M. Hart, *America's Advanced Industries: New Trends* (New York: Brookings, 2016).

²⁹ Kevin Wei Wang, Jonathan Woetzel, Jeongmin Seong, James Manyika, Michael Chu and Wendy Wong, *Digital China: Powering the Economy to Global Competitiveness* (San Francisco: McKinsey Global Institute, 2017).

an instrument of aggressive manipulation, particularly in the hands of malignant state actors, who have been seen using its power to wage ongoing campaigns of espionage and low-scale warfare by customising and targeting communication to subvert democracy and sow distrust within society.³⁰ As Tim Cook, CEO of Apple Inc., said in a recent speech: “This crisis is real. It is not imagined, or exaggerated, or ‘crazy.’ And those of us who believe in technology’s potential for good must not shrink from this moment.”³¹ And there is a broader range of societal concerns, ranging from the impact of digital technology on fundamental human rights to the distracting effects of smartphones and social media in daily life.

The incoming European Commission arrives at an opportune moment. The 2014-2019 body, led by President Jean-Claude Juncker, has achieved much in its four years in office.³² But now, as this commission enters its fifth and final year of office, there is a palpable sense that events are driving politics more than strategic initiative. There’s a reason for this. Most of the European Commission’s strategic initiatives were conceived in 2013-2014 and launched in 2015. But the political realities and

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economic challenges have changed dramatically since. In that time, there hasn’t always been consensus among European Union member states on how to respond to evolving facts on the ground. There hasn’t even been consensus within the EU member states themselves on the right response. The result is a cacophonous, seemingly leaderless situation, with a political vacuum often filled by populist parties and third-party movements that take shape outside of the traditional political framework.

We believe there are three key policy areas – digital, internal market and institutional – where fresh, effective initiative from the new European Commission could be most needed:

1. The digital single market – which accomplished a lot – nevertheless failed to live up to its initial bold promise. Its 35 legislative proposals often focused on papering over differences where better, bolder reforms would have delivered more.³³ Content portability is a case in point. Legislators stopped short of delivering Europe-wide licences for content, which would have put an end to country-based discrimination and made it possible for content-providers to sell into one large, European market with fewer barriers. Instead, it opted for a complex system of “content portability,” which required companies to deliver paid-for content on demand in multiple jurisdiction, adding costs and somehow missing the essential point: artists and content producers can and should have a large European market in which to sell.

And we cannot have a digital single market without a single market. A recent study by Fredrik Erixon and Philipp Lamprecht of the European Centre for International Political Economy (ECIPE) concludes: “Many of the policy factors that hold Europe’s digital performance back are not data or digital-single-market specific. They are about the general conditions for entrepreneurs to do business across the border in Europe and build business models that include many national markets but don’t run into high regulatory barriers and costs.”³⁴

2. The internal market remains incomplete, despite the evident effect that larger markets can have on company growth and economic opportunity. By and large, the transposition of EU-agreed directives is improving with few serious delays. But the number of reported “infringements” – i.e.,

30 Andrew Keen, *How to Fix the Future: Staying Human in the Digital Age* (New York: Atlantic, 2018).

31 Tim Cook, “Remarks before the International Conference of Data Protection and Privacy Commissioners,” 24 October 2018. The speech can be seen in full on YouTube.

32 Jean Claude Juncker, *State of the Union 2018 Brochure* (Brussels: European Commission, 2018). This detailed 176-page brochure, prepared as a companion piece to the European Commission president’s state-of-the-union speech, gives a detailed account of the legislative achievements and initiatives of the Juncker Commission in its first four years.

33 For an overview of the legislative proposals, see European Commission, *Annex to the Implementation of the Digital Single Market Strategy*, 10 May 2017.

34 Fredrik Erixon and Philipp Lamprecht, *The Next Steps for the Digital Single Market: From Where Do We Start?* (Brussels: ECIPE, 2018).

cases where the European institutions must intervene to sue EU member states for not respecting laws agreed at the EU level – is on the rise.³⁵ Key delays are being faced right now in air transport, free movement of people, services, environmental impact and indirect taxation. And crucial European proposals – including “Europe”-wide recognition of locally-registered patents and a badly needed policy to pool and share energy resources (Energy Union) – are stuck at various stages of the complex EU decision making process.

3. The time for major European institutional reform has passed – too much energy has been consumed by these reforms, which have seldom delivered the improvement they promised (examples include the Lisbon Treaty and the lengthy debate that preceded it). Nevertheless, there are exceptions, where major common challenges can no longer be responsibly left only to the local or national level. We identify two: 1) education, where we think a thoughtful reflection should take place on the role Europe might play in delivering better results at the member-state level, particularly for vocational training and broad diffusion of digital skills and new forms of literacy, and 2) cybersecurity, where Europe consistently fails to pool its power in a resource that could be formidable and effective.³⁶

We believe the time is ripe for major new European initiatives in these areas – for a new agenda that builds on Europe’s strengths and achievements and aggressively attacks our weaknesses and needs.

3. The ‘What’ and the ‘How?’ An Eight-Step Action Plan

Today, there is no digital economy. The economy itself is digital. And any company, city or region that wishes to thrive in global markets can and must put itself at the forefront of this. Here in Europe this means that we need to ensure the large scale adoption of state-of-the-art digital technology that our companies need to succeed, that we need to make sure citizens have the skills – and more importantly, the access to training, because skills and skill needs in the digital age evolve constantly. And we need to bring these capacities together – the technological and the human – on a playing field big enough to let our best ideas flourish. These aren’t pie-in-the-sky objectives, either. The OECD tells us that the private sector is rapidly dividing into two separate camps: a set of “frontier firms” which are “typically larger, more profitable, younger and more likely to patent and be part of a multinational group;” and “other firms” where productivity growth is essentially stagnant.³⁷

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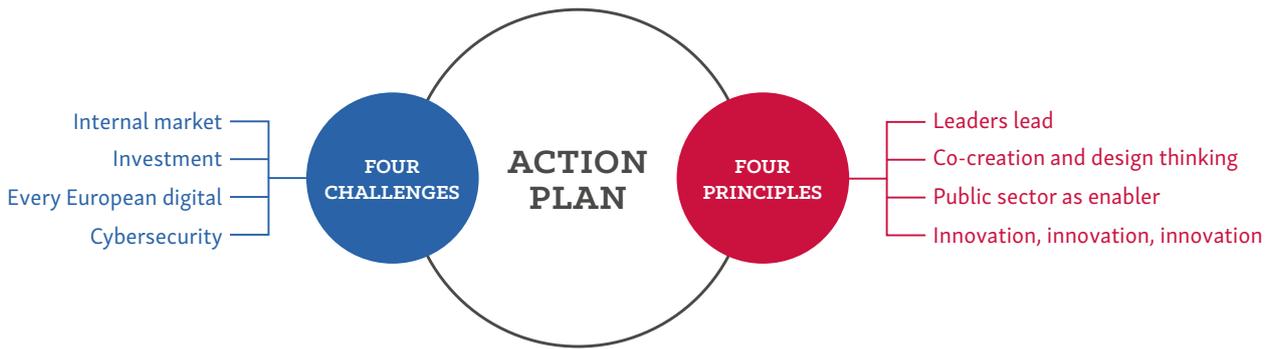
The prospect of a new European Commission – and a new European Commission work programme – are an opportunity that ought not to be missed. But we need not wait. Eager countries can band together in the meantime, creating helpful groupings and driving forward policy in pockets where later it can be drawn out and expanded at the European level. We propose an eight-point action plan: four renewed policy challenges (we call those the “what”), and four renewed principles for delivering them (we call those the “how.”). See Chart 2 on page 8 for a schematic rendering.

35 European Commission, *Single Market Scoreboard: Infringements* (Brussels: European Commission, 2018).

36 For an interesting reflection on the challenge and opportunity of formal-schooling and higher education reform, see Andreas Schleicher, *World Class: How to Build a 21st Century School System* (Paris: OECD, 2018).

37 Dan Andrews, Chiara Criscuolo and Peter N. Gal, *Frontier Firms, Technology Diffusion and Public Policy: Micro Evidence from OECD Countries* (Paris: OECD, 2015).

Chart 2. An Eight-Point Action Plan



A. What?

1. Complete the Internal Market. Visit any of the European entrepreneurs thriving in Silicon Valley and ask them why they went there. The story they will tell is an interesting one. It's not the absence of burdensome regulation (to be sure, California has one of the most invasive and expensive business regulatory environments in the world). Or the unseasonably good weather. No, the appeal comes from three principal things: 1) universities that turn out a steady stream of world-class engineers for hire, 2) a hands-on community of investment-savvy venture capitalists looking for the next big thing, and 3) most importantly, a geographic location right in the middle of a seamless \$19.4 trillion economy with 326 million potential consumers and very little friction from state to state. If you hit it big in America, you go immediately into that market. There is no interim period where you have to seek product permissions or hire local offices in 27 other countries. You're there already. The consensus among Europe's prodigal entrepreneurs is clear: It's the market, stupid.

In some ways, technology has made the job easier. Say what you want about the platform economy and other e-commerce offerings, but they have achieved something that the European Union's 2006 services directive could not: relatively seamless cross border trade across the EU's 28 member states. What's more, they have also done an excellent job of matching supply with demand (particularly for entry-level services) in labour markets that might best be described as sclerotic. And platforms have brought much needed transparency and even a measure of minimum regulation and control to places which suffer from chronically low regulation – including grey markets where many service jobs are performed.³⁸

'The consensus among Europe's prodigal entrepreneurs is clear: It's the market, stupid.'

An ambitious reworking of the single market to prepare it for an era of digitisation is already underway: in the last year, new EU-level sectoral strategies or declarations have been published by the European Commission or agreed by member states covering transport, energy, health, fintech, taxation, education, skills and the environment. More will follow, and strategies will turn into new and updated legislation. While markets and policy aims will differ, some questions are consistent across the board, including around data (how to protect personal data and derive value from the use of data), competition, regulatory enforcement, encouraging experimentation while ensuring safety and how to balance the wish for local control with the need for a single market.

³⁸ Brian Williamson and Mark Bunting, *Reconciling Private Market Governance and Law: A Policy Primer on Digital Platforms* (London: Communications Chambers, 2018).

Policy recommendations:

a) Uncouple the (Digital) Single Market from the Digital Agenda. The new European Commission President should restructure portfolios to put more stress on the single market. There should be a full-time European Commission vice-president responsible for the internal market, whose mandate would include both the implementation of digital-single-market legislation and a broad overview of cross-cutting and sectoral single-market questions.

And, to make sure that no downgrading is implied, the equally vital digital dossier should be passed to the first vice-president of the European Commission (the EU executive's second highest post) with a cross-sectoral mandate, much as the current first vice-president has. The digital dossier should be considered transversal, with digital initiatives taking place in all dossiers. For a "deep dive" on the do's and don't's for single market regulation in the digital era, see "A Single Market Checklist" on pages 10-11.

'An ambitious reworking of the single market to prepare it for an era of digitisation is already underway.'

2. Invest. Digitalisation does not come free, either at firm level or for countries as a whole. Indeed, we need a step change in investments "from billions to trillions."³⁹ Across the world, large firms foresee massive investments into digital tools through the end of the decade (one recent survey of 2000 companies found plans to invest over \$900 billion per annum in Industry 4.0 by 2020).⁴⁰ And, by a large margin, firms of all sizes identify a lack of funding as the number one barrier to further digital transformation.⁴¹ The European Commission pegs the funding gap in Europe for fifth-generation cellular networks (5G) rollout alone at close to €155 billion.⁴²

Much of this investment needs to come from private sources, and the most important pro-investment policy remains the single market and a stable regulatory environment. Nevertheless, public funds can provide a major policy lever. The current multiannual financial framework (MFF), as the EU's complex budget is known, allocated a tiny sum directly to digital development, although the EU has made a stronger contribution to ICT investment through financial instruments.⁴³ Since 2015, the European Fund for Strategic Investments (EFSI) has financed ICT-related projects worth €50 billion.⁴⁴

The proposed budget for 2021-2027 proposes €12 billion for investment in digital in supercomputers, artificial intelligence, cybersecurity, skills and uptake of digital technology and broadband, though other parts of the budget can also be important sources of funds (such as the proposed €100 billion research budget, the €13 billion defence fund, and the €85 billion public administration modernisation programme). Additionally, the EU proposes InvestEU, a follow-up to the EFSI programme, which would support €650 billion of additional investment.⁴⁵

39 The phrase was originally used by the World Bank in the context of development assistance. African Development Bank Group, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, International Monetary Fund and the World Bank Group Development Committee, "From Billions to Trillions: Transforming Development Finance. Post-2015 Financing for Development: Multilateral Development Finance," 2015.

40 Reinhard Geissbauer, Jesper Vedso and Stefan Schrauf, *Industry 4.0: Building the Digital Enterprise* (London: PriceWaterhouseCoopers, 2016).

41 Joe McKendrick, "Overcoming Digital's Fragmented Funding Model," *Forbes.com*, 16 January 2018.

42 European Commission. *Staff Working Document: Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society* (Brussels: European Commission, 2015).

43 In the 2014-2020 multiannual financial framework, only one fifth (€6 billion out of a total €30 billion budget envelope) of Horizon 2020 funding went to information- and communication-technology (ICT) research. The Connecting Europe Facility has funded data and e-government projects such as TESTA, although only €1 billion of the €10 billion initially planned digital infrastructures was allocated.

44 European Investment Bank, "EFSI Project List," from EIB Website, accessed 30 October 2018.

45 European Commission, *A Modern Budget for a Union that Protects, Empowers and Defends: The Multiannual Financial Framework for 2021-2027* (Brussels: European Commission, 2018).

A Single Market Checklist

The digital world follows a binary logic of ones and zeros. This applies to regulatory fragmentation, too. Either rules are the same across the EU, or they are not. Long a principle of the single market for goods, the EU realised nearly two decades ago that this applies to e-commerce services too when it enshrined the country of origin principle for certain services in the e-commerce directive. Yet the ongoing digital transformation of the economy and the convergence of goods and services means that a far broader range of divergent regulation are now sources of fragmentation. Nor has the e-commerce directive itself held up perfectly. Companies have over-relied on the e-commerce directive to provide services even when these were only tenuously being provided “at a distance.” The courts have been forced to intervene, and the matter of what constitutes an “at a distance” service has still not been resolved.

Single market regulation in every sector needs to pass three key tests to make it fit for the digital economy:

- 1) **Regulatory consistency across the single market.** This can be achieved in several ways. When there is need for EU hard law, this means using the country of origin principle or resorting to full harmonisation, preferably in the form of a regulation. Minimum harmonisation, in contrast, can be more harmful than no harmonisation at all. Where there is a need for divergence – e.g. different rates on value-added tax or different points of contact for regulatory reporting – this should be easy to apply, e.g. through an application programme interface (API) that businesses can connect to, instead of creating the burden of interacting with administrations in each member state. But consistency can also come through other approaches, including soft harmonisation or relying on European and international standard setting bodies. *(Continued on next page)*

Policy recommendations:

- a) Support in full the proposals for a Digital Europe and Connecting Europe Facility broadband programmes. But spending on digital transformation from other funding buckets is more important. Add conditionality or ring-fencing of digital investments in various funds (e.g. structural, regional, and agricultural funds) that would incentivise investments that promote the uptake of new technology.
 - b) Build on the success of the EFSI programme with additional financial instruments, such as the proposed InvestEU programme.
3. **Every European digital.** Alongside investments in infrastructure, Europe should embark on a continent-wide effort to raise digital skills. Together, these amount to an investment in each country’s “digital endowment,” to use a phrase coined by ECIPE, the Brussels-based think tank.⁴⁶

‘The digital world follows a binary logic of ones and zeros. This applies to regulatory fragmentation, too. Either rules are the same across the EU, or they are not.’

It involves thinking of countries’ digital assets as a twin investment: in basic infrastructure and in the human capital needed to run it.

⁴⁶ Fredrik Erixon and Philipp Lamprecht, *Cooperation in Europe’s Digital Economy: How Do Countries Position Themselves?* (Brussels: ECIPE, 2018).

- 2) **Speed.** Regulators need to act quickly concerning particular standards and technical rules. The ordinary EU legislative procedure takes one and a half to three years to adopt something, and even then, multiyear processes of transposition and adoption follow. We need to take more advantage of other mechanisms, including national regulators acting in a coordinated manner, executive agencies and implementing/delegated acts.
- 3) **Experimentation.** In regulated areas, this may occur through sandboxing. For sandboxing to work, it needs to become a regular feature of EU legislation, including the ability to use it in areas of existing EU regulation. Other mechanisms for allowing flexibility will be important, including norms-based regulation, co-creation of standards with industry and soft coordination (when regulators ask industry to set standards but threaten to regulate later if this isn't done).

In 2008, the European Commission put in place a “new legislative framework” that shored up and simplified the mechanics of how the single market for goods worked on a day-to-day basis. The framework established new procedures for market surveillance, set rules for the accreditation of conformity assessment bodies, clarified the meaning of the *conformité européenne* (CE) marking and defined commonly used terms in product legislation. Since that time, 20 pieces of product legislation, from the toy safety directive to the gas appliances regulation, have been aligned with the new framework.

A similar approach may now be warranted for a wide range of (increasingly digital) services, developing a more consistent approach for jurisdiction, compliance, dispute resolution and cooperation across borders.

Policy recommendations:

- a) Fund innovative solutions for large scale skills building. There is no shortage of successful experimentation for inspiration, from the U.S.-based General Assembly (which offers short-term qualification training and certificates) to online-based Lambda School, which offers certified training programmes and only asks tuition for students who find jobs.⁴⁷ And to promote such initiatives on a large scale, funding does not necessarily mean grants: governments can use the full blend of financial instruments, from loans to risk capital to public procurement for innovation.
- b) The commitments should be accompanied by a political pledge: Every European Digital, that is backed by quantifiable goals in each member state and Europe as a whole.
- c) One area that Europe might wish to explore: changes in the European Union’s governing treaty that would allow a Europe-wide initiative on skills upgrading, focused particularly on countries that we can identify as needing it the most. The current Digital Jobs and Skills Coalition has brought some improvement to isolated pockets.⁴⁸ But it is too *ad hoc*, and the approach too random to make deep inroads in this serious European problem. European leaders should consider a small treaty

‘Digitalisation does not come free. We need a step change in investments “from billions to trillions.”’

⁴⁷ General Assembly, a 15-campus, private educational establishment provides 10-12 week, skill-based boot camps with curricula drawn up in collaboration with leading digital businesses. The classes are broadly open, including in some instances to the unskilled and homeless. The Lambda School trains people with specialist ICT skills for free, in exchange for a share of their income when they obtain a job that pays at least \$50,000.

⁴⁸ For more information on this programme, visit <https://ec.europa.eu/digital-single-market/en/digital-skills-jobs-coalition>.

change to give the European institutions greater power to launch a meaty, sustained European initiative in the skills area, with proper funding and regular monitoring of results.

- 4. Strengthen cybersecurity.** Few measures are more urgently needed if the Internet is to remain an unequivocal force for good within society. Our democratic institutions and rule of law are under siege. In its early days, the Internet may have fuelled a global explosion of democracy, helping activists in places like Egypt, Iran and even the United States to find a common voice and lead to powerful changes in their own countries.⁴⁹ But state actors quickly saw the advantage,

‘Europe faces an epidemic of out-and-out cybercrime that leads to massive violations of people’s privacy and undermines citizens’ confidence in rule of law.’

too, with the tragic, horrific and not-yet-fully-accounted-for Russian intervention in the U.S. elections – and, if the evidence is to be believed, in numerous other elections, where Russian

and other state agents have used social media to undermine democracy, disrupt elections, spread discontent and broadly weaken confidence in Western institutions.⁵⁰ Furthermore, Europeans have sometimes conflated the problem of privacy with the problem of cybersecurity. While the much-vaunted general data protection regulation (GDPR), which came into full effect in May 2018, focuses primarily on law-abiding data processing, Europe also faces an epidemic of out-and-out cybercrime that shaves several trillion euros off of global GDP every year, leads to massive violations of people’s privacy and undermines citizens’ confidence in rule of law.

In spite of these costs, joint action in cyber space has faced an uphill struggle against concerns over national sovereignty, but the lack of a common European approach can ultimately become a threat to the single market. Without close cooperation on the cybersecurity of Europe’s energy, financial and transport systems, it will simply be impossible to build a real internal market in those areas. And without broader information sharing and joint action, we will not be able to protect our institutions or our values.

Policy recommendations:

- a) The new European Commission should revisit the recently agreed Directive on Security of Network and Information Systems (the NIS Directive) and offer a stronger instrument in its place. European Union countries should federalise cybersecurity, bringing all European agencies’ cyber responsibilities under one roof, with a strong supporting law behind them, capable of sharing real-time data and fighting cyber threats. The agency should have a mandate to serve as a single point of contact for industry and coordinate pan-European campaigns, e.g., to protect critical infrastructure and safeguard European elections. This movement should be done loudly and vocally with an aim to increase confidence in the overall security of the European cyber space, including the notion that personal data of all types is protected – not just as a legal matter from breach but also from theft in the first place.
- b) In the meantime, European policymakers should use the overlapping requirements of the GDPR, the trust services and electronic identification (eIDAS) regulation, the existing NIS directive and sectoral regulation like the payment services directive II (PSD-2) to create a clear, single set of cybersecurity best practices for European companies to follow.

⁴⁹ Rahaf Harfoush, *Yes, We Did: An Inside Look at How Social Media Built the Obama Brand* (New York: New Riders, 2009).

⁵⁰ For a good overview, see Jennifer Kavanagh and Michael D. Rich, *Truth Decay: An Initial Exploration of the Diminishing Role of Facts and Analysis in American Public Life* (Santa Monica: Rand Corporation, 2018).

- c) Europe’s foreign ministers should pursue an active European cyber diplomacy that calls out and attributes foreign-supported cyberattacks and leverages the full toolbox of EU diplomacy, including sanctions, against those that engage in malicious cyber activity and sponsor cybercrime.⁵¹

B. How?

5. Launch a political process that pulls countries in the right direction and brings the stragglers closer to best-in-class performance. Sometimes maligned as a political failure, the European Union’s 2000 Lisbon Agenda actually played an important role in charting Europe’s policy orientation over the course of the last 20 years.⁵² Put simply, it filled a political space where the European Union has little sway. Countries seeking to join the European Union go through an elaborate reform process as they adopt the *acquis* – the body of existing European rules and laws – and adapt existing institutions to a full, law-based society, bringing social and political norms more closely in line with common European practice. But once they are in the EU, the pressure to reform stops. No one has yet come up with a mechanism driving reform that is half as powerful as the accession process. To be sure, these days Europe has the European Semester – which gives the European Commission and the EU member states some power to review national budgets and spending priorities – but the process has become overly technocratic. And it casts the European Commission in the politically suicidal role of serving as nag and task master. The Lisbon Agenda, with its open method of coordination, invited member states themselves to judge each other, offering peer review and mentoring and inviting the member states more directly into the process of judging and evaluating themselves – a political requirement for meaningful change in a democratically-based nation state.

Recommendation:

- a) Again, ECIPE provides a useful framework in a recent paper.⁵³ They argue that European countries can be grouped into three categories: “digital frontrunners,” “digital convergers” and “digital managerialists.” The digital frontrunners are the countries that have embraced digital and are ready to move faster.⁵⁴ The digital managers are the countries that see digital policy as a threat to be “managed.” The digital convergers are the ones in between – the countries trying to develop into frontrunners, with a bold and open attitude to reform and digital renewal.⁵⁵ ECIPE, for one, proposes that the so-called “Digital 9,” or “D9” countries, becomes the D16.⁵⁶ The point is not to try to form a voting majority in the European Council where the winners could out muscle the losers (on current form, even the D16 would fail to form a qualified majority and it already struggles to block legislation that it doesn’t support); but the formation draws on a central insight: most progress is made when countries find a way to welcome and incentivise other countries into clubs of good performers. Countries should strive to be among the frontrunners. That is the purpose of this formation; it’s there to reward and incentivise the right kinds of policies, to share experience and

‘Europeans have sometimes conflated the problem of privacy with the problem of cybersecurity.’

51 The first steps have been taken with an EU cyber diplomacy toolbox developed over the last three years, though member states have in practice been reluctant to attribute malicious cyber action. See Council of the European Union, *Council Conclusions on a Framework for a Joint EU Diplomatic Response to Malicious Cyber Activities* (“Cyber Diplomacy Toolbox”), 07 June 2017.

52 From 2006 to 2010, the Lisbon Council produced a publication to monitor compliance and progress on the Lisbon targets. Somewhat overlooked, it showed that, prior to the financial collapse in 2008, Europe was on track to meet the ambitious policy’s targets.

53 Erixon and Lamprecht, *Cooperation in Europe’s Digital Economy: How Do Countries Position Themselves?*, op. cit.

54 See Emanuelle Alm, Niclas Colliander, Filip Deforche, Fredrik Lind, Ville Stohne and Olof Sundström, *Digitizing Europe: Why Northern European Frontrunners Must Drive Digitization of the European Union economy* (Stockholm: Boston Consulting Group, 2016).

55 A similar scenario for “those who want more, do more” was laid out in the European Commission’s *White Paper on the Future of Europe: Reflections and Scenarios for the EU27 by 2025* (Brussels: European Commission, 2017).

56 The “D9” countries are Belgium, Denmark, Estonia, Finland, Ireland, Luxembourg, Netherlands, Sweden and the United Kingdom. The D16 would be formed by the addition of Czech Republic, Hungary, Latvia, Lithuania, Poland, Portugal, Slovakia and Spain. See Erixon and Lamprecht, *Cooperation in Europe’s Digital Economy: How Do Countries Position Themselves?* op. cit. Czech Republic and Poland have joined recent D9 meetings, which are now referred to as “D9 plus 2.”

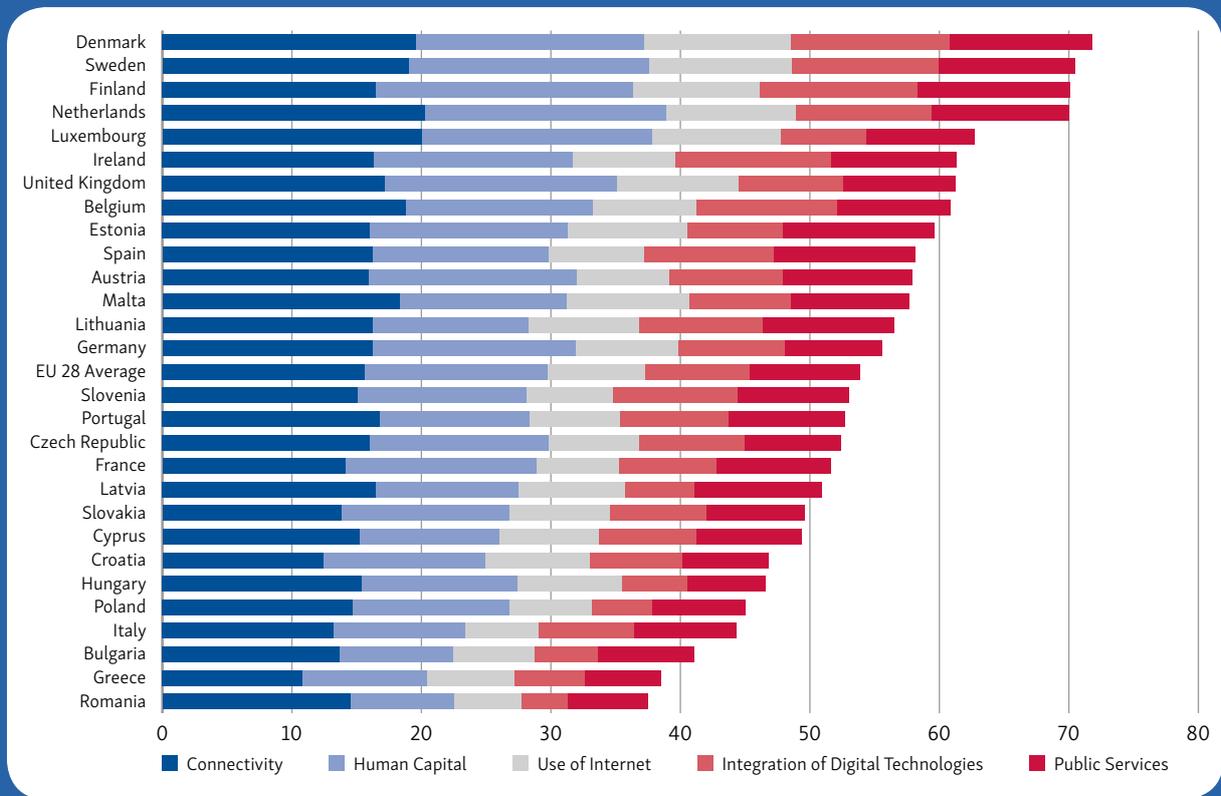
mentoring, to help countries move towards better, more open policies with solid, sound digital and social agendas behind them.

- b) Increase the prominence of digital policy questions in the European Semester process and encourage the use of peer review processes between member states (e.g. for cyber security, telecoms regulation and skills programmes).

Catching Up

Europe’s best digital performers might appear to be the “usual suspects” from northern Europe, but countries across Europe have made impressive efforts at digital transformation. Spain stands out as a country that has greatly improved its relative standing in the EU’s Digital Economy and Society Index, rising to the No. 10 spot, up from No. 15 in 2014, with only the D9 countries ahead of it. Underlying progress in all categories measured by the index (connectivity, human capital, use of internet services, integration of digital technology and digital public services) is a sustained political commitment that has now extended over multiple governments. But Spain’s private sector has been at work, too: particularly noteworthy is Spain’s rise to No. 7, up from No. 15 in 2014, in the private sector’s integration of digital technology, with Spanish companies among the most eager adopters of electronic information sharing, radio-frequency identification (RFID), social media and e-invoicing.

Chart 3. Digital Economy and Society Index (DESI) 2018



Source: European Commission

6. Embrace co-creation and design thinking. Despite the frequent declarations of intent, this remains a difficult concept for governments to adopt, but it flows organically from the reality of digital-era policymaking – and the unique way of governing which this technology makes possible. In the old days, governments would talk to stakeholders through formal consultations and elaborate political processes. Companies would join industry trade associations; activists would band together in umbrella NGOs. And when talk was really necessary elaborate “working groups” could be cobbled together to hash out common positions (though few of those working groups ever did). The problem with this format was that it too often and too easily subject to interest-group capture.⁵⁷ Economic incumbents – including trade unions, lobbyists and employers’ associations – routinely use these bodies to become battering rams for the views of insiders. The result is a political process which sometimes resembles kabuki theatre – the audience knows the lines and can usually speak them before the actors do; and the policy process yields little that is terribly imaginative or might be considered as a breakthrough. As an urgent matter, Brussels needs to use the power of the Internet to create a genuinely broader dialogue with society, one where everyone has their point of view, everyone can speak and ideas are valued not because of the power of the organisation behind them but because of the living improvement they stand capable of delivering.

Recommendation:

a) This is a fraught area of policymaking and boils down to attitude as much as process. Governments should be as open and transparent as they can. They should see themselves as of and part of society. And they should talk to society, even when it isn’t organised. Why, for example, is a leading Dutch online sales platform unable to expand into the German market? Governments should find out. And that might mean speaking to that company directly, rather than waiting for the highly filtered views of today’s economic incumbents to make their way through the opaque policymaking process that

‘One area that Europe might wish to explore: changes in the European Union’s governing treaty that would allow a Europe-wide initiative on skills upgrading.’

organised social opinion forming has become. Good ideas are good ideas. It doesn’t matter where they come from. This capacity to identify and involve a wide-range of views in policymaking should become a core skill of the EU bodies, not just in policymaking, but also in innovation programmes such as Horizon 2020. This capacity should become a hallmark of core performance indicators for EU initiatives.⁵⁸

b) Design thinking is a promising avenue for better policymaking, too. European policymakers should learn to pay more attention to the “end-user” experience, a process known as “user centricity.” The European Commission should focus more on monitoring and tracking the real-life experience of users in the single market, and work to improve that – a political process much more difficult than merely tracking legislative transposition. This work can and should be systematic, involving mapping of concrete “customer journeys” and drawing on the “design thinking” used to great effect at Silicon Valley startups and industrial leaders like Toyota.⁵⁹ These techniques could yield new and powerful insight throughout the world of policymaking – and lead to dramatically better citizen/state relations.

⁵⁷ A recent example is the 52-member High-Level Expert Group on Artificial Intelligence. To date, it has shown little potential to move behind already-known, well-rehearsed industry and NGO positions.

⁵⁸ In this sense, the European Research Council has shown remarkable capacity to involve Europe’s top scientists and should be a source of inspiration. On a different note, the successive evaluations of framework research programmes show how they permanently struggle to involve the key innovative players, engaging only 5% of Europe’s most innovative companies. See EY and Open Evidence, *An Analysis of the Role and Impact of Industry Participation in the Framework Programmes: Final Report* (Brussels: European Commission, 2016).

⁵⁹ Nigel Cross, *Design Thinking: Understanding How Designers Think and Work* (Oxford: Berg, 2011).

7. Use the public sector as an enabler. While the EU tends to focus on the “what” of public power (legislation, funding), improving the “how” can have just as much of an impact. For an example of how better use of data and e-government tools can have a major policy impact, see “Taxation” on page 17.

The EU recognises the role good e-government can play in integrating the single market. Last year, 32 EU and European Free Trade Association (EFTA) member states signed The 2017 Tallinn Declaration on e-Government, which commits the signatories to delivering on a core set of six best practices, including 1) “the once-only principle,” under which governments can only ask for data from a citizen one time; all subsequent use must be sorted out administratively on the government side, 2) “digital by default,” meaning all public services that can be digitised are offered in easy-to-use digital formats right off the bat, and 3) “user centricity,” in which governments pledge to make

‘The European Union’s 2000 Lisbon Agenda played an important role in charting Europe’s policy orientation over the course of the last 20 years.’

the citizen experience the focal point of public administration, revising administrative procedure to meet citizen needs better rather than expecting citizens to always adapt to the needs and wants of

the government administration. Alongside legal questions like transposition and infringements, the European Commission’s single market scoreboard also tracks use of e-government tools and services, notably the Internal Market Information (IMI) system and eCertis (a tool to assist in participating in cross-border procurements).

Beyond delivering on this already ambitious agenda, two major opportunities stand out. The first of these is involving Europe’s thousands of regions and local governments into e-government, particularly in Europe’s large federal states, where significant resources sit at the sub-national level.⁶⁰ The second opportunity lies in pulling public and private initiatives closer together in sectors with heavy public involvement, such as healthcare, mobility and environment, which can stimulate new business models and innovation, while also lowering the cost and increasing the standardisation of public services. Positive examples include successful public-private partnerships to deliver electronic identity in many EU countries and public health collaborations involving research on large public data sets and the inclusion of patient data in health records from personal sensors and private sources.⁶¹

Recommendations:

- a) Make the pan-European once-only principle universal by expanding beyond the limited set of services currently involved in the Single Digital Gateway act and promoting uptake of eIDAS compliant electronic identity and signatures by private-sector services.⁶²
- b) Build collaborative ecosystems for developing e-government tools that include both suppliers and local government and involve sub-national government in the delivery of The 2017 Tallinn Declaration.

60 For a more detailed dive into the question of local e-government, see David Osimo, *How Local Government Reform is Key to Europe’s Digital Success* (Brussels: The Lisbon Council, 2018).

61 Examples of successful PPP e-ID ecosystems include BankID in Norway and Sweden, DigID in the Netherlands, the e-ID (jointly developed with banks and telecoms operators) in Estonia, itsme in Belgium and NemID in Denmark. See Armin Zwilling, *Electronic Identity Management Systems in the European Union* (Nijmegen: Radboud University, 02 July 2017) and Dutch Institute for Public Administration (PBLQ), “Final Report: International Comparison of eID Means,” 10 April 2015.

62 Sergey Filippov, *Financial Services in the Digital Age: How Strengthened Digital Identity Will Open Markets, Drive Innovation and Deliver Growth* (Brussels and London: Lisbon Council and Nesta, 2016).

Taxation

Taxation has shot to the top of the EU political agenda and won't be disappearing soon. There are good reasons for this: the dematerialisation and delocalisation of activity in the digital economy have made straightforward taxation more difficult and opened new rifts over who and where taxes should be paid. At the same time, fragmented rules that don't follow the contours of a single market have made compliance with value-added tax and company taxation harder.

Taxation can get better – not just on broad questions of fairness and legal clarity, but also in its implementation. Closer international cooperation on taxation has been associated with further reporting requirements and new bureaucratic hurdles. Yet better technical implementation of data governance and reporting can also unlock the door to more effortless enforcement. Here's a cheat sheet:

Value-Added Tax

Value-added tax (VAT) remains an effective form of taxation, focusing on consumption instead of economic activity. But Europe's attempt to build a single market for goods and services while also maintaining national VAT rules have brought complex bureaucracy, especially for small e-commerce businesses. Companies trading cross-border face 11% higher VAT compliance costs compared to those trading only domestically, with smaller players hit hardest. The complexity of the European VAT system also opens the door to significant fraud – the EU estimates €147 billion are lost to VAT fraud each year, with more than €50 billion attributable to cross-border transactions. In the last two years, European governments have undertaken significant reform of the EU VAT framework as part of the digital single market, moving swiftly to adopt the European Commission's proposals contained in the 2016 VAT action plan. Yet significant scope remains for using ICT tools to ease reporting and cut down on fraud. Several member states, including Estonia and Spain, have been able to cut their VAT gap – the likely money lost to fraud and underreporting – in half in a few years.

Wage taxation

Europe's personal income taxation systems – and the pension and social insurance rights that accompany them – were designed for an era of stable full-time employment at a single employer. For an increasing number of collaborative economy workers and digital nomads, this no longer reflects reality. Handled wrong, this mismatch can create a large group of socially uninsured second-class workers and large holes in national budgets. Estonia has reacted imaginatively. It created new kinds of bank accounts in 2018, in which tax, social insurance and pension contributions can be automatically deducted from wages. This allows students, workers and stay-home parents to engage in part-time work, pay taxes and contribute to their retirement and unemployment benefits without the additional paperwork of a sole proprietorship or limited-liability company.

Corporate taxation

An intense debate is now raging over whether international rules on corporate taxation are still fit for a digital era where the geographical location of value creation is more difficult to determine. These questions have motivated both EU legislative proposals on a digital service tax and a common consolidated corporate tax base (CCCTB) and accelerated OECD work on base erosion and profit shifting. While consensus is hard to arrive at on this highly contentious issue, solutions should take account of three considerations: 1) the digital economy is in fact a wide range of sectors and business models, so taxing "digital" separately is not sustainable; 2) value creation can now occur without a physical presence, for instance through the automated processing of user data; and 3) any good solution will cover not only rules and principles but also questions of how to gather data and ensure better enforcement.

8. Innovation, innovation, innovation. Europe has had an “innovation” commissioner for almost a decade. So why are we still at the starting point when it comes to delivering advanced, out-of-the-box thinking on key economic, social and political issues? Why do so many issues surprise or blindsides people in power? And how can we develop mechanisms where good, well-founded ideas are reaching policymakers ahead of time? The bottom line is: innovation is not just the work of a genius in a garage. Quite often, it is the outcome of a process in which “innovation” was itself posited as the goal and where people were tasked with the vital function of delivering and developing the ideas behind it. Lots of ideas. Some good. Some bad. But all of them worthy of further thought and deeper exploration.

Human ingenuity rises to the challenge of ambitious goals. In previous eras, lofty goals set by government, from putting a man on the moon to eradicating smallpox, have catalysed research and product development alike. More recently, entrepreneurs have filled some of the void left by the absence of lofty public goals, e.g. in the form of South African entrepreneur Elon Musk’s sci-fi like ventures or Google’s equally ambitious “moonshots.”⁶³ Nevertheless, Europe maintains the unique ability to pull together large global projects, such as the ITER Tokamak fusion reactor

‘No one has yet come up with a mechanism driving reform that is half as powerful as the accession process.’

in Cadarache, France (involving 35 nations) or the European Organisation for Nuclear Research (CERN) Large Hadron Collider in Geneva.⁶⁴ On the other end of the scale, thinking small can also yield outsize results. The tech industry has pioneered a focus on prototyping, constant iteration and user

experience to make gradual constant improvements in their products, while the school of design thinking that has emerged from MIT and Stanford has formalised the process more broadly.⁶⁵ Some governments have been putting these principles into practice, most notably the United Kingdom’s Government Digital Service, which issued a “service manual” to help civil servants apply design thinking to government services.⁶⁶

Recommendations:

a) Put forward a “Europe, First in the World” vision. Too often, we have accepted a second- or even third-tier status, with a large part of our population visibly shut out of economic opportunity. The policies must match the ambition. This is well within our capabilities. Political confusion in North America (and a historic turn against “values” like meritocracy and equality once seen as quintessentially American) and an emerging Chinese model based on harnessing the power of digital technology to reinforce Communist Party of China (CPC) rule makes this leadership even more urgent than before.

A good place to start are the seven “societal challenges” identified in the Horizon 2020 research programme.⁶⁷ The next European Commission has the chance to raise these from research projects to more integrated policy goals, articulating major global goals.

63 For a good overview of Google’s efforts and moonshots more generally, see Derek Thompson, “Google X and the Science of Radical Creativity,” *The Atlantic*, November 2017. See also, Ashlee Vance, *Elon Musk: How the Billionaire CEO of SpaceX and Tesla is Shaping Our Future* (London: Virgin, 2016).

64 Jonathan Wareham and Laia Pujol, “Les ‘perles cachées’ de l’innovation technologique européenne,” *Le Monde*, 19 September 2018.

65 Cross, op. cit.

66 Visit <https://www.gov.uk/service-manual> for more.

67 These are 1) health, demographic change and wellbeing; 2) food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio-economy; 3) secure, clean and efficient energy; 4) Smart, green and integrated transport; 5) climate action, environment, resource efficiency and raw materials; 6) Europe in a changing world - inclusive, innovative and reflective societies; and 7) secure societies - protecting freedom and security of Europe and its citizens. For the most recent list of these priorities, see European Commission, “Horizon 2020: Societal Challenges,” *European Commission website*, accessed 31 October 2018. The original version of the challenges, published in 2011, had only six priorities. “Protecting freedom and security of Europe and its citizens” was added later.

- b) The European Commission and the EU member states – and the Digital-9+ countries in particular – should join together to establish a new institution: a non-governmental, independently constituted think tank to put forward a steady flow of evidence-based “out-of-the-box” thinking.⁶⁸ This institution should have the highest research standards and a work programme agreed with EU member states but conducted with full autonomy, guaranteed by an independent academic council and board of directors. It should serve as a steady source of new thinking, offering an important breeding ground for new policy ideas and a useful platform for informed high-level exchange. It should unite a new generation of government executives, citizens, digital researchers and policymakers in search of a progressive, ambitious and effective digital agenda – and a well-sourced evidence base to support it. Papers like this one shouldn’t be the inspiration of the temporary heads of EU councils or working groups; they should be appearing on a regular basis and responding in an ongoing way to very real leadership threats and needs.

4. Quo Vadis?

The good news is Europe has everything it needs to succeed in the digital area. Writers, like Richard Florida, have told us that successful future societies will be the ones that draw best and most productively upon their diversity.⁶⁹ There is something very close to that in the “European idea” already. We are a beautiful, multi-cultural continent steeped in history, blessed with some of the world’s most fabulous cities and pristine natural habitats, and enriched by our diversity and the fascinating effort to forge a single, unified political space within it. We have a lifestyle that is the envy to much of the world and a society that rests on values that brought us far and which we still hold dear. Combined with better, more thoughtful policies (at the local, national and European level), along with renewed political commitment around a European agenda that builds as well as protects, we can use these pillars to great advantage. But it all begins here at home. We need better, more effective policies, well-conceived and broadly understood within the political demos. And we need to seize the coming opportunity – European elections, a new European multiannual financial framework and a new European Commission – to make it happen.

‘Most progress is made when countries find a way to welcome and incentivise other countries into clubs of good performers.’

⁶⁸ Examples of organisations with similar mandates – conducting innovative public interest research from an out-of-government position – include Nesta in the United Kingdom, which for 20 years has served up original ideas to the British government and the broader public. In the U.S., the Pew Research Center and the Ewing Marion Kauffman Foundation have also weighed in with important evidence that has driven policy in positive directions.

⁶⁹ Richard Florida, *The Rise of the Creative Class: Revisited, Revised and Expanded* (New York: Basic, 2014); Ibid. *Who’s Your City? How the Creative Economy is Making Where to Live the Most Important Decision of Your Life* (New York: Basic, 2009).

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Lisbon Council Research is the scientific, academic arm of the Lisbon Council for Economic Competitiveness and Social Renewal asbl, a Brussels-based non-profit association committed to making Europe “the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion,” as European leaders vowed to do in Lisbon, Portugal at a landmark 2000 summit. Lisbon Council Research conducts on-going research into Europe’s economic and social challenges.

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Published under the editorial responsibility of Lisbon Council Research sprl. The responsible editor is Paul Hofheinz, chief executive, Lisbon Council Research

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