

POLAND

Poland had the smallest software industry of the countries surveyed, but it is growing at an impressive pace, with a skyrocketing contribution to GDP, jobs, and wages. Over the past decade, Poland has done a lot to attract technology jobs and start-ups, including numerous back-office roles for multinational companies that involve software design jobs.⁶ There's also plenty of homegrown success stories, thanks to companies like Netguru, 10clouds, and Comarch.

The Polish software industry's direct value-added GDP grew to €6 billion in 2016, up 28.3 percent from 2014. There's a lot more growing to do: Poland spends the least amount on software R&D across the countries surveyed, investing just €250.5 million in 2015. But investment is just one aspect where things are diverse: whereas Sweden's software industry is larger than Poland's in terms of value-add GDP, Poland's software sector employs more people than Sweden's.

Total⁷ Value-Added GDP:
€11.6 billion

Up 23.2% from 2014

Direct Value-Added GDP:

€6 billion

Up 28.3% since 2014



EMPLOYMENT

Direct:

151,294 jobs

Up 26.3% from 2014 • 1% of total Polish jobs

Total⁸:

197,367 jobs

Up 19.4% from 2014

Poland is seeing remarkably strong growth in software jobs: direct software industry employment increased by 28.3 percent in Poland during the two-year period. The average increase since 2014 for the five countries excluding Poland and Sweden in this study is 6.8 percent.



WAGES

Total annual wages paid in Poland by the software industry:

€3 billion

Up 30.4% from 2014

Smaller software industries in places like Sweden and Poland are seeing faster wage growth. Total wages paid by the software industry in Poland increased 30.4 percent between 2014 and 2016.

⁶ "Outsourcing Boom Boosts Poland's Office Construction," *Financial Times*, April 14, 2015, available at <https://www.ft.com/content/37d3cd5e-d92c-11e4-a8f1-00144feab7de>.

^{7,8} Direct, indirect, and induced.

METHODOLOGY

To estimate the total contributions of the software industry to the EU economy, the EIU analyzed the direct contributions and estimated indirect and induced impacts using various economic multipliers:

(1) *Direct contributions*: the levels of output, employment, or wages of the industry in question;

(2) *Indirect impacts*: the inter-industry economic activity resulting from the direct contributions (e.g., purchases of inputs);

(3) *Induced impacts*: the additional economic activity supported by spending on goods and services by households whose income was affected by the direct contributions and indirect impacts.

Data sources include the EIU itself, Eurostat, the European Central Bank, OECD, and the World Input-Output Database.

EUROPEAN UNION¹

Software changes lives. The way we work, play, and move is being transformed by new software — not just on your computer, but by apps, big data, and access to the cloud. From [optimizing plane routes](#) to [improving life for people with Parkinson's disease](#), innovation is happening at every level. To understand the impact of this, Software.org: the BSA Foundation commissioned the experts at The Economist Intelligence Unit (EIU) to examine the software industry's economic role. They studied the European Union (EU) and seven member states: France, Germany, Italy, the Netherlands, Poland, Sweden, and the United Kingdom. The research shows which countries are seeing the biggest benefits from software's growth — and how others can share in that success.

The stakes are high: All in, software was responsible for €1 trillion of total EU value-added GDP in 2016.² That's an increase of 9.9 percent from 2014, compared to overall GDP growth of 6.0 percent over the same period. And software supports other sectors, too — think of it as double-clicking on growth.

Total³ Value-Added GDP:

€1 trillion

Up from €910 billion in 2014, a 9.9% increase

Direct Value-Added GDP:

€304 billion

Up from €249 billion in 2014, a 22.4% increase



EMPLOYMENT

Direct:

3.6 million jobs

Up from 3.1 million in 2014, a 16.5% increase

Total⁴:

12.7 million jobs

11.6 million in 2014

It's not just about coders. The software industry provides jobs in every field, from disaster recovery services to data processing and accounting. As Europe closes the digital skills gap,⁵ companies are hiring for jobs that simply didn't exist a decade ago — roles like strategic cloud data engineer, big data product specialist, and futurist. Across the EU, work supported by the software industry through direct, indirect, and induced contributions represents 12.7 million jobs.



WAGES

Average Annual Salary for Software Industry:

€45,307

Total Annual Salaries Paid by Software Industry:

€162.1 billion

The total direct wages paid by the software industry for all 28 EU member states grew to €162.1 billion from €139.2 billion in 2014, an increase of 16.4 percent. Wage growth in smaller countries is particularly impressive: total salaries paid by the sector in Sweden grew 31.4 percent over the two years to 2016, and by 30.4 percent over the same period in Poland.

¹ All data is from 2016 and was provided by The EIU unless stated otherwise.

² Includes indirect and induced effects. Indirect effects stem from purchases of inputs by the software industry, whereas induced effects stem from the spending of income by employees affected by those direct and indirect effects.

^{3,4} Direct, indirect, and induced.

⁵ "The Digital Skills Gap in Europe," EU Commission Factsheet, October 19, 2017, available at <https://ec.europa.eu/digital-single-market/en/news/digital-skills-gap-europe>.