



## Changsha, China

Changsha is the eleventh-ranked cluster, out of 24 Chinese clusters, that falls within the top 100 S&T clusters in 2023. It filed **288 PCT applications** and published **13,202 scientific articles**, both per 1 million inhabitants over the last five years, making it the:

**37<sup>th</sup>** largest science and technology cluster in 2023 (up two spots from 2022)

**37<sup>th</sup>** S&T cluster by intensity (relative to population density) in 2023 (up six spots from 2022)

### Top PCT applicants

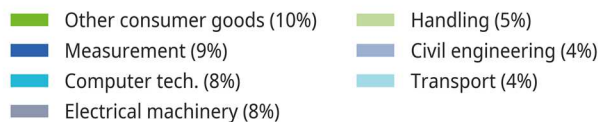
		Patents	Share
1	Central South University	123	11%
2	China Tobacco	103	9%
3	Changsha University of Science & Technology	67	6%

### Top publishing organizations

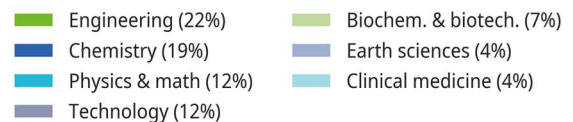
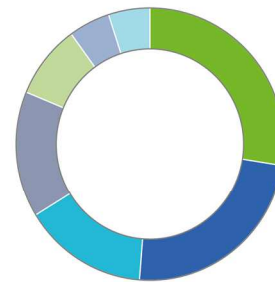
		Articles	Share
1	Central South University	23,844	45%
2	Hunan University	9,166	17%
3	National University of Defense Technology - China	5,543	11%

### Top technology fields in Changsha

Patents



Publications



**6%** of Changsha's PCT patent applications are filed in collaboration with other inventors, with **Beijing, Shenzhen-Hong Kong-Guangzhou** and **Shanghai-Suzhou** emerging as the top collaborative locations.

**52%** of Changsha's scientific articles are published in collaboration with other organizations, with the top three collaborating locations being **Beijing, Shenzhen-Hong Kong-Guangzhou** and **Shanghai-Suzhou**.