### European Innovation Scoreboard 2022

**France** Performance relative to EU in 2022: 105.4%

**Human resources**
- Doctorate graduates: 114.8%
- Population with tertiary education: 155.7%
- Lifelong learning: 102.2%

**Attractive research systems**
- International scientific co-publications: 84.1%
- Most cited publications: 90.2%
- Foreign doctorate students: 221.2%

**Digitalisation**
- Broadband penetration: 105.1%
- People with above basic overall digital skills: 122.7%

**Finance and support**
- R&D expenditures in the public sector: 97.0%
- Venture capital expenditures: 128.3%
- Government support for business R&D: 183.4%

**Innovators**
- Product innovators (SMEs): 98.9%
- Business process innovators (SMEs): 109.5%

**Linkages**
- Innovative SMEs collaborating with others: 137.2%
- Job-to-job mobility of HRST: 112.5%

**Intellectual assets**
- PCT patent applications: 103.0%
- Trademark applications: 69.0%

**Employment impacts**
- Employment in knowledge-intensive activities: 116.9%
- Employment in innovative enterprises: 105.5%

**Sales impacts**
- Medium and high-tech goods exports: 96.9%
- Knowledge-intensive services exports: 91.7%

**Environmental sustainability**
- Resource productivity: 150.7%
- Air emissions by fine particulate matter: 107.0%

**SUMMARY INNOVATION INDEX**
- Performance relative to EU in 2022: 105.4%
- Performance change 2015-2022: -1.0%
- Performance change 2021-2022: -1.0%

FRANCE is a **Strong Innovator** with performance at 105.4% of the EU average. Performance is below the average of the Strong Innovators (114.5%). Performance is decreasing (-1.0%-points) and is lower than the rate of increase of the EU (9.9%-points). The country’s performance lead over the EU is becoming smaller.

**Relative strengths**
- Foreign doctorate students
- Government support for business R&D
- Population with tertiary education
- Resource productivity
- Innovative SMEs collaborating with others

**Relative weaknesses**
- Sales of innovative products
- Non-R&D Innovation expenditures
- Design applications
- Enterprises providing ICT training
- Trademark applications

**Strong increases since 2015**
- Job-to-job mobility of HRST
- Resource productivity
- Venture capital expenditures

**Strong decreases since 2015**
- Sales of innovative products
- Enterprises providing ICT training
- Doctorate graduates

**Strong increases since 2021**
- Business process innovators
- Innovative SMEs collaborating with others
- Venture capital expenditures

**Strong decreases since 2021**
- Enterprises providing ICT training
- Job-to-job mobility of HRST
- Product innovators

The second column shows performance relative to that of the EU in 2022. Colours next to the columns show matching colour codes: dark green: above 125% of the performance of the EU in 2022; light green: between 100% and 125%; yellow: between 70% and 100%; orange: below 70%. Normalised performance uses the data after a possible imputation of missing data and transformation of the data. The next columns show performance change over time between 2015 and 2022 and between 2021 and 2022, with scores relative to those of the EU in 2015. Positive performance changes are shown in green, negative performance changes in red.
The graph on the left shows the evolution of innovation performance over time against the performance of the country in 2015. Innovation performance has declined over time. After an initial increase between 2015 and 2017, performance declined until 2020, followed by an increase in 2021 and a further decline in 2022. The graphs below show the evolution of innovation performance in the different innovation dimensions against the performance of the country in 2015. Performance increased strongest for Intellectual assets, almost did not change for Research systems and Firm investments, and declined for Human resources, Information technologies, Intellectual assets, Employment impacts and Sales impacts.

Structural differences with the EU are shown below:
- France has higher per capita income but a slower growing economy. Business services takes up a larger share of the economy, with large enterprises accounting for a larger share of turnover.
- Entrepreneurial activity and FDI net inflows add positively to the innovation climate, enterprise births add negatively.
- France has a much higher share of In-house product innovators with market novelties.
- Entrepreneurial training and government procurement are below the EU average as drivers of research and innovation.
- France shows a mixed performance on Climate change related indicators with a lower share of material resources coming from recycled waste materials but an above average score on environmental innovation.

<table>
<thead>
<tr>
<th>Performance and structure of the economy</th>
<th>FR</th>
<th>EU</th>
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<tbody>
<tr>
<td>GDP per capita (PPS)</td>
<td>32,700</td>
<td>31,200</td>
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<tr>
<td>Average annual GDP growth (%)</td>
<td>-1.1</td>
<td>-0.4</td>
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<tr>
<td>Employment share Manufacturing (NACE C) (%)</td>
<td>11.6</td>
<td>16.4</td>
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<tr>
<td>of which High and Medium high-tech (%)</td>
<td>35.1</td>
<td>38.0</td>
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<tr>
<td>Employment share Services (NACE G-N) (%)</td>
<td>41.5</td>
<td>41.1</td>
</tr>
<tr>
<td>of which Knowledge-intensive services (%)</td>
<td>39.0</td>
<td>35.8</td>
</tr>
<tr>
<td>Turnover share SMEs (%)</td>
<td>25.3</td>
<td>34.8</td>
</tr>
<tr>
<td>Turnover share large enterprises (%)</td>
<td>60.1</td>
<td>48.2</td>
</tr>
<tr>
<td>Foreign-controlled enterprises – share of value added (%)</td>
<td>7.2</td>
<td>11.7</td>
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</tbody>
</table>

**Business and entrepreneurship**
- Enterprise births (10+ employees) (%) | 0.4 | 1.0 |
- Total Entrepreneurial Activity (TEA) (%) | 7.7 | 7.3 |
- FDI net inflows (% GDP) | 1.8 | 1.0 |
- Top R&D spending enterprises per 10 mln. population | 18.6 | 18.3 |
- Buyer sophistication (1 to 7 best) | 4.1 | 3.7 |

**Innovation profiles**
- In-house product innovators with market novelties | 20.2 | 10.7 |
- In-house product innovators without market novelties | 6.2 | 12.3 |
- In-house business process innovators | 8.9 | 11.0 |
- Innovators that do not develop innovations themselves | 12.0 | 11.6 |
- Innovation active non-innovators | 3.8 | 3.3 |
- Non-innovators with potential to innovate | 12.9 | 19.9 |
- Non-innovators without disposition to innovate | 36.0 | 31.3 |

**Governance and policy framework**
- Ease of starting a business (0 to 100 best) | 76.5 | 76.5 |
- Basic school entrepreneurial education and training | 2.9 | 3.5 |
- Govt. procurement of advanced tech. products | 3.8 | 3.5 |
- Rule of law (2.5 to 2.5 best) | 1.4 | 1.3 |

**Climate change indicators**
- Circular material use rate | 9.9 | 12.2 |
- Greenhouse gas emissions intensity of energy consumption | 79.5 | 82.8 |
- Eco-Innovation Index | 107.6 | 100.0 |

**Demography**
- Population size | 67.4 | 447.0 |
- Average annual population growth (%) | 0.4 | 0.1 |
- Population density | 105.9 | 108.8 |