

SWEDEN

The European Commission's most recent Digital Economy and Society Index⁶ ranks Sweden as the EU's second most advanced digital economy, after Denmark, so it's no surprise that the country's software industry is flourishing. The Swedish software industry's direct value-added GDP grew to €16 billion in 2016, up an astounding 43.9 percent from two years earlier. That turbo-charged growth between 2014 and 2016 saw it overtake the Netherlands in terms of direct value-added GDP.

In recent years, Sweden has become known as the "Unicorn Factory" because of the number of tech start-ups with a valuation of more than \$1 billion based there. Alongside Spotify, Minecraft developer Mojang, and online payments service iZettle, there are more traditional software groups like Enea, Pelarion, and Acando.

Across the countries surveyed, the Swedish software industry contributes the second largest share of direct value-added GDP, accounting for 3.4 percent of the country's total. Only the UK beats it, with 3.6 percent. For comparison, in Sweden, the financial and insurance activities sector represents 4.3 percent of value-added GDP and the real estate activities sector represents 8.6 percent.

Total⁷ Value-Added GDP:
€46.8 billion

Up 38.8% from 2014

Direct Value-Added GDP:
€16 billion

Up 43.9% since 2014



EMPLOYMENT

Direct:

145,723 jobs

Up 26.7% from 2014 • 3% of total Swedish jobs

Total⁸:

452,444 jobs

Up 8.4% from 2014

Sweden's software industry directly accounts for 3 percent of all jobs in the country. To put that in perspective, the financial and insurance sector represents 2 percent, and the real estate sector generates 1.6 percent of jobs.



WAGES

Total annual wages paid in Sweden
by the software industry:

€8 billion

Up 31.4% from 2014

Smaller software sectors in places like Sweden and Poland are seeing faster wage growth. Total wages paid by the software industry in Sweden increased 31.4 percent between 2014 and 2016.

⁶ The EU Commission Digital Economy and Society Index (DESI), 2018 edition, available at <https://ec.europa.eu/digital-single-market/en/desi>.

^{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>.