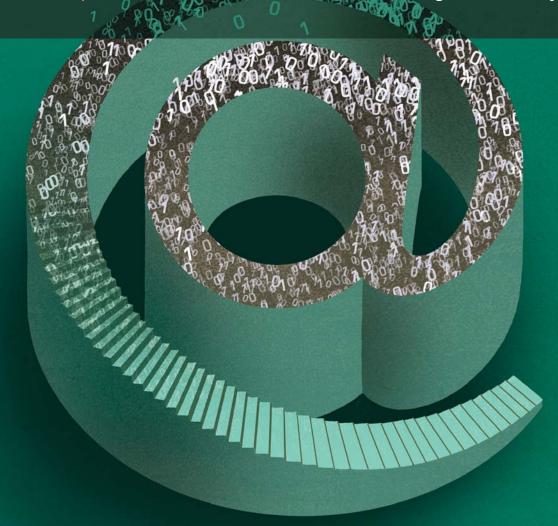


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THE CONNECTED WORLD

# The Digital Manifesto How Companies and Countries Can Win in the Digital Economy



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THE CONNECTED WORLD

### The Digital Manifesto

How Companies and Countries Can Win in the Digital Economy

#### AT A GLANCE

The Internet is driving economic growth and job creation, contributing up to 8 percent of GDP in some nations. In order to win in this new world, all companies need to strengthen their "digital balance sheets."

#### A SHIFTING CENTER OF GRAVITY

The Internet has moved from fixed to ubiquitous access, from developed to emerging nations, and from a passive medium to a participatory one.

#### THE INTERNET MEETS MAIN STREET

As the Internet becomes ubiquitous, it becomes ingrained in the economies of individual nations, reflecting their structure and social norms.

#### THE CEO'S AGENDA

Executives need to create an adaptive approach to strategy, manage legacy businesses while creating new ones, and develop new capabilities.

#### THE POLICYMAKER'S AGENDA

Governments need to let market forces work and intervene only when they can play a necessary and constructive role.

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VERY BUSINESS NEEDS TO "go digital." Data about customers, competitors, suppliers, and employees are exploding. Ninety percent of all data were created in the past two years. By 2016, there will be 3 billion Internet users globally, and the Internet economy will reach \$4.2 trillion in the G-20 nations.

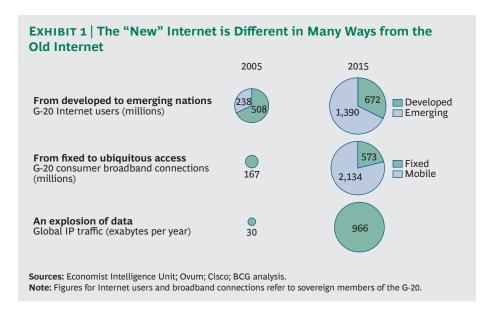
No company or country can afford to ignore this phenomenon. The fact is that we have entered the "second half of the chessboard," where the scale and speed of change are indelibly altering industry structures and the way that companies do business.<sup>2</sup> Farsighted companies, even ones in traditional industries, can separate the signals from the noise and create new sources of advantage by going digital.

The "new" Internet is different in many ways from the old Internet. (See Exhibit 1.)

- Its center of gravity is shifting. The Internet has become interactive and participatory. It is moving from fixed access to ubiquitous access. No longer limited to developed markets, it is growing by leaps and bounds in emerging markets, as well. And these countries are increasingly driving innovation.
- It is now an "Internet of everything." IBM predicts that 1 trillion devices will be connected to the Internet by 2015. The Internet of everything can radically change the ways companies interact with customers and run their supply chains. It also allows new entrants to attack the foundations of traditional industries.
- It is about ecosystems. The Internet is increasingly being shaped by ecosystems orchestrated by companies such as Amazon, Apple, Facebook, and Google, but also by companies such as Baidu and Tencent in China and Yandex in Russia.
- It is generating tremendous economic value. Across the G-20 nations, the Internet economy amounted to 4.1 percent of GDP, or \$2.3 trillion, in 2010, larger than the economies of Italy or Brazil. In some leading economies, it is contributing up to 8 percent of GDP, powering economic growth and creating jobs.
- It has gone local. The Internet experience has become an ingrained feature of everyday life, reflecting national characteristics as well as economic, political, and social influences specific to individual countries.
- A new generation has grown up on the Internet. The "Millennials" have vastly different expectations as employees, consumers, and citizens. The Arab Spring

The scale and speed of change are indelibly altering industry structures and the way that companies do business.

protests and grass-roots "occupy" movements in the West are only the most visible manifestations of the power of the Millennials to shape society and commerce.



These developments have consequences for companies and policymakers alike.

- Companies need to understand and strengthen their "digital balance sheets." In an increasingly digital world, companies need to build their digital assets and reduce the digital liabilities, often organizational, that limit their ability to tap rich opportunities.
- Many companies require a digital transformation. Most will need to improve their
  people, processes, and organizational structures and adapt them to the digital
  world. Given the rapid pace of change and the intensity of competition, they will
  need to move away from long-term planning cycles and toward adaptive strategy
  setting.
- *Governments can help shape the digital economy.* They can support policies related to investment, innovation, education, consumer protection, and privacy. In many areas, they should recognize that a hands-off approach is the best option.

More than 15 years after the rallying cry was first heard, the Internet really is "changing everything." As Walter Wriston, the legendary leader of Citibank, said in the 1980s, "Information about money has become almost as important as money itself." That is true for every business today.

#### The Big Picture

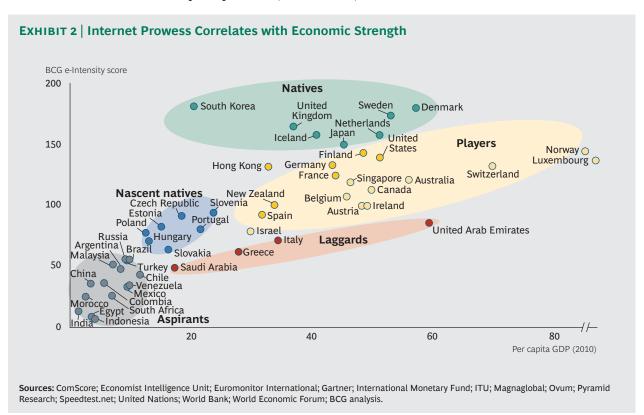
The Internet is for real. In many countries, it has become both a vital economic force and a driver of growth. In 2010, it contributed up to 8 percent of overall GDP

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in some of the leading G-20 nations. While the size of the Internet economy is much smaller in emerging markets, many of these countries are making big investments in broadband infrastructure that will pay future dividends.

The Internet also conveys sizable economic benefits that do not get captured directly by calculations of GDP. In the G-20 nations in 2010, consumers researched online but purchased offline more than \$1.3 trillion in goods—the equivalent of about 7.8 percent of consumer spending in those nations. In addition, in many leading G-20 nations, the Internet generated a consumer surplus of about 4 percent of GDP. (This consumer surplus is the value that consumers place on the Internet above what they pay for it in device, application, and access costs for everything from live streaming coverage of the Arab Spring and Justin Bieber videos to e-mail and video chats.) Further economic benefits include business-to-business e-commerce and collaboration within and across companies.

Not all countries, however, are created equal. The BCG e-Intensity Index provides a picture of the depth and reach of digital activity across countries. It measures a nation's level of enablement (the amount of Internet infrastructure that it has in place), expenditure (the amount spent on online retail and online advertising), and engagement (the degree of involvement of businesses, governments, and consumers with the Internet). Big differences were apparent among the 50 countries we examined, with five clusters emerging according to their performance on the index in absolute terms and relative to per capita GDP. (See Exhibit 2.)



But it takes more than a strong broadband infrastructure to become a "native"—one in the top cluster of countries—on the BCG e-Intensity Index. Investments in fixed and mobile infrastructure need to be accompanied by other strengths, such as a favorable regulatory environment, strong payment systems, consumer protection for e-commerce transactions, and a willingness on the part of governments, businesses, and consumers to go online.

While the basic macroeconomic story provided by the e-Intensity Index gives a broad overview of the economic punch and prospects of the Internet, the view is more nuanced at the intersection of microeconomics and human behavior—that is, in terms of the ways in which companies and consumers are using the Internet. It is a scene of rapid change, disruption, uncertainty, and potential. Companies have a once-in-a-lifetime opportunity to reinvent everything about the way they do business.

#### A Shifting Center of Gravity

Twenty years ago, at the Internet's commercial birth, its use was restricted to the relatively wealthy. Today it is almost literally everywhere. Residents of many villages around the world are more familiar with Internet content than with indoor plumbing or air conditioning. By 2016, 3 billion consumers, or 45 percent of the world's population, will use the Internet.

This shift from a luxury good to an ordinary good is one of just several changes under way as the Internet matures and becomes fully embedded in everyday life.

**From Fixed to Ubiquitous Access.** When the Internet gained popularity in developed nations, users accessed it through and viewed it as an adjunct to the PC. No longer. Increasingly, the Internet is everywhere—not just on mobile phones but also in cars, refrigerators, and watches. In emerging markets, in particular, most consumers are more familiar with a mobile than with a landline phone. By 2016, mobile devices will account for about 80 percent of all broadband connections in the G-20 nations.

From Developed to Emerging Nations. Emerging markets have become a major engine of online commercial activity. The Internet economy of China will approach the size of the U.S. Internet economy in 2016. In China, consumer-to-consumer transactions through online marketplaces are also sizable. These "resales" are not part of official GDP calculations but nonetheless have big ramifications for brands and retailers.

By 2016, China will have nearly 800 million Internet users, about the same number as France, Germany, India, Japan, the U.K., and the U.S. combined. Emerging nations will be responsible for about 34 percent of the overall Internet economy of the G-20 nations and for 48 percent of their growth.

**From Passive to Participatory.** Social media have taken hold everywhere, especially in emerging markets. Indonesia has the second-largest number of Facebook users. More than 90 percent of Internet users in Argentina, Brazil, and Mexico

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participate in social media, a higher percentage than in any developed nation. Across all nations, social media are responsible for most of the new time spent on the Internet—22 percent of total Internet minutes. Some are predicting the death of e-mail, since Millennials prefer the instantaneous nature of messaging and social media.

Consumers have far more power than before, and companies will need to discover ways to meaningfully engage with them. The shift to a participatory Web fundamentally changes the nature of companies' interactions with customers, from messages delivered to passive recipients to conversations conducted in real time.

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#### The Internet Meets Main Street

As the Internet becomes ubiquitous, it naturally takes on the contours of the particular nation's economy, reflecting its structure and norms. Just as the ocean looks very different depending on whether you are at the coast of Maine, Mexico, Morocco, or Malaysia, so too does the Internet.

The Evolving Local Experience. As a tangible presence in national markets, the Internet can help enhance the strengths and overcome the structural weaknesses of the traditional economy.

The U.K., for example, has become a nation of digital shopkeepers, but the Netherlands has not, even though the fixed-broadband infrastructure is much stronger there. The reason: the Dutch are light credit-card users. The Czech Republic has a relatively strong e-commerce market, reflecting the poor retail experience in its physical stores. Hong Kong, which also has a strong Internet infrastructure, has relatively weak business-to-consumer activity because traditional merchants in this densely populated "shoppers' paradise" have an easier time holding on to nearby customers.

India's relatively small e-commerce market, on the other hand, is hampered by the nation's poor distribution network, but dating and online betting sites are highly popular. It is easier to make a payment using a mobile phone in Kenya than in Kansas. Kenya is unencumbered by the infrastructure, regulations, and inertia that hamper mobile payments in developed markets, and consumers are eager to access banking services.

In China, the shortage of television programming and weak enforcement of intellectual property laws have made the Internet a prime vehicle for entertainment. About 83 percent of Internet users listen to music online, compared with 34 percent in the U.S.; 76 percent watch videos online, compared with 68 percent in the U.S. Moreover, the nation's one-child policy encourages the use of chat rooms and social networking among young people with no siblings at home.

In emerging markets, social media are the Internet medium and mobile is the access medium of choice. Consumers have leapt past e-mail, portals, and the other stages of the Internet experience in much the same way that they jumped straight to mobile phones, bypassing landlines altogether. Straight to social and mobile-only

access are powerful new trends that are most prominent in emerging markets but are also prevalent among young consumers in developed markets.

The Retail Experience. Online purchases will account for more than 20 percent of retailing in the U.K. and between 8 and 12 percent in other leading economies by 2016. But online retail is affecting the shopping experience in all nations, even those without a large e-commerce footprint. By allowing businesses and consumers to conduct fast and high-quality interactive research, it is creating better-informed shoppers and improving the offline shopping experience as well. For example, the online tools at Ikea's website allow shoppers to see how a piece of furniture will actually look in their home.

#### A Digital Future

The world is rapidly becoming populated by companies of all shapes and sizes that have the Internet in their DNA and have built up strong digital balance sheets. They are Main Street's version of Amazon.com. For example, Wiggly Wigglers, a U.K. organic-garden-supply shop, and Hiwave Dry Seafood, a Hong Kong vendor, were founded prior to the creation of the commercial Internet and figured out how to thrive on it. The services industry is not immune either: Open English, a company "born in the cloud," teaches English to Latin Americans. All three are companies in traditional categories that are comfortable seeing the world as their marketplace, creating an online brand and presence, analyzing data patterns, using apps in the cloud, and taking advantage of the network effects that accrue to companies that build a loyal customer base early.

**Small Is Beautiful.** Many smaller companies, which do not have the advantages of scale and market position but can innovate more quickly, are leading the way. Small and medium enterprises (SMEs), historically the growth engine of national economies, are also becoming Internet successes. Over the last 18 months, BCG has surveyed employees at more than 15,000 companies with fewer than 250 employees in the world's biggest economies (in the U.S., the cutoff was 500 employees). We divided the survey respondents into four groups: high Web, medium Web, low Web, and no Web.<sup>3</sup>

The Internet is driving sales and job growth at these companies. In the U.K., the overall sales of high- and medium-Web businesses grew by 4.1 percent annually from 2007 through 2010—about seven times faster than the overall sales of low- and no-Web businesses. In Hong Kong, 79 percent of high- and medium-Web businesses reported higher sales over the past five years, compared with 63 percent of no-Web businesses.

In the U.S, high- and medium-Web businesses expect to grow by 17 percent over the next three years, compared with 12 percent for their low-Web and no-Web counterparts. High- and medium-Web businesses have also increased the size of their workforces to support their Internet operations over the past three years, an otherwise dire period for job growth in the developed economies.

One of the most interesting findings is that in most nations, high-Web businesses tend to engage their workforces more broadly than their low-Web peers. Employees

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other than owners and founders at these companies have a much greater ability to introduce new online services and initiatives. From flower shops to restaurants to real estate operations, SME owners who do not feel comfortable with technology themselves look to their employees to help them build a social-media presence and exploit online business opportunities.

SMEs are rapidly adopting social-media tools to increase the richness of their interactions with customers and employees. Over 40 percent of these businesses in the U.S. and the U.K. report using social-media tools. Among high-Web businesses, 60 percent use social media as a source of new ideas from customers, and more than 45 percent have created social-networking groups.

**Digital Champions.** Some large companies, too, have figured out how to thrive in the digital world. In many of its markets, Tesco is the leading retailer, with the traditional advantages of infrastructure, brand, locations, and distribution. In South Korea, however, Tesco was trailing the market leader, E-mart, in sales and number of stores. So it turned to the Internet to design an innovative strategy. It created virtual shops in subway stations—billboards designed to replicate the look of store shelves, down to the arrangement of products. With their mobile phone, commuters can scan the QR code of any item on display, buy it, and have it delivered to their homes that day. These virtual displays enabled Tesco to turn the time spent waiting for a train into shopping time—and become South Korea's number-one online supermarket and its second-largest supermarket overall.

China's Tencent has a broad portfolio of Internet services, but it is known mainly for its messaging service, QQ, which offers its more than 700 million users games and opportunities to purchase virtual goods. Its success, however, is built on more than just a fad. Tencent is relentlessly focused on understanding consumers and delivering services that are in demand. It has tailored its products to the specific interests, needs, and usage profiles of Chinese Internet consumers. It has recognized local trends, such as the popularity of instant messaging and social networking, and the unmet demand for online and home entertainment in a nation where television penetration is still low. By following a deliberate strategy to build traffic, create stickiness, and then generate revenues, Tencent has become the number-two global leader in creating shareholder value over the past five years.

Many companies not under immediate threat are nonetheless taking steps to use the Internet to their advantage. In emerging markets, traditional companies wanting to build their online retail presence are creatively overcoming constraints. In Mexico, for example, 7-Eleven stores allow offline payment for online purchases. In China and India, cash on delivery is becoming a standard form of payment in online transactions. In Argentina, where poor roads and heavy congestion make home delivery difficult, Wal-Mart limits deliveries to the immediate neighborhood surrounding its stores and encourages store pickup of online purchases.

Burberry, a British fashion house founded in 1856 that allocates 60 percent of its marketing budget to digital initiatives, has generated a boost in sales through such efforts. It broadcasts live 3D video streams of fashion shows in its stores and on the iPad. Shoppers can order clothes before they are available on store shelves. When

QR codes enabled Tesco to become South Korea's number-one online supermarket and its second-largest supermarket overall.

Burberry recently launched a new fragrance, Body, it received 225,000 requests for samples through Facebook.

**Industry Disruption.** Many industries have been and will be disrupted by the Internet. While posing challenges, disruption can also create opportunities. For example, over time and to varying degrees, record companies have discovered how to live in the digital world. Universal Music, the largest record label, has diversified away from recorded music. A material portion of its revenue now comes from merchandising, licensing, ticketing, touring, e-commerce, and digital-music partnerships.

In financial services, the proliferation of smart cards, debit cards, and mobile payments is creating rich veins of intelligence about consumer behavior.

Health care is an industry that could be ready to experience the disruptive force of the Internet. It took \$300 million and 13 years to map the first human genome. Now, less than ten years later, the cost is only \$3,000, and every five months it is cut in half. Soon the cost to fully sequence a human genome will be \$100. But unlocking the causes of illness and developing cures do not depend only on falling perunit costs. The health care industry also needs to mine and combine genomic data and to synthesize this information with medical records and data about costs and patient outcomes. If the leading health-care and insurance providers fail to figure out how to deliver better diagnoses, medicines, and treatments—and better value in the process—an attacker certainly will.

The same type of information explosion is occurring in financial services, where the proliferation of smart cards, debit cards, and mobile payments is creating rich veins of intelligence about consumer behavior that are waiting to be tapped. Likewise in the utility industry, smart meters and connectivity between the grid and the Internet are creating an environment in which information about energy usage is almost as important as energy itself.

#### The CEO's Agenda: Building the Digital Balance Sheet

Companies need to start strengthening their digital assets:

- Information and analytics about customers, suppliers, employees, and competitors
- Connectivity and feedback loops that lubricate the digital enterprise
- Intellectual property that bestows a competitive digital advantage
- The people, culture, and capabilities needed to execute and deliver

At the same time, companies should actively address their digital liabilities—ways of working that handicap the ability to exploit their digital assets:

- Organizational structures, incentives, and cultures that collectively discourage adaptability and risk taking
- IT systems, processes, and tools that limit flexibility and focus
- Rigid strategies unsuited to a volatile business environment

By understanding their digital balance sheets, executives will acquire a solid sense of what needs to be done. The following three levers will help companies build their digital equity.

**Take an adaptive approach to strategy.** Strategy is necessarily specific to the individual company. There is no universal digital strategy for retailers, mining companies, utilities, and heavy-equipment manufacturers, but there is a better way to think about and create strategy in the digital age that applies to all companies. While the strategic concepts of scale, segmentation, and cost position remain valid, the traditional way of looking at those concepts—in terms of three- to five-year planning cycles—is out of date.

Companies need to recognize the unpredictability of today's environment and devise a strategic approach that values real-time data analysis and experimentation. They need to recognize relevant patterns in the data, leverage these insights to make operational interventions in real time, and continuously adjust and reinvent their business model. They also need to be able to quickly enter, scale up, or scale down new businesses in diverse industries when opportunities emerge or when experiments do not pan out.

Run forward and walk backward. To build equity on their digital balance sheets, most companies will need to run forward into the future while walking backward away from their traditional businesses. The transformations involved may take years, but senior leaders do not have the luxury of time to demonstrate results. They face pressure from their boards, their investors, and their employees to show tangible progress quickly. They also face pressure not only from disruptors but also from customers who, through the Internet, have the ability to tap into alternative suppliers.

The traditional way of looking at strategy— in terms of three- to five-year planning cycles—is out of date.

Executives need to operate at two speeds, simultaneously managing their legacy businesses and building the foundations for the future in wholly new areas. One of the supreme challenges of digital transformation is achieving these two very different but complementary goals. Successfully running forward and walking backward requires hard choices, such as those involved in delayering the organization. By flattening the pyramid of their legacy businesses, executives can improve speed, accountability, and decision making as required in the digital era.

**Develop capabilities, an organization, and a culture aimed at building digital equity.** Given the complete change in business model, skill sets, and risk profile that is required, digital transformations require focus, commitment, and engagement throughout the organization.

Leaders must change the mindset of the senior leadership team—and possibly the composition of the team itself—if they want to change the organization. It may also be necessary to establish partnerships, alliances, and collaborations with suppliers, customers, and even competitors. Leaders need to create a culture of experimentation so that employees feel comfortable rapidly testing ideas that challenge orthodox approaches to innovation.

#### The Policymaker's Agenda: Keeping the Internet Moving

In developed countries, the Internet can support a return to economic growth. In emerging economies, it creates the potential for enormous economic and social development. But the growth of the Internet economy is not a foregone conclusion. Our projection of a \$4.2 trillion Internet economy among the G-20 nations by 2016 is grounded in analysis but also assumes that governments will not take actions that impede progress.

In setting policies, governments should be guided by what is needed to encourage growth, innovation, and consumer choice rather than by dogma. In most areas, governments should let the market sort out the winners and losers, but it does have a constructive role to play:

- Promoting investment in expanded coverage, high-speed infrastructure, and affordable mobile-Internet access
- Putting a priority on education and skills building
- Encouraging innovation and entrepreneurial activity
- Facilitating global talent mobility so that the most valuable employees can go where their skills can be put to the best use
- Keeping a vigilant eye on emerging chokepoints that hinder innovation and the adoption of new technologies

We are still only at the beginning of realizing the benefits of the Internet for consumers, businesses, and society. These benefits are built on competition, consumer choice, and access. In an age of mobile capital and talent, the countries that foster these policies will see the fastest growth and greatest payback.

#### NOTES

- 1. The Group of 20 major economies comprises Argentina, Australia, Brazil, Canada, China, the EU, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the U.K., and the U.S.
- 2. The second half of the chessboard is a metaphor for the point at which exponential growth begins to have a fundamental economic impact on an organization's overall business strategy. It refers to an ancient fable in which one grain of rice is placed on the first square of a chessboard, two grains on the second, and so on, doubling the grains of rice on each subsequent square. The sixty-fourth square would have 2 billion times more rice than the first half of the chessboard. The entire board would contain a mound of rice the size of Mount Everest. The recent book *Race Against the Machine*, by Erik Brynjolfsson and Andrew McAfee, has popularized the phrase.
- 3. High-Web companies use a wide range of Internet tools to market, sell, and support customers, interact with suppliers, and empower employees; medium-Web businesses market or sell goods or services online; low-Web businesses have a website or a social-networking site; no-Web businesses do not have a website.

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#### **About the Authors**

**David Dean** is a senior partner and managing director in the Munich office of The Boston Consulting Group. You may contact him by e-mail at dean.david@bcg.com.

**Sebastian DiGrande** is a partner and managing director in the firm's San Francisco office. You may contact him by e-mail at digrande.sebastian@bcg.com.

**Dominic Field** is a partner and managing director in BCG's Los Angeles office. You may contact him by e-mail at field.dominic@bcg.com.

**Paul Zwillenberg** is a partner and managing director in the firm's London office. You may contact him by e-mail at zwillenberg.paul@bcg.com.

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#### **For Further Contact**

If you would like to discuss this report, please contact one of the authors.



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