

# GLODEM Dataset

## (Global Digital Education Management Dataset)

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### Original Article

Digital Intelligence for Higher Education as a Global Approach to Reshape Institutional Innovation and Transform the Management of Education Systems

### Data and Model Availability

The dataset and model from this study can be found under a Creative Commons Attribution (CC BY 4.0) license through the Zenodo repository, ensuring transparency and reproducibility.

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## 1. Introduction

The urgency to comprehend the implications of digital intelligence on the management of education has never been greater. Universities globally are under the pressure of expanding access, assuring equity, and simultaneously competing in a climate characterized by rapid digitalization (Knight & Gašević, 2023). The Global Digital Education Management (GLODEM) Dataset responds to this demand by providing cross-country and cross-sector empirical evidence on the relation between readiness of infrastructure, technological capability, governance and adaptability to sustained transformative change (Nguyen et al., 2021). It has scope that covers 92 institutions proportionally sampled from the Times Higher Education World University Rankings. This ensures methodological soundness and global representativeness (UNESCO, 2024). The dataset informs policy discussions at the global, regional, and local levels owing to the ability to make direct comparisons across 20 countries and the differing resource endowments and governance frameworks in place.

This aids scholars in analyzing different theories regarding adoption, digital governance, and adjustments to higher education institutions (Komljenovic, 2024). The dataset builds upon the Unified Theory of Acceptance and Use of Technology by adding factors, such as the equity of the adoption infrastructure, the capacity of governance, and cultural adaptability, which have previously been omitted in the literature on technology adoption (Fernández et al., 2023). Unlike previous datasets, this one is distinctive because it combines scale, cross-border country classification, and empirical econometrics, thus being the first dataset to explicitly connect the drivers of adoption to tangible transformation (Inamorato dos Santos et al., 2023). Most importantly, the analysis shows that infrastructure is the strongest predictor of transformation, followed by capability, and governance with cultural adaptability serving a moderating role (HolonIQ, 2024). These findings bridge the gap between theoretical literature on the adoption of technology and global challenges on educational inequity and systemic injustice. This dataset enhances open science by providing reproducible, transparent, and publicly available indicators under a CC BY 4.0. It focuses on actionable insights: universities should ensure availability of bandwidth and digital repositories before implementing any high-level analytics; governance frameworks should receive as much funding as technology; text Multilateral agencies should consider cultural adaptability as a core prerequisite to technology transformation.

This dataset contributes to theory by incorporating global governance, infrastructure equity, and institutional adaptability to the Unified Theory of Acceptance and Use of Technology, which extends the framework’s descriptive adequacy and articulates an enhanced lens through which to assess the phenomena of digital transformation in higher education systems. It ties findings to global rather than merely local discourse.

## 2. Study Population and Sample Size

The dataset features a complete population frame of 1,907 universities listed in the Times Higher Education World University Rankings 2024. A representative sample of 92 universities from 20 countries (Appendix 2) was calculated using Cochran’s formula with finite population correction. The sample was designed to achieve a 95% confidence level and a 10% margin of error. The formula used was Cochran’s formula for proportions with finite population correction.

$$n_0 = (Z^2 \cdot p \cdot (1-p)) / e^2$$

$$n = n_0 / [1 + (n_0 - 1) / N]$$

Where  $Z = 1.96$  for 95% confidence,  $p = 0.5$  (max variability),  $e = 0.10$  (10% margin),  $N = 1,907$ .

$$n_0 = 0.9604 / 0.01 = 96.04$$

$$n = 96.04 / [1 + 95.04 / 1,907] = 96.04 / 1.0499 = 91.5 \rightarrow \text{target sample } n = 92.$$

Appendices 1 and 3 present country- and sector-based (public vs private) stratification that included a proportionate representation of both advanced and emerging economies. This approach mitigated bias and improved the overall representativeness of the data. This strategy encompasses both global leaders and institutions located geographically in lower-resourced regions, thereby enhancing the robustness of the dataset for comparisons both cross-nationally and cross-sectorally. This type of proportional sampling is the most appropriate since it corresponds institutional size to the weight of the subject in the global system and reflects true diversity, as opposed to accidental or disproportionate choices (Times Higher Education, 2024; UNESCO, 2024).

## 3. Data Analysis

The descriptive analysis establishes the foundations for capturing the baseline understanding of digital intelligence and its adoption, cultural modulation, and transformation outcome. It emphasizes not only the variations in determinants at a global level but also cross-regional variations. This adds to the explanatory power of the UTAUT and the GLODEM model. Each of the sub-variables is examined to surface theoretical, practical, and policy value.

### 3.1 Infrastructure Readiness

The expression of digital intelligence in operationalized institutional settings is highly dependent upon the institutions’ array of network bandwidth, cloud services, and repository accessibility.

**Table 1. Infrastructure Readiness Across Regions.**

This table summarizes the major world regional averages for the reported levels of connectivity and availability of digital resources.

Region	Mean Bandwidth (Mbps/student)	% Institutions with Cloud Access	% with Digital Repositories
North America	95.2	90	98
Europe	88.3	85	94

Region	Mean Bandwidth (Mbps/student)	% Institutions with Cloud Access	% with Digital Repositories
Asia	72.5	78	89
Africa	45.7	52	60
Latin America	50.8	60	70

**Data source:** *Fernández et al. (2023), HolonIQ (2022).*

The results indicated in (Table 1) expose a structural divide in global infrastructure. North America and Europe have nearly universal readiness, while Africa and Latin America lag considerably. This advances theory because it reveals regional infrastructure equity as a determinant absent in the original UTAUT, which assumed relatively stable facilitating conditions. The novelty lies in showing that intention and effort expectancy are meaningless without basic bandwidth and repositories. Compared with Fernández et al. (2023), who focused on project-level infrastructure effects, this study extends the debate by elevating infrastructure equity to a global justice issue. For practice, institutions in low-resource contexts cannot skip the foundational step of securing bandwidth before investing in analytics. For policy, multilateral agencies like UNESCO should fund infrastructure as a prerequisite for transformation, not as an optional enhancement. For theory, this finding enriches adoption models by embedding structural inequities, thus lifting the debate from organizational adoption to global educational equity.

### 3.2 Technological Capability

Technological capability refers to institutional use of AI, predictive analytics, and automation. The absence of applied digital systems should not indicate that institutions lack advanced infrastructure.

**Table 2. Technological Capability Indicators by Region**

The (Table 2) summarizes adoption of AI-enabled instruction, analytics, and automation across world regions.

Region	% Use AI-enabled Instruction	% Use Predictive Analytics	% Use Administrative Automation
North America	80	72	85
Europe	76	68	80
Asia	65	55	70
Africa	38	25	40
Latin America	45	30	48

**Data source:** *Inamorato dos Santos et al. (2023), HolonIQ (2023).*

Analyses suggest the existence of a “second digital gap”: the lack predictive analytics adoption even when infrastructures exist. This is important to show that predictive analytics use is not a given; institutions must attain some level of capability maturity, an overlooked factor in UTAUT. The use of infrastructure and the intent to use predictive analytics are not enough to guarantee analytics use (Inamorato dos Santos et al, 2023). In practice, institutions should also consider staff training and contextualized AI tools. Policies should focus on subsidizing

capability building that ties technology and skilled manpower. The presence of technology, tools, and infrastructure shows the absence of predictive analytics constitutes a two-step process: readiness and capability. This absence of predictive analytics use challenges the assumption that advanced infrastructure results in automation.

### 3.3 Policy and Governance

Policy and governance involve institutional designs, country-wide regulations, and leadership posts. These elements determine if adoption is directed, aligned, and accountable. These elements determine if adoption is directed, aligned, and accountable.

**Table 3. Policy and Governance Across Regions.**

The (Table 3) shows regional distributions of digital strategies, regulations, and leadership structures.

Region	% with Digital Strategy	% with National Regulation	% with Leadership Office
North America	96	94	90
Europe	93	89	87
Asia	82	79	75
Africa	55	48	42
Latin America	60	52	50

*Data source: European Commission (2023), Komljenovic (2024).*

There is a clear gap in governance, particularly with Africa and Latin America being the lowest. For theory, this shows adoption is a function of governance structures, extending UTAUT by embedding policy scaffolding as a structural precursor. The novel contribution is the demonstration that governance is not merely facilitative, but pivotal. While Komljenovic (2024) points out the governance paradox, this work shows governance as a fundamental predictor of successful adoption. In practice, institutions should establish digital offices and integrate strategy with execution. For policy, national digital regulations should be mandated as a funding prerequisite. For theory, the absence of governance in adoption frameworks positions institutional leadership and regulation at the forefront of digital transformation discussions.

### 3.4 Cultural and Institutional Contexts

Across different contexts, cultures, and institutions the moderation of adoption outcomes is influenced by the spheres of openness to change and flexibility. Without flexibility, potential value from strong infrastructures and competencies remains untapped. The Adaptability and Openness to Change by Region

**Table 4. Cultural and Institutional Context Measures by Region**

The (Table 4) reports institutional openness to change and adaptability across regions.

Region	% Openness to Change	% Adaptability
North America	83	80
Europe	79	75
Asia	70	65
Africa	50	42
Latin America	55	48

*Data source: EDUCAUSE (2020), Nguyen et al. (2021).*

Strengths of the results include instances of signal cross continental Latin America and Africa. Adaptability reinforces the theory perspective of UTAUT, redefining social influence from peer level to institution. Adaptability emerged as a new key moderator and as a justification for Nguyen et al. (2021) where course level was the focus on work. For practice, universities need embedded policies on the change cycle scaffolds. For policy, the suggested governmental focus of funding is on practices that develop culturable systems of flexibility. Adaptability as a for theory proposition will enhance the adoption literature by the inclusion of organizational elements and repositioning the focus from individual to an institutional level. More importantly, the work indicates the closing of digital gaps requires an attention on non-material divides as well.

### 3.5 Education Management Transformation

Transformation outcomes focus on how adoption manifests at the systemic level through enhancements in the quality of academics, operational efficiency, cooperative interaction, and active engagement. These signs capture the essence of whether the value of digital adoption becomes visible.

**Table 5. Transformation Outcomes by Region**

The (Table 5) displays the improvements in regionally reported educational management outcomes.

Region	Academic Quality	Admin Efficiency	Global Collaboration	Student Engagement
North America	72	77	84	75
Europe	69	74	80	71
Asia	63	68	72	66
Africa	39	45	48	42
Latin America	44	50	54	46

*Data source: Knight and Gašević (2023), HolonIQ (2024).*

Findings indicate significant changes in developed areas, moderate improvements in Asia, and limited changes in Africa and Latin America. This is a global concern since it signifies that mere adoption is meaningless, as results hinge on preparedness, potential, governance structures, and flexibility. The innovation is in incorporating global integration and student participation as results that can be measured but were absent in UTAUT. This study demonstrates maturity of adoption as a static outcome, in contrast to Knight and Gašević (2023), who view collaboration and integration as a process. Practically, universities should pair engagement and collaboration strategies with digital adoption. From a policy standpoint, international partnership and digital mobility initiatives need funding from government and international aid donors. The results, from a theoretical perspective, extend models on adoption to integrated transformation frameworks, shifting the outcome from narrow efficiency to a wider global outreach and connectivity. This lifts the debate and demonstrates that digital transformation involves repositioning organizations within the global higher education landscape, rather than focusing on internal efficiencies

## 4. Conclusions and Future Directions

It is evident that the disparities in infrastructure and technological capacity, governance, and adaptability will continue to shape higher educational transformations on a global scale.

Evidence shows that the readiness of infrastructure is the most powerful, followed by competence and governance, whereas adaptability is an outcome of control within different regions (Fernández et al., 2023; Inamorato dos Santos et al., 2023; Komljenovic, 2024). The extension of the Unified Theory of Acceptance and Use of Technology to the GLODEM model improves the theoretical framework and enhances its global significance (Nguyen et al., 2021). In the case of resources, universities need to align their strategic goals, while in the case of advanced systems, the governments need to scale their governance and regulatory control (European Commission, 2023; UNESCO, 2024). Structural investments that target gaps in infrastructure and cultural flexibility should be prioritized by multilateral organizations (HolonIQ, 2024; Knight & Gašević, 2023). The suggested perspectives highlight a scenario within which institutions integrate readiness, governance, and adaptability to achieve a sustainable digital shift in their operations and address persistent inequities in international education.

## 5. Limitations and Future Extensions.

The dataset limitations are caused by the use of secondary sources that do not capture all the dynamics of an institution. Though the 92 sampled universities constitute substantial coverage, smaller university systems are omitted, which could provide important insights (UNESCO, 2024). The use of fixed indicators may not capture emerging conversations, such as the ethical use of AI, data, and other issues that may arise (Komljenovic, 2024). In future studies, the design of the model could be enhanced by longitudinal studies, the use of qualitative data, and the inclusion of other non-university institutions such as vocational and adult education (Nguyen et al., 2021). Post studies could integrate the transformative indicators of education and the performance of the labor market, student mobility, and the other dimensions of sustainability (HolonIQ, 2024). Validity and global applicability will improve the more we do comparative analyses of competing models in various regions. Acknowledgments. The authors thank Times Higher Education, QS, UNESCO, the European Commission, and HolonIQ for providing open-access datasets and reports. Their work constituted the empirical foundation for the global comparative aspects of the analysis. Thanks are also due to the universities that provided the data for the analysis, and the scholars whose work influenced the theoretical and empirical framing of the analysis.

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## APPENDICES

### Appendix 1: Sample size table

Parameter	Value
Confidence level (Z)	1.96
Assumed proportion (p)	0.5
Margin of error (e)	0.10
Population size (N)	1907
Initial size $n_0$	96.04
Finite-population corrected n	91.5
Target sample n	92

**Appendix 2: Allocation by country and sector**

Below is a proportional allocation to 20 countries with strong representation in global rankings.

<b>Country</b>	<b>Allocated sample</b>	<b>Sector split rule</b>
United States	18	70% public, 30% private
United Kingdom	10	90% public, 10% private
China	9	95% public, 5% private
Germany	6	100% public
Australia	6	100% public
Canada	5	90% public, 10% private
Japan	4	90% public, 10% private
South Korea	4	75% public, 25% private
France	4	100% public
Netherlands	3	100% public
Switzerland	3	100% public
Sweden	3	100% public
Italy	3	100% public
Spain	3	100% public
Singapore	2	100% public
Hong Kong SAR	2	100% public
India	2	100% public
Saudi Arabia	2	100% public
Brazil	2	100% public
South Africa	2	100% public

**Appendix 3: List of 92 universities by country with source reference**

Country	University	Source
United States	Massachusetts Institute of Technology	<a href="https://www.topuniversities.com/universities/massachusetts-institute-technology-mit">https://www.topuniversities.com/universities/massachusetts-institute-technology-mit</a>
United States	Harvard University	<a href="https://www.topuniversities.com/universities/harvard-university">https://www.topuniversities.com/universities/harvard-university</a>
United States	Stanford University	<a href="https://www.topuniversities.com/universities/stanford-university">https://www.topuniversities.com/universities/stanford-university</a>
United States	Princeton University	<a href="https://www.topuniversities.com/universities/princeton-university">https://www.topuniversities.com/universities/princeton-university</a>
United States	University of Chicago	<a href="https://www.topuniversities.com/universities/university-chicago">https://www.topuniversities.com/universities/university-chicago</a>
United States	University of California Berkeley	<a href="https://www.topuniversities.com/universities/university-california-berkeley">https://www.topuniversities.com/universities/university-california-berkeley</a>
United States	University of California Los Angeles	<a href="https://www.topuniversities.com/universities/university-california-los-angeles-ucla">https://www.topuniversities.com/universities/university-california-los-angeles-ucla</a>
United States	University of Michigan Ann Arbor	<a href="https://www.topuniversities.com/universities/university-michigan">https://www.topuniversities.com/universities/university-michigan</a>
United States	University of Washington Seattle	<a href="https://www.topuniversities.com/universities/university-washington">https://www.topuniversities.com/universities/university-washington</a>
United States	University of Illinois Urbana-Champaign	<a href="https://www.topuniversities.com/universities/university-illinois-urbana-champaign">https://www.topuniversities.com/universities/university-illinois-urbana-champaign</a>
United States	University of Texas at Austin	<a href="https://www.topuniversities.com/universities/university-texas-austin">https://www.topuniversities.com/universities/university-texas-austin</a>
United States	University of Wisconsin Madison	<a href="https://www.topuniversities.com/universities/university-wisconsin-madison">https://www.topuniversities.com/universities/university-wisconsin-madison</a>
United States	University of North Carolina at Chapel Hill	<a href="https://www.topuniversities.com/universities/university-north-carolina-chapel-hill">https://www.topuniversities.com/universities/university-north-carolina-chapel-hill</a>
United States	University of Florida	<a href="https://www.topuniversities.com/universities/university-florida">https://www.topuniversities.com/universities/university-florida</a>
United States	University of Maryland College Park	<a href="https://www.topuniversities.com/universities/university-maryland-college-park">https://www.topuniversities.com/universities/university-maryland-college-park</a>

Country	University	Source
United States	University of California San Diego	<a href="https://www.topuniversities.com/universities/university-california-san-diego-ucsd">https://www.topuniversities.com/universities/university-california-san-diego-ucsd</a>
United States	University of California Davis	<a href="https://www.topuniversities.com/universities/university-california-davis">https://www.topuniversities.com/universities/university-california-davis</a>
United Kingdom	University of Oxford	<a href="https://www.topuniversities.com/universities/university-oxford">https://www.topuniversities.com/universities/university-oxford</a>
United Kingdom	University of Cambridge	<a href="https://www.topuniversities.com/universities/university-cambridge">https://www.topuniversities.com/universities/university-cambridge</a>
United Kingdom	Imperial College London	<a href="https://www.topuniversities.com/universities/imperial-college-london">https://www.topuniversities.com/universities/imperial-college-london</a>
United Kingdom	University College London	<a href="https://www.topuniversities.com/universities/university-college-london">https://www.topuniversities.com/universities/university-college-london</a>
United Kingdom	London School of Economics and Political Science	<a href="https://www.topuniversities.com/universities/london-school-economics-and-political-science-lse">https://www.topuniversities.com/universities/london-school-economics-and-political-science-lse</a>
United Kingdom	University of Edinburgh	<a href="https://www.topuniversities.com/universities/university-edinburgh">https://www.topuniversities.com/universities/university-edinburgh</a>
United Kingdom	University of Manchester	<a href="https://www.topuniversities.com/universities/university-manchester">https://www.topuniversities.com/universities/university-manchester</a>
United Kingdom	Kings College London	<a href="https://www.topuniversities.com/universities/kings-college-london">https://www.topuniversities.com/universities/kings-college-london</a>
United Kingdom	University of Bristol	<a href="https://www.topuniversities.com/universities/university-bristol">https://www.topuniversities.com/universities/university-bristol</a>
United Kingdom	University of Warwick	<a href="https://www.topuniversities.com/universities/university-warwick">https://www.topuniversities.com/universities/university-warwick</a>
China	Tsinghua University	<a href="https://www.topuniversities.com/universities/tsinghua-university">https://www.topuniversities.com/universities/tsinghua-university</a>
China	Peking University	<a href="https://www.topuniversities.com/universities/peking-university">https://www.topuniversities.com/universities/peking-university</a>
China	Fudan University	<a href="https://www.topuniversities.com/universities/fudan-university">https://www.topuniversities.com/universities/fudan-university</a>
China	Zhejiang University	<a href="https://www.topuniversities.com/universities/zhejiang-university">https://www.topuniversities.com/universities/zhejiang-university</a>
China	Shanghai Jiao Tong University	<a href="https://www.topuniversities.com/universities/shanghai-jiao-tong-university">https://www.topuniversities.com/universities/shanghai-jiao-tong-university</a>
China	Nanjing University	<a href="https://www.topuniversities.com/universities/nanjing-university">https://www.topuniversities.com/universities/nanjing-university</a>
China	University of	<a href="https://www.topuniversities.com/universities/university-">https://www.topuniversities.com/universities/university-</a>

Country	University	Source
na	Science and Technology of China	<a href="#">science-technology-china</a>
na	Chi Sun Yat-sen University	<a href="https://www.topuniversities.com/universities/sun-yat-sen-university">https://www.topuniversities.com/universities/sun-yat-sen-university</a>
na	Chi Wuhan University	<a href="https://www.topuniversities.com/universities/wuhan-university">https://www.topuniversities.com/universities/wuhan-university</a>
many	Ger Ludwig-Maximilians-Universität München	<a href="https://www.topuniversities.com/universities/ludwig-maximilians-universitat-munchen">https://www.topuniversities.com/universities/ludwig-maximilians-universitat-munchen</a>
many	Ger Technical University of Munich	<a href="https://www.topuniversities.com/universities/technical-university-munich">https://www.topuniversities.com/universities/technical-university-munich</a>
many	Ger Heidelberg University	<a href="https://www.topuniversities.com/universities/heidelberg-university">https://www.topuniversities.com/universities/heidelberg-university</a>
many	Ger Karlsruhe Institute of Technology	<a href="https://www.topuniversities.com/universities/karlsruhe-institute-technology-kit">https://www.topuniversities.com/universities/karlsruhe-institute-technology-kit</a>
many	Ger Humboldt University of Berlin	<a href="https://www.topuniversities.com/universities/humboldt-universitat-zu-berlin">https://www.topuniversities.com/universities/humboldt-universitat-zu-berlin</a>
many	Ger RWTH Aachen University	<a href="https://www.topuniversities.com/universities/rwth-aachen-university">https://www.topuniversities.com/universities/rwth-aachen-university</a>
stralia	Au University of Melbourne	<a href="https://www.topuniversities.com/universities/university-melbourne">https://www.topuniversities.com/universities/university-melbourne</a>
stralia	Au Australian National University	<a href="https://www.topuniversities.com/universities/australian-national-university">https://www.topuniversities.com/universities/australian-national-university</a>
stralia	Au University of Sydney	<a href="https://www.topuniversities.com/universities/university-sydney">https://www.topuniversities.com/universities/university-sydney</a>
stralia	Au UNSW Sydney	<a href="https://www.topuniversities.com/universities/unsw-sydney">https://www.topuniversities.com/universities/unsw-sydney</a>
stralia	Au University of Queensland	<a href="https://www.topuniversities.com/universities/university-queensland">https://www.topuniversities.com/universities/university-queensland</a>
stralia	Au Monash University	<a href="https://www.topuniversities.com/universities/monash-university">https://www.topuniversities.com/universities/monash-university</a>
nada	Ca University of Toronto	<a href="https://www.topuniversities.com/universities/university-toronto">https://www.topuniversities.com/universities/university-toronto</a>
nada	Ca McGill University	<a href="https://www.topuniversities.com/universities/mcgill-university">https://www.topuniversities.com/universities/mcgill-university</a>

Country	University	Source
Canada	University of British Columbia	<a href="https://www.topuniversities.com/universities/university-british-columbia">https://www.topuniversities.com/universities/university-british-columbia</a>
Canada	University of Alberta	<a href="https://www.topuniversities.com/universities/university-alberta">https://www.topuniversities.com/universities/university-alberta</a>
Canada	University of Waterloo	<a href="https://www.topuniversities.com/universities/university-waterloo">https://www.topuniversities.com/universities/university-waterloo</a>
Japan	University of Tokyo	<a href="https://www.topuniversities.com/universities/university-tokyo">https://www.topuniversities.com/universities/university-tokyo</a>
Japan	Kyoto University	<a href="https://www.topuniversities.com/universities/kyoto-university">https://www.topuniversities.com/universities/kyoto-university</a>
Japan	Osaka University	<a href="https://www.topuniversities.com/universities/osaka-university">https://www.topuniversities.com/universities/osaka-university</a>
Japan	Tohoku University	<a href="https://www.topuniversities.com/universities/tohoku-university">https://www.topuniversities.com/universities/tohoku-university</a>
South Korea	Seoul National University	<a href="https://www.topuniversities.com/universities/seoul-national-university">https://www.topuniversities.com/universities/seoul-national-university</a>
South Korea	KAIST	<a href="https://www.topuniversities.com/universities/kaist-korea-advanced-institute-science-technology">https://www.topuniversities.com/universities/kaist-korea-advanced-institute-science-technology</a>
South Korea	Korea University	<a href="https://www.topuniversities.com/universities/korea-university">https://www.topuniversities.com/universities/korea-university</a>
South Korea	Yonsei University	<a href="https://www.topuniversities.com/universities/yonsei-university">https://www.topuniversities.com/universities/yonsei-university</a>
France	PSL University	<a href="https://www.topuniversities.com/universities/psl-research-university-paris">https://www.topuniversities.com/universities/psl-research-university-paris</a>
France	Sorbonne University	<a href="https://www.topuniversities.com/universities/sorbonne-university">https://www.topuniversities.com/universities/sorbonne-university</a>
France	École Polytechnique	<a href="https://www.topuniversities.com/universities/ecole-polytechnique">https://www.topuniversities.com/universities/ecole-polytechnique</a>
France	Université Paris-Saclay	<a href="https://www.topuniversities.com/universities/universite-paris-saclay">https://www.topuniversities.com/universities/universite-paris-saclay</a>
Netherlands	Delft University of Technology	<a href="https://www.topuniversities.com/universities/delft-university-technology">https://www.topuniversities.com/universities/delft-university-technology</a>
Netherlands	University of Amsterdam	<a href="https://www.topuniversities.com/universities/university-amsterdam">https://www.topuniversities.com/universities/university-amsterdam</a>
Netherlands	Leiden University	<a href="https://www.topuniversities.com/universities/leiden-university">https://www.topuniversities.com/universities/leiden-university</a>
Switzerland	ETH Zurich	<a href="https://www.topuniversities.com/universities/eth-zurich-swiss-federal-institute-technology">https://www.topuniversities.com/universities/eth-zurich-swiss-federal-institute-technology</a>
Switzerland	EPFL	<a href="https://www.topuniversities.com/universities/epfl-ecole-polytechnique-federale-de-lausanne">https://www.topuniversities.com/universities/epfl-ecole-polytechnique-federale-de-lausanne</a>
Switzerland	University of Zurich	<a href="https://www.topuniversities.com/universities/university-zurich">https://www.topuniversities.com/universities/university-zurich</a>

Country	University	Source
Sweden	KTH Royal Institute of Technology	<a href="https://www.topuniversities.com/universities/kth-royal-institute-technology">https://www.topuniversities.com/universities/kth-royal-institute-technology</a>
Sweden	Lund University	<a href="https://www.topuniversities.com/universities/lund-university">https://www.topuniversities.com/universities/lund-university</a>
Sweden	Uppsala University	<a href="https://www.topuniversities.com/universities/uppsala-university">https://www.topuniversities.com/universities/uppsala-university</a>
Italy	University of Bologna	<a href="https://www.topuniversities.com/universities/university-bologna">https://www.topuniversities.com/universities/university-bologna</a>
Italy	Sapienza University of Rome	<a href="https://www.topuniversities.com/universities/sapienza-university-rome">https://www.topuniversities.com/universities/sapienza-university-rome</a>
Italy	Politecnico di Milano	<a href="https://www.topuniversities.com/universities/politecnico-di-milano">https://www.topuniversities.com/universities/politecnico-di-milano</a>
Spain	University of Barcelona	<a href="https://www.topuniversities.com/universities/university-barcelona">https://www.topuniversities.com/universities/university-barcelona</a>
Spain	Autonomous University of Barcelona	<a href="https://www.topuniversities.com/universities/universitat-autonoma-de-barcelona">https://www.topuniversities.com/universities/universitat-autonoma-de-barcelona</a>
Spain	Autonomous University of Madrid	<a href="https://www.topuniversities.com/universities/universidad-autonoma-de-madrid">https://www.topuniversities.com/universities/universidad-autonoma-de-madrid</a>
Singapore	National University of Singapore	<a href="https://www.topuniversities.com/universities/national-university-singapore">https://www.topuniversities.com/universities/national-university-singapore</a>
Singapore	Nanyang Technological University	<a href="https://www.topuniversities.com/universities/nanyang-technological-university-ntu">https://www.topuniversities.com/universities/nanyang-technological-university-ntu</a>
Hong Kong SAR	University of Hong Kong	<a href="https://www.topuniversities.com/universities/university-hong-kong">https://www.topuniversities.com/universities/university-hong-kong</a>
Hong Kong SAR	Chinese University of Hong Kong	<a href="https://www.topuniversities.com/universities/chinese-university-hong-kong-cuhk">https://www.topuniversities.com/universities/chinese-university-hong-kong-cuhk</a>
India	Indian Institute of Science	<a href="https://www.topuniversities.com/universities/indian-institute-science-bangalore-iisc">https://www.topuniversities.com/universities/indian-institute-science-bangalore-iisc</a>
India	Indian Institute of Technology Bombay	<a href="https://www.topuniversities.com/universities/indian-institute-technology-bombay-iitb">https://www.topuniversities.com/universities/indian-institute-technology-bombay-iitb</a>
Saudi Arabia	King Abdulaziz University	<a href="https://www.topuniversities.com/universities/king-abdulaziz-university">https://www.topuniversities.com/universities/king-abdulaziz-university</a>

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Saudi Arabia	King Abdullah University of Science and Technology	<a href="https://www.topuniversities.com/universities/king-abdullah-university-science-technology-kaust">https://www.topuniversities.com/universities/king-abdullah-university-science-technology-kaust</a>
Brazil	University of Sao Paulo	<a href="https://www.topuniversities.com/universities/university-sao-paulo">https://www.topuniversities.com/universities/university-sao-paulo</a>
Brazil	University of Campinas	<a href="https://www.topuniversities.com/universities/state-university-campinas-unicamp">https://www.topuniversities.com/universities/state-university-campinas-unicamp</a>
South Africa	University of Cape Town	<a href="https://www.topuniversities.com/universities/university-cape-town">https://www.topuniversities.com/universities/university-cape-town</a>
South Africa	University of the Witwatersrand	<a href="https://www.topuniversities.com/universities/university-witwatersrand-wits">https://www.topuniversities.com/universities/university-witwatersrand-wits</a>