European Parliament

DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT A
ECONOMIC AND SCIENTIFIC POLICY

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Boosting E-Commerce in the Digital Single Market: A Foundation for European Growth and Competitiveness

In-Depth Analysis for the IMCO Committee

EN

2016

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IN-DEPTH ANALYSIS

Abstract

Prepared at the request of the European Parliament's Committee on Internal Market and Consumer Protection, this paper reviews global trends in e-commerce and provides an analysis of the opportunities a Digital Single Market (DSM) would create for European entrepreneurs. The paper argues that the economic impact of the DSM could be enhanced by placing greater attention on the enabling conditions for entrepreneurial success, particularly by ensuring entrepreneurs have access to anchor customers, an ample supply of growth capital, sophisticated management talent and well-coordinated supports for scale-ups and internationalization.

IP/A/IMCO/2016-05 September 2016

PE 587.297 EN

This document was requested by the European Parliament's Committee on Internal Market and Consumer Protection

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Original: EN

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Manuscript completed in August 2016

This document is available on the Internet at:
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LIST OF ABBREVIATIONS

DSM	Digital Single Market
EP	European Parliament
EU	European Union
EC	European Commission
GDP	Gross Domestic Product
GPS	Global Positioning System
ICT	Information and Communication Technologies
OECD	Organization for Economic Cooperation and Development
SMEs	Small and Medium Sized Enterprises
UK	United Kingdom
US	United States
VAT	Value Added Tax
VC	Venture Capital

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EXECUTIVE SUMMARY

In space of two decades, Information and Communication Technologies (ICT) have revolutionized the way we work, reshaped countless industries, and forever changed the way we inform, educate and entertain ourselves. Yet, in the context of the economic malaise sweeping across Europe, the Internet's most vital contribution to modern prosperity is arguably its role in making small-and-medium-sized businesses more potent contributors to economic growth and job creation. Put simply, modern communications technologies, and the cutting-edge business practices they engender, are now part and parcel of what it takes to run highly dynamic and productive enterprises—enterprises that are more competitive, more agile, and more capable of exporting their products and services across borders than anything the world has previously witnessed.

As things stand, European entrepreneurs face far too many stumbling blocks to growing their businesses in Europe. Today, only 16% of EU consumers buy online from traders based in other EU countries and no more than 10% of online sales for EU companies come from customers residing outside their national borders. The presence of significant national fragmentation in Europe's market for e-commerce and digital services is among the key reasons why European startups struggle to realize the true potential of the continent's single market of 500 million consumers. This state of affairs, in turn, has undermined Europe's success in creating global technology champions like Apple and Google. Indeed, in a ranking of the top global Internet leaders by market valuation, there is not a single European firm in the top 20, a list which is dominated almost exclusively by Chinese and American Internet companies.

In effort to make Europe fit for the digital age, European public policymakers have prioritized the creation of a Digital Single Market (DSM) in which digital goods and services can move seamlessly across the 28 member nations under the same set of rules. The proposed single market for digital services would create uniform rules that protect intellectual property, safeguard consumer data, eliminate mobile-phone roaming charges and end country-by-country restrictions on digital content like streaming movies and TV shows.

A fully functioning DSM would provide a vital foundation for European growth and competitiveness. It would offer consumers more choice, greater convenience and a larger variety of high quality digital services. By granting seamless access to market of over 500 million people, a single market for digital services would also create a powerful launching pad for truly world-changing technologies and companies, enabling entrepreneurial firms to reach scale within Europe's borders.

However, market fragmentation and regulatory barriers in Europe are not the only hurdles that entrepreneurs face in building viable growth companies. A growing body of research suggests that the more intractable growth challenges are related to the ability of firms to access a full spectrum of risk capital, acquire anchor customers and attract the sophisticated management talent to lead key corporate functions such as international sales, marketing and business development. Most of these issues have been entirely overlooked in the European Commission's strategy for the Digital Single Market.

For Europe to become a creator of global technology champions, policymakers must not only prioritize much needed regulatory reforms; they must also establish a series of entrepreneurial building blocks to enable its highest-potential companies to grow beyond Europe's borders and become the significant global employers of tomorrow. Among other things, these building blocks include an ample supply of capital; access to anchor customers and sophisticated management talent; and well-coordinated supports for scale-ups and internationalization.

In summary, there are two overarching economic policy priorities required to realize the full potential of a Digital Single Market in Europe.

1. Europe must act collectively, and with greater urgency, to bring the digital single market to fruition. The costs of inaction are high, not only in nominal terms, but also in lost opportunities for future prosperity and job creation if Europe falls further behind China and the United States in the creation of global digital champions. The critical action items for completing the digital single market are:
    A. Putting an end to discriminatory commercial practices such as geo-blocking.
    B. Lowering the cost and increasing the reliability of cross-border shipping.
    C. Accelerating the adoption of high-speed broadband.
    D. Promoting the creation of standards and interoperability.
    E. Streamlining and simplifying national VAT systems.
    F. Establishing a single European contract sales law.
    G. Modernizing and harmonizing copyright law.
2. Europe must invest to strengthen the entrepreneurial capacity of high-potential firms, ensuring that firms can access the capital, management talent and well-coordinated supports required to not only operate across Europe, but compete head-to-head in global markets as well. The critical action items for strengthening entrepreneurial competencies and building scale-up capacity are:
    a. Developing European scale-up programs.
    b. Improving access to sophisticated management talent.
    c. Boosting access to growth capital.
    d. Facilitating greater corporate engagement in local start-up ecosystems.
    e. Developing digitally-focused export strategies.
    f. Increasing investments in digital government.
    g. Intensifying efforts to track, disseminate and adopt global best practices.

Strong, sustained economic growth in Europe depends on the ability of public and private sector leaders to work together to deliver on a digital “to-do” list, with the aim to unleash entrepreneurial energies and build a new foundation for jobs and prosperity.

1. THE DIGITAL SINGLE MARKET: A EUROPEAN IMPERATIVE

KEY FINDINGS

- Only 16% of EU consumers buy online from traders based in other EU countries and no more than 10% of online sales for EU companies come from customers residing outside their national borders.
- A true digital single market, coupled with investments in building entrepreneurial competencies, would significantly boost cross-border commerce, foster new growth opportunities and help homegrown SMEs compete internationally.

In space of two decades, Information and Communication Technologies (ICT) have revolutionized the way we work, reshaped countless industries, and forever changed the way we inform, educate and entertain ourselves. Yet, in the context of the economic malaise sweeping across Europe, the Internet's most vital contribution to modern prosperity is arguably its role in making small-and-medium-sized businesses more potent contributors to economic growth and job creation.[1]

Among other things, small-and-medium-sized enterprises engaged in e-commerce can harness emerging Web-based business platforms to design, develop and deliver their products around the world with a fraction of the resources that would have been required just a decade ago. Whether sourcing talent and new ideas, conducting a global marketing campaign, or collaborating with distributed teams, technology-enabled possibilities to connect, collaborate and streamline are endless. Savvy business owners can even manufacture and distribute entirely new product lines without having to own a physical plant or manage inventory. Put simply, modern communications technologies, and the cutting-edge business practices they engender, are now part and parcel of what it takes to run highly dynamic and productive enterprises—enterprises that are more competitive, more agile, and more capable of exporting their products and services across borders than anything the world has previously witnessed.

As policymakers search for a way out of Europe's prolonged economic crisis, they must recognize the degree to which the depth of technology adoption influences both firm performance and overall GDP growth, effects that will only grow as digital technologies continue to penetrate and reshape every economic activity and every sphere of society. At the same time, Europe must create the conditions for digital entrepreneurs to succeed.

As things stand, European entrepreneurs face far too many stumbling blocks to growing their businesses in Europe. Today, only 16% of EU consumers buy online from traders based in other EU countries and no more than 10% of online sales for EU companies come from customers residing outside their national borders. And yet, a handful of important Europe-wide initiatives could boost cross-border e-commerce and eliminate many of the key obstacles to growth and innovation within the SME sector and in the economy at large. These include: accelerating the adoption of high-speed broadband; streamlining and simplifying national value added tax (VAT) systems; lowering the cost and increasing the reliability of cross-border shipping; promoting the creation of standards and interoperability; putting an end to discriminatory commercial practices such as geo-blocking; modernizing and harmonizing

[1] Ann Mettler and Anthony D. Williams, Wired for Growth and Innovation: How Digital Technologies are Reshaping Small and Medium sized Businesses (Brussels: Lisbon Council, 2012).

copyright laws; establishing a single European contract sales law; and fostering the development of digital skills in the labour market.

As noted in the strategy issued by the European Commission, all of these initiatives would contribute to the creation of a more a coherent digital single market.[2] In addition, Europe must invest to strengthen the entrepreneurial capacity of high-potential firms, ensuring that firms can access the capital, customers and management talent required to not only operate across Europe, but compete head-to-head in global markets as well. A true digital single market, coupled with investments in building entrepreneurial competencies, would significantly boost cross-border commerce, foster new growth opportunities and help homegrown SMEs compete internationally. While this is often portrayed as a niche issue, pertaining mostly to ICT companies or tech start-ups, the reality is that the creation of a digital single market is key for the modernization of the overall economy, including the many companies and sectors that don't have ICT at the core of their business model but that are highly dependent on a world-class digital infrastructure to be successful and competitive.

In short, strong, sustained economic and employment growth in Europe depends on the ability of public and private sector leaders to work together to deliver on a digital "to-do" list that includes both regulatory harmonization and the establishment of entrepreneurial building blocks that will facilitate the creation of the next generation of high-growth firms.

[2] Digital Single Market: Bringing Down Barriers to Unlock Online Opportunities, (Brussels: European Commission, May 2016). http://ec.europa.eu/priorities/digital-single-market_en.

2. DIGITAL INNOVATION IS ACCELERATING: CAN EUROPE KEEP PACE?

KEY FINDINGS

- The number of global Internet users has tripled from 1 billion to over 3 billion users since 2006. With year-over-year growth of 9%, skyrocketing Internet penetration will certainly continue to increase humanity's creative and economic potential.
- By 2020, there will be some 26 billion mobile connected devices around the world (that's 3.4 devices per person), up from 16 billion in 2015, with the vast majority of new growth in both broadband users and mobile Internet users occurring in Asia.
- In a ranking of the top global Internet leaders by market valuation (including both privately-held and publicly-traded firms), there is not a single European firm in the top 20. Of the top 20, 12 firms are headquartered in the United States, 7 are from China and one firm is located in Japan.

With each passing year, the Internet grows richer in content, more diverse in its user base, and more accessible through countless connected devices—from automobiles and household appliances to iPads and urban street kiosks. Its global reach and exceptional versatility make the Internet an increasingly potent and indispensable platform for creativity, commerce and innovation, not least because the growing accessibility of information technologies puts the tools required to collaborate, create value, and compete at everybody's fingertips.

The number of global Internet users has tripled from 1 billion to over 3 billion users since 2006.[3] With year-over-year growth of 9%, skyrocketing Internet penetration will certainly continue to increase humanity's creative and economic potential. By the end of this decade, a majority of people in the developing world will have access, particularly as accessing the Internet through mobile phones becomes prevalent.[4] Even today, nearly 90% of the most impoverished populations of Brazil, India, China, and South Africa have access to a mobile device.[5] In fact, there are already many more connected devices than humans if one includes not just smartphones, but also GPS wristwatches, tablets and fitness tracking devices such as Fitbit and Nike Fuel. By 2020, there will be some 26 billion mobile connected devices around the world (that's 3.4 devices per person), up from 16 billion in 2015.[6] With mature markets in Europe and North America largely saturated, the vast majority of new growth in both broadband users and mobile Internet users will occur in Asia.

[3] Internet penetration data available is from World Bank (http://data.worldbank.org/). Last updated: July 11, 2016.

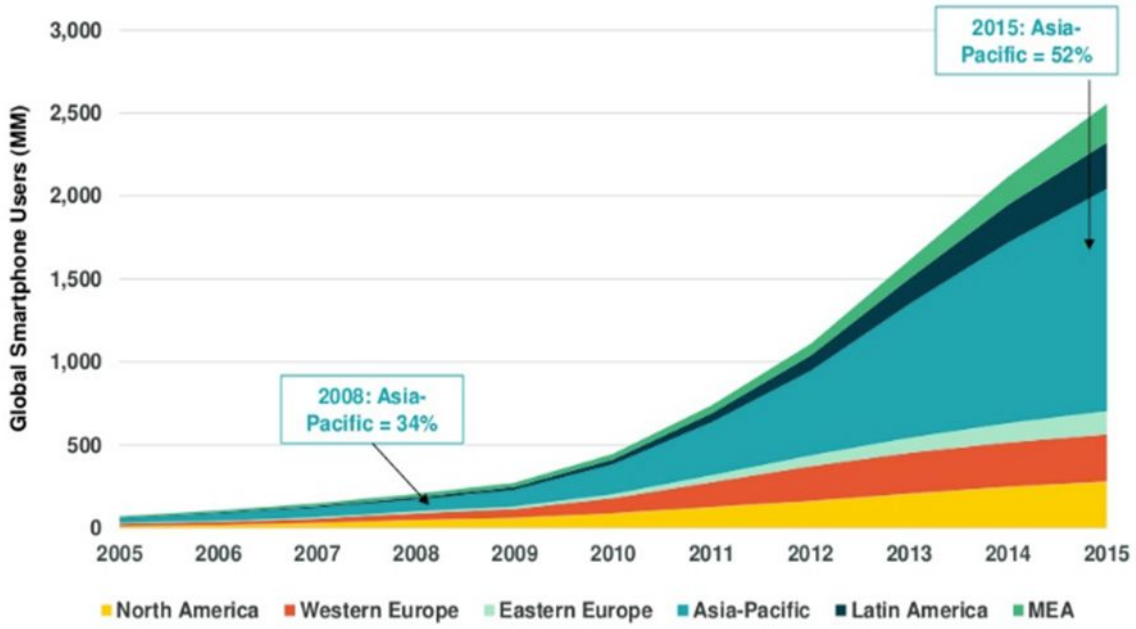
[4] Ibid.

[5] Ibid.

[6] VNI Global IP Traffic Forecast, 2015-2020, Cisco Systems, June 2016.

Figure 1:

Global smartphone users, 2005 to 2015.



Source: World Bank, July 2016.

This explosion of Internet usage has ushered in a dramatic shift in power to companies that develop devices and applications for the Web, particularly those that enable social networking. Six years ago, Facebook had 150 million users. In the first quarter of 2016, the world's most popular social networking platform had 1.65 billion monthly active users worldwide, making it the most successful consumer service on the planet.[7] But the more noteworthy development is the fact that social networking is creating an entirely new fabric of connectivity in society and reshaping the very nature of human communities. Whereas communities have historically revolved around geography, ethnicity and professional affiliations, today millions of people can rapidly connect and collaborate across disciplines, borders and identities to accomplish virtually any conceivable shared objective or endeavor.

At the same time, growing Internet usage in business and everyday life is making every economic and social process from dating to drug discovery increasingly data intensive. Today, WalMart logs more than 1 million customer transactions every hour into a global database estimated to contain more than 2.5 petabytes of data, the equivalent of 167 times the information contained in the US Library of Congress.[8] The retailer's massive investments in its ability to collect, integrate, and analyze data—including information contained in its suppliers' databases—makes it possible to source popular items automatically, adjust prices in real time, and quickly shift items from store to store.

The deluge of data generated by transactions, medical and legal records, videos, and social technologies—not to mention the sensors, cameras, bar codes, and transmitters embedded in the world around us—has enormous economic potential. Advances in computing and analytics can transform this sea of data into new services, new innovations and new opportunities for significant operational efficiencies. McKinsey estimates that by 2020, the wider adoption of big-data analytics could increase annual US GDP in retailing and manufacturing by up to $325 billion and save as much as $285 billion in the cost of health

[7] http://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/.

[8] Kenneth Cukier, "Data, data everywhere." The Economist, February 25, 2010.

care and government services.[9] Over time, this still largely untapped potential to extract insights from big data, will become a key dimension of business competitiveness, create entirely new kinds of occupations for data scientists, and generate new consumer services and innovations that we can scarcely imagine today.

Figure 2:

Global Internet leaders by market valuation, 2016.

Rank	Company	Region	Current Market Value ($B)	Q1:16 Cash ($B)	2015 Revenue ($B)
1	Apple	USA	$547	$233	$235
2	Google / Alphabet	USA	510	79	75
3	Amazon	USA	341	16	107
4	Facebook	USA	340	21	18
5	Tencent	China	206	14	16
6	Alibaba	China	205	18	15
7	Priceline	USA	63	11	9
8	Uber	USA	63	--	--
9	Baidu	China	62	11	10
10	Ant Financial	China	60	--	--
11	Salesforce.com	USA	57	4	7
12	Xiaomi	China	46	--	--
13	Paypal	USA	46	6	9
14	Netflix	USA	44	2	7
15	Yahoo!	USA	36	10	5
16	JD.com	China	34	5	28
17	eBay	USA	28	11	9
18	Airbnb	USA	26	--	--
19	Yahoo! Japan	Japan	26	5	5
20	Didi Kuaidi	China	25	--	--
Total			$2,752	$447*	$554*

Source: Kleiner Perkins Caufield Byers, 2016 Internet Trends Report, June 2016.

While Europe has deep pockets of digital capability, it has so far failed to catalyze digital enterprises of the same scale as Amazon, Facebook and Google. In a ranking of the top global Internet leaders by market valuation (including both privately-held and publicly-traded firms), there is not a single European firm in the top 20.[10] Of the top 20, 12 firms are headquartered in the United States, 7 are from China and one firm is located in Japan. While the 2014 World Startup Report indicates that Europe hosts 34 Internet unicorns (firms with billion dollar market valuations),[11] these firms are not achieving the same international reach, revenues or market valuations as the world's leading digital companies. While it is impossible to attribute definitive causality, evidence presented later in this briefing suggests that the presence of significant national fragmentation in Europe's market for e-commerce and digital services is among the key reasons why European startups struggle to tap into the true potential of the continent's single market of 500 million consumers.

[9] Susan Lund, James Manyika, Scott Nyquist, Lenny Mendonca, and Sreenivas Ramaswamy, "Game Changers: Five opportunities for US growth and renewal." McKinsey Global Institute, July 2013.

[10] 2016 Internet Trends Report, Kleiner Perkins Caufield Byers, June 2016.

[11] World Startup Report 2014. https://docs.google.com/spreadsheets/d/1TWhXc4VO4z8kRonPucBX7hEi5dFctY5zqkjfYqXcOD0/edit#gid=0

3. E-COMMERCE, PRODUCTIVITY AND GROWTH

KEY FINDINGS

- Consumers in the United States spent an estimated $340 billion with US-based e-commerce firms in 2015, which amounts to 10% of all US retail sales, versus less than 2% in 2000.
- Data from Kleiner Perkins Caufield Byers, one of the world's leading venture capital firms, shows that many online retailers are achieving $100M in sales in less than 5 years. By comparison it took Nike 14 years to achieve $100M in sales and Lululemon took 9 years.
- The availability of open source tools, cloud computing, and the rise of virtual office infrastructure has driven the cost of launching an Internet venture down from $5,000,000 in 1998, to $500,000 in 2002, to $50,000 in 2014.
- Tech-intensive SMEs not only grow and export twice as much as others; they also create twice the number of jobs.
- In the UK, the overall sales of high-and-medium-Web businesses grew by 4.1% annually from 2007-2010 – about seven times faster than the sales of low-and-no-Web businesses.
- While the returns on other forms of capital investment are about 15% on average, investment in ICT may generate up to 25% of productivity growth. In wholesale and retail trade, for example, a 10% increase in e-sales leads to a 3.1% productivity increase.

The need for a true digital single market in Europe is the object of growing policy attention and for good reason. Evidence overwhelmingly suggests that the importance of the Internet to individual companies and the economy at large cannot be ignored, either by entrepreneurs or policymakers. As the global economy shifts into a protracted period of anemic growth, the most reliable frontiers for economic opportunity will be digital companies that innovate, increase efficiency, lower prices and invent entirely new products and services.

E-commerce is a good example of a digitally enabled frontier that offers consumers considerable efficiencies and promises profitable growth opportunities for digital innovators. Bolstered by always-on connectivity and hyper-targeting via social media, consumers spent an estimated $340 billion with US-based e-commerce firms in 2015.[12] That means Internet retailers captured 10% of all US retail sales in 2015, versus less than 2% in 2000. Meanwhile, traditional bricks-and-mortar retailers have been ramping up their online sales to confront growing competition from e-commerce pure-plays. Luxury retailer Neiman Marcus recently reported, for example, that online sales accounted for over 25% of its revenues in 2015, a year-over-year increase of 13%.[13] As more of the mainstream retail activity shifts to online channels, growth for e-commerce firms is accelerating. Data from Kleiner Perkins Caufield Byers, one of the world's leading venture capital firms, shows that many online retailers are

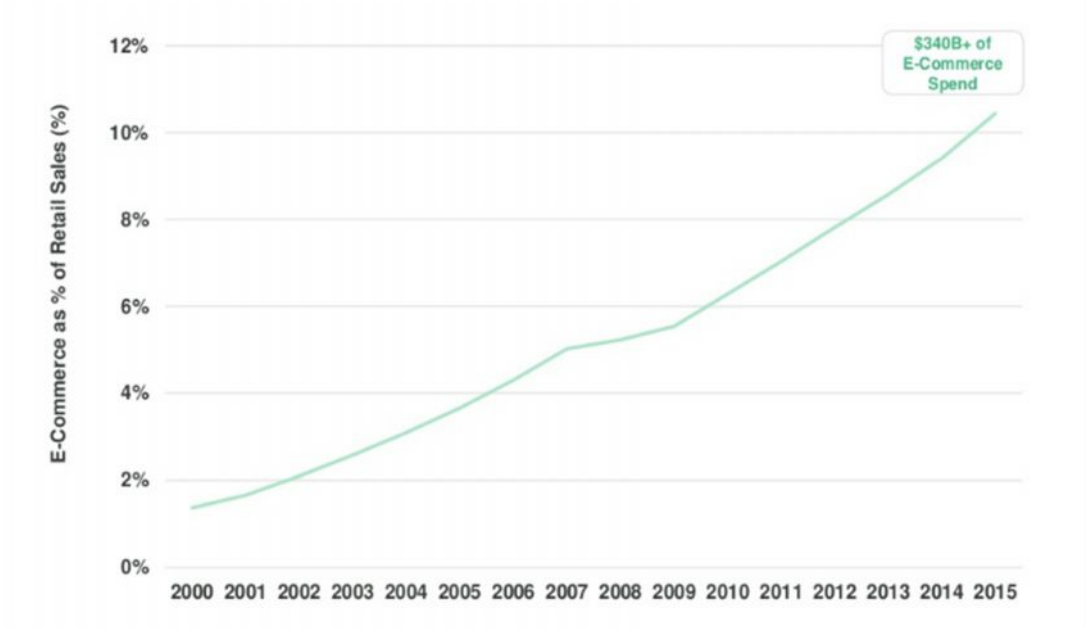
[12] Op. Cit., Kleiner Perkins Caufield Byers.

[13] Matt Lindner, "Online sales account for 25% of Neiman Marcus' revenue," Internet Retailer, September 23, 2015.

achieving $100M in sales in less than 5 years. By comparison it took Nike 14 years to achieve $100M in sales and Lululemon took 9 years.[14]

Figure 3:

E-commerce as a % of total retail sales, USA, 2000 - 2015.



Source: Kleiner Perkins Caufield Byers, 2016 Internet Trends Report, June 2016.

Digitally enabled innovation and growth opportunities are not limited to e-commerce, however. There are possibilities for digital disruption across all sectors – from agriculture and automotive to education and health care – and across many technological domains, including virtual reality, big data, robotics and artificial intelligence.

Robots, for example, have long been a part of manufacturing. Yet, the cost and competency of those robots continues to advance at a rapid pace. Thanks to computer vision and machine learning algorithms, robots, once consigned to carefully controlled tasks, can now function more like human workers. And due to cheap sensors and chips, they are more powerful per dollar. Companies like Flextronics can compete with the Chinese in the production of solar panels with a plant in California because the vast majority of the production process is fully automated. In its state-of-the-art plant—where the assembly line runs 24 hours a day, seven days a week—there are robots everywhere and few human workers. All of the heavy lifting, and almost all of the precise work, is done by robots that string together solar cells and seal them under glass. The human workers do things like trimming excess material, threading wires and screwing a handful of fasteners into a simple frame for each panel.[15]

In the field of artificial intelligence, IBM's supercomputer Watson has recently been deployed in medicine where it can interpret X-rays, analyze a biopsy and diagnose a patient condition. Its diagnoses are not based on the career experience of a single doctor, but on its analysis of an enormous reservoir of medical data. In fact, Watson's ingestion of more than 600,000 pieces of medical evidence, more than two million pages from medical journals and the further

[14] Op. Cit., Kleiner Perkins Caufield Byers.

[15] John Markoff, "Skilled Work, Without the Worker." New York Times, August 18, 2012

ability to search through up to 1.5 million patient records for information, gives it a breadth of knowledge no human doctor can match.[16]

With the Internet of Things, today's dumb infrastructure is increasingly becoming intelligent, enabling managers to measure everything from water and natural gas flows to urban infrastructure, transportation networks and agricultural supply chains. Sensors and RFID tags attached to foodstuffs, for example, can track meat or other agricultural products from the producer all the way to the supermarket shelf.[17] Armed with this data, retailers can ensure the quality of supply, food inspectors can gather better data about potential health risks and consumers can make smarter purchasing decisions. Skyscrapers laden with sensors will regulate lighting and the indoor temperature in accordance with external conditions. Additional sensors will curtail water flow as individual areas of the building approach pre-determined limits.

Many of these technologies play vital role in reducing firm costs and overhead, thus making firms more productive and globally competitive. A study by Dr. Robert Hendershott, a professor at the Leavey School of Business at Santa Clara University, found that the availability of open source tools, cloud computing, and the rise of virtual office infrastructure has driven the cost of launching an Internet venture down from $5,000,000 in 1998, to $500,000 in 2002, to $50,000 in 2014.[18] But even non-tech ventures stand to benefit handsomely from the availability of cloud computing services that require no up-front investment and can scale instantly as business demands. McKinsey estimates that at least one-third of all SMEs make extensive use of cloud technologies, and those that do have benefited tremendously, using new Internet-based services to perform the functions that entire departments once performed for large corporations.[19]

That said, technology's impact on firm-level productivity and competitiveness goes well beyond cost reduction. With the aid of technology, SMEs can now go global from day one, reaching overseas markets and talent pools with a few clicks.[20] Shifting retail operations online, meanwhile, can increase cross-border sales and boost profitability. In the UK, for example, the overall sales of high-and-medium-Web businesses grew by 4.1% annually from 2007-2010 – about seven times faster than the sales of low-and-no-Web businesses. And in many countries, including Germany and France, SMEs that have engaged actively with consumers on the Internet have also experienced three-year sales growth rates up to 22 percentage points higher than those companies in countries with low or no Internet presence.[21]

In fact, evidence suggests that greater adoption of technology by SMEs not only benefits individual companies but also the economy at large through increased job creation, productivity improvements and economic growth. Though policymakers and media commentators have sometimes bought-into the popular narrative that Internet-based business infrastructures and technological automation are harming rather than aiding job creation, the opposite is true. Tech-intensive SMEs not only grow and export twice as much

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16 Ian Steadman, "IBM's Watson is better at diagnosing cancer than human doctors." Wired Magazine, February 11, 2013.

17 Richard MacManus, "IBM and The Internet of Things", ReadWriteWeb (July 22, 2009).

18 Claire Cain Miller, "Do Web Entrepreneurs Still Need Venture Capitalists?" New York Times (May 14, 2015).

19 Matthieu Pélissié du Rausas et al. Internet Matters: The Net's Sweeping Impact on Growth, Jobs, and Prosperity (McKinsey Global Institute, 2011).

20 Ann Mettler and Anthony D. Williams, The Rise of the Micro-Multinational: How Freelancers and Technology-Savvy Start-Ups Are Driving Growth, Jobs and Innovation (Brussels: Lisbon Council, 2011).

21 David Dean et al., The Connected World. The Digital Manifesto: How Companies and Countries Can Win in the Digital Economy (Boston: The Boston Consulting Group, 2012).

as others; they also create twice the number of jobs.[22] Indeed, a detailed review of the French economy over a 15-year period found that while the Internet did indeed destroy some 500,000 jobs, it actually created 1.2 million jobs—a net accumulation of 700,000 jobs in areas ranging from software engineering and online marketing to logistics and parcel delivery.[23]

When businesses invest in ICT, they generate bigger returns on productivity growth than any other form of capital investment. While the returns on other forms of capital investment are about 15% on average, investment in ICT may generate up to 25% of productivity growth.[24] For example, in wholesale and retail trade, a 10% increase in e-sales leads to a 3.1% productivity increase, while in business and financial services, a 10% increase in the number of employees using high-speed broadband raises productivity by 0.9%.[25] Regardless of the sector, however, the most decisive gains in productivity often result from the capacity to use the Internet to conjure up radical new business models, eliminate middlemen and strip out inefficiencies. This kind of creative destruction has always been the most reliable driver of long-term productivity growth—and with the Internet we now have the most powerful platform for creative destruction the world has ever seen.[26]

Taken together, the capacity to increase cross-border sales, turbo-charge innovation, boost productivity and create jobs makes the Internet and other modern communications technologies absolutely pivotal in Europe's quest to accelerate economic growth. Indeed, any recovery strategy that does not take these new realities into account is bound to fail, no matter how great the effort is to build up 'financial firewalls' and better 'economic governance' systems. As the new engine of economic growth in the 21st Century (much like electricity was in the 19th Century or steam power in the 18th Century), ICT offers unprecedented opportunities to dramatically change business models and boost productivity across many different sectors. That is the reason why it is important not to view ICT has an exclusive purview of tech start-ups but rather as an accelerator of all businesses, particularly SMEs, across all economic sectors.

[22] Op cit, Matthieu Pélissié du Rausas et al. Internet Matters: The Net's Sweeping Impact on Growth, Jobs, and Prosperity (McKinsey Global Institute, 2011).

[23] Ibid.

[24] Oxford Economics, Capturing the ICT Dividend: Using Technology to Drive Productivity and Growth in the EU (Oxford: Oxford Economics, 2011).

[25] Wouter Bonte, Filiep Deforche, Wim De Bruyne and Bruno Van Tuykom, Economy.be at the Crossroads: How the Internet is Transforming the Belgian Economy (Boston: The Boston Consulting Group, 2011)

[26] World Startup Report, 2016. https://docs.google.com/spreadsheets/d/1TWhXc4VO4z8kRonPucBX7hEi5dFctY5zqkjfYqXcOD0/edit#gid=0

4. WHY THE DIGITAL SINGLE MARKET IS ESSENTIAL FOR GROWTH AND COMPETITIVENESS

KEY FINDINGS

- European entrepreneurs still face too many stumbling blocks to scaling up their businesses in Europe.
- Although half of European retailers are online, only 21% sell in other member states and those who do limit their exports to a few countries, with the European average being 1.8 territories per company.
- Businesses wishing to carry out cross-border transactions have to adapt to 28 different contract laws, which costs on average Euro 10,000 per export market.
- A handful of important Europe-wide initiatives could eliminate many of the key obstacles to growth and innovation within the e-commerce sector and in the economy at large.

So why is there not more take-up of these technologies and what can policy makers do to create frameworks that will enable speedier adoption and accelerate growth and innovation? As noted in the introduction – and as recognized in the Europe Commission's strategy for the Digital Single Market – European entrepreneurs still face too many stumbling blocks to scaling up their businesses in Europe. Indeed, the following data speaks for itself:

- Although half of European retailers are online, only 21% sell in other member states.[27]
- When a consumer attempts to buy goods from a website located in another EU member state, the transaction will fail 6 out of 10 times. For an item such as computers or electronics the failure rate of the transaction is 8 out of 10 times.[28]
- To the detriment of SMEs, almost one in two consumers (46.7%) said they were not interested in making cross-border transactions because of worries about delivery.[29]
- Businesses wishing to carry out cross-border transactions have to adapt to 28 different contract laws, which costs on average Euro 10,000 per export market.[30]
- 75% of European traders currently do not sell across borders and those who do limit their exports to a few countries, with the European average being 1.8 territories per company.[31]

A handful of important Europe-wide initiatives could eliminate many of the key obstacles to growth and innovation within the e-commerce sector and in the economy at large. These action items have been ranked according to associated economic benefits[32] and group into

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[27] Meglena Kuneva, "A Blueprint for Consumer Policy in Europe: Making Markets Work with and for People," Speech Delivered at the Lisbon Council Roundtable, Brussels, 05 November 2009.

[28] Ibid.

[29] Eurobarometer, "Consumer Attitudes Towards Cross-Border Trade and Consumer Protection. Analytical Report," Flash Eurobarometer 299, March 2011.

[30] Viviane Reding, "A Common Sales Law for the European Union: Helping Start-Ups to driving Growth, Jobs and Innovation," Speech Delivered at the Lisbon Council 2011 Innovation Summit, Brussels, 06 October 2011.

[31] Ibid.

[32] Moritz Immanuel Godel, et. al. Reducing Costs and Barriers for Businesses in the Single Market (Brussels: European Parliament, 2016).

two categories: initiatives that will primarily benefit European consumers by improving their access to digital content and services and initiatives that will reduce compliance costs for enterprises doing business online.

Table 1: Key Initiatives to Create a Digital Single Market for E-Commerce

Consumer-Focused Action Items	Key Benefits for European Consumers
1. Put an end to discriminatory commercial practices such as geo-blocking	Ending practices such as geo-blocking would increase choice for consumers, boost competition and promote entrepreneurial strategies focused on serving the European continent as a whole, rather than a series of fragmented national markets.[33]
2. Lower the cost and increase the reliability of cross-border shipping	Cross border shipping has proven, on average, to be twice as high as domestic shipping and additionally less reliable, slower and more difficult to track. Lowering these costs would benefit both consumers and traders.[34]
3. Accelerate the adoption of high-speed broadband	Despite recent improvements, measures to accelerate broadband adoption outside of core urban centres would alleviate the difficult that many consumers still have accessing fast, reliable and affordable Internet service and thus ensure that as many EU citizens as possible can participate in the digital economy.[35]
4. Promote the creation of standards and interoperability	Interoperability standards will improve cross-border data flows, increase choice and competition among digital service providers and boost the adoption of new technologies in non-ICT sectors.[36]
Business-Focused Action Items	Key Benefits for European Businesses
5. Streamline and simplify national VAT systems	Harmonized VAT systems would significantly reduce the administrative burdens related to fulfilling the unharmonized VAT obligations, such invoicing, completing VAT returns and payment of the VAT due, which is clearly a deterrent to cross-border activitv.[37]

[33] "Geoblocking: Unjustified barrier to the Digital Single Market or legitimate commercial practice?" (Brussels: Centre for European Policy Studies, July 2015).

[34] eBay, Towards Commerce 3.0: Roadmap for Building Sustainable Growth into Commerce (San Jose: eBay, 2012).

[35] European Commission, "Broadband Access in the EU: Situation at 1 July 2011," Working Document COCOM11-24 (Brussels: European Commission, 2011).

[36] http://ec.europa.eu/growth/sectors/digital-economy/ict-standardisation.

[37] European Commission, "A Coherent Framework for Building Trust in the Digital Single Market for E-Commerce and Online Services," Communication (2011) 942 (Brussels: European Commission, 2012).

6. Establish a single European contract sales law	A single contract law would be a vast improvement over the current patchwork of 28 different legal systems, in which traders must respect not only the rules in its country of establishment but also the rules that apply in the country where the consumer is resident.[38]
7. Modernize and harmonize copyright laws	Modernizing and harmonizing copyright laws would reduce differences between national regimes and create an intellectual property rights regime that balances the need to remunerate creators with the desire to promote wider online access to creative works by users across the EU.[39]

The European Commission has made a compelling case that these initiatives, taken together, would contribute to the creation of a more a coherent digital single market that would unlock digital opportunities.[40] Indeed, a true digital single market would not only significantly boost cross-border e-commerce, it is also essential for the modernization of the overall economy, including the many companies and sectors that don't have ICT at the core of their business model but are nevertheless dependent on a world-class digital infrastructure to be successful and competitive.

A couple of cautionary remarks are worth noting, however, with respect to the implementation of the digital single market strategy. The first is that the global market for digital services is evolving very rapidly, with new and existing companies making significant investments in bringing new products and services to market. As such, Europe cannot afford protracted delays in bringing the digital single market to fruition. Nor can it afford to water down reforms in the interest of political expediency. To proceed with anything less than the greatest urgency will only further handicap European entrepreneurs at a time when competition for digital leadership is intensifying, especially with the rise of highly-competent global Internet companies in China.

Yet, the strategy proposed by the European Commission is complex and multi-faceted. There is a significant risk of inertia given the need for various legislative proposals to receive adequate consideration in the European Parliament and for member nations to implement reforms. Incumbents and vested interests will inevitably lobby against changes that threaten their commercial interests. Given the depth and scope of the reforms set out in the Commission's strategy, Europe's political leaders will need to be united in moving the agenda forward and highly-persuasive in communicating the benefits of the Digital Single Market to European citizens and stakeholders.

[38] Op.cit., Reding.

[39] https://ec.europa.eu/digital-single-market/en/copyright.

[40] Digital Single Market: Bringing Down Barriers to Unlock Online Opportunities, (Brussels: European Commission, May 2016). http://ec.europa.eu/priorities/digital-single-market_en.

5. UNLEASHING EUROPE'S ENTREPRENEURIAL POTENTIAL

KEY FINDINGS

- High-growth firms as those with average annualized growth (revenue or employment) of greater than 20% per year for a minimum three-year period, having begun with a minimum of 10 employees or more.
- Despite constituting a small share of the total population of firms in mature economies (typically between 3 and 6%), high impact firms account for the majority of revenue growth and contribute upwards of 50 percent of net employment growth.
- A growing body of research suggests the most intractable challenges in creating high-impact firms are related to the ability of firms to access a full spectrum of risk capital, acquire anchor customers and attract the sophisticated management talent to lead key corporate functions, especially go-to-market capabilities such as international sales, marketing and business development.
- Europe's digital policy agenda must not only prioritize much needed regulatory reforms, but also establish the entrepreneurial building blocks to enable its highest-potential companies to grow beyond Europe's borders and become the significant global employers of tomorrow.

Policymaking around the Digital Single Market focuses heavily on regulatory modernization and harmonization with the expectation that fewer barriers to cross-border commerce will enable the creation of a European equivalent to Google or Apple. Without taking away from the importance of these efforts, two observations ought to be made: the weak link in most mature economies is not an underperformance in the creation start-ups but a failure of the vast majority of companies that already exist and which are struggling to realize the full potential of the digital age. A corollary is that market fragmentation and regulatory barriers in Europe, while regrettable and problematic, are not the most significant hurdles that entrepreneurs face in building viable growth companies. Indeed, a growing body of research suggests the more intractable growth challenges are related to the ability of firms to access a full spectrum of risk capital, acquire anchor customers and attract the sophisticated management talent to lead key corporate functions, especially go-to-market capabilities such as international sales, marketing and business development.[41]

Creating an integrated market for digital commerce and services is, in other words, a necessary but insufficient condition for boosting the growth of Europe's digital sector. On one hand, a single market creates the potential for entrepreneurial firms to achieve significant scale within Europe's border, in the same way that American firms enjoy the benefits of having access to in excess of 300 million consumers. Regulatory fragmentation along national lines, along with discriminatory business practices such as geo-blocking, create serious obstacles to cross-border commerce and will only serve to hamper the growth of European digital champions who can compete on a global basis.

[41] See for example: http://www.nesta.org.uk/project/high-growth-firms and http://deepcentre.com/billiondollarfirms/do-accelerators-and-incubators-make-a-difference.

On the other hand, Europe also needs to place greater attention on a variety of entrepreneurial building blocks that will facilitate the creation of the next generation of high-growth firms—firms with the capabilities to use Europe's digital single market as a launching pad for truly world-changing technologies and companies. This means focusing on enriching Europe's business ecosystem with an ample supply of capital, talent and well-coordinated supports, as well as establishing a regulatory framework with fewer barriers, affordable parcel delivery and harmonized rules and tax structures. After all, Europe will not realize the full benefits of eliminating barriers to cross-border commerce if, in reality, few of its firms can acquire the capital, management talent and market sophistication required to reach scale without relocating their operations to leading tech-hubs such as Boston, New York or Silicon Valley.

The OECD defines high-growth firms as those with average annualized growth (revenue or employment) of greater than 20% per year for a minimum three-year period, having begun with a minimum of 10 employees or more.[42] Despite constituting a small share of the total population of firms in mature economies (typically between 3 and 6%), the importance of this demographic of firms cannot be underestimated given that they account for the majority of revenue growth and contribute upwards of 50 percent of net employment growth.[43]

Stimulating the development of high-growth firms has thus become part and parcel of the Silicon Valley Consensus that frames much of the world's economic development agenda. This consensus builds on the understanding that innovation economy jobs - notably in the technology sector – have a significant multiplier effect and support up to five jobs elsewhere in the economy. As Enrico Moretti, author of the New Geography of Jobs and professor at the University of California, notes, "the halo effects are large because sectors like the digital economy are labour-intensive, well-paid, and tend to cluster – amplifying the benefits for those cities with clusters of innovation jobs."[44] Put simply, the well educated and well paid innovators have myriad demands in the marketplace – doctors, hairstylists, lawyers, stockbrokers, restaurants – such that their success leads to the creation of lots of high-paying service work.

For Europe to promote its future economic prosperity through the further development of high-tech jobs, firms and clusters, policymakers need to offer concrete solutions for unleashing Europe's entrepreneurial potential. Among other things, this will require entrepreneurial support systems (including business incubators and accelerators) to place less emphasis on the creation of startups and more emphasis on scale-ups. It means promoting greater partnership activity between tech startups and European multinationals that can act as anchor customers and open up access to global value chains. There will need to be better engagement with venture and angel investors who can unleash the capital and transaction activity required to help firms scale. High-potential companies must be encouraged to gain international exposure early and should have easy access to the export supports required to tap Asian and North American markets. Europe must also attract highly skilled immigrants and invest in the creation of a healthy roster of European management talent with the specialized skill sets required to take help Europe's cadre of brilliant technical founders build large, sophisticated businesses with the enterprise capabilities to serve a truly global market.

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[42] David B. Audretsch, "Determinants of High-Growth Entrepreneurship," Report prepared for the OECD/DBA International Workshop on High-Growth Firms: Local Policies and Local Determinants, Copenhagen, 28 March 2012.

[43] "High-Impact Firms: Gazelles Revisited," U.S. Small Business Administration, July 2011.

[44] Enrico Moretti, The New Geography of Jobs (Boston: Houghton Mifflin Harcourt, 2012).

Table 2:

A To-Do List for Building Digital Scale-up Capacity in Europe

Action Item	Key Benefits
1. Develop scale-up programs to direct capital and expertise to a smaller number of maturing/proven digital companies.	Developing Europe-wide scale-ups programs will bolster Europe's highest potential companies by providing the integrated and tailored supports (including capital and other resources) to help them evolve into global technology champions.
2. Improve access to sophisticated management talent with measures such as a) specialized work visas, b) temporary matching grants for executive salaries and c) European business mentorship networks.	Boosting the supply of top management talent will ensure entrepreneurial firms can attract the experienced executives required to lead key corporate functions, especially go-to-market capabilities such as international sales, marketing and business development.
3. Boost access to capital by providing continued support for the European Investment Fund's investments into business angels, VCs and mezzanine growth funds.	Augmenting the investment resources available to VCs and business angels will improve access to the full spectrum of growth capital European entrepreneurs require and lessen their need to seek capital in the United States.
4. Facilitate greater corporate engagement in local startup ecosystems across Europe, including corporate investments in business incubators, accelerators and innovation hubs that nurture the creation of digital companies.	Brokering partnerships between corporations and startups will offer large companies access to talent and innovation and give startups access to capital, expertise, anchor customers and global value chains.
5. Develop digitally focused export development strategies, including export financing, soft landing programs, regulatory advice and localization services that will promote global engagement by European firms.	Building the capacity to export beyond Europe's borders will enhance the growth prospects of European firms by enabling them to tap into Asian and North American markets.
6. Increase investments in digital government to streamline access to valuable business support services, enable inter-jurisdictional collaboration, and create an efficient business environment that attracts inward investment.	Shifting to digital government will not only reduce transaction costs and administrative burdens for firms, the process of digitizing government services can also unlock significant procurement opportunities for SMEs.

7. Intensify efforts to track, disseminate and adopt cutting edge practices, both in the public and private sectors to ensure that Europe keeps pace with the rapid evolution of digital technologies and markets around the world.	Tracking the rapid evolution of digital technologies and markets will enable faster pivots by policymakers and entrepreneurs seeking to tap emerging opportunities. A higher economic metabolism, in turn, can help allocate talent and capital to winning firms, institutions and ideas.

Without a focus on these remaining challenges, Europe's startup ecosystem will be unable to fully exploit the tremendous entrepreneurial activity that the digital revolution has helped to create. While digital entrepreneurship in and of itself is a valuable activity, especially given prevailing labour market trends, it remains an intermediate step towards the ultimate goal of creating sustainable high growth firms that can drive economic and employment growth. For Europe to become a creator of global technology champions, and for Europeans to enjoy the prosperity that can accompany such success, Europe's digital policy agenda must not only prioritize much needed regulatory reforms, but also create the enabling conditions to allow its highest-potential companies to grow beyond Europe's borders and become the significant global employers of tomorrow.

6. CONCLUSIONS AND RECOMMENDATIONS

In summary, there are two overarching economic policy priorities required to realize the full potential of a Digital Single Market in Europe and a series of critical action items underpinning each priority.

3. Europe must act collectively, and with greater urgency, to bring the digital single market to fruition. The costs of inaction are high, not only in nominal terms, but also in lost opportunities for future prosperity and job creation if Europe falls further behind China and the United States in the creation of global digital champions. The greatest risks are that proposals for reform will be watered down to protect vested interests and, furthermore, that the pace of reform will be too slow in relation to the rapid evolution of digital technologies and markets. As things stand, too many priorities in the policy programme outlined by the European Commission are vaguely defined, have uncertain timeline and are subject to reviews and consultations that could further encumber the reform process. Greater attention to prioritizing action items and crystallizing legislative proposals could expedite the process.

   As detailed in section 4, the critical action items for completing the digital single market are as follows:

   a. Putting an end to discriminatory commercial practices such as geo-blocking.

   b. Lowering the cost and increasing the reliability of cross-border shipping.

   c. Accelerating the adoption of high-speed broadband.

   d. Promoting the creation of standards and interoperability.

   e. Streamlining and simplifying national VAT systems.

   f. Establishing a single European contract sales law.

   g. Modernizing and harmonizing copyright law.

4. Europe must invest to strengthen the entrepreneurial capacity of high-potential firms, ensuring that firms can access the capital, management talent and well-coordinated supports required to not only operate across Europe, but compete head-to-head in global markets as well. The need to strengthen entrepreneurial capacity is almost entirely overlooked in the current strategy for the Digital Single Market. And although boosting entrepreneurial capacity will not, in itself, further the creation of a single market, measures that increase the competencies and competitiveness of digital firms are absolutely required to ensure that a greater proportion of firms have the capacity to serve a diverse market of 500 million consumers. In the end, these high growth firms will be the essential drivers of European growth and job creation in the years and decades to come.

   As noted in section 5, the critical action items for strengthening entrepreneurial competencies and building scale-up capacity are as follows:

   a. Developing European scale-up programs.

   b. Improving access to sophisticated management talent.

   c. Boosting access to growth capital.

   d. Facilitating greater corporate engagement in local start-up ecosystems.

e. Developing digitally-focused export strategies.

f. Increasing investments in digital government.

g. Intensifying efforts to track, disseminate and adopt global best practices.

Strong, sustained economic growth in Europe depends on the ability of public and private sector leaders to work together to deliver on this digital "to-do" list, with the aim to unleash entrepreneurial energies and build a new foundation for jobs and prosperity. Simply put, the European economy needs a greater proportion of its large cadre of digital enterprises and e-commerce start-ups to morph into high-growth firms with the potential to expand and reach scale. Achieving this goal will require not only a continuous stream of new ideas capable of being commercialized and more capable entrepreneurs who can launch, nurture and scale new twenty-first-century companies; it also requires fewer roadblocks and better infrastructure to support the growth of existing enterprises—enterprises that might otherwise remain too small and unproductive to make a meaningful contribution to net job creation and growth. As is often said, SMEs are the backbone of the European economy. Assisting these enterprises in becoming bigger, more profitable and competitive, able to utilize the full potential of Europe's single market of 500 million consumers, is perhaps one of the most promising ways to secure a prosperous future for all European citizens.

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CAT: QA-04-16-685-EN-C (paper)
CAT: QA-04-16-685-EN-N (pdf)

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PHOTO CREDIT: iStockphoto.com; Shutterstock/beboy

ISBN 978-92-823-9877-7 (paper)
ISBN 978-92-823-9878-4 (pdf)

doi:10.2861/207249 (paper)
doi:10.2861/818623 (pdf)

Publications Office

Boosting E-Commerce in the Digital Single Market: A Foundation for European Growth and Competitiveness