



Innovation Union Scoreboard 2015

***Executive summary
EN version***

EXECUTIVE SUMMARY

Innovation Union Scoreboard 2015: for the EU at large innovation performance has been stalling in the last year.

The impact of the economic crisis has become visible for several Member States which showed a decreasing innovation performance compared to last year.

Last year's edition showed that there were positive signs as the innovation performance improved and the catching up process of less innovative countries resumed after it had reversed two years ago. This year's edition shows a mixed picture, with 13 Member States presenting a declining innovation performance and 15 Member States improving their performance compared to last year. However, differences are becoming smaller between the different Member States: innovation performance has continued to converge in 2014 following the trend resumed last year.

Eight innovation dimensions and 25 indicators analyse the performance of the EU innovation system...

The measurement framework used in the Innovation Union Scoreboard distinguishes between 3 main types of indicators and 8 innovation dimensions, capturing in total 25 different indicators.

The **Enablers** capture the main drivers of innovation performance external to the firm and cover 3 innovation dimensions: *Human resources, Open, excellent and attractive research systems* as well as *Finance and support*. **Firm activities** capture the innovation efforts at the level of the firm, grouped in 3 innovation dimensions: *Firm investments, Linkages & entrepreneurship* and *Intellectual assets*. **Outputs** cover the effects of firms' innovation activities in 2 innovation dimensions: *Innovators* and *Economic effects*.

... and the Member States are classified into four performance groups based on their average innovation performance.

Based on the average innovation performance, the Member States fall into four different performance groups:

- Denmark, Finland, Germany and Sweden are "*Innovation leaders*" with innovation performance well above that of the EU average;
- Austria, Belgium, France, Ireland, Luxembourg, Netherlands, Slovenia and the UK are "*Innovation followers*" with innovation performance above or close to that of the EU average;
- The performance of Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Italy, Lithuania, Malta, Poland, Portugal, Slovakia and Spain is below that of the EU average. These countries are "*Moderate innovators*";
- Bulgaria, Latvia and Romania are "*Modest innovators*" with innovation performance well below that of the EU average.

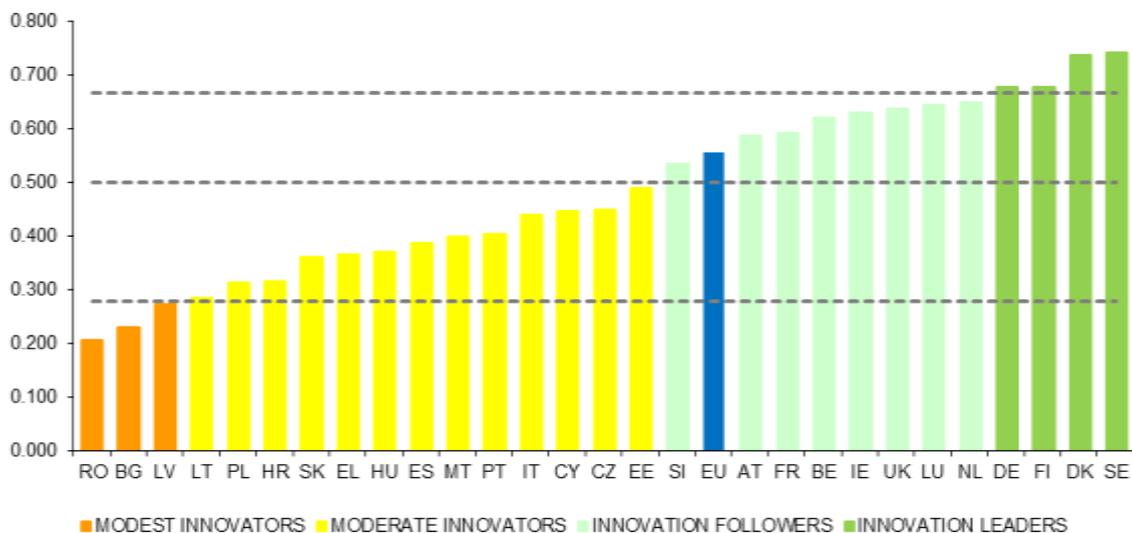
Sweden's innovation system is once more in first position in the EU with the overall ranking remaining relatively stable...

Sweden has once more the best performing innovation system in the EU, followed by Denmark, Finland and Germany. Overall, the performance group memberships have remained relatively stable compared to the previous IUS edition, with Cyprus and Estonia being the only countries that changed group membership, in their case changing from the Innovation followers to the Moderate innovators.

... but with several changes inside the performance groups.

As each year, there are several upward and downward movements inside each of the performance groups. Finland and Germany switched ranks within the Innovation leaders. Within the Innovation followers, the Netherlands replaced Luxembourg as the top performer, UK and Ireland moved ahead of Belgium, and Austria and France switched ranks. Within the Moderate innovators, Estonia is the top performer followed by the Czech Republic that has overtaken Italy and Cyprus. Malta has improved several rank positions and both Greece and Spain have dropped two rank positions whereas Lithuania and Poland have switched ranks. Within the Modest innovators, Latvia replaced Romania as top performer and ranks very close to the upper group.

Figure 1: EU Member States' innovation performance



The most innovative countries have balanced innovation systems with strengths in all dimensions...

The most innovative countries perform best on all dimensions: from research and innovation inputs, through business innovation activities up to innovation outputs and economic effects, which reflects a balanced national research and innovation system. The Innovation leaders show the smallest variance in their performance across all eight innovation dimensions: across all dimensions the performance of the Innovation leaders, Sweden Denmark, Germany and Finland, is thus not too different. The Innovation leaders are also mostly on top and clearly above the EU average. Only in the second dimension *Open, excellent and attractive research system*, Germany scores slightly below the EU average and in the eighth dimension *Economic effects* Finland and Sweden score just below the EU average.

... but some other countries reach top scores in individual dimensions.

However, some other countries reach top scores when looking at individual dimensions. Sweden, Ireland, Finland and United Kingdom score best in *Human resources*; Netherlands, Sweden and Denmark reach top positions in *Open, excellent and effective research systems*; Estonia, Denmark, Finland and Sweden perform best in *Finance and support*; Germany, Sweden, Estonia and Finland are the best performers in *Firm investments*; Belgium, United Kingdom and Denmark are top performers in *Linkages and entrepreneurship*; Sweden, Denmark, Finland and Germany reach top positions in *Intellectual assets*; Ireland, Luxembourg and Germany are the best performers in the *Innovators* dimension; and Ireland, Denmark and Luxembourg reach the highest results in *Economic effects*.

Over a longer time period of eight years, the EU has been improving its innovation performance, with Latvia, Bulgaria and Malta being the innovation growth leaders...

Overall, the EU average annual growth rate of innovation performance has reached 1.0% over the analysed eight-year period 2007-2014 with most Member States improving their innovation performance. Latvia, Bulgaria and Malta are the innovation growth leaders. For a few Member States innovation performance has not improved. For Luxembourg, Finland and Greece the average annual growth rates are just positive, for Cyprus it is just negative and for Spain and Romania average annual growth rates are clearly negative.

... but innovation growth differences exist also within the groups...

In the group of Innovation leaders, performance over the eight-year period has improved strongest for Denmark, while Finland's performance has been improving at the lowest rate. Slovenia is the fastest growing Innovation follower, while Luxembourg is the slowest. In the group of Moderate innovators, Malta and Czech Republic have improved the most, while performance for Spain and Cyprus has become worse. Among the Modest innovators, the highest innovation progress is recorded in Latvia and Bulgaria whereas a strong performance decline occurred in Romania.

... and the innovation gap between the Member States closes slowly.

Innovation performance among the Member States is converging but, due to a significant increase in performance differences 3 years ago, performance differences between Member States are still at a relatively high level. This process of convergence is also observed within the groups of the Innovation followers and Moderate innovators, but for the Innovation leaders differences between countries in this group have remained the same and for the Modest innovators differences between countries have increased.

However, compared to last year, innovation has not been improving...

A direct comparison with the results of last year's edition is not possible as there have been some changes in the measurement framework, but a comparison with innovation performance as it would have been last year using the same measurement framework shows that innovation performance has declined for 13 Member States, in particular for Romania, Cyprus, Estonia, Greece and Spain. For the EU at large innovation performance has not changed and for 15 Member States it has improved, most notably for Malta, Latvia and Bulgaria.

... which is mostly due to a decrease in innovation activities as measured by the Community Innovation Survey...

Performance declined in particular for those indicators using the latest 2012 data from the Community Innovation Survey (CIS). For 21 Member States there has been a decline in the share of sales due to new innovative products, for 21 Member States the share of SMEs that introduced a product or process innovation has declined, and for 20 Member States the share of SMEs that introduced a marketing or organisational innovation has declined. Without the use of the latest CIS 2012 data performance would have worsened only for 7 Member States. Also for Public-private co-publications and Venture capital investments performance has decreased for respectively 24 and 16 Member States.

... but might also be the result of a delayed effect of the economic crisis on business activities.

Decreasing shares of enterprises with innovation activities, a reduced activity in public-private interactions as measured by public-private co-publications and declining venture capital investments all signal a possible negative effect of the economic crisis on business activities.

At a wider European level, Switzerland confirms its top position outperforming all EU Member States...

Taking into account European countries outside the EU, also this year Switzerland confirms its position as the overall Innovation leader by continuously outperforming all EU Member States and by being the best performer in as many as six indicators. But Switzerland's innovation performance has improved at a much slower pace than that of the EU. Iceland is an Innovation follower with an above EU-average performance, Norway and Serbia are Moderate innovators and the Former Yugoslav Republic of Macedonia and Turkey are Modest innovators. For both Serbia and Turkey, innovation has improved strongly with average annual growth rates above 6%.

... and internationally South Korea and the US defend their positions as top global innovators.

When looking at performance of innovation systems in a global context, South Korea, the US and Japan all have a performance lead over the EU. South Korea outperforms the EU by 24%, the United States has a lead of 22% and Japan has a lead of 14%. While the gap between the EU and both the US and Japan is decreasing, it widens with South Korea.

The top innovation leaders US, Japan and South Korea are particularly dominating the EU in indicators capturing business activity as measured by R&D expenditures in the business sector, Public-private co-publications and PCT patents but also in educational attainment as measured by the Share of population having completed tertiary education.

As compared with other key international partners, the EU continues to have a performance lead over Australia and Canada that score at 66% and 75% of the EU level, respectively. The performance lead is even larger compared to the BRICS countries (Brazil, Russia, India, China and South Africa). This lead is stable or even increasing for almost all BRICS countries, except for China. Even though its current innovation performance is at 49% of the EU level, China continues to reduce the gap by growing faster than the EU.