



Building a better
working world

How can Europe sustain its digital drive?

EY Attractiveness Survey

Foreign investment in technology
and digital industries in Europe

May 2019



The better the question. The better the answer.
The better the world works.

How can Europe bolster its digital attractiveness?

Digital is one of Europe's fastest-growing activities and a major contributor to its economic prosperity. Some of the investment statistics cited in this report put the rate of growth into stark perspective. For example, European technology companies secured more than US\$20b of venture capital funding in 2018 – more than four times the US\$5b secured in 2013.¹

To keep this momentum, Europe must fortify its digital attractiveness. As the data in this report shows, this primarily means investing in the digital skills of the future. However, European companies and governments also have to create the physical infrastructure that technology companies need, such as ultra-fast broadband connectivity.

Europe is in a good place to start and is making strong progress on achieving the objectives of its Digital Single Market Strategy. But there are major variations across the continent that need to be rectified.

Even in countries that have already made progress, there is no room for complacency. Most countries have rolled out 4G extensively, but 5G now needs attention. Most regulators have clarified rules relating to cloud

computing, but what about blockchain, artificial intelligence and quantum computing?

Getting this right will not only benefit the digital sector but also businesses in multiple industries that are increasingly embracing digital technologies.

Improving Europe's digital attractiveness requires comprehensive and collaborative effort. The prize is more investment, jobs and economic prosperity.

This report is an extract of EY European Attractiveness Survey 2019. It uncovers the level of foreign investment in Europe's digital sector and unearths businesses' views on the most important factors that will improve Europe's digital attractiveness.

We hope you enjoy reading it.



Andy Baldwin

Andy Baldwin

EY Global Client Service-elect
and EY EMEIA Leader

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European technology companies secured more than US\$20b of venture capital funding in 2018.

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EY Global Client Service-elect
and EY EMEIA Leader



Investment soars in Europe's digital sector

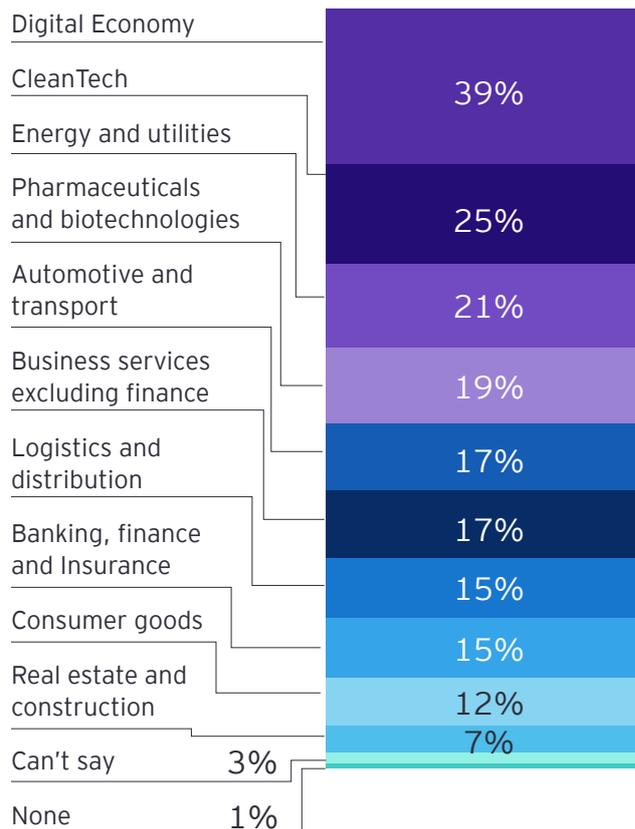
On nearly every measure, Europe's digital sector is booming. Take financial investment, for example. European technology companies raised US\$23b of venture capital funding in 2018 – more than four times the US\$5b secured in 2013.² In parallel, 69 technology companies listed in Europe in the first nine months of 2018 – more than double the 29 that did so in 2013.³

Meanwhile, the digital sector is ramping up investment in job-creating foreign direct investment (FDI) projects in Europe. The number of new projects increased 5% to a record high of 1,227 in 2018.

Europe reaps the rewards of the digital revolution. According to Eurostat, the technology software industry is currently outpacing the growth of Europe's wider economy by a factor of five.⁴ And this is fueling job creation. Europe's technology employment grew 4% in 2018, which is significantly more than the 1.1% employment growth across the EU.

The digital sector's importance in driving wider economic growth is not lost on businesses surveyed for this research. They rank the digital sector first in terms of its potential to drive economic growth across Europe in the coming years. CleanTech ranks second, and the energy and utility sector third.

In your opinion, which business sectors will drive Europe's growth in the coming years?



Source: EY Attractiveness Survey 2019 – Europe.

1,227

projects

The number of new projects increased 5% in 2018.

^{1,2} "The State of European Tech 2018," *Atomico*, December 2018.

² "The State of European Tech 2018," *Atomico*, December 2018.

³ "The State of European Tech 2018," *Atomico*, December 2018.



London remains the digital capital of Europe, despite Brexit

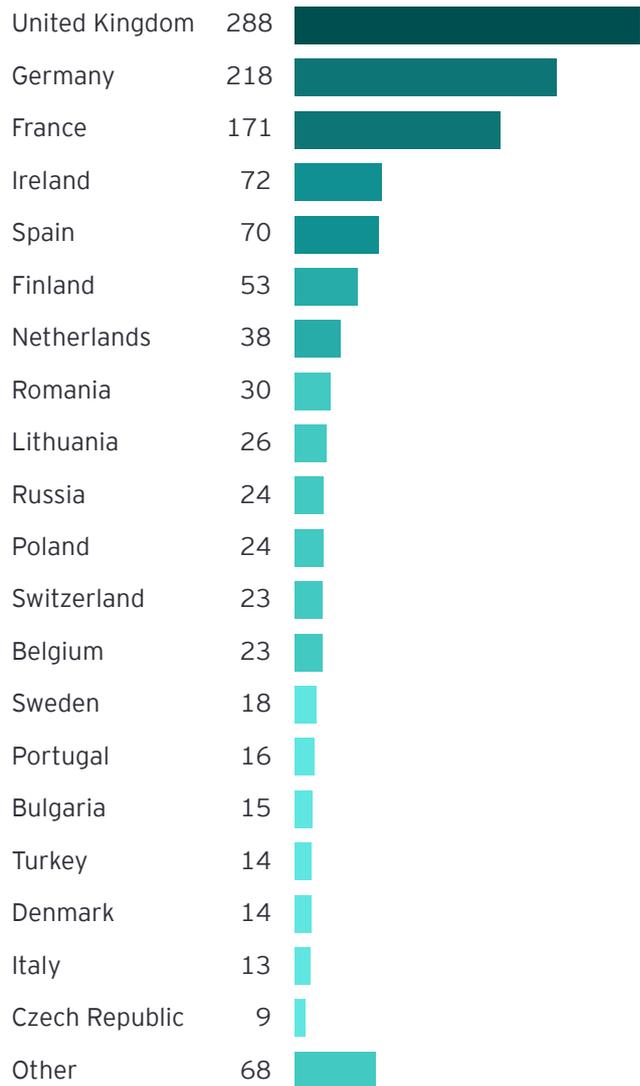
London is still considered the most attractive European city for digital businesses among a list of global hot spots. When asked which cities offer the best chance of producing the next technology giant, surveyed businesses rank London fourth globally, behind San Francisco (and the wider Silicon Valley), Shanghai and Beijing. Berlin ranks 7th globally and 2nd in Europe, while Paris ranks 12th globally and 3rd in Europe.

Brexit has not yet dampened the attractiveness of London and the UK. Efforts by Government and business leaders to alleviate the impact of Brexit by boosting the UK's tech profile seem to be working, at least for the time being. Paris, Berlin, Stockholm and Amsterdam are close behind, so this race needs to be watched closely.

London's strong track record of creating high-growth technology businesses is clear: some 17 tech unicorns (companies valued at over US\$1b) have been founded in London since 2010.⁵ In contrast, Berlin created seven and Paris four in the same period.

⁵ "London has the most tech unicorns in Europe, but Brexit may change that," *ZDNet*, March 2019.

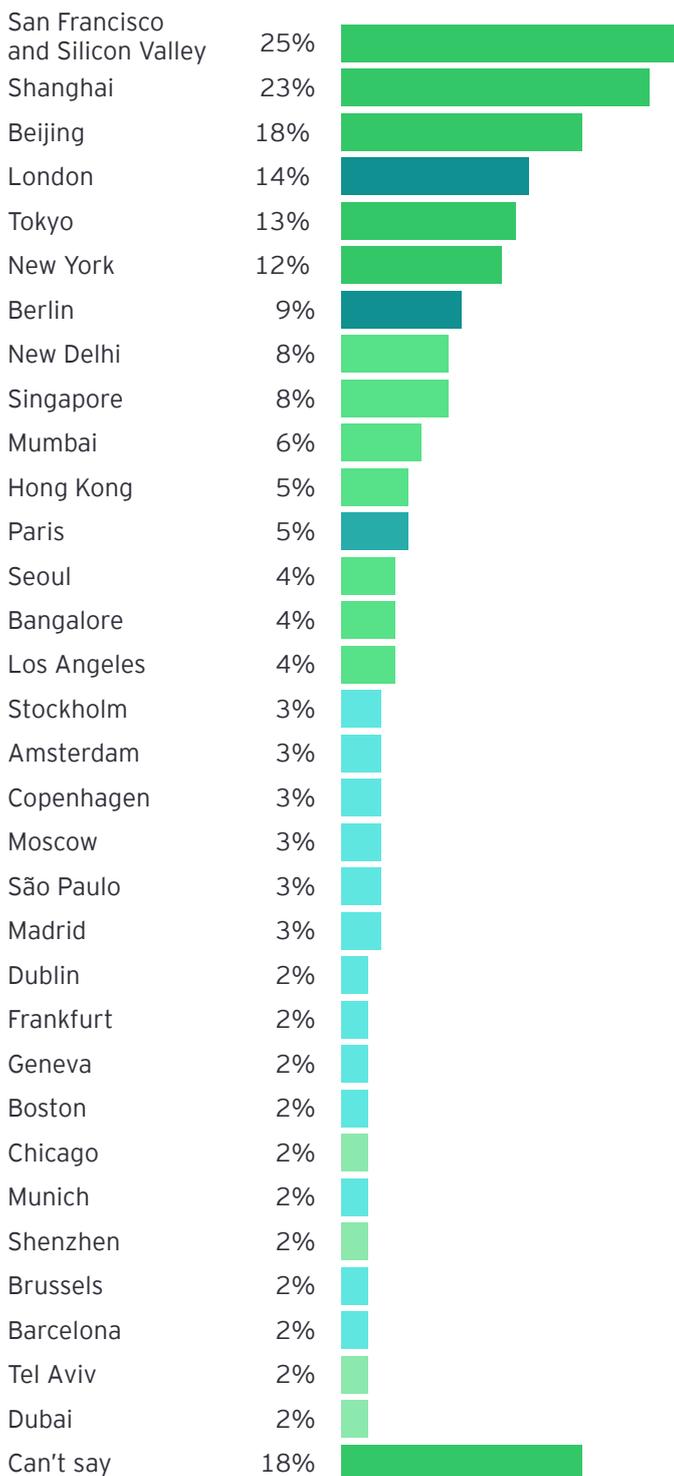
Number of FDI projects in Europe's digital sector (2018)



Source: EY European Investment Monitor (EIM), 2019.

The UK as a whole still outperforms the rest of Europe on the digital battlefield. Despite a 10% annual decrease, more digital FDI projects were established in the UK (288 projects) than in any other European country in 2018, including Germany (218 projects) and France (171 projects). Foreign investment across all sectors in the UK was down 13% last year.

Which three cities in the world offer the best chance of producing the next technology giant?



Source: EY Attractiveness Survey 2019 – Europe.

No room for complacency

Continued investment in Europe's digital sector is not guaranteed, however. Europe's data privacy regulation (GDPR), introduced in May 2018, places greater restrictions on handling personal data. This impacts all sectors, but particularly the technology industry due to the vast amount of data it handles.

The EU has also imposed significant fines on large technology companies for regulatory breaches.

Then there is the digital services tax, which numerous technology companies say will harm investment in Europe. The new tax regime responds to businesses' evolution toward digital service delivery models. The changes have been communicated far in advance of their introduction, so should not be unexpected. Nonetheless, they present a problem that did not previously exist.

Also, Europe is not home to any technology giants in the same way that the US, China and Japan are. In addition, there are concerns that Europe's lack of digital skills, especially compared with the US, might put the brakes on technology investment.

Individually, these issues might not dampen investment in Europe to any great extent. Taken together, however, they may cause some businesses to think twice about investing in the continent.

It's also important to remember that Europe's investment in certain advanced digital technologies, such as AI, pales into insignificance compared with vast sums invested in China and the US. For example, China plans to create an AI industry totaling around €130b by 2030.⁶ The city of Tianjin alone is planning to create a €13b AI fund of public and private capital. This far outstrips Europe's ambitions.

Therefore, to maintain its attractiveness, not just in the digital sector but across all industries, Europe must fortify its digital competitiveness.

⁶ "A Next Generation Artificial Intelligence Development Plan," *China's State Council*, July 2017.

Boosting Europe's digital attractiveness

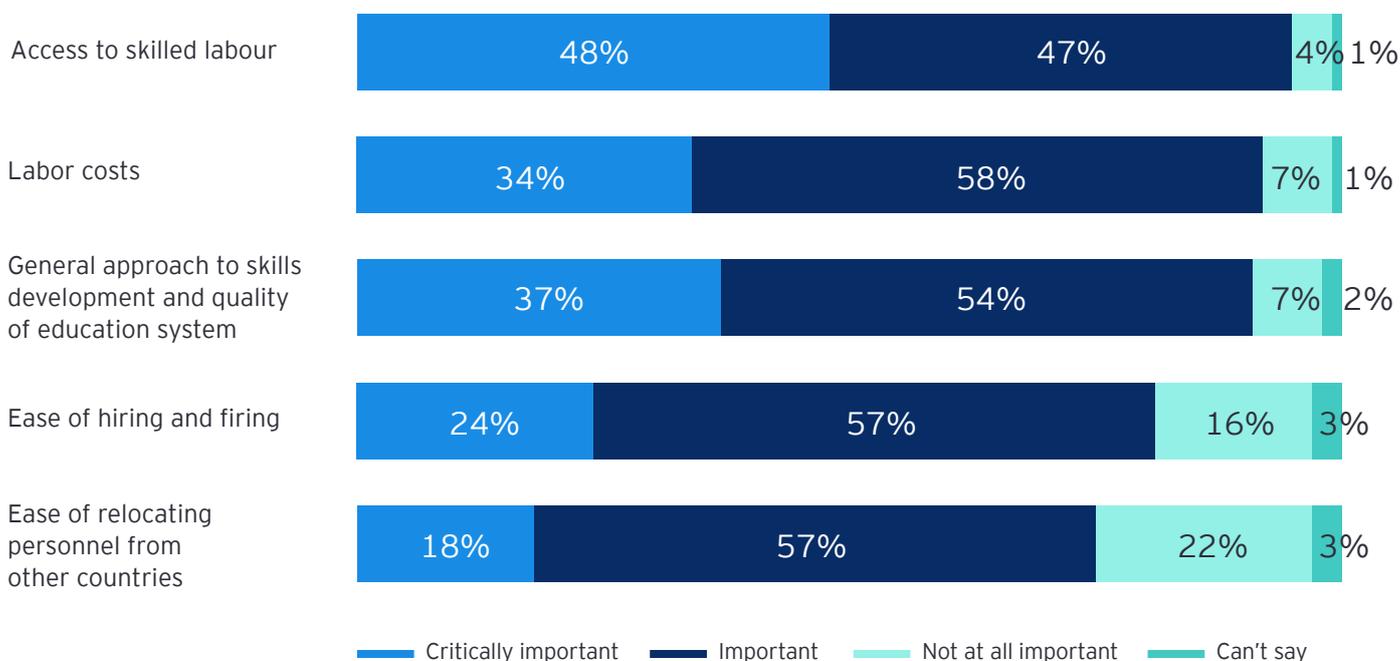
The survey data illustrates some priorities. Tellingly, 52% of surveyed businesses say the availability of a workforce with technology skills is “critically important” in determining where they invest in Europe. A further 42% say it is an “important” determinant. This makes technology skills the most important factor that determines where businesses invest and, consequently, an area in which the EU can cement its digital competitiveness.

Today, Europe lacks many important digital skills. Nearly three-quarters of surveyed businesses say skills shortages are damaging productivity and profitability, while two-thirds say it is damaging top-line revenue growth.⁷ Cybersecurity, AI and robotics, and big data and analytics skills are considered most scarce.

There are significant variations across Europe. The European Commission (EC) ranks Finland as most advanced in terms of digital human capital, followed by the Netherlands and then Sweden. At the other end of the spectrum, Greece, Bulgaria and Romania have the least advanced digital human capital.⁸

The EU can learn some lessons from the likes of Finland. For many years, the country has invested significantly in teaching digital skills, particularly to adults. Last year, it provided €60b to fund a raft of digital training initiatives across the country. These include enhanced information and communications technology training in higher education, vocational training in specific sectors and a specific program to teach basic digital skills to adults.

How important are the following talent-related factors in determining where you invest in Europe?



Source: EY Attractiveness Survey 2019 – Europe.

⁷ “How to unlock Europe's digital growth potential,” EY, December 2018.

⁸ Digital economy and society,” EC, accessed on May 12th, 2019.

52%

of surveyed businesses say the availability of a workforce with technology skills is “critically important” in determining where they invest in Europe.



Though it cannot solely be attributed to these digital training initiatives, Finland climbed from the 25th largest European country for FDI in 2010 to the 11th largest in 2018.

If rolled out extensively across Europe, initiatives such as these could improve digital skills tremendously and, in turn, Europe’s attractiveness for FDI.

Skills aside, Europe needs a robust digital infrastructure, particularly fast and reliable internet connectivity, to enhance its attractiveness. But again, connectivity varies significantly across Europe. The EC ranks the Netherlands, Luxembourg and Denmark as the top three European countries for connectivity. Italy, Croatia and Greece rank last.

The EU and national governments can bolster digital competitiveness in a host of other ways. EY survey data provides some useful guidance. For example, 86% of surveyed businesses say the degree of protection of IP rights is an “important” or “critically important” factor that determines where they invest.

In parallel, more than 8 out of 10 businesses say a strong network of technology start-ups and research institutions, regulatory support and the availability of capital is important in determining where investment is allocated.

By making improvements in these areas, the EU can boost its digital competitiveness, attract more FDI and, ultimately, increase long-term economic growth and employment.

The Digital Single Market: Significant progress but a long way to go

The Digital Single Market is the EC's strategy to protect consumer data, reinforce individuals' access to online activities under conditions of fair competition, and resolve copyright and geo-blocking issues.

Achieving this will help create an environment where digital businesses thrive.

It has had some major successes since its launch in 2015. These include the abolition of mobile roaming charges in the EU in 2017 and the introduction of digital media portability across EU countries in 2018. Its strategy to coordinate EU member states' use of 700 MHz also paves the way for increased usage of 4G and 5G wireless broadband.

The EU is backing up its strategy with money. In June 2018, it announced proposals for a €9.2b digital investment package.⁹ It will focus on supercomputers, AI, cybersecurity and trust, digital skills and ensuring wider use of digital technologies across society. Through

Digital Europe, the EU budget will have a catalytic effect and accelerate member state and private sector investment in digital transformation.

But it must go further. Regulations must be uniform across member states to smooth the path to 5G deployment and guidelines must be established to direct public intervention in existing infrastructure gaps. This will be essential in attracting investors to 5G business models.

Of course, it's not all about money. Advanced digital technologies such as AI have great potential to create negative unintended consequences. It is therefore vital to establish guidelines and principles for their safe use.

Work is already underway. In April 2019 the EC published an ethics framework for AI, including guidance for regulatory compliance, ethical principles and values, and technical and social robustness.¹⁰ These must continue to evolve and be adhered to, to foster a sustainable environment for AI.



⁹ EU budget: Commission proposes €9.2 billion investment in first ever digital programme, [EC](#), June 2018.

¹⁰ "Ethics Guidelines for Trustworthy AI," [EC](#), April 2019.

Viewpoint

EY
viewpoint



Etienne Costes
Partner,
EY-Parthenon

Tech companies pushed and pulled into Europe

Forget old assumptions about Europe's technical skills base

A lot of technology entrepreneurs previously located in the US to get access to the top talent they need. But this is changing, and more companies are now investing in Europe.

This is partly because the world's largest digital giants are employing the best data scientists and coders in the US, making them very expensive and in short supply for the rest of the technology industry.

At the same time, Europe is rapidly improving its technical skills base to the extent that technology companies in the continent can now fill their R&D departments with top-quality people from the best technical universities.

Within Europe, countries such as Sweden and Denmark are very attractive due to the vibrant venture capital and private equity funding environment. They are becoming the new Israel in terms of tech innovation.

Europe needs a more robust digital infrastructure

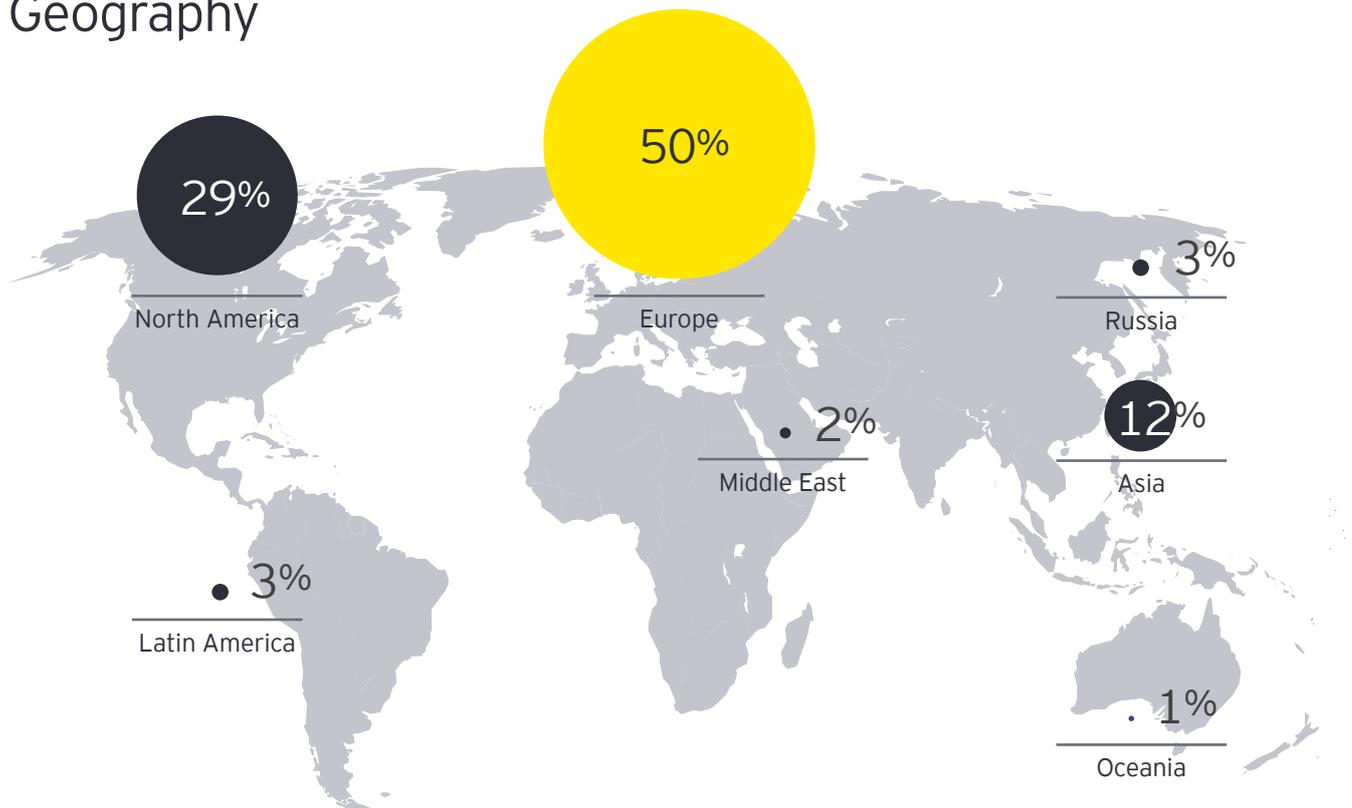
The adoption of technology also impacts FDI in all sectors. In particular, the quality of digital infrastructure – and more specifically, the rollout of fiber optic networks – is a significant determinant of where businesses invest. All European countries now realize this, but some were very slow to start implementation.

In addition, the adoption of robotic process automation (RPA) is in full swing across Europe. This will replace low-value work typically conducted in shared service centers. Investment in shared service centers, both inside and outside Europe, might decline as a result, but the real value-creating jobs will stay in Europe.

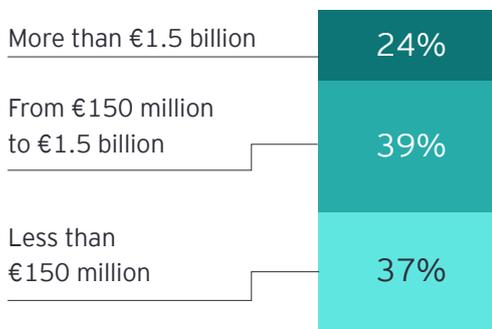


Methodology

Geography



Size



Job title



Sector activity



Source: EY Attractiveness Survey 2019 – Europe.

The “real” attractiveness of Europe for foreign investors.

Our evaluation of the reality of FDI in Europe is based on the EY European Investment Monitor (EIM), EY proprietary database, produced in collaboration with OCO. This database tracks the FDI projects that have resulted in the creation of new facilities and jobs. By excluding portfolio investments and M&A, it shows the reality of investment in manufacturing and services by foreign companies across the continent.

Data on FDI is widely available. An investment in a company is normally included in FDI data if the foreign investor acquires more than 10% of the company's equity and takes a role in its management. FDI includes equity capital, reinvested earnings and intracompany loans.

But our figures also include investments in physical assets, such as plant and equipment. And this data provides valuable insights into:

- ▶ How FDI projects are undertaken
- ▶ What activities are invested in
- ▶ Where projects are located
- ▶ Who is carrying out these projects

The EY EIM is a leading online information provider that tracks inward investment across Europe. This flagship business information tool is the most detailed source of data on cross-border investment projects and trends throughout Europe. The EY EIM is frequently used by government bodies, private sector organizations and corporations looking to identify significant trends in employment, industry, business and investment.

The EY EIM database focuses on investment announcements, the number of new jobs created and, where identifiable, the associated capital investment. Projects are identified through the daily monitoring of more than 10,000 news sources. To confirm the accuracy of the data collected, the research team aims to directly contact more than 70% of the companies undertaking these investments.

The following categories of investment projects are excluded from the EY EIM:

- ▶ M&A and joint ventures (unless these result in new facilities or new jobs being created)
- ▶ License agreements

- ▶ Retail and leisure facilities, hotels and real estate*
- ▶ Utilities (including telecommunications networks, airports, ports and other fixed infrastructure)*
- ▶ Extraction activities (ores, minerals and fuels)*
- ▶ Portfolio investments (pensions, insurance and financial funds)
- ▶ Factory and other production replacement investments (e.g., replacing old machinery without creating new employment)
- ▶ Nonprofit organizations (charitable foundations, trade associations and government bodies)

*Investment projects by companies in these categories are included in certain instances: e.g., details of a specific new hotel investment or retail outlet would not be recorded, but if the hotel or retail company were to establish a headquarters facility or a distribution center, this project would qualify for inclusion in the database.

The perceived attractiveness of Europe and its competitors by foreign investors

We define the attractiveness of a location as a combination of image, investors' confidence and the perception of a country's or area's ability to provide the most competitive benefits for FDI. The field research was conducted by the CSA Institute in January and February 2019 via telephone interviews, based on a representative panel of 506 international decision-makers.

This panel was made up of decision-makers of all origins, with clear views and experience of Europe:

- ▶ Western Europe: 40%
- ▶ North America: 29%
- ▶ Asia: 12%
- ▶ Northern Europe: 8%
- ▶ Latin America: 3%
- ▶ Russia: 3%
- ▶ CEE: 2%
- ▶ Middle East: 2%
- ▶ Oceania: 1%

Overall, 81% of the 506 companies interviewed have a presence in Europe. And of the non-European companies, 35% have established operations in Europe.

About the EY Attractiveness program

EY Attractiveness Surveys are widely recognized by clients, media, governments and major public stakeholders as a key source of insight into FDI. Examining the attractiveness of a particular region or country as an investment destination, the surveys are designed to help businesses make investment decisions and governments remove barriers to growth. A two-step methodology analyzes both the reality and perception of FDI in the country or region. Findings are based on the views of

representative panels of international and local opinion leaders and decision-makers.

The program has a 18-year legacy and has produced in-depth studies for Europe, a large number of European countries, Africa, the Mediterranean region, India, Japan, South America, Turkey and Kazakhstan.

For more information, please visit:
[ey.com/attractiveness](https://www.ey.com/attractiveness) #EYAttract

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