

Open Science Policies & Practices in India



Presentation by :

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Open Science in India

The concept of open science was introduced in the draft 5th STI policy released in December 2020



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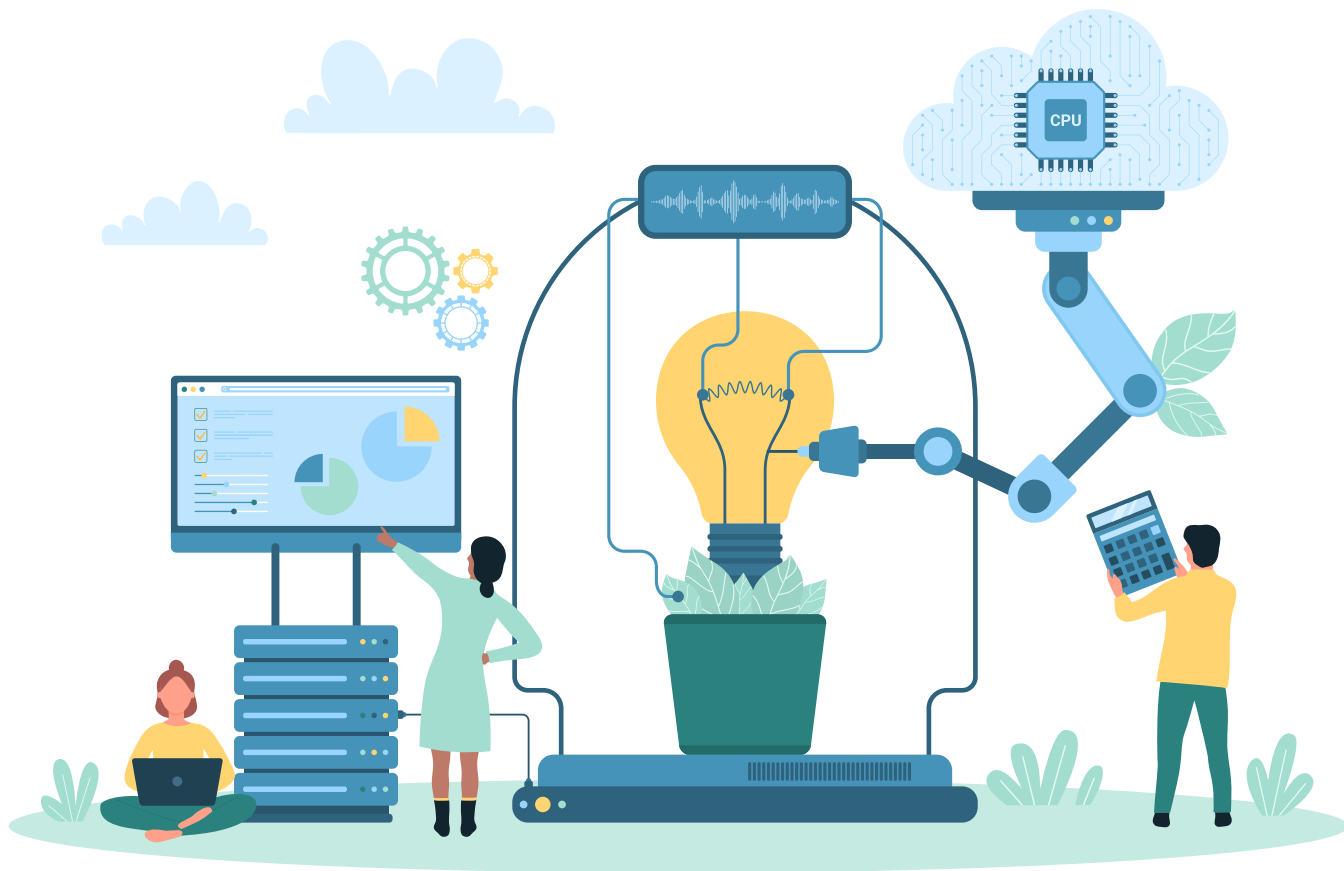
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Draft 5th National Science, Technology, and Innovation Policy for public consultation



Idea

Access to publicly funded research: The right to access will include, but not be limited to, scholarly **publications**, **research data**, and resources such as **research infrastructures**, **instruments**...



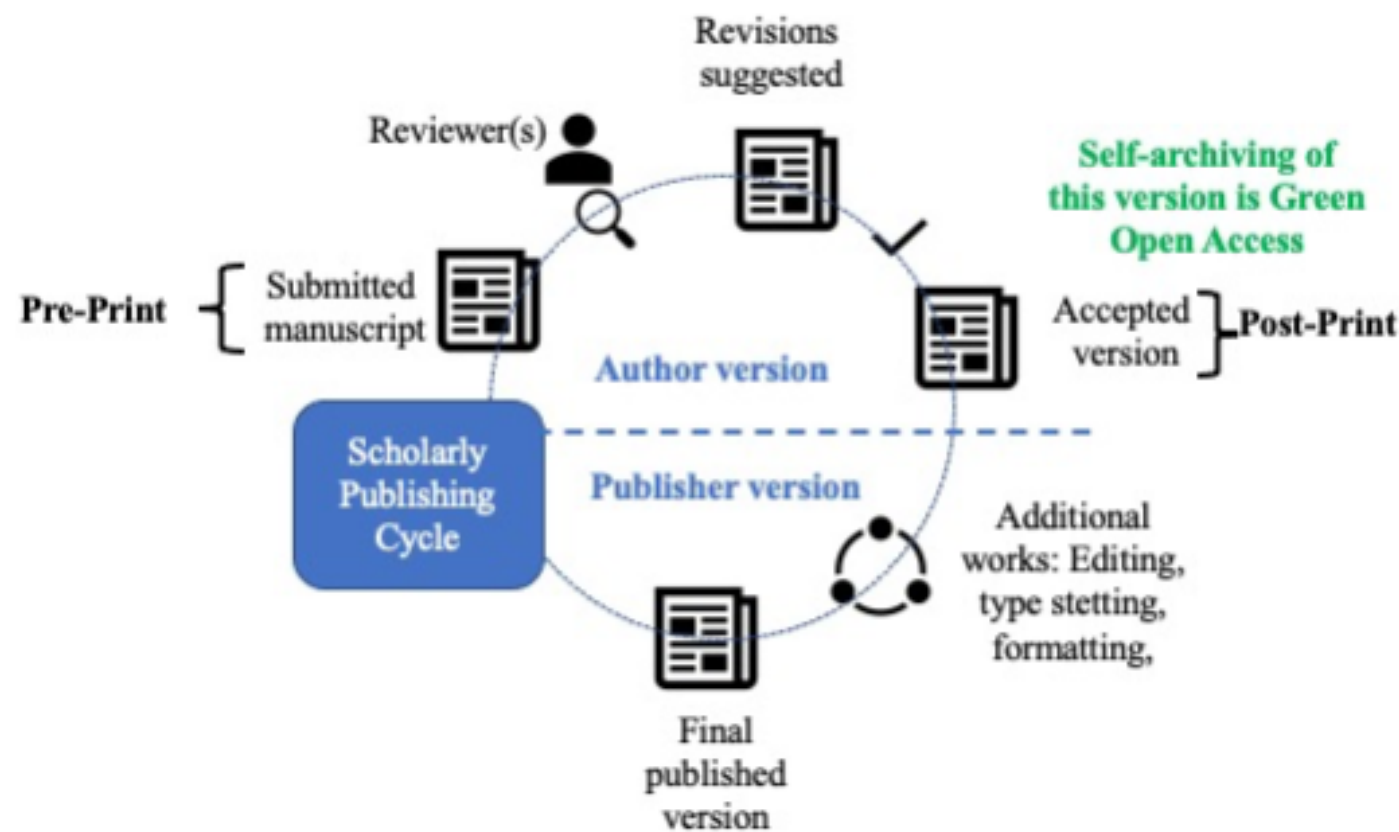
Open Access to Research Articles

DST-DBT OPEN ACCESS POLICY

Mandates self-archiving of the post-print in an institutional repository (IR) or a central repository within two weeks of publication. (2014)

DRAFT STI POLICY

The outputs of all publicly-funded research (including manuscripts, research data, supplementary information, research protocols, review articles, conference proceedings, monographs, book chapters, etc., through open-access repository



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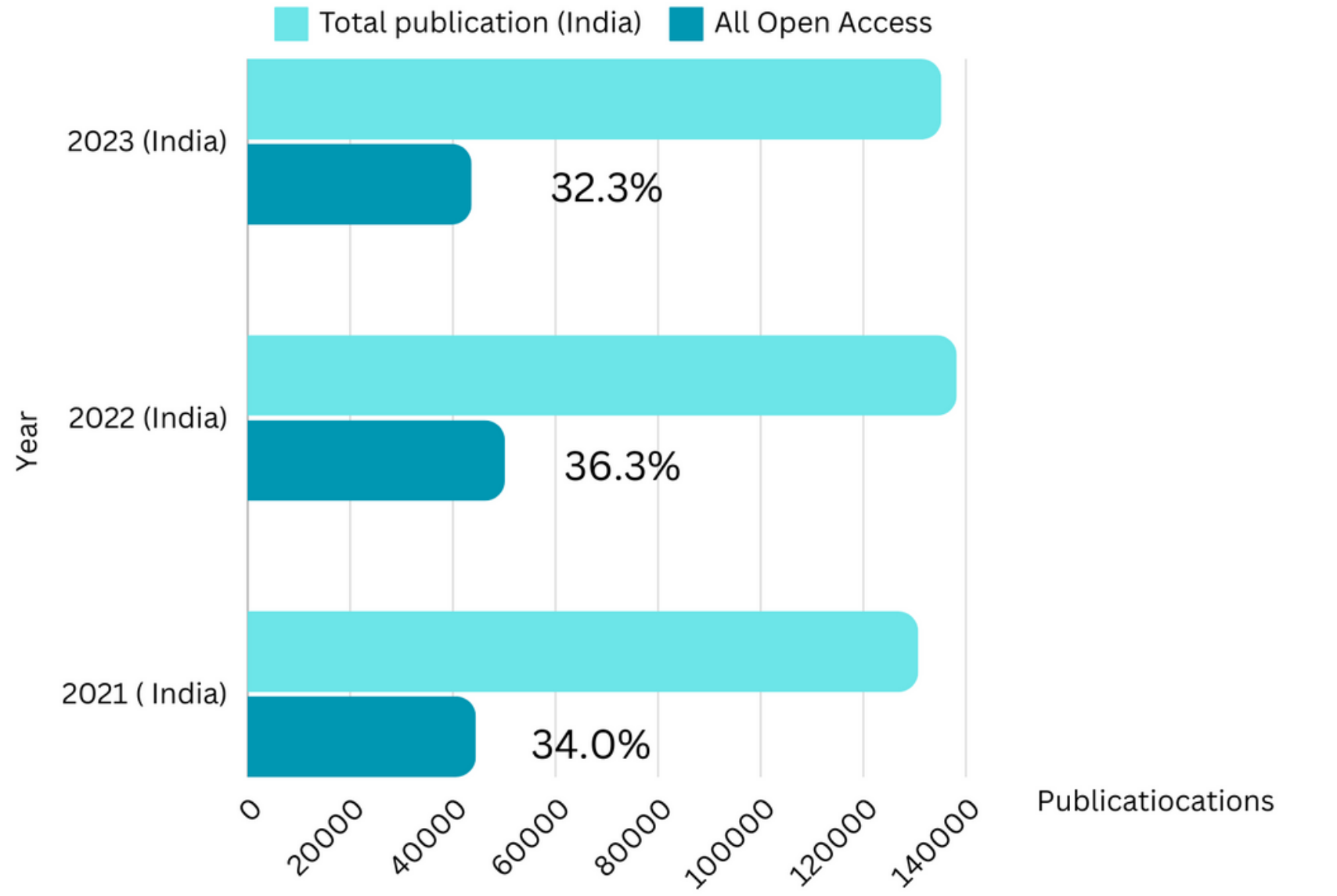
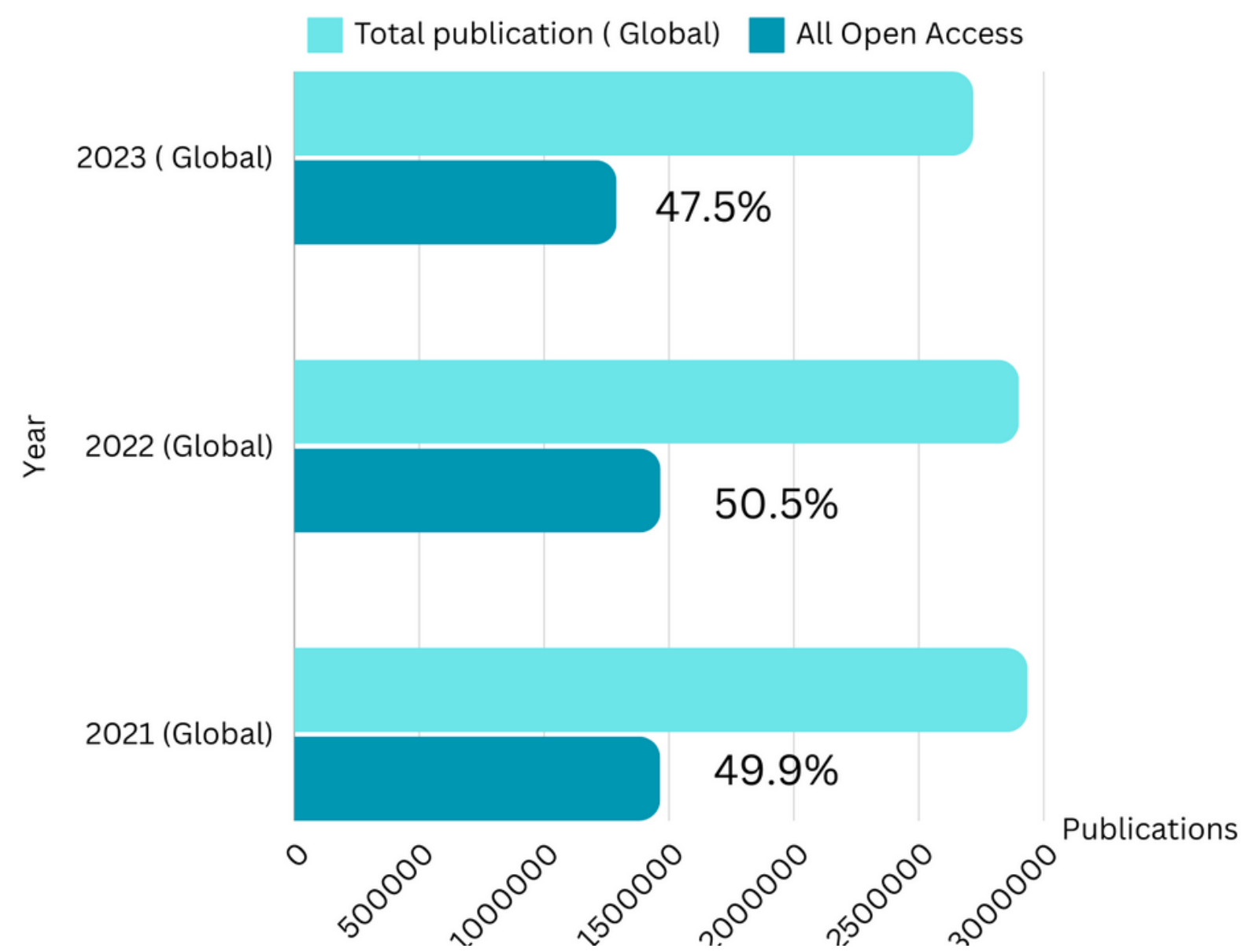
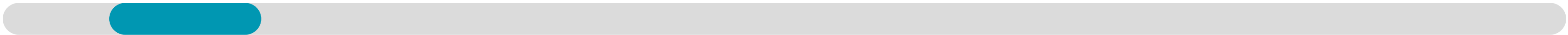
NEWS | 30 September 2020 | Clarification [02 October 2020](#)

India pushes bold ‘one nation, one subscription’ journal-access plan

Researchers will also recommend an open-access policy that promotes research being shared in online repositories.

05

Open Access Situation



Sharing of Research Infrastructure

SRIMAN GUIDELINES

DST, 2022-Sharing of infrastructure & encourage indigenous manufacturing

SOPHISTICATED ANALYTICAL & TECHNICAL HELP INSTITUTES (SATHI)

IIT Delhi, IIT Kgp, BHU

ISTEM

IISc Bangalore; Linking resources & research



Sharing of Research Infrastructure

SRIMAN GUIDELINES

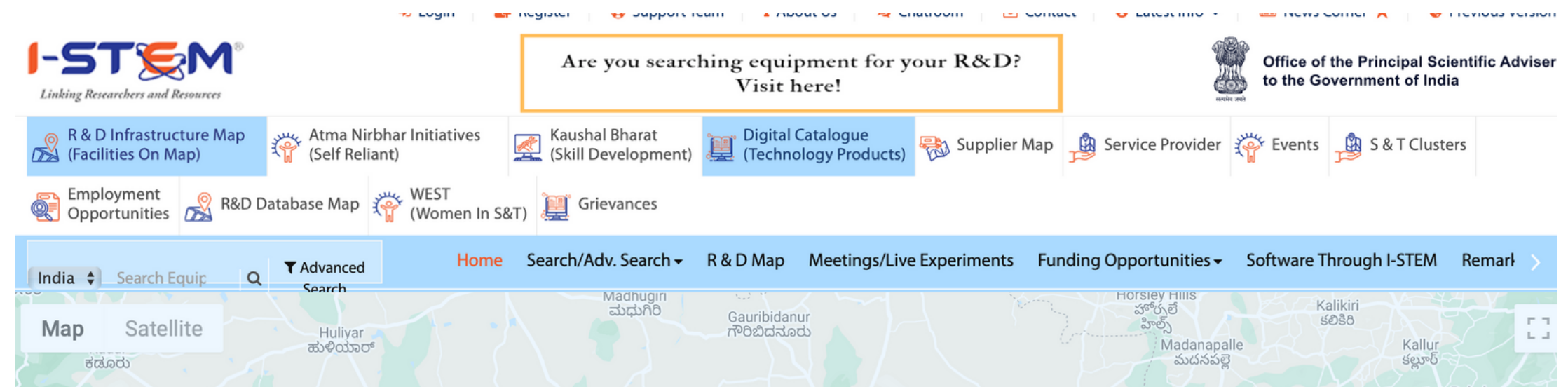
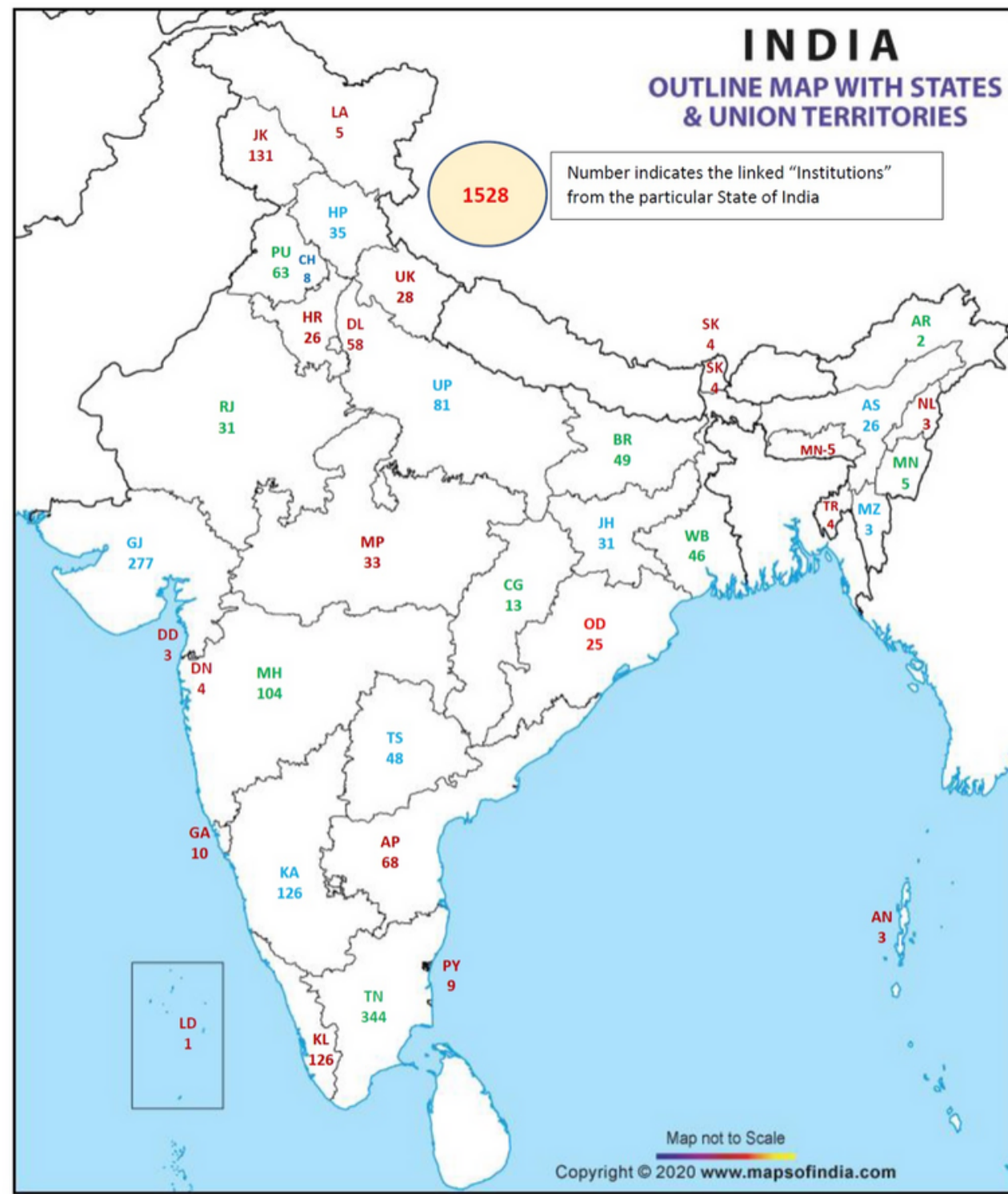
DST has formulated an elaborate guideline for sharing and maintaining RI across the country. Scientific Research Infrastructure Sharing Maintenance and Networks

SATHI CENTRES

SATHI is a dedicated instrumentation facility that enables access to S&T infrastructural support for not only academia but start-ups, manufacturing units, R&D labs at MSMEs etc. There are SATHI centres at IIT-Delhi, BHU and IIT-Kharagpur



Sharing of Research Infrastructure



I-STEM Portal: Lists all the facilities with analytical instruments needed for research

I-STEM facilities across states in India

Open Education Resource

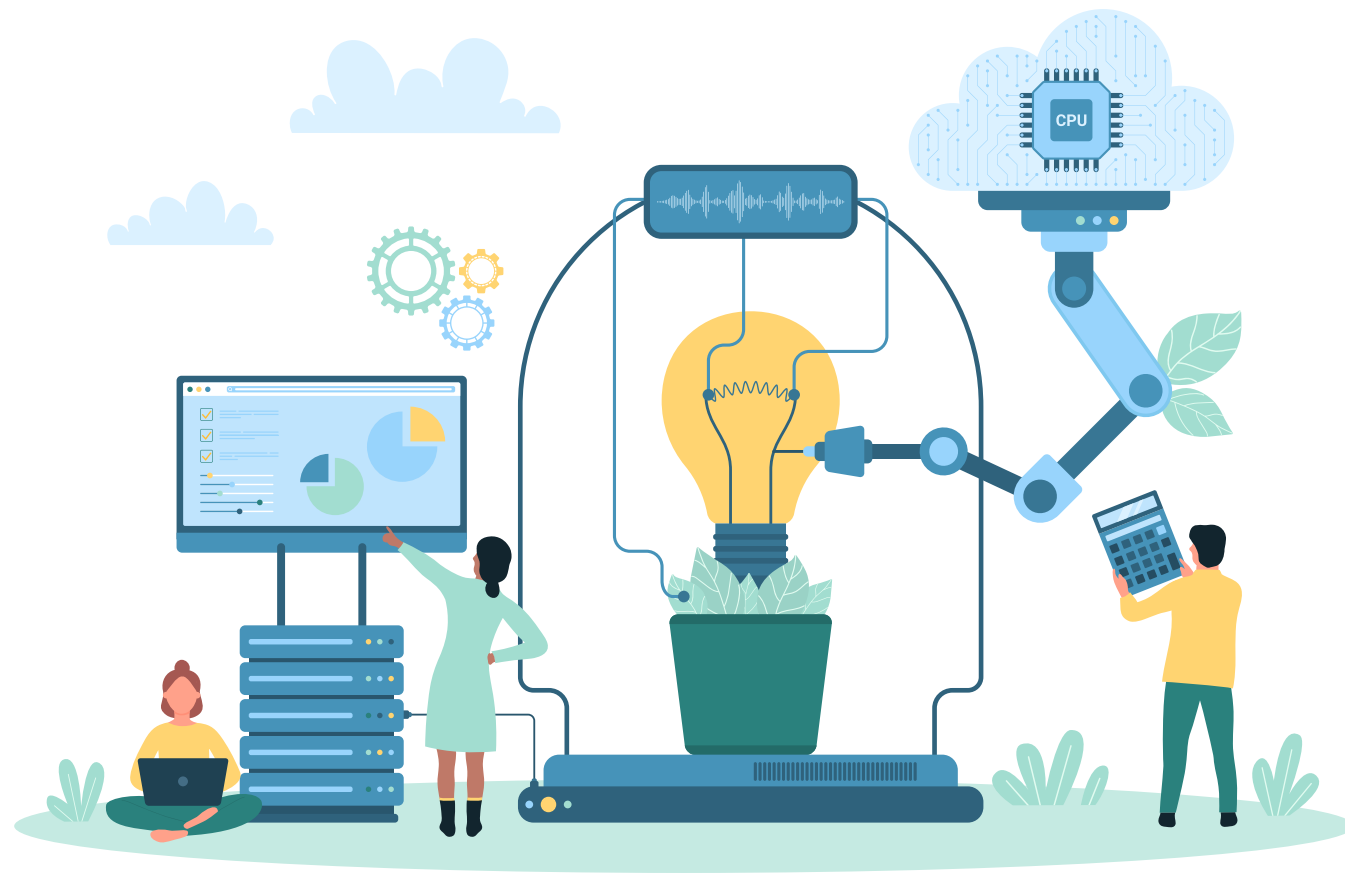
01. National Programme on Technology Enhanced Learning (NPTEL)

NPTEL, or the National Programme on Technology Enhanced Learning, was established in 2003 as a partnership between the IITs and the IISc, with funding provided by the Indian Ministry of Education (MoE). NPTEL started delivering open online courses through MOOCs in March 2014

02. SWAYAM

GOI developed the SWAYAM project in order to accomplish the three central objectives of Education Policy, namely access, equity, and quality





Research Assessment



“Research Excellence Framework for HEIs in India (REFI) will be evolved, which aims for research assessment to secure the continuation of a holistic, dynamic, and responsive research base across the full academic spectrum within India’s higher education ecosystem.”

Problems with Research Assessment

PROBLEM 1

Prioritization of projects with predictable outcomes

PROBLEM 2

“Publish or Perish” culture, too much incremental research

PROBLEM 3

Lack of recognition for capacity building, diverse types of output, ethical practices



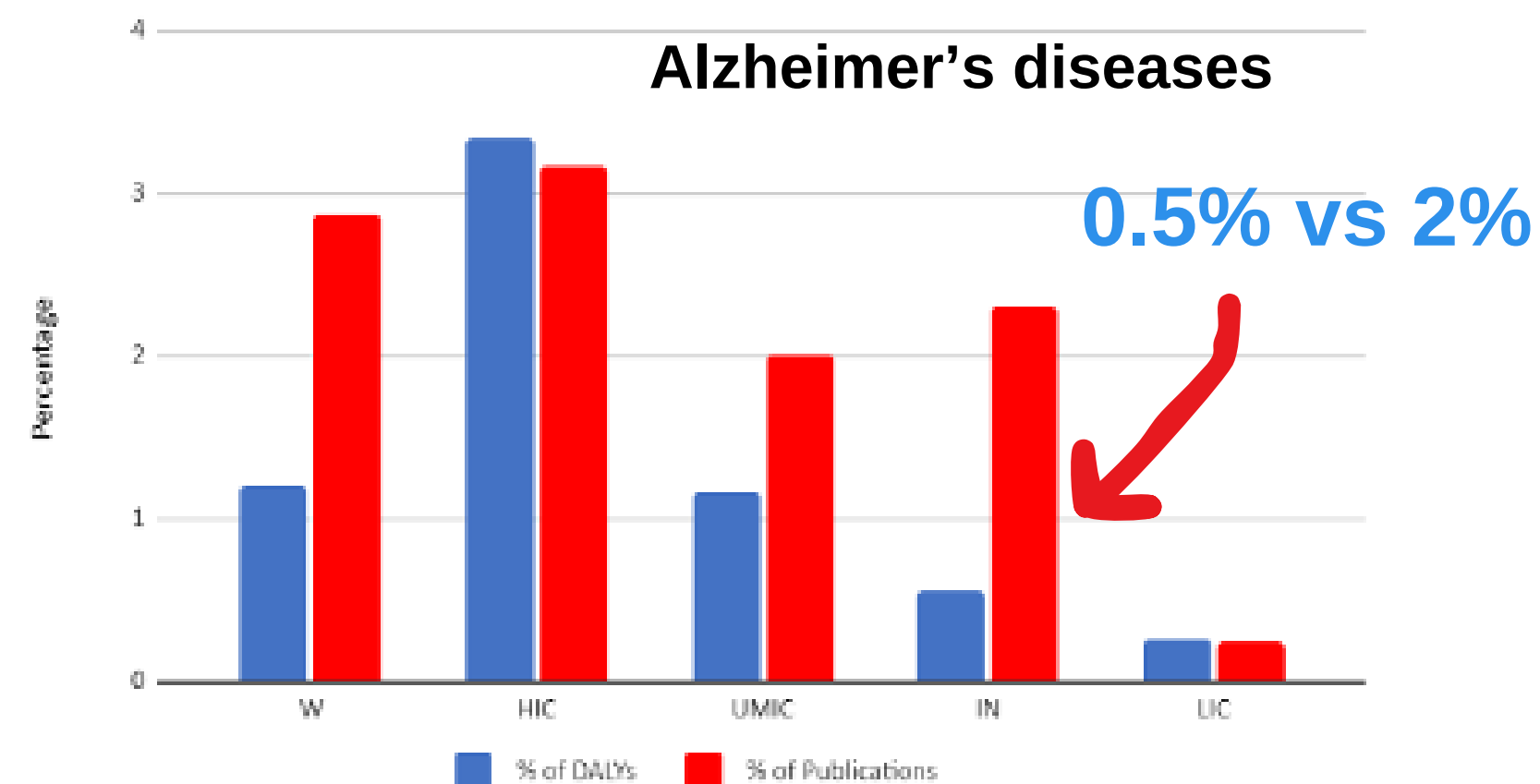
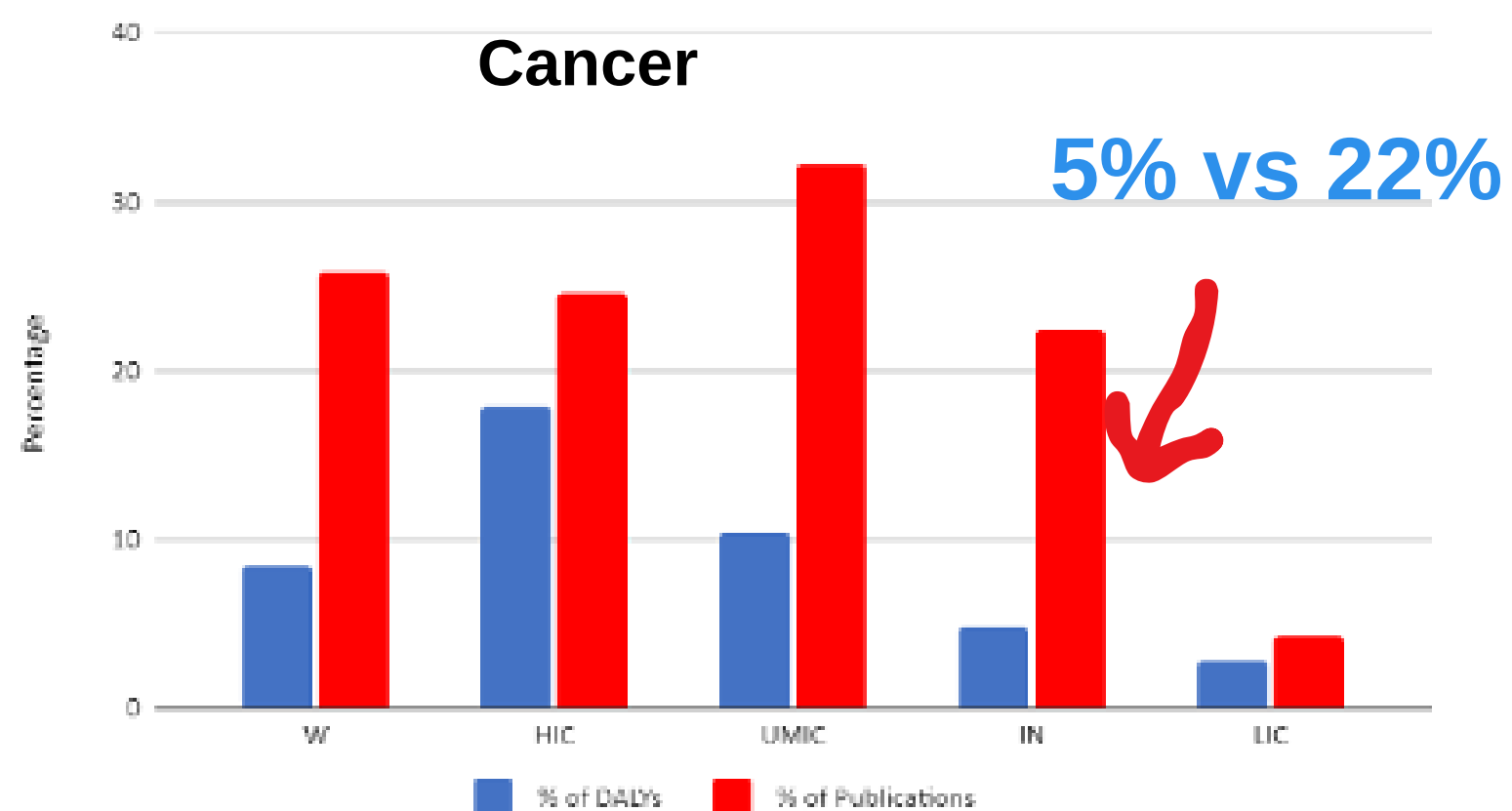
Correlations between disease burden and publications

lowest
correlation

DB/Pubs	IN	World	HIC	UMIC	LIC	BR	CN
IN	0.28	0.30	0.30	0.28	0.13	0.24	0.23
World	0.34	0.45	0.44	0.41	0.32	0.34	0.34
HIC	0.34	0.60	0.60	0.59	-0.01	0.39	0.57
UMIC	0.38	0.57	0.57	0.54	0.24	0.42	0.47
LIC	0.21	0.18	0.18	0.13	0.40	0.18	0.07
BR	0.36	0.55	0.56	0.51	0.08	0.41	0.45
CN	0.22	0.47	0.46	0.49	-0.02	0.27	0.52



Diseases overstudied in India and globally



Relative disease burden (estimated by % of DALYs) vs. research efforts (estimated by % of publications) for cancer and Alzheimer's diseases for the World (W), High-Income Countries (HIC), Upper Middle-Income Countries (UMIC), India (IN), and Lower Income Countries (LIC)

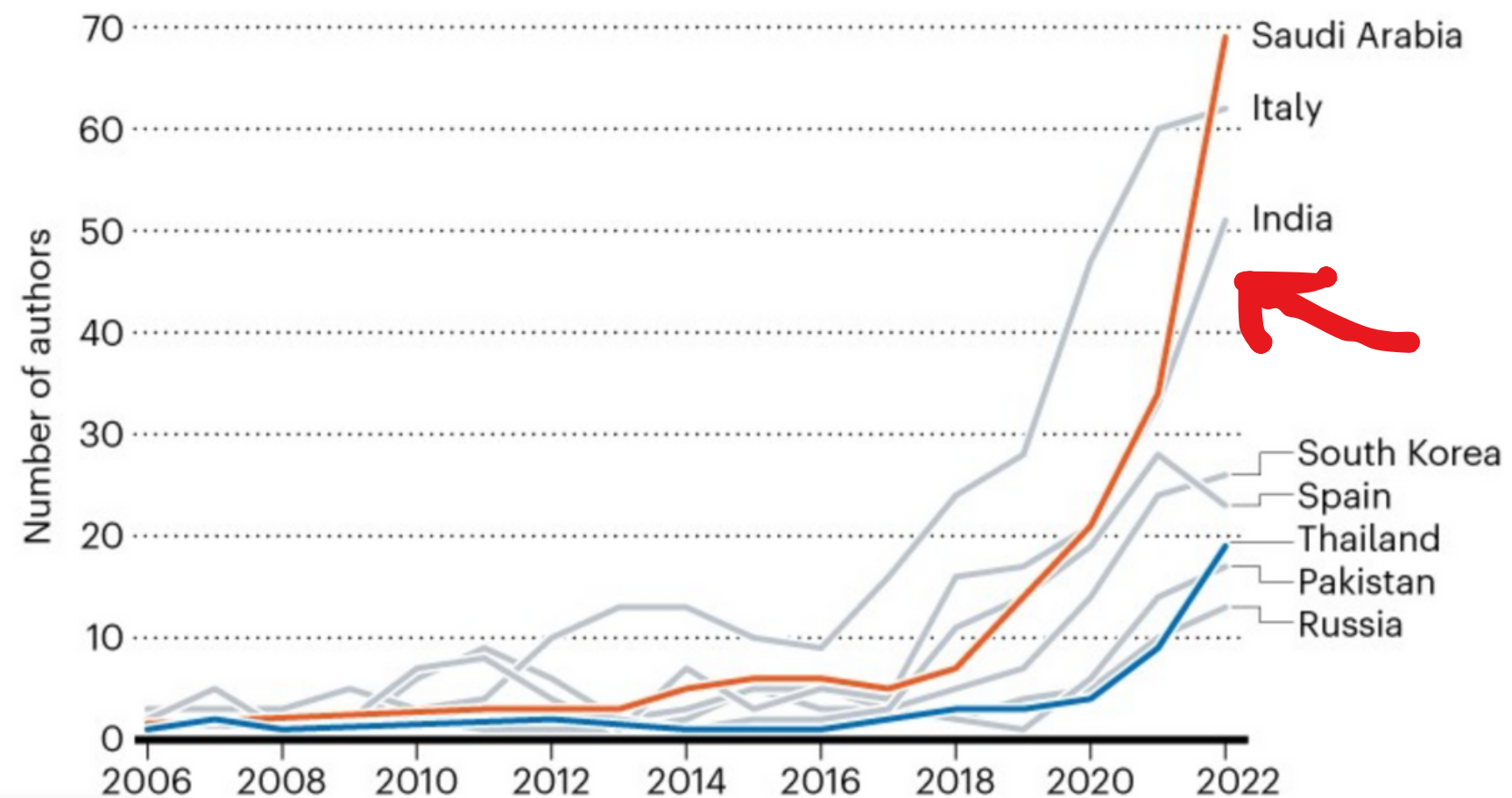


Publish or Perish

Surge in number of 'extremely productive' authors concerns scientists

EXTREME GROWTH

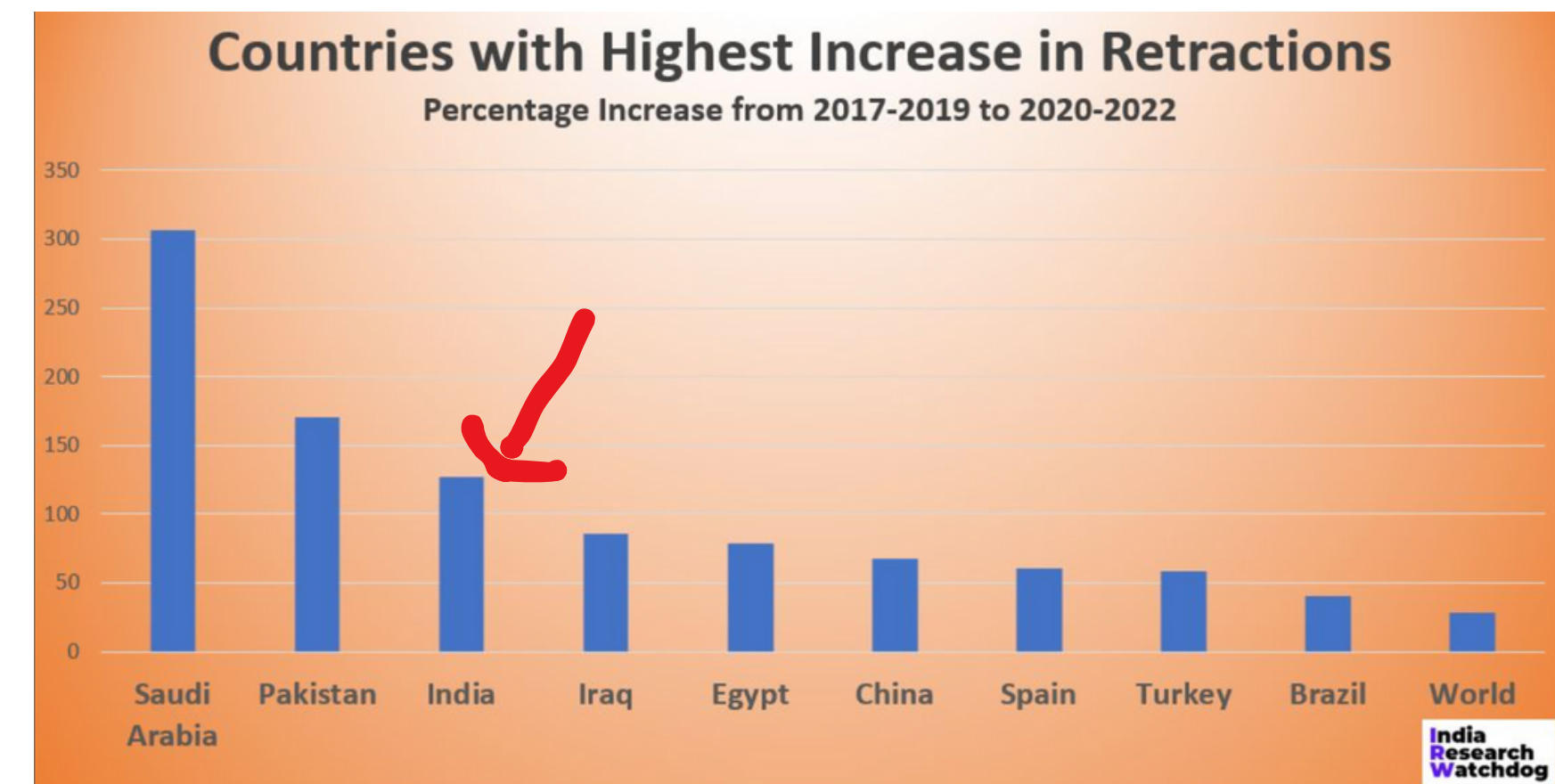
Saudi Arabia had the highest number of extremely productive authors among the fastest-growing countries. However, Thailand had the sharpest increase between 2016 and 2022.



Get citation

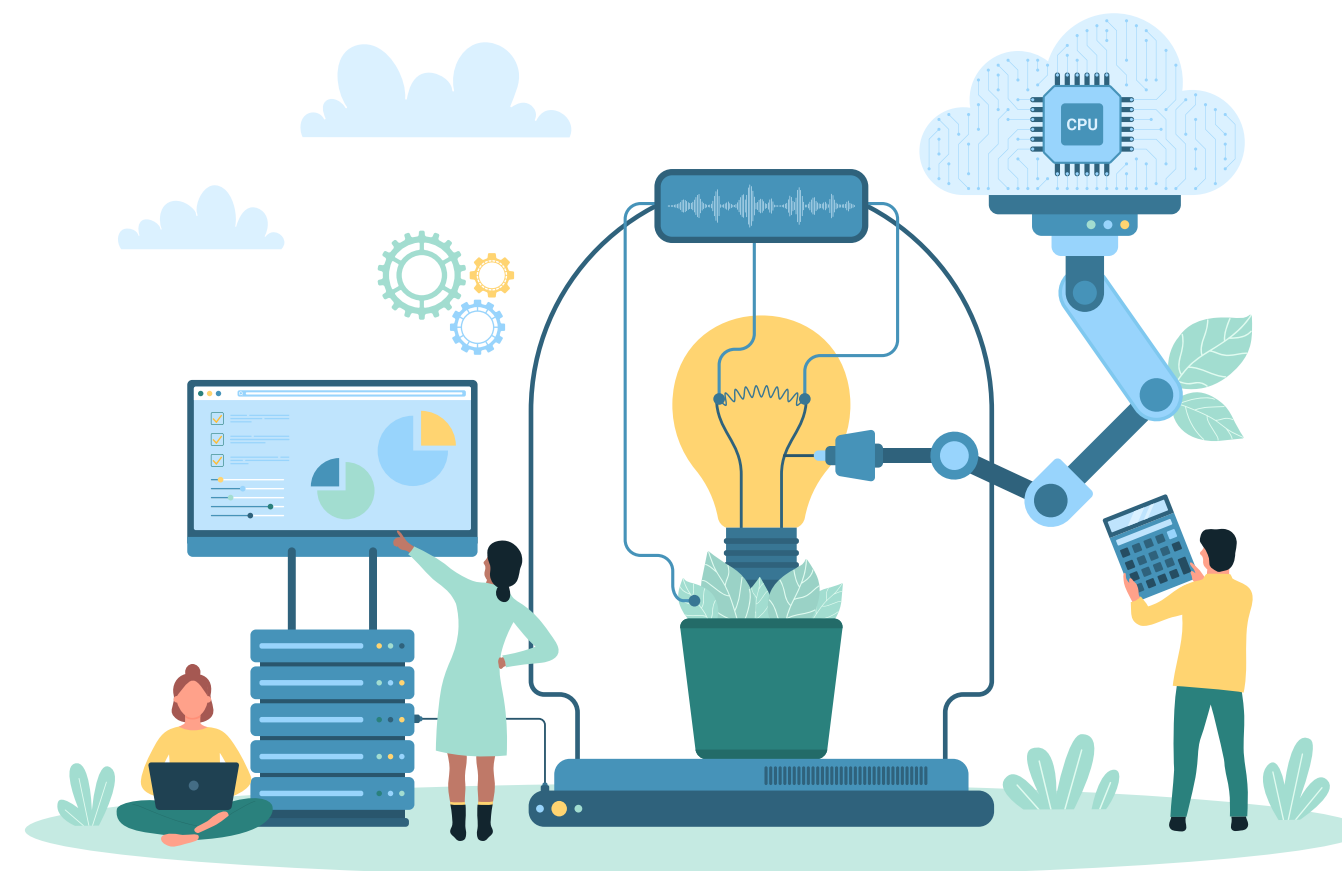
<https://www.nature.com/articles/d41586-023-03865-y>

Research Ethics



Source of retraction-related graphs: LinkedIn post of RWI

Thank You So Much!



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