Barcelona, Spain

Barcelona is the second-ranked cluster, out of 2 Spanish clusters, that falls within the top 100 S&T clusters in 2023. It filed 480 PCT applications and published 5,899 scientific articles, both per 1 million inhabitants over the last five years, making it the:

54th largest science and technology cluster in 2023 (down two spots from 2022)
76th S&T cluster by intensity (relative to population density) in 2023 (unchanged from 2022)

Top PCT applicants

<table>
<thead>
<tr>
<th>Rank</th>
<th>Applicant</th>
<th>Patents</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hewlett-Packard</td>
<td>791</td>
<td>33%</td>
</tr>
<tr>
<td>2</td>
<td>Consejo Superior de Investigaciones Científicas (Csic)</td>
<td>39</td>
<td>2%</td>
</tr>
<tr>
<td>3</td>
<td>Universitat Politecnica de Catalunya</td>
<td>36</td>
<td>2%</td>
</tr>
</tbody>
</table>

Top publishing organizations

<table>
<thead>
<tr>
<th>Rank</th>
<th>Organization</th>
<th>Articles</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University of Barcelona</td>
<td>4,820</td>
<td>16%</td>
</tr>
<tr>
<td>2</td>
<td>Autonomous University of Barcelona</td>
<td>3,293</td>
<td>11%</td>
</tr>
<tr>
<td>3</td>
<td>Politechnic University of Catalonia</td>
<td>3,289</td>
<td>11%</td>
</tr>
</tbody>
</table>

Top technology fields in Barcelona

- Computer tech. (6%)
- Textile and paper machines (13%)
- Pharma (10%)
- Other machines (15%)
- Technology (10%)
- Biochem. & biotech. (7%)
- Clinical medicine (6%)
- Medical tech. (8%)
- Earth sciences (7%)
- Physics & math (9%)
- Handling (5%)
- Organic fine chem. (4%)
- Engineering (6%)
- Chemistry (9%)
- Clinical medicine (6%)

23% of Barcelona’s PCT patent applications are filed in collaboration with other inventors, with San Jose–San Francisco, Portland and Madrid emerging as the top collaborative locations.

67% of Barcelona’s scientific articles are published in collaboration with other organizations, with the top three collaborating locations being Madrid, London and Paris.