



# OECD STI Outlook 2025

## Highlights

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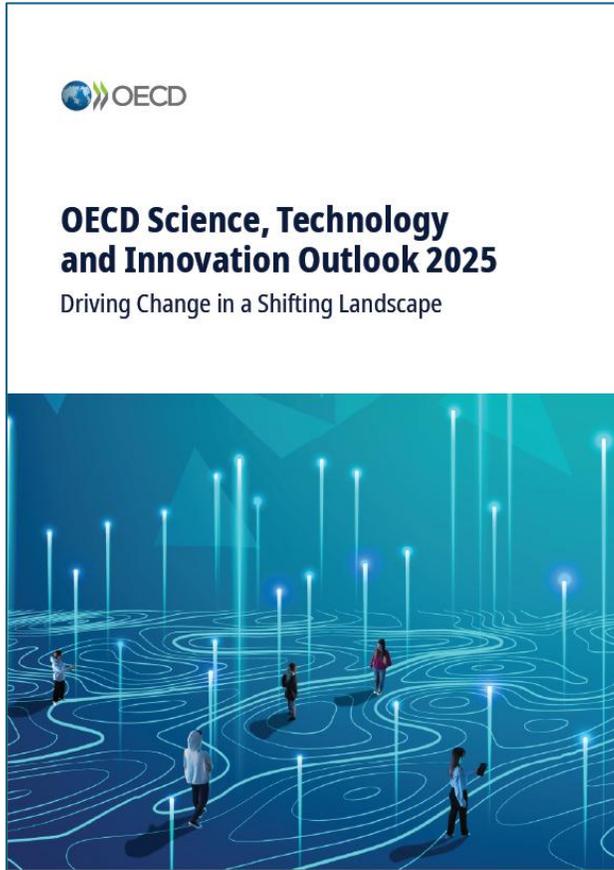
Workshop on “Learning from the OECD STI Outlook 2025”

Japan Science and Technology Agency, Tokyo – 5 February 2026





# STI Outlook 2025



- OECD **flagship** publication, published every two years since the mid-1990s
- Asks: “**What’s new** in the field of science, technology and innovation policy?”
- Provides an **international review** based on latest policy information and indicators
- Draws on a **range of contributions** from Committee for Scientific and Technological Policy (CSTP) and its working parties, with one chapter in 2025 also from the Committee on Industry, Innovation and Entrepreneurship (CIIE)





# STI Outlook 2025: Key Themes and Topics

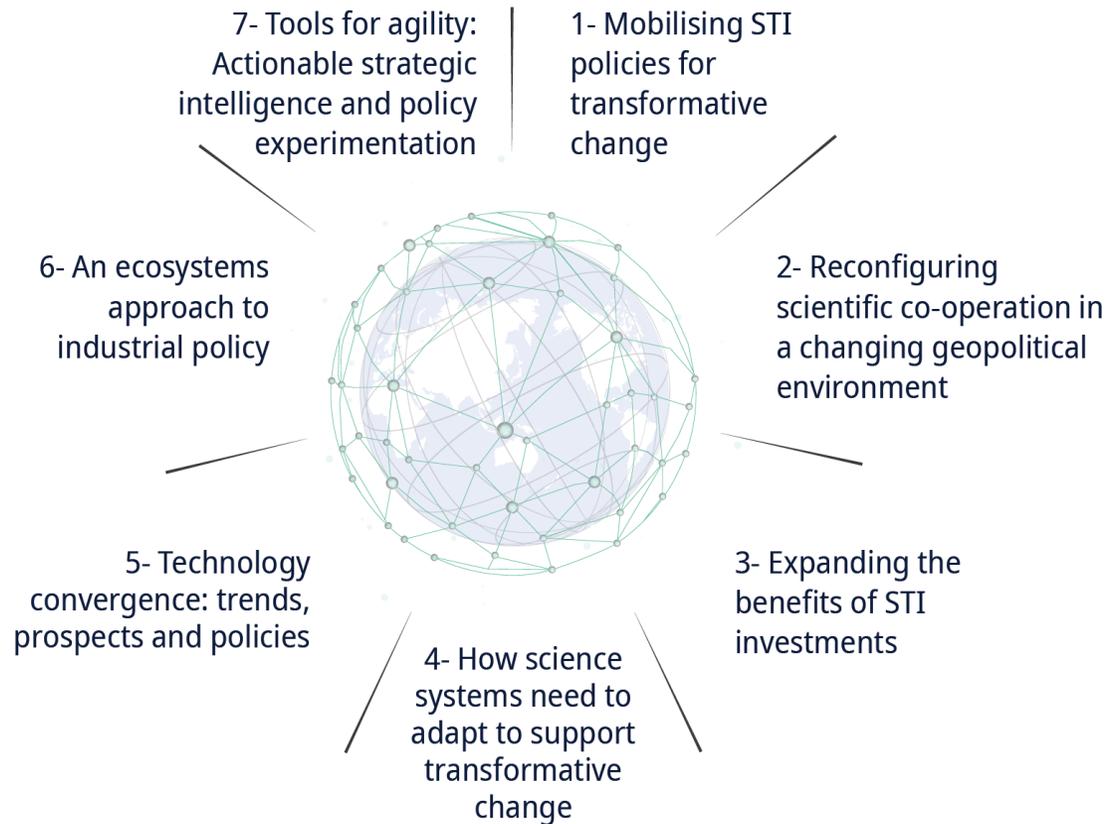
## Headline Themes

Enhance **efficiencies** in STI policy to reach ambitious, transformative goals in times of **resource constraints**

Retain the benefits of **international STI linkages** while **securing** STI systems

Enact **structural reforms** that promote **high-risk/reward STI, interdisciplinarity** and **technology convergence**

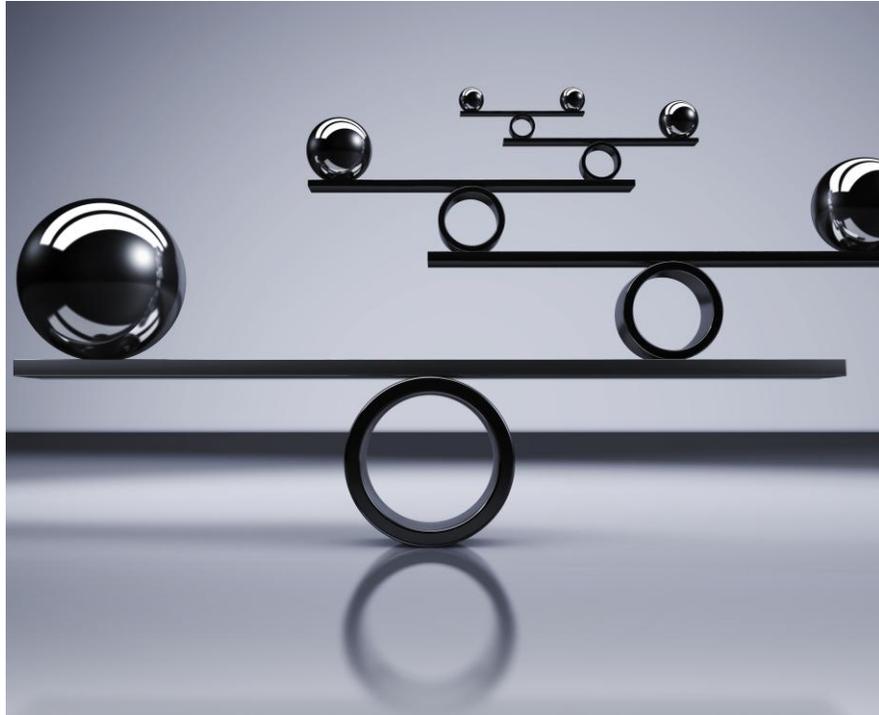
Update **policy frameworks** and the **supporting evidence base** for more effective STI policies





## STI policy is at a turning point

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To remain **fit-for-purpose** in this **new** and **rapidly changing environment**, **STI systems** require structural reforms to improve the **effectiveness** and **efficiency** of **policy interventions**.

These policy reforms will **strengthen national innovation systems**, helping them **drive change** that responds to the **shifting policy landscape** and tackles **future challenges**.





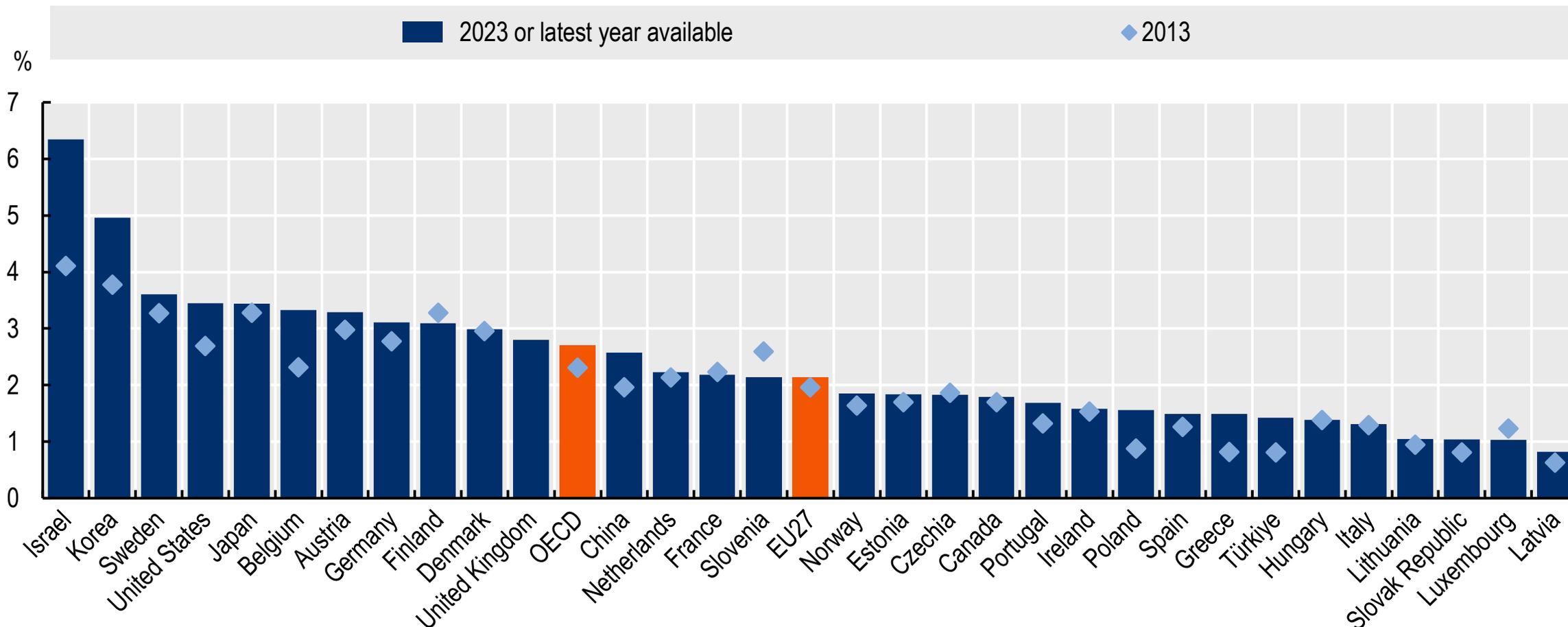
Enhancing policy efficiencies





# R&D intensity has grown over the last decade, but the rate of growth has recently slowed

## R&D intensities, selected economies, 2013-2023



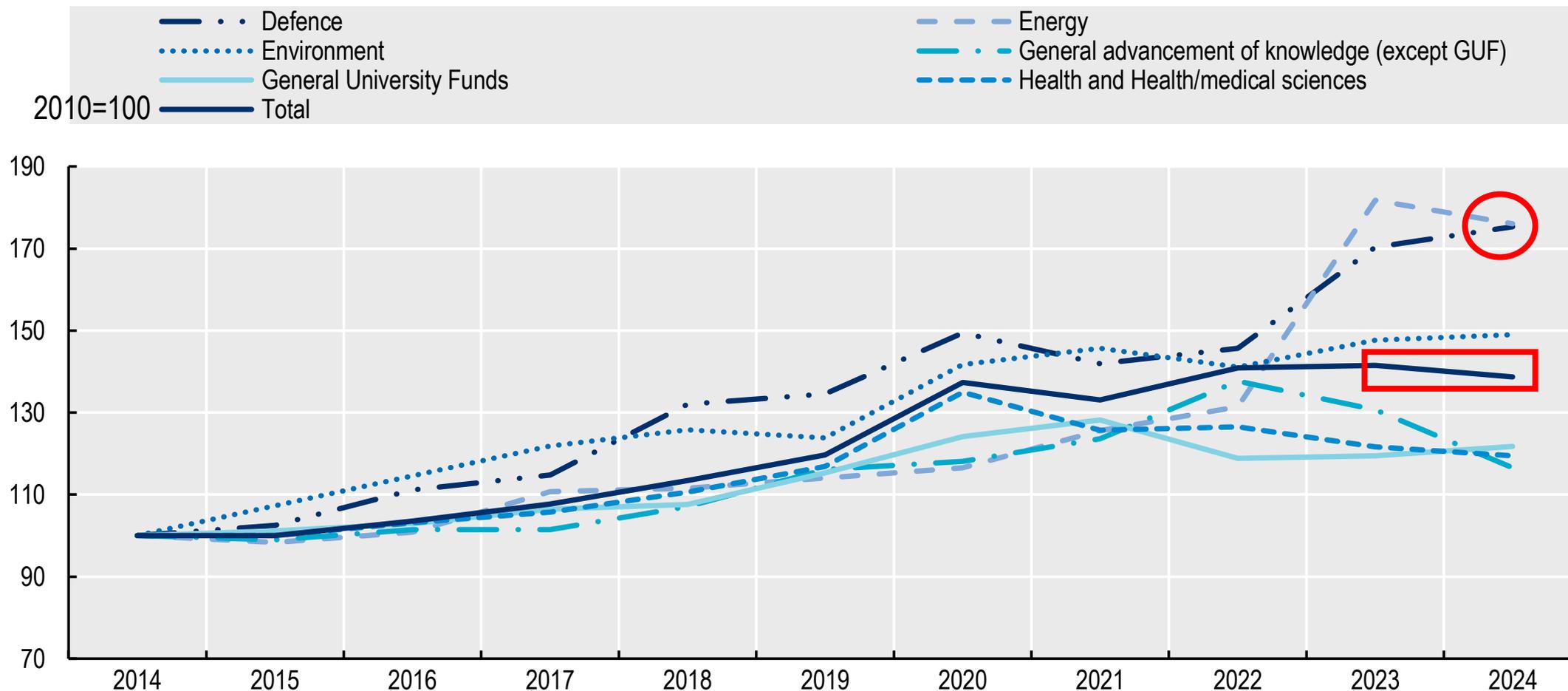
Note: 2023 data corresponds to 2022 for United Kingdom 2024 data for Canada  
Source: OECD, Main Science and Technology Indicators Database, March 2025. <http://oe.cd/msti>.





# Govt budget allocations for R&D stagnated in 2024 . . . but allocations to energy and defence R&D have grown strongly

## Government R&D budgets trends, broad spending categories, OECD area, 2014-24





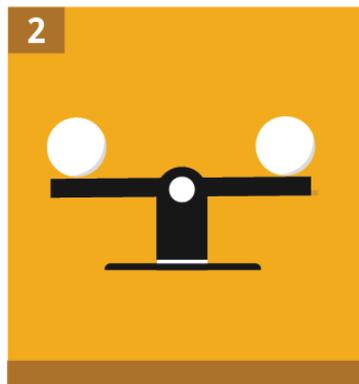
# Ambitious goals and limited resources call for actions that promote greater efficiencies in STI policy

## Five policy actions to tackle ambitious goals more efficiently



### 1 Leverage Policy Priority Synergies

STI agendas should leverage synergies and minimise trade-offs between priorities. Well-designed support for competitiveness can also strengthen resilience, security and sustainability transitions.



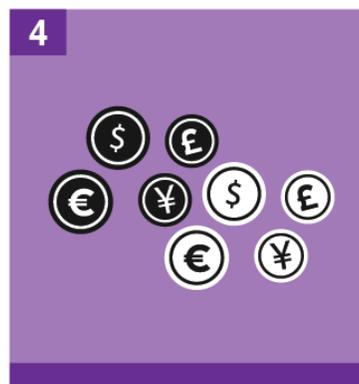
### 2 Rebalance Direct and Indirect R&D Support

Policymakers must rebalance direct R&D funding for breakthroughs with non-directed measures that spur near-market innovation to accelerate transformative change.



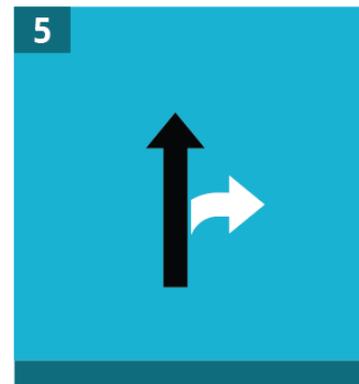
### 3 Strengthen Co-ordination

Governments should improve co-ordination between STI and non-STI policies using tools such as challenge-based funding or mission-oriented innovation policies.



### 4 Mobilise Public and Private Finance

Public funding should crowd in private investment. Instruments such as blended finance can overcome market failures and channel capital into transformative technologies.



### 5 Foster Fundamental, Transformative Change

Policymakers must embrace radical shifts rather than incremental steps, identifying leverage points that can trigger system-wide transformations.





Retain the benefits of international STI linkages while  
securing STI systems

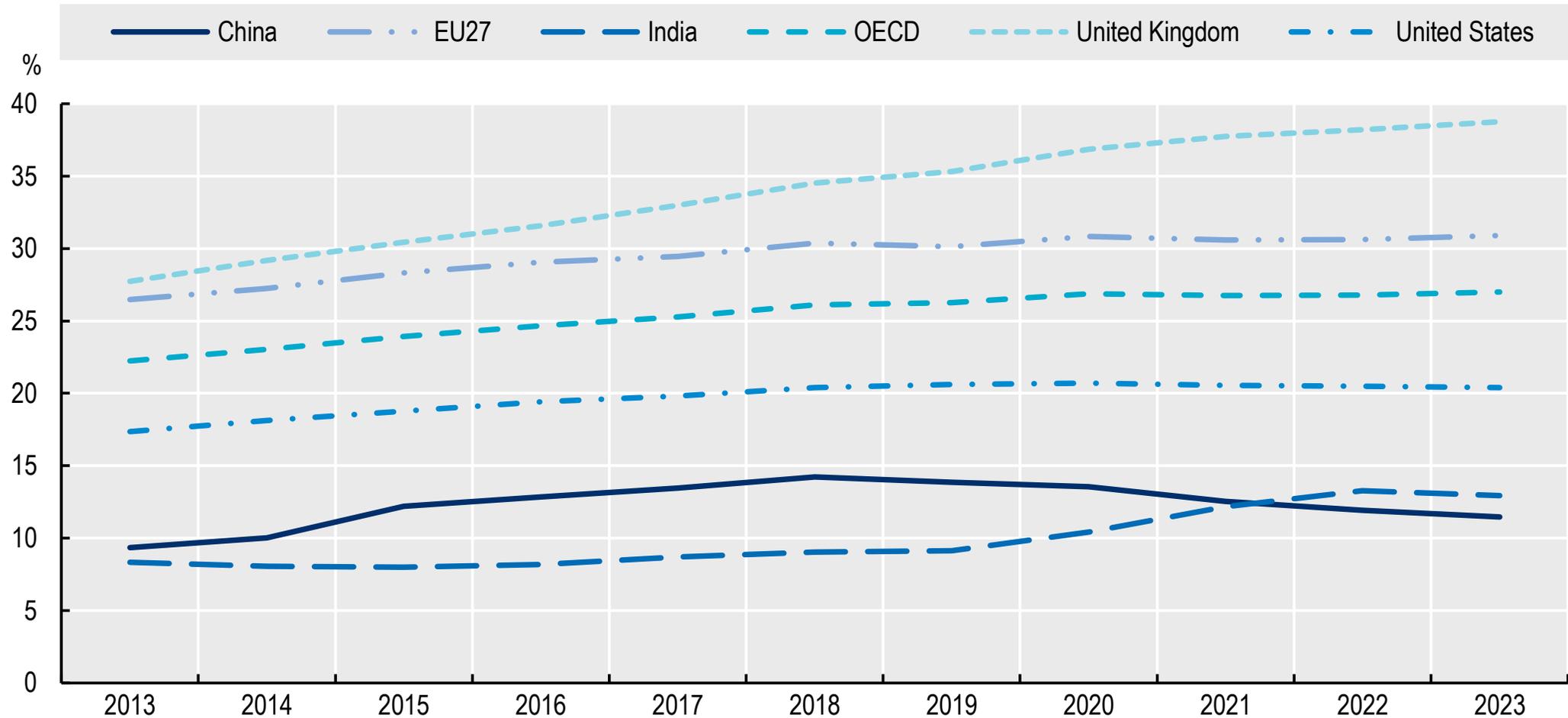




# International collaboration has lost momentum in recent years

## Trends in international scientific collaboration, selected countries, 2013-2023

Percentage of scientific publications involving international collaboration, based on fractional counts

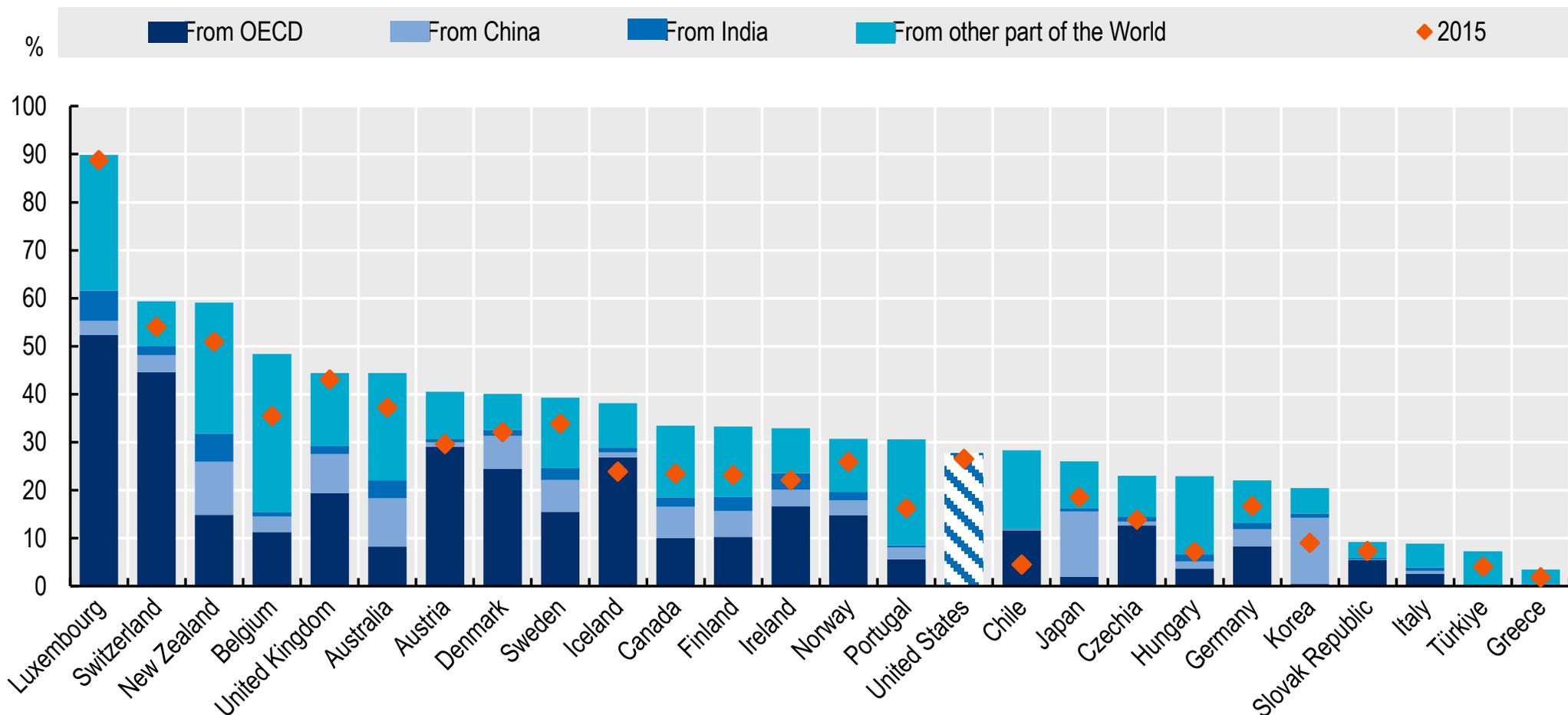




# Many OECD science systems are looking to attract a broader base of talent

## Share of mobile PhD graduates, selected countries 2015 and 2022

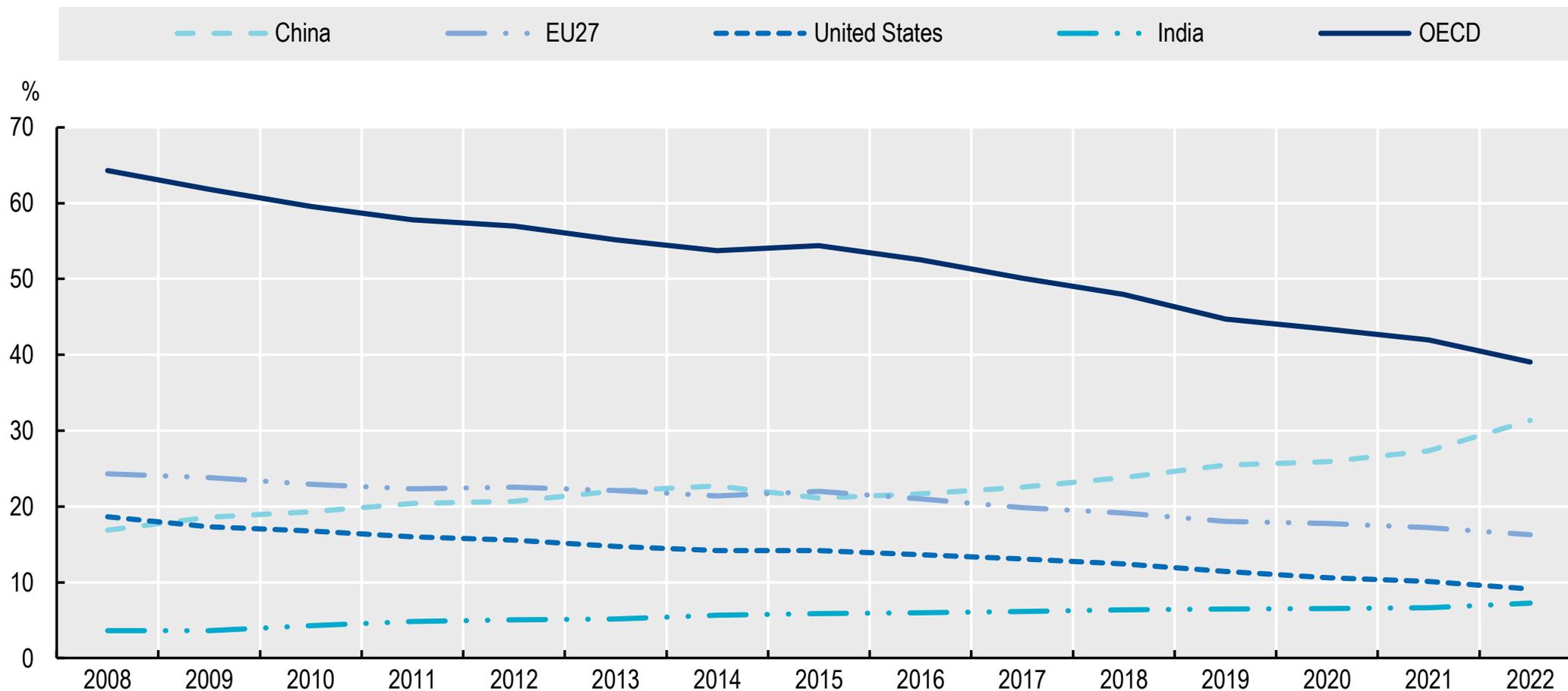
As a percentage of total PhD graduates





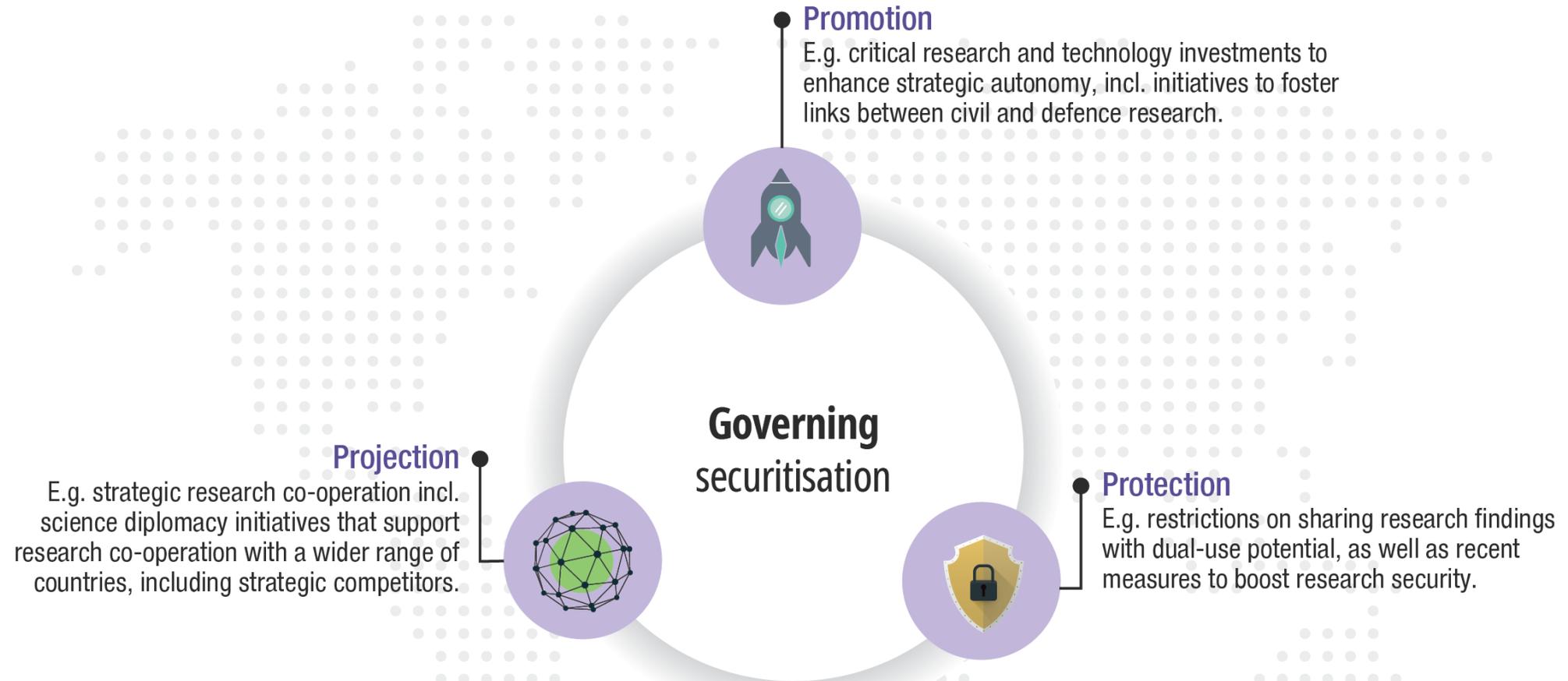
# International openness and exchanges remain essential for OECD countries

## Trends for main contributors to energy and “green” SDG scientific publications, 2008-22





# Growing securitisation of research – the 3Ps

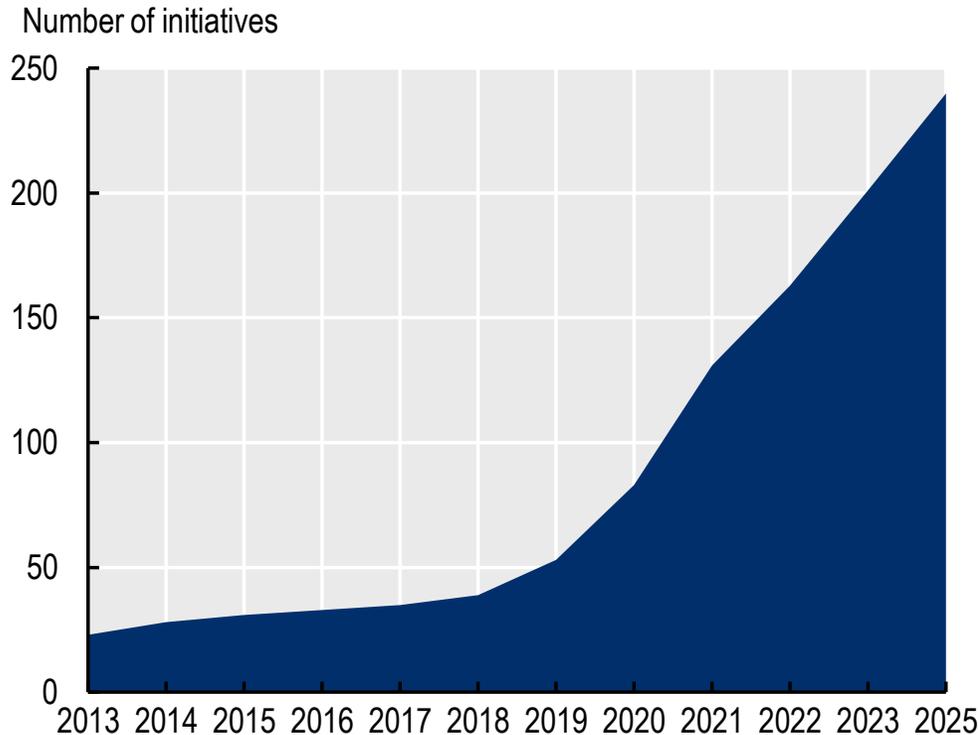




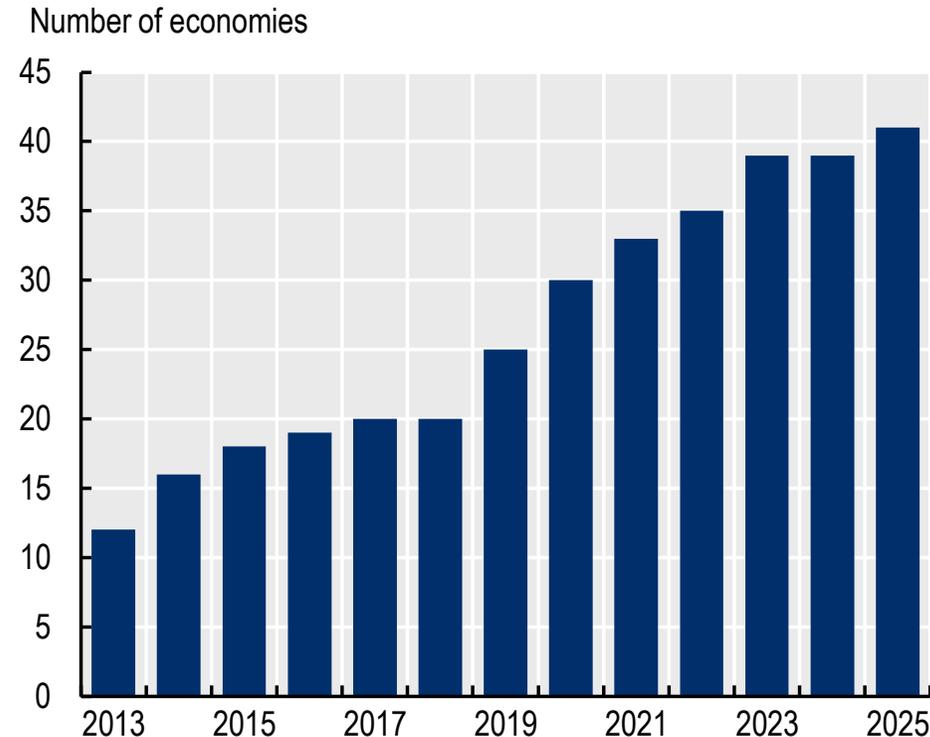
# Protection: Research security policies have grown almost ten-fold over the last seven years

- The STIP Compass portal on research security policies shows a sharp rise in research security measures – policies designed to protect sensitive research and prevent foreign interference. In 2025, countries reported 250 such policies — almost ten times more than in 2018. Over the same period, the number of countries with research security policies has increased from 12 to 41.

**A. Number of on-going research security initiatives**

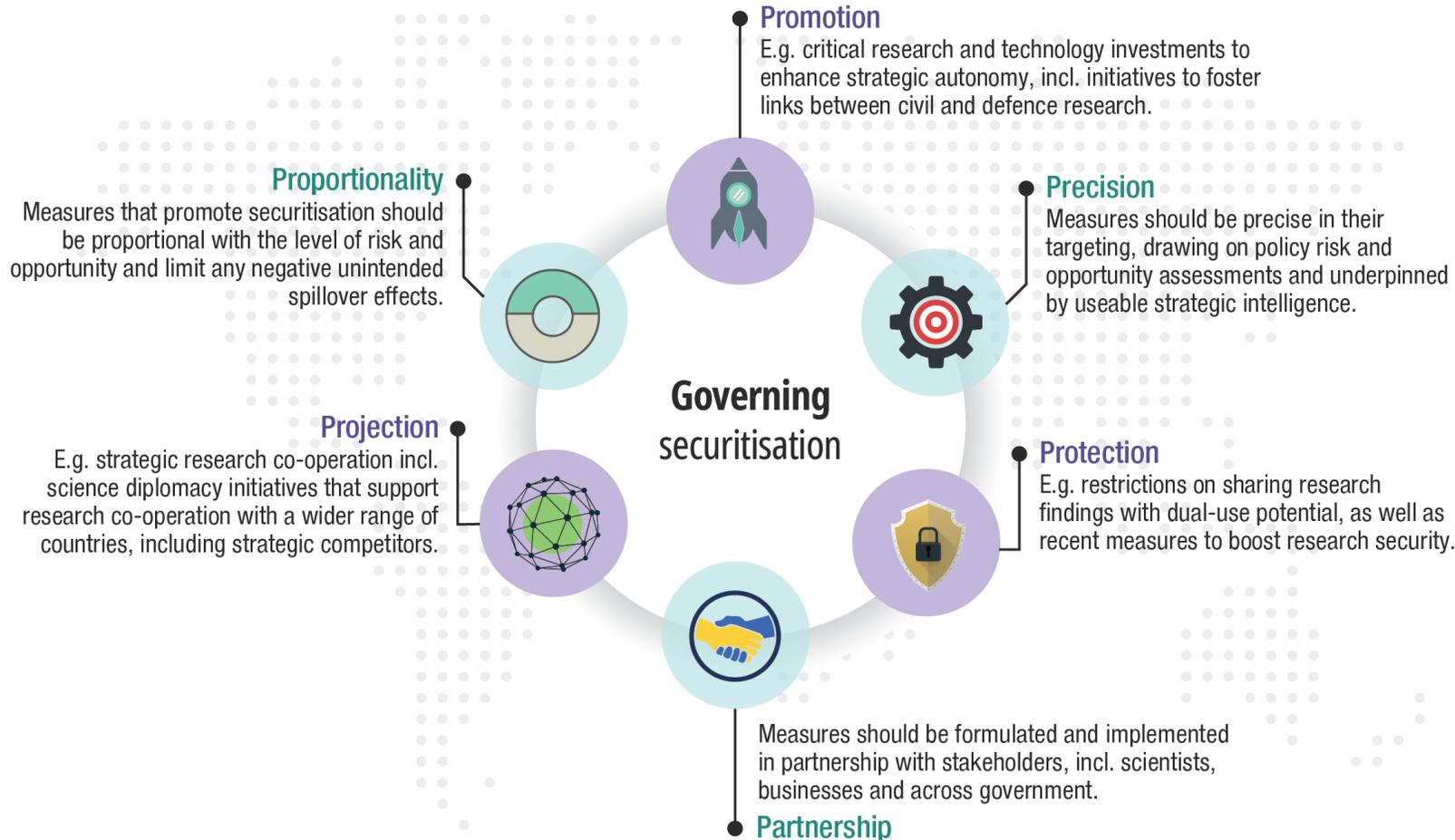


**B. Number of economies with at least one on-going initiative**





# The risk of over-securitisation could compromise research quality, undermine innovation and fragment co-operation on shared global challenges



- To remain effective, such policies must be **proportionate**, co-ordinated and **precise**.
- They should be developed in close **partnership** with scientists, businesses and other parts of government, and remain agile as risks evolve.





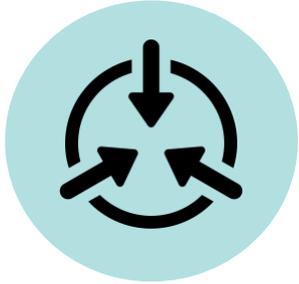
Enact structural reforms of science and technology systems





# Technology convergence is driving much innovation today

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- Promoting **multi-disciplinary** and **cross-sectoral research** becomes even more important
- **Convergence** in four important technology areas – synthetic biology, neurotechnology, quantum technologies and earth observation from space – illustrate these processes.



- **Challenges:** siloed nature of much STI, uncertainties from tech change dynamics, and differing governance regimes.
- **Need for:** radical multidisciplinary, collaborative platforms, and anticipatory forms of governance.





Update policy frameworks and the supporting evidence base



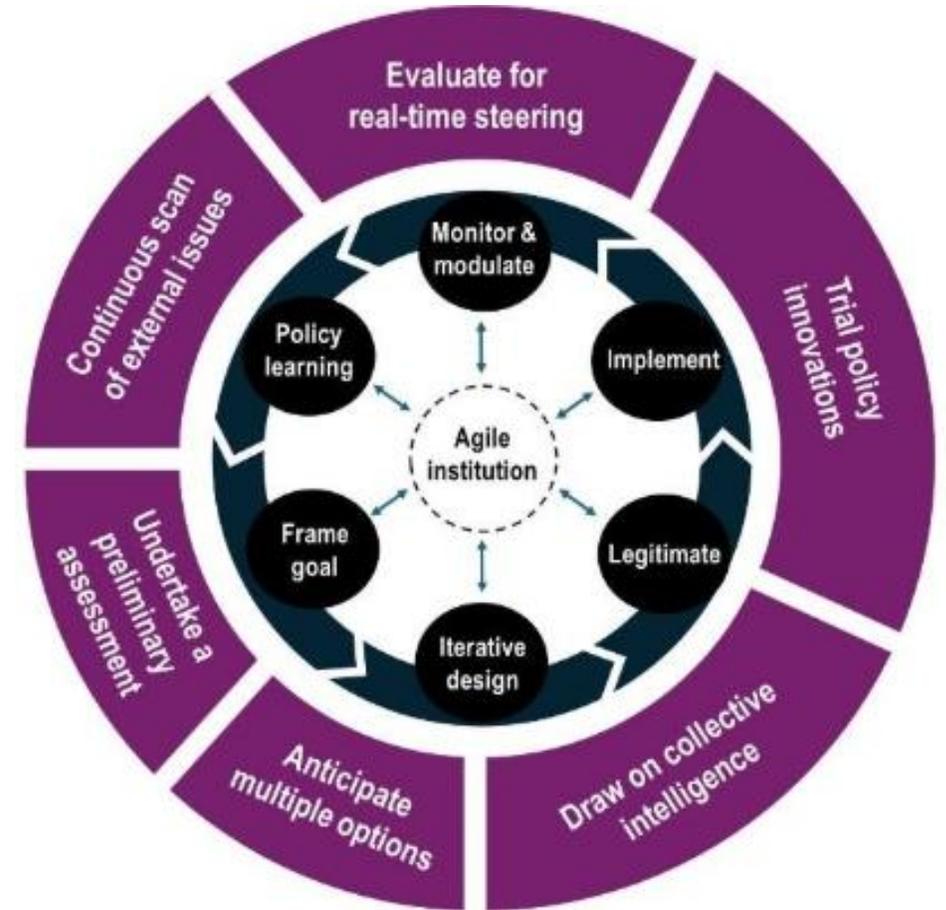


# Toward anticipatory and agile STI policymaking

Strategic intelligence can provide **timely insights** through **anticipatory and real-time evidence production**.

Policy **experimentation** can **enable testing of new ideas** and **critical evaluation of policy impacts**.

Together, these approaches support **evidence-based policymaking** and boost **policy agility**.



# OECD STI Outlook 2025

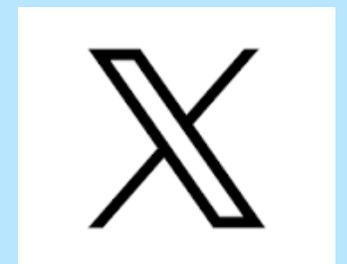
## Highlights

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