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SECTION FIVE

# Opportunities

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# Opportunities

The transatlantic economy is undergoing an unprecedented digital transformation. It is reshaping how we buy, sell, learn, work and play. Its potential is enormous. The digital transformation is becoming the single most important means by which both sides of the Atlantic can reinforce their bonds and position themselves for a world of more diffuse power and intensified competition.<sup>1</sup>

Europe and North America are bound in many ways. Geopolitics focuses on alliances and states. But we should also think of networks and webs. The transatlantic digital economy is a vibrant mesh binding the two sides of the Atlantic together in ways that are critical to our prosperity, our security, and our democracy. It is time “to integrate statecraft with webcraft, the art of designing, building, and managing networks,” Anne-Marie Slaughter says, and to “think in terms of translating chessboard alliances into hubs of connectedness and capability.”<sup>2</sup>

The best place to start is with the transatlantic community. Each side of the Atlantic is committed to basic human rights grounded in the rule of law and underpinned by open societies, open economies, and open digital links. Together North America and Europe have tremendous opportunity to pioneer strong international governance standards for an open internet that safeguard those rights at a time when countries like China and Russia are pushing very different, closed visions.

U.S. and European policymakers are more likely to advance these goals together if they are better able to understand the stake each side of the Atlantic has in a vibrant transatlantic digital economy.

The digital economy is both strengthening the transatlantic economy and transforming it. It is lowering marginal production and distribution costs, reducing the cost of participating in cross-border trade, helping to match supply and demand in real time, sparking innovation, and offering consumers more choices at lower prices. Individuals are participating in the transatlantic digital economy directly, using platforms to learn, build personal networks, find

and offer work, showcase their talent, and make more effective use of unused or underutilized assets such as spare bedrooms, cars or tools. Digital transformation is expanding the potential of many traditional jobs and creating new jobs that were unimaginable only a few years ago. Digital marketplaces for services are creating flexible work opportunities that could boost labor force participation.<sup>3</sup>

The digital economy offers opportunity to independent creators to compete with large businesses in producing content such as music, films, and books. It can help farmers track machinery, soil and weather conditions, and crop growth to improve yields and farm efficiency. It makes it easier for small and medium-sized enterprises to export and to connect with customers and suppliers globally. Telemedicine, molecular nanotechnology and synthetic biology are poised to change the future of agriculture, manufacturing, medicine, and human health. In the United States alone, big data analytics in health care and government could produce some \$150 billion to \$300 billion in cost savings—and even bigger returns in the form of better health, more effective public services, and improved quality of life.<sup>4</sup>

McKinsey points to advances in analytics, automation, and the Internet of Things, along with innovations in areas such as materials science, that are already showing great promise at reducing resource consumption. Examples include smart lighting and intuitive thermostats that are significantly reducing electricity consumption in homes and businesses; algorithms that optimize robotic movements in ways that can reduce a manufacturing plant’s energy consumption by as much as 30%; and cement-grinding plants that can cut energy consumption by 5% or more with customized controls that predict peak demand.<sup>5</sup>

Digital transformation is at the heart of a transatlantic economy that is stronger, faster, and more dynamic. Digital transformation is evident all across the Atlantic space. The EU’s Digital Agenda seeks to connect all residences

to broadband (at least 30 mbps) and 50% of all households to superfast broadband (100 mbps or greater) by 2020. Siemens Digital Factory is providing digitally integrated hardware, software and technology-based services to U.S. manufacturing companies all across the United States. General Electric is opening “digital foundries” across Europe to incubate startups, improve collaboration and drive digital ecosystem growth. Cisco has joined with the Government of France to promote a digital transformation of the entire country. Germany’s *Industrie 4.0* promises to infuse digital innovation into the powerful German manufacturing sector and beyond. The UK is expanding innovation centers to promote digital advances in energy, transport, health care and education. Cities and rural areas across both continents are embracing digitization with projects that are generating billions of dollars in value in terms of reduced costs, productivity gains, and increased revenues.<sup>6</sup>

Digitization’s impact is only likely to accelerate. Cross-border digital flows are of particular relevance to Europe, which has the largest share of intraregional data flows among all regions. The EU’s Digital Single Market promises to improve digital cross-border flows, capitalize on Europe’s inherent strengths in intraregional trade, and provide European firms with the opportunity to build scale commensurate with that of the United States.

McKinsey estimates that by 2025, digitization could boost EU GDP by up to \$2.5 trillion and U.S. GDP by up to \$2.2 trillion through changes in the labor market, improved capital efficiency, and greater multifactor productivity.<sup>7</sup>

That’s just the beginning. When other economic sectors are taken into account, the possibilities are likely to be much greater, and consumer benefits much bigger, even though they are difficult to quantify.

Mandel and Hofheinz conclude that if France, Germany, Italy and Spain had the same level of digital density (defined as the amount of data used per capita) as the United Kingdom, their level of intangible investment, in terms of patents, copyrights, trademarks, and technology, would rise by roughly €200 billion per year, equivalent to a 2% improvement in overall national output. And if those six countries could reach the level of digital density of the United States, their economies could see roughly €460 billion of additional economic output per year — an amazing 4% increase.<sup>8</sup>

### Achieving the Potential

To achieve this potential, individuals, companies and policymakers all have a role to play.

**TABLE 5.1: ESTIMATED INCREASE IN INTANGIBLE INVESTMENT IF DIGITAL DENSITY LEVEL ROSE TO:**

Level of UK (€ billions)		
	€ BILLIONS	AS PERCENT OF NATIONAL GDP
Italy	73.2	4.5
Spain	45.7	4.3
Germany	69.5	2.4
France	20.9	1.0
<b>Total for six countries*</b>	<b>209.0</b>	<b>2.0</b>
Level of U.S. (€ billions)		
	€ BILLIONS	AS PERCENT OF NATIONAL GDP
Italy	112.0	6.9
Spain	71.0	6.7
Germany	139.0	4.8
France	72.0	3.4
UK	54.0	2.4
Sweden	10.0	2.3
<b>Total for six countries</b>	<b>459.0</b>	<b>4.4</b>

*\*including UK and Sweden, whose digital density is higher than UK*

*Source: Hofheinz and Mandel.<sup>9</sup>*

Individuals need to develop their skills and embrace the flexibility and new opportunities that digitization offers them. Science, technology, engineering and mathematics (STEM), entrepreneurial and creative skills are fundamental in enabling digital innovation. Individual chances of success will be higher if governments and companies also embrace the need to help those who are affected and to build the institutions and training pathways needed for a more digital economy. That means paying attention to continuous skills development and re-skilling programs, and using the huge amount of data now available on educational outcomes, skills, and career paths to design more effective and responsive systems for education and training. It means enhancing digital literacy, increasing awareness of digital tools, and encouraging their adoption by consumers and workers. It means facilitating a culture of enterprise in which young innovators have access to early-stage investments and opportunity for their ideas, rather than be forced to wait for decades before given real authority or access to capital. It also means clarifying how digital freelancers and on-demand service workers are treated under the law and how benefits systems may be modernized for the digital economy. Germany and Sweden, for example, have a “dependent contractor” category that grants some additional protections to workers who fall somewhere between employees and independent contractors and are dependent on a single employer.<sup>10</sup>

Denser digital connections, as well as their potential abuse, underscore the need for new means of building trust among citizens, companies and governments. “Is there an algorithm for trust?” asks Alec Ross. One trust-building example might be a pan-European Trustmark, governed by one European set of rules, which is being advanced by Ecommerce Europe in close cooperation with national consumer organizations.<sup>11</sup>

Companies must adapt their business models, digitize their operations, promote open innovation, and help their employees skill and reskill along the way. Digital laggards will need to accelerate their digital transformation. In Europe that includes asset-heavy sectors such as manufacturing and logistics, quasi-public sectors such as health care and education, and local, fragmented sectors such as hospitality and construction. In the United States that also includes construction, leisure, hospitality, retail, and health care.

Citizens and companies on each side of the Atlantic need to encourage governments not only to digitize their own operations to improve transparency, accountability and responsiveness,<sup>12</sup> but to create an ecosystem that encourages and rewards digital innovation, adaptability, productivity and competitiveness in ways that generates the greatest value for the greatest number of people, builds scale, and reduces fragmentation.<sup>13</sup>

This ecosystem needs to be grounded in several essential elements: a highly educated and skilled workforce; robust public investment in research and development; world-class digital-age infrastructure; “smart government” policies, including how agencies procure and implement technology in their own operations, and how government spurs adoption of emerging information technologies more broadly (e.g., Internet of Things, smart cities, etc.); tax and regulatory policies that encourage firms to invest in technology; and strong connections to the global marketplace through an open, rules-based trading system.<sup>14</sup>

Governments should be active on three fronts. They can unlock investment in R&D and access to capital by facilitating the flow of venture capital funding and strengthening interactions among entrepreneurs, investors and universities. They can open data flows by tackling data localization and geo-blocking. And they can address issues surrounding skills and the labor market by making digital skills a core part of education curricula; developing targeted programs to fill critical talent shortages; and developing targeted retraining programs for workers affected by the digital transition and mitigating its impact on job displacement.<sup>15</sup>

## Building an Ecosystem at EU level

In the digital world, scale matters; countries with a large installed digital base and uniform culture, language and regulations have a competitive edge.<sup>16</sup> In Europe, that means creating a more seamless digital market. It means promoting the standardization of telecom networks, regulation standards, and the logistics of e-commerce to create a digital market comparable to that of the United States.<sup>17</sup> But it also means paying attention to non-digital barriers and to the services sector. That is why the EU must advance its triumvirate of the European Single Market, the European Services Directive, and the Digital Single Market.

## Building an Ecosystem via Coalitions Of the Willing

As the EU evolves, variable geometry or “multi-speed” Europe is likely to become the norm. While EU-wide efforts at digital transformation are optimal, they can be underpinned by both regional and national efforts.

The Delors Institute, for example, has proposed inter-governmental cooperation among groups of member states, “coalitions of the willing” intent on moving towards regulatory convergence within varying geographic and sectoral settings. Franco-German efforts at what the Institute calls a “joint digital eco-system” would be an example of such efforts. Under such a scheme, France and Germany would identify emerging technologies as well as sectors and industries with a high chance for disruptive innovation and set up joint regulatory tools for opening them; design a common set of rules for upcoming spectrum allocations and for the regulation of the telecoms sector; introduce a joint “innovative company status” for their start-ups allowing them to apply their national regulation even when operating on the other market; and build a network of French-German coding schools.<sup>18</sup>

## Building an Ecosystem at National Level

Given that each country’s regulatory environment and “digital endowment” is different, digital transformation cannot occur only at EU level in some lock-step effort in which all member states move forward in the same direction at the same pace, or not at all. While some reforms must come from Brussels, national efforts are essential, and good practice exchange can help.<sup>19</sup> France, for instance, ranks relatively low in terms of internet access in schools, whereas the Netherlands and Finland rank high. Following good practice in these countries could point the way. Similarly, French firms lag in terms of the quality of their mobile connection to customers; good practice in leading countries such as Belgium or Austria could offer orientation.<sup>20</sup>

## Conclusion

Whether through digitally deliverable services, e-commerce, the growing app and bot economy, data flows, social media, or submarine cables criss-crossing the Atlantic, the transatlantic digital economy has quickly become a major force in global commerce. Europe and North America are leaders when it comes to investments in information communications technology and intangible assets, the app economy and networked readiness. Yet we have seen only the tip of the digital iceberg. If policy makers can devise answers to common cybersecurity challenges and bridge their differences to find commonalities in and

around rules and restrictions governing data, data privacy, intellectual property rights, and host of other items, tremendous synergies are possible.

The digital transformation of the transatlantic economy is akin to a transatlantic “Big Bang,” a game-changing dynamic that would propel growth and competitiveness in the United States and Europe, improve societal outcomes in areas such as health care, education, and infrastructure, and further deepen linkages between the two parties while strengthening their ability to remain rule-makers, rather than become rule-takers, in the economy of the 21st century.

## Endnotes

1. John Chambers, “How Digitizing Europe Will Create 850,000 New Jobs,” Huffington Post, [http://www.huffingtonpost.com/john-chambers/digitizing-europe-jobs\\_b\\_6873984.html](http://www.huffingtonpost.com/john-chambers/digitizing-europe-jobs_b_6873984.html).
2. Anne-Marie Slaughter, “How to Succeed in the Networked World. A Grand Strategy for the Digital Age,” *Foreign Affairs*, November/December 2016, <https://www.foreignaffairs.com/articles/world/2016-10-04/how-succeed-networked-world>.
3. Chambers, op. cit.; Susan Lund and James Mankiya, “How Digital Trade is Transforming Globalisation,” E15 Initiative, January 2016, <http://e15initiative.org/wp-content/uploads/2015/09/E15-Digital-Economy-McKinsey-FINAL.pdf>; Jacques Bughin, Eric Hazan, Eric Labaye, James Manyika, Peter Dahlström, Sree Ramaswamy, and Caroline Cochin de Billy, *Digital Europe: Realizing the continent's potential*, McKinsey Global Institute, June 2016, <http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/digital-europe-realizing-the-continent-potential>; U.S. International Trade Commission, *Digital Trade in the U.S. and Global Economies, Part 2*, Publication Number 4485, August 2014, <https://www.usitc.gov/publications/332/pub4485.pdf>; James Manyika, Sree Ramaswamy, Somesh Khanna, Hugo Sarrazin, Gary Pinkus, Guru Sethupathy, and Andrew Yaffe, *Digital America: A tale of the haves and have-mores*. San Francisco. McKinsey Global Institute, December 2015, <http://www.mckinsey.com/industries/high-tech/our-insights/digital-america-a-tale-of-the-haves-and-have-mores>.
4. U.S. International Trade Commission, op. cit; Gigi Kwik Gronvall, *Synthetic Biology. Safety, Security, Promise*. Baltimore, MD: UPMC Center for Health Security, 2016; Manyika et. al, op. cit.
5. Ezra Greenberg, Martin Hirt, and Sven Smit, “The global forces inspiring a new narrative of progress,” McKinsey Quarterly, April 2017, <http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-global-forces-inspiring-a-new-narrative-of-progress>.
6. Chambers, op. cit.; James Detar, “General Electric Opens Paris Digital Center; GE Stock Retakes Key Level,” Investors.com, June 14, 2016, <http://www.investors.com/news/ge-is-expanding-its-industrial-internet-footprint-in-europe/>.
7. Manyika et. al, op. cit. Bughin, et. al, op. cit.
8. Paul Hofheinz and Michael Mandel, “Uncovering the Hidden Value of Digital Trade: Towards a 21st Century Agenda of Transatlantic Prosperity,” Lisbon Council/PPI institute, Issue 19, 2015, [http://www.progressivepolicy.org/wp-content/uploads/2015/07/2015.07-Mandel-Hofheinz-Uncovering-the-Value-of-Digital-Trade\\_Towards-a-21st-Century-Agenda-of-Transatlantic-Prosperity.pdf](http://www.progressivepolicy.org/wp-content/uploads/2015/07/2015.07-Mandel-Hofheinz-Uncovering-the-Value-of-Digital-Trade_Towards-a-21st-Century-Agenda-of-Transatlantic-Prosperity.pdf); <http://useu.usmission.gov/remarks12215.html>.
9. Ibid.
10. Alec Ross, *The Industries of the Future*. New York: Simon & Shuster, 2016, pp. 231-232; Bughin, op. cit.; Accenture, “Five Ways to Win with Digital Platforms,” 2017, [https://www.accenture.com/us-en/\\_acnmedia/PDF-29/Accenture-Five-Ways-To-Win-With-Digital-Platforms-Executive-Summary.pdf](https://www.accenture.com/us-en/_acnmedia/PDF-29/Accenture-Five-Ways-To-Win-With-Digital-Platforms-Executive-Summary.pdf); Judy Fudge, Shae McCrystal, and Kamala Sankaran, eds., *Challenging the legal boundaries of work regulation*, Hart Publishing, 2012. See also Lauren Weber, “What if there were a new type of worker? Dependent contractor”, *Wall Street Journal*, January 28, 2015; Manyika, et. al, op. cit.
11. Ross, op. cit.; The Ecommerce Europe Trustmark is non-profit and based upon self-regulation. Over 10,000 certified online shops in 11 countries can join the Ecommerce Europe Trustmark for free. See <https://www.ecommerce-europe.eu/app/uploads/2016/07/European-B2C-E-commerce-Report-2016-Light-Version-FINAL.pdf>.
12. Europe is already a world leader in e-government services. France is fourth in the latest UN global rankings for e-government, followed by the Netherlands in fifth, the United Kingdom in eighth, and Finland in tenth. But continent-wide, only 40% of EU citizens access government services online. Capabilities vary dramatically, not just at the regional and national levels, but particularly at the municipal level. See United Nations e-government survey 2014: E-government for the future we want, United Nations, 2014; “Europe’s e-government opportunity”, McKinsey.com, March 2015.] Bughin, op. cit.
13. Matthias Bauer, *Right Direction, Wrong Territory. Why the EU’s Digital Single Market Raises Wrong Expectations*. Washington, DC: American Enterprise Institute, 2017; Geoffrey G. Parker, Marshall W. van Alstyne and Sangeet Paul Choudary, *Platform Revolution: How Networked Markets are Transforming the Economy—And How to Make Them Work for You*, New York: W.W. Norton, 2017.
14. See Peter L. Singer, “Investing in “Innovation Infrastructure” to Restore U.S. Growth,” Information Technology and Innovation Foundation, January 3, 2017, <https://itif.org/publications/2017/01/03/investing-innovation-infrastructure-restore-us-growth>; John Wu, Adams Nager, and Joseph Chuzhin, High-Tech Nation: How Technological Innovation Shapes America’s 435 Congressional Districts, Information Technology and Innovation Foundation, November 28, 2016, <https://itif.org/publications/2016/11/28/technation>.
15. Europe suffers from a private-sector R&D investment gap with the United States. A recent report from the European Investment Bank finds that for the European Union to match U.S. levels of venture capital financing as a share of GDP would require around €35 billion a year in additional venture capital activity. *Restoring EU competitiveness*, European Investment Bank, January 2016; Bughin, op. cit.
16. Accenture, op. cit.
17. Bughin, op. cit.
18. Hendrik Enderlein, Paul-Jasper Dittrich, David Renaldi, “#DigitalAmitié. A Franco-German Axis to Drive Digital Growth and Integration,” Delors Institute, 2017, [http://www.delorsinstitut.de/2015/wp-content/uploads/2017/03/20170310\\_DigitalEconomicSchengen-DittrichEnderleinRinaldi-EN-JDIB-7.pdf](http://www.delorsinstitut.de/2015/wp-content/uploads/2017/03/20170310_DigitalEconomicSchengen-DittrichEnderleinRinaldi-EN-JDIB-7.pdf).
19. Erik Van der Marel, “The Importance of Complementary Policy for ICT in the EU.” Brussels: ECIPE Occasional Paper No. 8, 2015; Bauer and Erixon, op. cit.
20. M. Macchi, B. Berthon and M. Robinson, M., “Digital density index: Guiding digital transformation,” Accenture Strategy, 2015, <https://www.accenture.com/us-en/insight-digital-density-index-guiding-digital-transformation>.