

TABLE 36.1. REUTERS TOP UNIVERSITIES INNOVATION METRICS

Clarivate Analytics identified more than 600 global organizations that published the most articles in academic journals, including educational institutions, nonprofit charities and government-funded institutions. That list was reduced to institutions that filed at least 50 patents with the World Intellectual Property Organization [WIPO] between 2011 and 2016. [From Reuters website](#). The Asia-Pacific list is derived from a subset of 150 universities from East and South Asia and Oceania and the European list is from a subset of 180.

Category	Source	Definition	Notes
Patent Volume	Derwent World Patents Index; Derwent Innovations Index	Number of basic patents (patent families) filed by the organization.	An indication of research output that has a potential for commercial value. The number is limited only to those patents that are registered with the World Intellectual Property Organization (WIPO).
Patent Success	Derwent World Patents Index; Derwent Innovations Index	Ratio of patent applications to grants [i.e. patents granted] over the assessed timeframe.	This indicates the university's success in filing applications that are then accepted.
Global Patents	Derwent World Patents Index; Derwent Innovations Index	Percentage of patents for which coverage was sought with the U.S., European and Japanese patent offices.	Filing an international patent is an expensive and laborious process and filing in multiple countries or regions is an indication that the invention is considered nontrivial and has commercial value.
Patents Citations	Patents Citation Index	Total number of times a patent has been cited by other patents.	As part of the patent inspection process, the patent office examiner will cite significant prior art. The number of times a patent has been cited is an indication that it has an impact on other commercial R&D.
Patent Citation Impact	Patents Citation Index	An indication of how much impact a patent has had. Size Independent	Percent of Patents Cited (listed below) is closely related to this indicator, these two indicators are given half the weightings of the others
Percent of Patents Cited	Patents Citation Index	The proportion of patents that have been cited by other patents one or more times. Size independent	Closely tied to the Patent Citation Impact indicator
Patent to	Patents Citation Index,	Measures the average number of times a	Unique indicator demonstrates that basic research

Article Citation Impact	Derwent World Patents Index, Web of Science	journal article has been cited by patents	conducted in an academic setting (as recorded in scholarly articles) has had influence and impact in the realm of commercial research & development (as measured by patents).
Industry Article Citation Impact	Web of Science (WOS)	Article-to-article citations are an established indicator of influence and research impact.	By limiting the citing articles only to those from industry, this indicator reveals the influence and impact that basic research conducted in an academic setting has had on commercial research.
% Industry Collaborative Articles	WOS	Percentage of all articles of a university that contain one or more co-authors from a commercial entity.	This indicator shows the percentage of research activity that is conducted in collaboration with industry, suggesting potential future economic impact of the research project jointly undertake
Total WOS Papers	WOS	The total number of journal articles published by the organization.	Size-dependent measure of the research output of the university.

Final Score: The indicators were used to rank each of the universities and the composite score was achieved by summing the ranks for each criterion for each university. Each indicator was weighted equally except for Patent Citation Impact and Percent of Patents Cited, which received 50 percent weighting each since they are closely related in measuring the same phenomenon. If two or more universities tied in their final score, then the number of Patent Citations was used to separate them, since that indicator is closely related to demonstrating the continuing utility of an invention or process.

Asia-Pacific 2018 Methodology: <https://www.reuters.com/innovative-universities-asia-2018/methodology>

World methodology 2017 describes the differences among the rankings' methodologies (2018 will be released end of September, beginning of October
<https://www.reuters.com/innovative-universities-2017/methodology>