Overview of the Tech Middle Power Workarounding Dataset

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Want to know more about the project?

Check out the tech middle powers website.

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GEOGRAPHICAL OVERVIEW

The dataset lists cooperation initiatives including at least two of the following 24 Tech Middle Powers (TMPs):

- Australia
- Brazil
- Canada
- Czech Republic
- Finland
- France
- Germany
- India
- Israel
- Japan
- Malaysia
- Netherlands
- Nigeria
- Norway
- Poland
- Saudi Arabia
- Singapore
- South Africa
- South Korea
- Sweden
- Türkiye
- United Arab Emirates (UAE)
- United Kingdom
- Vietnam

The dataset covers cooperation partners from the following regions:

- Africa (Nigeria, South Africa)
- East Asia (Brunei, Cambodia, Indonesia, Japan, Laos, Malaysia, Myanmar, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam)
- Europe (Austria, Belgium, Bulgaria, Czech Republic, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, Ukraine)
- Middle East (Israel, Saudi Arabia, Türkiye, United Arab Emirates)
- North America (Canada, Mexico)
- Oceania (Australia, New Zealand)
- South Asia (India)
- South America (Brazil, Peru, Chile, Uruguay)

Please note: Although Brazil, Switzerland and Taiwan are considered TMPs, their cooperation initiatives are not yet comprehensively included in the dataset.

TIMEFRAME

The dataset includes cooperation initiatives between 1990 and August 2025. Any initiatives instigated after July 2025 are not included in the dataset.

KEY DEFINITIONS

For full definitions of these terms, please refer to Mahrenbach, Mayer, Afterman and Janardhan (Forthcoming, Palgrave Macmillan). All quotations below are sourced from that chapter.

Workarounding: "Pragmatic, small group cooperation that excludes the US and China." Workarounding is characterized by flexibility in both partners and topics and occurs with increasing frequency related to technological governance (as is evident in this dataset). In this dataset, workarounding is identified empirically by cooperations related to technology that involve at least two TMPs.

Tech middle powers: "Countries … which possess substantial technological capabilities and leadership capacity." This includes the following characteristics:

- Functional characteristics: Countries which are "capable of shaping norms, standards and outcomes in the technological and scientific realms"
- Behavioral characteristics: Countries which "assert technological leadership in mini- and multilateral governance arenas"
- Hierarchical characteristics: Countries which "possess technological capabilities which distinguish them from more and less technologically advanced states […] including some combination of robust industrial capacity, indigenous innovation systems, a knowledge-based economy, and key positions in global supply chains"

DATA COLLECTION

Data was collected between May 2025 and July 2025 via targeted internet searches.

Sources: Most information in the dataset was obtained directly from official TMP government websites. Google searches were used to access agreements and information about agreements when these were no longer available on government sites.

Search strategy: Google searches were conducted block-wise by time period (1990–2000, 2000–2015, and 2015–2025) using the following strategy:

1. Initial search: Conducted via Google. Typical search terms included
    - "[country name] technology cooperation
    - "[country A] and [country B] technology cooperation"
2. Government website search, Part 1: After identifying an initiative that matched the requirements (at least two TMPs and cooperation on a technology-related initiative), researchers searched for that specific initiative on official government websites using

the exact terminology referenced in the media article. If an official government document or press release appeared, researchers used that source to input data into the dataset.

3. Government website search, Part 2: If no official government document or press release appeared, researchers looked through press releases and/or agreements on the government website, filtering by date. If an official government document or press release appeared, researchers used that source to input data into the dataset.
4. Alternative sources search: If again no official government document or press release could be found, researchers returned to Google to search for other reliable sources containing agreement texts and/or information about the affected cooperations. Reliable data was inputted into the dataset.

Inclusion criteria: Only cooperation initiatives involving at least two TMPs were included in the dataset. Agreements involving only one TMP, exclusively non-TMP countries, the United States or China were excluded. Agreements between a single TMP and the European Union were also excluded.

Please note:

- The same agreement is listed multiple times when additional TMPs joined the arrangement later or when the original agreement was amended.
- When multiple cooperation types (e.g., MoUs and action plans) were part of the same overarching agreement, they were counted as a single entry.

LIMITATIONS

While we did our best to cover all agreements involving all of the TMPs listed above for the state time frame, some gaps exist. This is in part a function of language. Because our search was conducted in English, all initiatives included in the dataset had at least one English-language source. Government websites usually had a full English translation or, at minimum, one partner government provided an English language version. The exception is sources in French or German, which were used in these languages given the researchers' fluency.

Additional gaps may exist where governments did not fully document workarounding activities or where full-text agreements are no longer available.

Please contact us as indicated above if we are missing an agreement and/or you are willing to share full-text versions or information that could help fill these gaps.

CLASSIFICATION OF COOPERATION TYPES

Formality of Agreements: Cooperation initiatives were classified as formal if they involved legally binding elements (e.g., treaties, enforceable commitments). They were classified as informal if they were based on political will or intent without legal obligations (Vabulas and Snidal 2013; Roger and Rowan 2022).

Types of Agreements: The data points are categorized by type, each of which has been determined inductively from the dataset and listed below. When the classification was unclear, the data point was labeled "Agreement" as a general descriptor.

- Action Plan: Outlines specific steps, timelines, and responsibilities to implement goals or strategies. *Non-binding/informal*.
- Agreement: General descriptor used only when none of the other categories applied. May be *binding or non-binding*, depending on the legal framing.
- Committee: *Informal* body established to coordinate or oversee cooperation in specific thematic areas.
- Dialogue: Exchanges of ideas or consultations that did not result in a signed document or joint statement. *Non-binding/informal*.
- Initiative: Refers to specific projects, programs, or efforts to advance common goals. May be standalone or part of a broader cooperation framework. *Non-binding/informal*.
- Declaration of Intent: *Non-binding* statements expressing intent to cooperate. This category also includes joint statements and letters.
- Partnership Framework: Categorized according to how the original source named the arrangement. Outlines shared goals for collaboration. Includes memoranda of cooperation (MoC), memoranda of understanding (MoU) and partnerships. May vary in formality, but *generally non-binding* unless stated otherwise.
- Treaty: A legally *binding* agreement between two or more parties that is enforceable under international or domestic law. Treaties generally require ratification and include clearly defined obligations for the parties involved.

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