

EU App Economy: Skills for the Digital Age

Dr. Michael Mandel

Chief Economist and Vice President

Progressive Policy Institute

November 2023

Who I am

- Chief economist and vice president of the Progressive Policy Institute, based in Washington DC., with offices in Brussels and the United Kingdom.
- PPI's research focuses on policies to promote growth and innovation.
- We're particularly concerned with job creation by innovative industries such as app development, and making sure that these opportunities are accessible to everyone.

Key points

- The number of people employed in the EU App Economy is greater than in the US and is increasing at a faster rate.
- More broadly, employment in information and communications technology (ICT) professions has been increasing faster in the EU than in the US.
- However, women make up only 18.5% of ICT professionals as compared to almost 25% in the US.
- The app economy, with its non-biased approval process, is creating new opportunities for women to develop greater digital skills and become more integrated in the tech economy.

- Since 2019, employment in the EU App Economy has risen by 53%, to 2.9 million. By comparison, U.S. App Economy employment was 2.6 million in 2022, a gain of 14% from 2019.
- These are jobs with App Economy skills, such as app developers; software engineers whose work requires knowledge of mobile applications; security engineers who help keep mobile apps safe from being hacked; and help desk workers who support the use of mobile apps. In addition, we include a conservative estimate of indirect and spillover jobs.

TABLE 1: EU APP ECONOMY JOBS, OCTOBER 2023 (THOUSANDS)

EUROPEAN UNION	2023	2019*	PERCENTAGE CHANGE
TOTAL APP ECONOMY	2,919	1,906	53%
EU PLUS UNITED KINGDOM, SWITZERLAND, NORWAY			
TOTAL APP ECONOMY	3,706	2,378	56%

*Data: PPI, Eurostat, Indeed, ONS * Revised from published figures*

TABLE 2: EU APP ECONOMY JOBS BY OPERATING SYSTEM (THOUSANDS)

EUROPEAN UNION	2023	2019*
TOTAL APP ECONOMY	2,919	1,906
IOS ECOSYSTEM	2,116	1,396
ANDROID ECOSYSTEM	2,363	1,553
EU PLUS UNITED KINGDOM, SWITZERLAND, NORWAY		
TOTAL APP ECONOMY	3,706	2,378
IOS ECOSYSTEM	2,729	1,775
ANDROID ECOSYSTEM	2,988	1,940

Data: PPI, Eurostat, Indeed, ONS * Revised from published figures

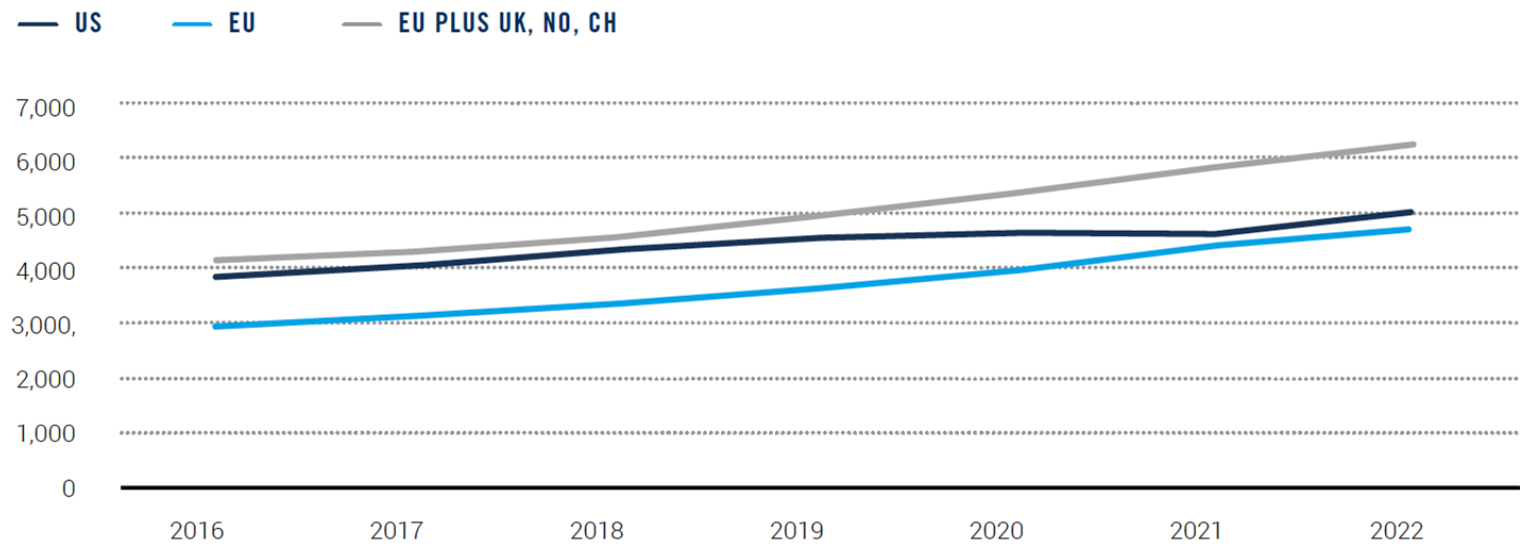
TABLE 3: APP ECONOMY JOBS FOR SELECTED COUNTRIES (THOUSANDS)

	APP ECONOMY	IOS ECOSYSTEM	ANDROID ECOSYSTEM
AUSTRIA	19	14	16
BELGIUM	66	52	56
DENMARK	56	46	44
FRANCE	611	358	514
GERMANY	633	503	495
ITALY	144	106	119
NETHERLANDS	331	286	259
SPAIN	185	124	132
SWEDEN	163	104	141
EUROPEAN UNION	2,919	2,116	2,363
UNITED KINGDOM	667	517	534
EU PLUS U.K., SWITZERLAND AND NORWAY	3,706	2,729	2,988

Data: PPI, Eurostat, Indeed, ONS

- The gains in EU App Economy jobs reflect, in part, a steady increase in the number of information and communications technology (ICT) professionals in the EU.
- Figure 1 shows a flattening of the US employment of ICT professionals, compared to the EU. The conclusion doesn't change if we look at the 30-country total including the United Kingdom, Norway, and Switzerland.

FIGURE 1: INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) PROFESSIONALS (THOUSANDS)



Data PPI, BLS, Eurostat, ONS

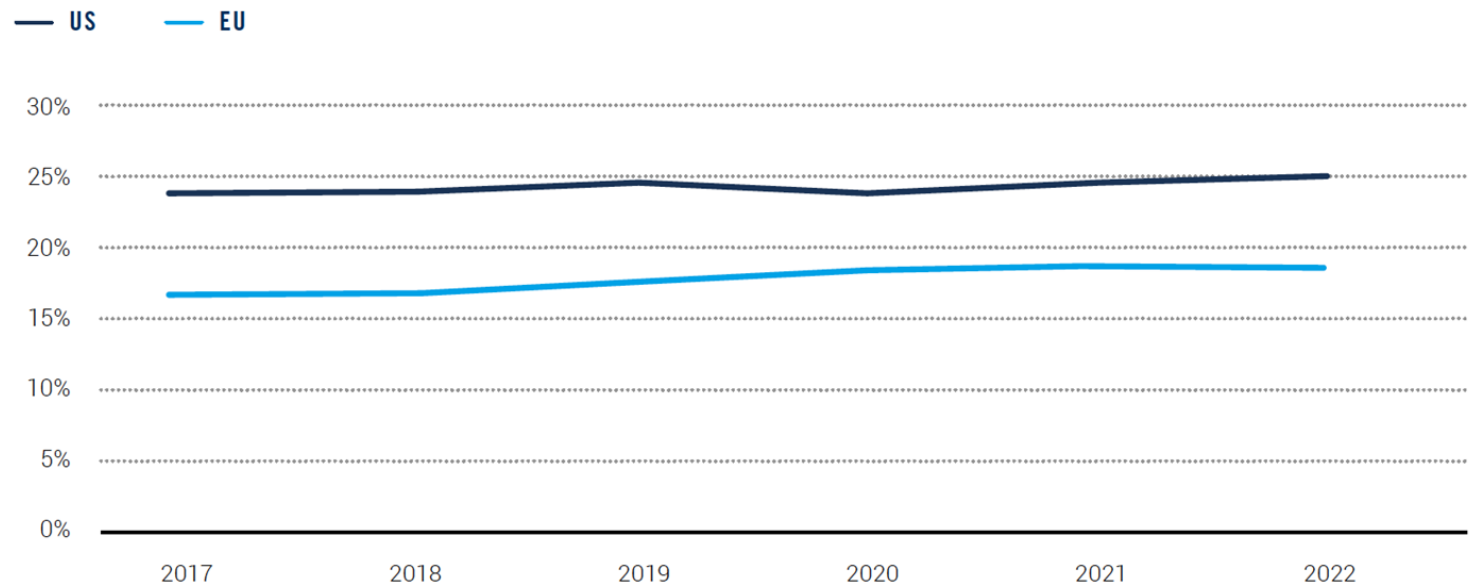
- However, despite the greater growth, women make up only 18.5% of ICT professionals in the EU, according to Eurostat data.
- That's compared to almost 25% in the US, according to PPI analysis of BLS data.

TABLE 4. WOMEN IN ICT OCCUPATIONS, SELECTED COUNTRIES

	WOMEN AS SHARE OF ICT PROFESSIONALS	ICT PROFESSIONALS (THOUSANDS)
Austria	16.3%	120
Belgium	17.2%	175
France	17.8%	747
Germany	17.4%	1,013
Italy	18.1%	220
Netherlands	16.5%	466
Spain	21.0%	226
Sweden	23.8%	284
EUROPEAN UNION	18.5%	4,646
UNITED KINGDOM	19.3%	1,270
UNITED STATES	24.9%	4,933

Data: PPI, BLS, Eurostat, ONS

FIGURE 2: WOMEN AS SHARE OF ICT PROFESSIONALS



Data: PPI, BLS, Eurostat, ONS

- However, we can see that the gap has been slowly closing.
- One reason: The App Economy, with its non-biased approval process, is creating new opportunities for women to develop greater digital skills and become more integrated in the tech economy.
- As a way of leading into the next panel, I note that learning materials available to women from tech companies like Apple and Google encourage female self-taught developers and give career changers an alternative route into the digital workforce.

- One final note: App Economy skills are becoming even more valuable currency in a world increasingly linked by fast 5G connections.
- Building new apps, maintaining existing apps, supporting users of apps, protecting the security of apps—these are key skills for the digital and mobile future.



The Progressive Policy Institute is a catalyst for policy innovation and political reform based in Washington, D.C., with offices in Brussels and the United Kingdom. Its mission is to create radically pragmatic ideas for moving beyond ideological and partisan deadlock.

For more information:
mmandel@progressivepolicy.org
www.progressivepolicy.org