

# THE ECONOMIC IMPACT OF SOFTWARE

## EUROPEAN UNION<sup>1</sup>

Software is ubiquitous. It is at the heart of every aspect of modern life. We depend on software at the office, at school, at home, in our leisure time, when we travel, and when we communicate. Software helps us be more effective, more creative, and more efficient. BSA | The Software Alliance has commissioned this expert analysis by The Economist Intelligence Unit (EIU) on the economic contributions of the software industry in both the EU28 and its five biggest Member States: France, Germany, Italy, Spain, and the United Kingdom. The research findings provide important insights on how the European Union (EU) can take advantage of software's potential.

Software delivers a total value-added (direct, indirect, and induced)<sup>2</sup> GDP of £709.8 billion — over 7 percent of the EU28 total GDP. This contribution comes from all sectors and all levels of the economy: farming, manufacturing, services, education, and health care.

Total\* Value-Added GDP:  
**£709.8 billion**

7.4% of GDP

Direct Value-Added GDP:  
**£194.22 billion**

2% of GDP



## EMPLOYMENT

Direct:  
**3.1 million jobs**  
1.4% of total EU jobs

Total:\*  
**11.6 million jobs**  
5.3% of total EU jobs

From software developers and web designers to futurists, project coordinators, administrative assistants, and accountants, software creates jobs for a wide variety of professionals in today's workplaces. These numbers capture jobs created directly by the software industry, as well as jobs the software industry supports through indirect and induced impacts.



## WAGES

Average Annual Wage  
for Software Industry:  
**£35,359**

by comparison...

All industries:  
£26,356<sup>3</sup>

Service sector:  
£19,666<sup>4</sup>

The EU average wage for the software industry is 34 percent higher than the EU average wage and 80 percent higher than the EU average wage for the services sector.

Total annual wages paid by the software industry:  
**£108.6 billion**



## R&D

**£10.5 billion**  
Software R&D expenditures<sup>5</sup>

7.3% of R&D expenditures  
by business enterprise<sup>6</sup>

Software companies in the EU invest strongly in software R&D — almost £10.5 billion in 2013.

\* direct, indirect, induced

<sup>1</sup> All data are from 2014 and were provided by EIU unless otherwise indicated.

<sup>2</sup> EU GDP data from Eurostat.

<sup>3</sup> Eurostat: Mean annual earnings, Structure of earnings survey 2014.

<sup>4</sup> Eurostat: Annual detailed enterprise statistics for services 2014.

<sup>5</sup> Software R&D expenditures by business enterprise in 2013.

<sup>6</sup> Software R&D expenditures by business enterprise in 2013, compared to total R&D expenditures by business enterprise.

UK<sup>7</sup>

The UK is the EU's second largest economy by GDP in 2014. Its large banking, financial, and services sector make software a vital component of a successful UK economy. The software industry's impact on the UK economy is one of the highest in the EU.

Several UK software companies have made a name for themselves on the global stage, including Sage, Misys, and Micro Focus.

The software industry in the UK directly contributed £50.9 billion to the economy — the highest of any country in the EU and almost 3 percent of UK GDP.

The software industry's contribution to GDP is higher in the UK than in any of the four other "Big Five" EU markets — Germany, France, Spain, and Italy.

Total\* Value-Added GDP:  
**£124.8 billion**

7.1% of UK total

Direct Value-Added GDP:  
**£50.9 billion**

2.9% of UK total



## EMPLOYMENT

Direct:  
**651,096 jobs**  
2.1% of total UK jobs

Total\*  
**2,585,792 jobs**  
8.4% of total UK jobs

The UK software sector supports the employment of the most people, and the highest percentage of total jobs, compared to the other major EU countries analysed in this study.



## WAGES

Average Annual Wage  
for Software Industry:  
**£37,385**

by comparison... All industries: £30,666<sup>8</sup> Service sector: £23,411<sup>9</sup>

Wages in the UK software sector are 22 percent higher than the UK average wage and 60 percent higher than those in the UK services sector.

Total annual UK wages paid by the software industry:  
**£24.3 billion**



## R&amp;D

**£1.75 billion**  
Software R&D expenditures<sup>10</sup>

9.7% of R&D expenditures<sup>11</sup>  
by business enterprise

The UK and Spain have the highest software industry-related R&D expenditure as a percentage of total R&D spending of all countries in the report, and the only ones to exceed the EU average.

\* direct, indirect, induced

<sup>7</sup> All data are from 2014 and were provided by EIU unless otherwise indicated.

<sup>8</sup> Eurostat: Mean annual earnings, Structure of earnings survey 2014.

<sup>9</sup> Eurostat: Annual detailed enterprise statistics for services 2014.

<sup>10</sup> Software R&D expenditures by business enterprise in 2013.

<sup>11</sup> Software R&D expenditures by business enterprise in 2013, compared to total R&D expenditures by business enterprise.

## 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.