European Innovation Scoreboard 2022

Executive summary
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European Commission

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as part of the Development of the European Innovation Scoreboard project for the European Commission, Directorate-General for Research and Innovation
The annual European Innovation Scoreboard (EIS) provides a comparative assessment of the research and innovation performance of EU Member States and selected third countries, and the relative strengths and weaknesses of their research and innovation systems. It helps countries assess areas in which they need to concentrate their efforts in order to boost their innovation performance.

The EIS 2022 report is the second edition published using the new measurement framework introduced in 2021.

**Almost all EU Member States have increased their innovation performance since 2015 but the lowest performing countries are falling further behind**

The innovation performance of the EU has increased by 9.9 percentage points since 2015. Innovation performance increased in 26 EU Member States. Performance has increased most in Cyprus, Estonia, and Greece. The following indicators recorded the highest improvements: Business process innovators, International scientific co-publications, Innovative SMEs collaborating with others, Job-to-job mobility of Human Resources in Science & Technology, Public-private scientific co-publications, and Venture capital expenditures.

Between 2015 and 2022, performance differences between the Member States have narrowed, in particular within the groups of Innovation Leaders, Strong Innovators and Moderate Innovators. The Emerging Innovators, as a group, are not catching up.

**Compared to 2021, innovation performance has declined for eight Member States**

Between 2021 and 2022, performance has improved in 19 Member States, most strongly in Czechia, Ireland, and Finland (at 7.5%-points or more), and has declined for eight Member States, including Estonia, France, Germany, Italy, Latvia, Luxembourg, Malta, and Romania, with performance declining strongest in Estonia (-8.9%-points).

**Countries fall into four performance groups**

Based on their average performance (relative to the EU in 2022), Member States fall into four different performance groups (Figure 1).

Belgium, Denmark, Finland, the Netherlands, and Sweden are Innovation Leaders with innovation performance well above the EU average. Austria, Cyprus, France, Germany, Ireland, and Luxembourg are Strong Innovators with performance above the EU average. The performance of Czechia, Estonia, Greece, Italy, Lithuania, Malta, Portugal, Slovenia, and Spain is below the EU average. These countries are Moderate Innovators. Bulgaria, Croatia, Hungary, Latvia, Poland, Romania and Slovakia are Emerging Innovators with performance well below the EU average.

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**Figure 1: Performance of EU Member States’ innovation systems**

Coloured columns show countries’ performance in 2022, using the most recent data for 32 indicators, relative to that of the EU in 2015. The horizontal hyphens show performance in 2021, using the next most recent data, relative to that of the EU in 2015. Grey columns show countries’ performance in 2015 relative to that of the EU 2015. The dashed lines show the threshold values between the performance groups, where the threshold values of 70%, 100%, and 125% have been adjusted upward to reflect the performance increase of the EU between 2015 and 2022.
Compared to the results of the EIS 2021, three Member States have changed performance group. Compared to the results in the EIS 2021 report, three countries have changed performance group. The Netherlands has become an Innovation Leader, Cyprus a Strong Innovator, and Estonia a Moderate Innovator. For both Cyprus and the Netherlands, the upward move to a higher performance group is mainly due to data revisions for several indicators. Based on the EIS 2022 data, both countries would have been classified into a higher performance group already last year. Estonia has fallen marginally below the EU average due to the declines in several indicators.1

At the global level, the EU has overtaken Japan and has closed part of its performance gap to some of its other competitors. The EU has a performance lead over Brazil, China, India, Japan, Mexico and South Africa, and a performance gap with Australia, Canada, South Korea and the United States (Figure 2).

Between 2015 and 2022, the EU has improved its relative position towards all global competitors, except China. The performance gap with Australia, Canada, South Korea and the United States has become smaller and the performance lead over Chile, India, Japan, Mexico and South Africa has increased. The performance lead over China has become smaller and the performance gap with Japan has been transformed into a performance lead (Figure 3).

More recently, between 2021 and 2022, only the EU, Chile and South Africa have shown an improvement in their innovation performance, for all other global competitors performance declined (Figure 3).

Impact of Covid-19 pandemic
The Covid-19 pandemic seems to have negatively affected several of the indicators used for measuring overall innovation performance, such as Innovation expenditures, Innovative sales and Venture capital expenditures, all of which show a decline in 2020. There is also an adverse effect on those indicators including GDP in the denominator as GDP fell in 2020 compared to 2019 for 22 Member States. Covid-19 also negatively impacts exports, but the impact is less on both exports of medium- and high-tech products and knowledge-intensive services exports than on total exports, creating an overall positive effect on the export shares of both. Available evidence does not allow to draw firm conclusions on the impact of the Covid-19 pandemic yet.

Methodological continuity and refinement
After the revision of the measurement framework in 2021, no fundamental changes have been made to the methodology in this year’s report. This year, Albania has been included for the first time in the European analysis, with data being collected for 23 indicators (out of 32 in the full framework) with the support of the Albanian statistical office.

For the global competitors, two new countries are included in the calculation: Chile and Mexico. For Chile, data are available for all 19 indicators used in the global comparison, for Mexico, data are available for 17 indicators.

Figure 2: Global performance
Coloured columns show performance in 2022 relative to that of the EU in 2022. For all years, the same measurement methodology has been used.

Figure 3: Global performance change
Blue coloured columns show performance change between 2015 and 2022, both measured relative to the EU in 2015. Red coloured columns show performance change between 2021 and 2022, both measured relative to the EU in 2015.

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1 For several of these indicators, provisional data have been used. As in previous versions of the EIS report, provisional data are used to ensure the utilisation of the most recent information. However, provisional data can be different from the final data, and these differences may have an impact on the results. As a result, the performance group could be different if final data would have been available for the calculations, especially when a country is very close to the threshold of a performance group.
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