DESIGNING HORIZON EUROPE FOR THE POST-2028 WORLD

HOW SHARPER GOVERNANCE CAN BOOST EUROPE'S IMPACT

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SUMMARY

The European Commission recently tabled a bold proposal for the next Framework Programme for Research and Innovation (R&I), Horizon Europe, which will run from 2028 to 2034 as part of the next EU Multiannual Financial Framework. The stated aim is to place R&I at the core of the EU action for the coming years. Yet, the modest size of the available budget requires a major governance overhaul: Europe's R&I system is too fragmented, slow, and poorly aligned with geopolitical, industrial, and global sustainability challenges.

This paper proposes the creation of two new high-level councils under Pillar II to manage the full 'lab-to-market' journey. A Council on Research and Innovation for Competitiveness and Security (CRICS) would focus on dual-use, industrial sovereignty, defence innovation, and economic resilience, tightly linking investment to policy and industry needs. Conversely, the Council on Global Societal Challenges (CGSC) would focus on global public goods such as climate, health, biodiversity. It would embed openness, LMIC participation, science diplomacy, and multistakeholder partnerships, aligning with instruments like Global Gateway and the announced Global Health resilience initiative.

Together, the councils would support the MFF political steering mechanism, enable rapid budget reallocation, and prevent competitiveness and global-challenge agendas from cannibalising each other. The paper draws on international analogues (DARPA, ARIA, SPRIND, CSTI, etc.) and frames the reform as essential for Europe's technological relevance, security, and global leadership.

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INTRODUCTION: HORIZON EUROPE IN THE NEW MFF ARCHITECTURE

After a rather long and hectic wait, marked by leaked documents and plot twists, the European Commission's proposal for the future Framework Programme on Research and Innovation (R&I) saw the light on 17 July 2025. This occurred alongside a broader proposal for the next Multiannual Financial Framework (MFF), the seven-year budget cycle of the EU. The publication of the two proposals was surrounded by significant uncertainty. Both proposals mark the beginning of a prospectively long and winding road, which will lead to their entry into force in 2028, and until the end of 2034.

The debate on the MFF has initially revolved around the budget size, but also the possible reorganisation of instruments and programmes to streamline decision-making and increase the effectiveness of EU action. On the budget, the European Commission (and many other stakeholders) presented a proposal that goes beyond the historical limit of 1% of the EU's gross national income (GNI), which applied to all previous budget cycles (the only exception was the additional stimulus plan adopted during the Covid-19 pandemic.) The MFF proposal amounts to an estimated EUR 1.98 trillion, or 1.26% of GNI.

The internal reorganisation triggered by the MFF, as proposed by the European Commission, will be massive. For example, as many as 500 existing programmes devoted to the common agricultural policy and cohesion policy will be restructured under single national plans, one per Member State, covering almost half of the overall budget. Likewise, 12 different initiatives and instruments will be merged into a large-scale Competitiveness Fund, endowed with a total of EUR 451 billion for the whole cycle (10% of which would come from carbon levies). Several existing programmes, together with a new Ukraine reserve (EUR 100 billion), will be merged into a Global Europe instrument, tasked with fuelling EU external action.

The radical simplification proposed by the European Commission for the governance of the MFF comes with important governance reforms. In particular, the European Commission announced the establishment of a new, 'lean steering mechanism' designed 'to reinforce the link between overall policy coordination and the EU budget'. Such a mechanism will be needed mostly to guide the use of funds not locked in at the outset – i.e. unprogrammed or flexible budget lines. This would allow the EU to shift focus during crises, seize emerging opportunities, or adapt to evolving strategic imperatives.

The mechanism would take the form of a light, interinstitutional governance layer that ensures decisions over flexible resources are aligned with policy priorities jointly agreed by the European Commission, the European Parliament, and the Council. This governance change, alongside the general reorganisation of the EU's spending, will have far-reaching consequences.

For Horizon Europe, the proposed changes will be equally substantial, even if not as extensive as several stakeholders and reports, including our own report published in January 2025, had advocated. The first, very good news is that Horizon Europe will continue to exist, contrary to rumours that had spread, according to which the programme would have been absorbed into the broader Competitiveness framework.

The second piece of good news is that the European Commission proposes to almost double its budget (though the impact of inflation must be considered), reaching EUR 175 billion for seven years.

The third bit of good news is that, while reproposing the cumbersome pillar structure of today's Horizon Europe, Pillar II ('competitiveness and society') seems likely to feature a clear separation between actions and projects devoted to European competitiveness and those linked

to global challenges. At its core, this is consistent with what we had advocated in our January 2025 report. It opens up very significant opportunities for achieving synergies and amplifying the impact of the actions funded under Pillar II.

At this juncture, at least two governance issues become particularly salient. One is that the new Horizon Europe, though being a stand-alone budget line, will have to be tightly coordinated with other aggregated instruments, including the Competitiveness Fund and the Global Europe instrument. This will require a structure that aligns several policy domains, for each of the two streams, along the whole 'investment journey' (as defined by the European Commission), i.e. from basic research to the deployment of solutions on the ground.

Another issue is that actions undertaken to synchronise Horizon Europe Pillar II and the two large instruments (the Competitiveness Fund and Global Europe) will also be subject to re-prioritisation and reallocation on an ongoing basis, falling under the flexible resources of the MFF. This calls for the creation of dedicated entities that can decide on the reallocation of funds in coordination with the steering mechanism activated for the whole MFF. This would be an essential precondition and a starting point for even more ambitious proposals. For example, the Commission could institutionalise outreach to the whole research community (rather than remaining in a purely responsive mode) to crowdsource ideas; use recommendation engines for different tasks; use AI-supported platforms to align different research projects in real time.

Against this background is the possible creation of two dedicated structures to govern the allocation and prioritisation of funding for both competitiveness and global challenges. These were the subject of specific proposals in the Heitor Group report on the interim evaluation of Horizon Europe, and our CEPS report of January 2025.

In this report, we propose specific arrangements for the composition and governance of these 'councils', and their modus operandi under the future MFF. Each proposal is grounded in the need to achieve good governance in the future budget cycle. Each seeks to ensure that different streams of Horizon Europe achieve the objectives they are expected to pursue, in full consistency with the overall goals of the MFF and the underlying policy and strategic rationale, as outlined among others in the Competitiveness Compass document presented by the European Commission in January 2025.

The rest of the report is structured as follows. Section 1 explains the rationale for establishing the two councils, and links them to the overall governance of the MFF. We also discuss the organisation of the two councils separately, as their objectives and goals would be, or ought to be, distinct under the next Horizon Europe.

Section 2 identifies and analyses existing initiatives and institutions that mirror the proposed mission and powers of the two proposed councils. For the council on competitiveness and security (CRICS), we describe the functioning of a wide array of institutions in the UK, Germany, France, Japan, South Korea, Israel and the United States. Regarding the council on global and societal challenges (CGSC), we provide a description of initiatives in UK and Japan, plus international and multi-stakeholder initiatives, both of a public and private nature.

Section 3 concludes by placing the two councils in the prospective architecture of the future MFF. We also outline avenues for further research, which will become timely as the debate on the future Horizon Europe takes shape in the European Parliament and Member States.

As a caveat, the reader should be aware that many of the details of Horizon Europe are far from being carved in stone. To name but one, the size of the budget for the entire MFF is likely to come under pressure for having 'violated' the 1% of GNI rule – a circumstance that led the finance minister of one Member State to declare the proposal 'dead on arrival'. Moreover, given the mounting pressure on the EU to increase its defence expenditure, it is to be expected that the budget devoted to global challenges, currently estimated at approximately EUR 21 billion for seven years, may further shrink. This alone makes it even more unavoidable for the EU to build a governance structure that enables cooperation with other players, including Member States, associated countries, and other international stakeholders.

1. RATIONALE AND COMPOSITION OF TWO PILLAR II COUNCILS

There is widespread agreement among experts that the governance of R&I at the EU and national levels could be significantly improved, and that this would boost the already remarkable achievements of the Horizon Europe framework programme, all related policies and instruments. Recent research also confirmed findings already highlighted in our past research (CEPS, 2025):

(i) the extreme fragmentation of public R&I expenditure in Europe, with Horizon Europe representing barely 6% of total public R&I spending;

(ii) the broader fragmentation of investment and public spending priorities at the EU and national level, from the national level to the local level, where smart specialisation strategies are not coordinated into a single vision for Europe's future;

(iii) the prevalence of basic research funding, as opposed to applied research and innovation at higher technological readiness levels;

(iv) the insufficiency of private R&I investment, which is dramatically less than that in the US and China;

(v) the fragmentation within Horizon Europe, with too many budget lines and instruments seeking similar results, and with the redistribution of funds to contributing countries being prevalent, rather than the impact of funded research; and

(vi) the lack of a coherent scheme for blending funding models and instruments in order to achieve the EU's overarching goals in R&I policy and beyond.

Adding to these pre-existing conditions is the current urge to invest in dual-use R&I, which is a necessity due to Russia's full-scale invasion of Ukraine and the need for the EU to ramp up its own defence capabilities. But it also represents an opportunity to expand R&I funding to domains that can produce important civilian spillovers (ESIR, 2025). Beyond dual use is the imperative of ramping up European competitiveness and achieving higher levels of resilience and technological sovereignty. This has led scholars and experts to advocate that Horizon Europe's collaborative research instruments clearly focus on industrial transformation and the quest for new solutions to boost Europe's productivity. This emphasis risks overshadowing the EU's ambitions: to continue promoting global public goods and external action that cherishes science diplomacy and R&I collaboration to advance on the 2030 agenda (the SDGs are originally the north star of Horizon Europe), and to sow the seed of mutually beneficial cooperation with countries worldwide.

Importantly, these two domains of action are not entirely separate. Indeed, in several areas, it would be preposterous to assume that Europe can promote its competitiveness without relying on a robust network of partnerships and trade relationships. This includes the possibility for the EU to co-invest in industrial production, agree on common international standards, or even establish production facilities outside its borders (e.g. vaccine production and AI factories). International collaboration is therefore as beneficial to competitiveness and resilience as it is to tackling global challenges.

Below, we explore the need for stronger and more agile governance of both areas of the future Horizon Europe. We propose the creation of two *ad hoc* councils that would oversee the whole investment journey in the respective areas, becoming key interlocutors and references for the overall Political Steering Mechanism of the MFF. The proposed councils, while presented as separate, would carry out complementary activities in the pursuit of competitiveness and societal challenges, as explained in more detail below.

1.1. A COUNCIL FOR COMPETITIVENESS AND SECURITY

Actions under Horizon Europe on industrial competitiveness and defence will inevitably have to involve the private sector and Member States, including some of the associated countries (e.g. the UK, Norway, and Switzerland). However, given the focus on Europe and its economic performance and resilience, the approach adopted in this domain will not allow for a high degree of openness and collaboration outside EU borders, if not in well-defined cases. Industrial transformation crucially depends on the protection of intellectual property and the establishment of mutually agreed conditions for the commercial exploitation of technological solutions, limiting the possibility for other countries to free-ride on publicly funded innovation. This also requires a more conservative approach to open science and FAIR data, so far rather ubiquitous features in Pillar II projects, and as stated, a rather generous predisposition towards funding dual-use R&I.

In this area of the future Horizon Europe, one would expect the European Defence Fund, Industrial Policy instruments in given domains, and the AI Continent Strategy, among others, to surround the activities of the European Innovation Council (EIC). They would be aided by a number of teams styled on the US Advanced Research Projects Agency (ARPA or DARPA in relation to defence). Indeed, a recently released draft 2026 work programme for Horizon Europe reveals that the EIC is expected to pilot already in 2026 'advanced innovation challenges', a new funding instrument based on the US ARPA model. From 2028 onwards, the proposed budget would also see the EIC's allocation more than triple, reaching EUR 34.5 billion.

Whether the EU should entirely replicate the ARPA model or not, would fall beyond the scope of this report (for reference, see Kattel & Entsminger, 2025). That said, it must be highlighted that tight cooperation with industry is a feature of the ARPA model, where leading industry players help the agency's programme managers implement and execute the actions selected by DARPA as most relevant and strategic. Most of the programme managers also have an industry background and provide effective support through initiatives at all phases of the cycle:

- pre-programme inputs (e.g. proposer's days/industry days and requests for information);
- programme launch (broad agency announcements and Small Business Innovation Research); and
- programme execution, through the funding of parallel performers (defence contractors, startups, and research labs).

Support is also provided through advisory and knowledge transfer services, with rotating programme managers and informal, project-specific advisory boards. Industry also helps DARPA transition successful prototypes into military or commercial products.

Besides DARPA, the EIC could draw on other, rather successful experiences launched in the US and other countries to boost the 'lab to market' funding of R&I. In key industry domains such as health (ARPA-H) and energy (ARPA-E), such initiatives perform their role rather well with a relatively limited budget. While DARPA has a budget of approximately USD 4 billion, ARPA-E is endowed with USD 500 million a year; ARPA-H received USD 2.5 billion for the 2022-2025 period but then had a massive budget cut related to mRNA vaccine research (triggering the chief data officer's departure). The ARPA model has already inspired similar initiatives in Europe and beyond: from the UK Advanced Research and Invention Agency (ARIA) to the German Federal Agency for Disruptive Innovation (SPRIND), France's Defence Innovation Agency, mission-oriented innovation programmes in Japan, and Israel's Directorate of Defense, Research and Development (Mafat).

In Horizon Europe, the need for prioritisation and governance of mission-oriented projects for defence and competitiveness would require the creation of an agile, dynamic and adaptive Council. It would oversee the work of programme managers and quickly translate research in the lab or outstanding industrial needs into concrete projects, ready to be deployed and scaled up.

The Heitor Group's report already proposed the creation of an Industrial Competitiveness & Technology Council, which would drive pre-competitive industrial research, strategic

value chains, technology sovereignty, and innovation translation. The Council would ensure that industry has a stronger voice in setting priorities for collaborative research, technology partnerships, scaling, and innovation deployment, advising on how to structure instruments that bridge basic science and market uptake. The latter would occur mostly via the European Competitiveness Fund, but also through public procurement, demand-side pull, and risk sharing. The Council would potentially act as a clearinghouse or advisory board for moonshots, strategic technology initiatives, dual-use research, and scaling up innovation.

The proposal by the Heitor Group responded to a need that has further evolved since the report was released, in October 2024. In particular, not only has the war in Ukraine reached new peaks of tension, with Russia repeatedly violating EU air space in September 2025, but also, more broadly, the election of Donald Trump to the White House has inaugurated a new era of uncertainty. This has triggered a response from Europe and a renewed sense of urgency in ensuring the continent's own defence capabilities. The security and competitiveness imperatives have thus become even more intertwined: discarding one of the two would mean exposing Europe to either a military defeat or a long season of economic irrelevance. In either case, the EU project would face a concrete, sizeable existential challenge.

Against this background, we propose that a Council on Research and Innovation for Competitiveness and Security (CRICS) be set up, with participation from the public sector, EU agencies, private sector, European donors, philanthropies, independent experts and observers. The CRICS would have, as an overarching mission, the task of promoting dual-use innovation to strengthen Europe's military capabilities and industrial competitiveness. The CRICS would carry out several essential tasks.

- Oversee the whole lab-to-market journey, providing input to sectoral initiatives managed under the European Competitiveness Fund. These include the Chips Act (including the EU Chips Joint Undertaking, financial aid to businesses for building and operating semiconductor fabrication plants, R&D pilots); the Net Zero Industry Act for CleanTech; the Critical Raw Materials Act to secure supply chains of key raw materials; the Critical Medicines Act; and the European Defence Fund, where defence capability R&D will have to be ensured.

- Draw on the work of the European Research Council (ERC), to identify possible streams of basic, excellence-driven research that could be subject to accelerating, lab-to-market initiatives. This includes the future initiative for AI in science (previously called 'CERN for AI"), which should take the contours of a large-scale initiative on AI aimed at developing trustworthy AI solutions for science, industry/robotics, the future of public services, and the digital public

infrastructure (Renda, 2024). This more mission-oriented addition to (the current) Pillar I is essential given the foundational nature of AI for the entire industrial transformation that Europe needs to plan for.

- **Carry out ongoing foresight and horizon scanning**, to identify emerging use cases that would require innovative solutions in a given industrial domain, to be added to the pool of potential projects. Likewise, identify emerging risks and needs to diversify sources of supply or prospective technological solutions. For example, betting only on GenAI for future industrial transformation may overlook emerging solutions such as neuro-symbolic or neuromorphic AI, which may at the same time boost Europe's sovereignty and nurture its decarbonisation ambitions. This activity would also require scanning for dual-use R&I funding, to ensure that public R&I funding produces positive spillovers across the military and civilian domains. Ideally, it would involve analysis based on economic complexity, technological specialisation, and relatedness. This would be aimed at identifying areas for investment, opportunities for moonshots, possible variable geometries in forging international alliances, and areas where divestment is the most rational strategy (see, for example, Balland & Renda, 2025).

- **Oversee the work of the EIC and its proposed ARPA-style initiatives** led by rotating programme managers, which the CRICS could also help recruit. These initiatives are tentatively called 'Advanced Innovation Challenges'. They should see their first stage of implementation in 2026, featuring a two-stage funding model: the first stage would be a feasibility/concept assessment, with funding of up to EUR 300 000 per project; the second stage or prototyping, and demonstrations in real environments, reaches up to a lump sum of EUR 2.5 million per project. To succeed, these challenges should feature deep and strong participation by industry players and their broader ecosystem, including enterprise foundations, large industrial groups, innovative SMEs benefiting from the prospective 28th regime, and university spinoffs.

- **Coordinate the demands of EU agencies and institutions with the pre-competitive, IP-proof procurement of proposed solutions**, to be deployed in identified industrial sectors. Representation of the European Defence Agency, European Investment Bank, InvestEU, and relevant Joint Undertakings (e.g. on 6G) in the CRICS would ensure enhanced coordination and matching between emerging industry needs and proposed technological solutions from the different 'verticals' to which Horizon Europe must be connected through the European Competitiveness Fund. Again, in this case intellectual property provisions and even competition rules would need to be tailored to the need to exchange

information and develop joint ventures. Industrial stakeholders could join dedicated meetings to signal needs and possible avenues for fruitful, impact-driven, and mission-oriented alliances, which would help Europe achieve its goals.

- **Ensure consistency and coordination between investment decisions and legislation**. In what will emerge as an institutionalised version of the 'innovation deals' unsuccessfully trialled by the European Commission during the Juncker years, the CRICS could become the place for collecting proposals for simplifying and streamlining legislation. The aim would be to facilitate compliance and avoid 'unnecessary burdens' (see Renda, 2019 for a definition). The activity of the CRICS would also become an essential input to the work of the political steering group, which should include among its tasks the reconciliation of legislation with competitiveness and security objectives. Given the presence of industry and civil society in the CRICS, stakeholders would be well positioned to table proposals for legislative simplification and improvement. These proposals would anyway have to be vetted by the Regulatory Scrutiny Board within the European Commission, even more so if in the future the board is given more transparency and possibly an independent chair (see Renda, 2022).

- **Integrate leading experiences and best practices from Member States and associated countries**. EU Member States and associated countries already have experimented with similar institutions, which could usefully contribute to the work of the proposed CRICS. These entities, surveyed in Section 2 below, should be given full consideration by the governing bodies of the CRICS, and could become a source of ideas for R&I funding, innovation in funding instruments, and even seconded personnel that would take the role of programme managers. In other words, it is crucial to embed practices that have been already developed and have proven effective in the member states and associated countries, in a way that brings experience together and builds convergence on priorities while leaving some space for experimentation.[1] At the same time, the CRICS (and the CGSC proposed below) would need to engage with all national authorities to ensure that no country is left behind due to lack of capacity to contribute.[2] Given the flexibility that the next Horizon Europe seeks to achieve, mechanisms for the voluntary pooling of resources between group of countries and/or national institutions, including in cooperation with philanthropies, could be envisaged.

- **Promote security by linking specific Pillar II projects with Pillar III activities by the EIC**. The CRICS would need deal with projects that entirely depart from the

[1] We wish to thank Tomaso Duso for this insightful addition

[2] Many thanks to Darja Isaksson for contributing this important insight.

collaborative, open nature of R&I projects traditionally funded under Horizon Europe, to embrace more "closed", IP-led collaborations benefiting from venture capital, private sector funding including notably enterprise foundations' contributions.[3]

- Coordinate the scope of proposed 'moonshots' in Horizon Europe with solutions that will be needed in given industrial domains. The moonshots range from the future circular collider to quantum computing, new frontiers in aviation, data sovereignty, next generation AI, automated transport, regenerative therapies, space, zero water pollution, and space observation. The novelty of these moonshots, compared with the current Horizon Europe, is that they would encompass the whole investment journey, from research to demonstration and deployment. They would leverage pooled funding from Horizon Europe and the European Competitiveness Fund (ECF), as well as national, public, and private sources. They would orchestrate contributions from all parts of Horizon Europe, including the ERC and Marie Sklodowska-Curie Actions, among others.

  That said, the difficult role of orchestrating and coordinating moonshots, and their interaction with other parts of Horizon Europe and the ECF cannot be played by the ERC or EIC, let alone the Political Steering Mechanism. The need for a CRICS here is particularly evident. Otherwise, each moonshot, with its own governance, may end up moving in the complex environment of the new MFF without coherent coordination with other moonshots, or the ARPA-style initiatives to be launched by the EIC. The CRICS would thus also support the future Political Steering Mechanism in the prioritisation of funding year-on-year, as well as within pre-determined budget lines.

- Suggest to the Political Steering mechanism that resources be reallocated whenever foresight, horizon scanning or unforeseen shocks indicate the need to re-prioritise them. While the ultimate decision on the reallocation of resources should be left to the inter-institutional Political Steering Mechanism, such a decision can only be based on evidence and foresight if taken together with the entities that are charged with implementing the MFF. These include the CRICS, a CGSC (see Section 1.2) and possibly the ERC board (though the ERC and Marie Sklodowska-Curie Actions may not be among the institutions subject to possible resource reallocations).

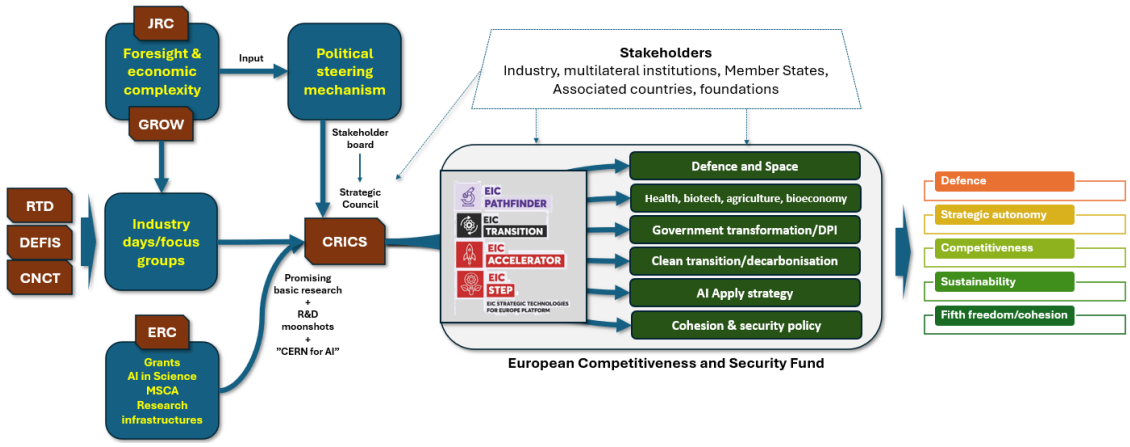
[3] Our thanks go to Luc Soete and Rainer Kattel for providing key insights and ideas, even leading to the possible creation of a third council, exclusively devoted to security and more directly linked with territorial instruments such as cohesion funds. See Soete and Kattel 2025.

Based on these tasks, the CRICS should be designed as an agile, multi-stakeholder body with at least two tiers of participation: a broad Strategic Council of around 25-30 members and a lean Executive Board. The Strategic Council could bring together representatives from European Commission directorates-general (DGs), EU institutions, and Member States. It could include independent experts, with industry and civil society engaged in an advisory capacity, alongside large philanthropies with a keen interest in European competitiveness (e.g. European enterprise foundations). Its role would be to set the overall strategic direction, ensure alignment with EU treaties and policies, and provide political legitimacy and stakeholder buy-in.

The Executive Board, by contrast, would deliberately have to be small, comprising a director, a few deputies, key functional heads, and a support staff of roughly 15-20 people. It would be tasked with translating strategy into programme design, funding calls, and oversight of term-limited programme managers, ensuring that decisions can be implemented with speed and agility while the Council provides the necessary legitimacy and inclusiveness. Ideally, the Executive Board would be hosted by key DGs (RTD, GROW, DEFIS, and CONNECT) to ensure coherence with Horizon Europe, the industrial strategy, and defence innovation.

Other features of the CRICS would include rotating, term-limited programme managers to avoid stagnation and conflicts of interest, and strong conflict-of-interest safeguards (industry can advise but not control funding).

Figure 1 – The proposed CRICS in the context of the future MFF



Source: Author's own elaboration.

1.2. A COUNCIL ON GLOBAL SOCIETAL CHALLENGES

Several programmes and instruments under Horizon Europe will not be linked directly to European competitiveness, but rather to its (constitutionally backed) vocation to promote global sustainable development. This is underpinned by Horizon Europe's clear orientation towards sustainable development and science diplomacy.

The consequence of this workstream under Horizon Europe is a separate set of objectives under the proposed Pillar II, which are more directly linked to global challenges. The latter are defined as problems and prospects that require international coordination and cooperation to be effectively addressed. They include what economists typically call global public goods, featuring non-rivalry and non-excludability, such as scientific knowledge and open research, global earth observation, climate change adaptation and mitigation, biodiversity protection, pandemic preparedness and disease eradication. This category also entails less 'pure' public goods, featuring club-like characteristics and as such being non-rival, but excludable in some way. These include digital public goods (software, open data, or open models); green technologies and products such as clean electricity or cleantech; and also 'coordination goods' or global norms/institutions.

Within the framework of Horizon Europe, the EU has so far promoted those global public goods that fall within its civilian research and innovation mandate, rather than those tied directly to military security. Climate stability and environmental protection are at the heart of the programme, with major funding streams devoted to clean energy, climate adaptation, biodiversity restoration, and sustainable oceans. These efforts align with the notion of pure global public goods, since reducing emissions, restoring ecosystems, or preserving the ozone layer benefit all without exclusion or rivalry.

Horizon Europe also advances scientific knowledge as a global public good, embedding open science principles, open access to publications, and FAIR data management across funded projects. It also supports infrastructures such as the European Open Science Cloud and Copernicus satellite systems that provide openly available environmental data worldwide. Global health is another area where the EU can contribute by funding vaccine research, pandemic preparedness, and antimicrobial resistance. Horizon Europe generates benefits that extend beyond European borders and contribute to disease eradication as a planetary public good.

The global challenges part of the proposed Pillar II is far more suited to the implementation of openness-related principles, compared with the competitiveness and security part of the forthcoming programme. The rules and conditions for participation should therefore be different and significantly more devoted to openness and international collaboration than those implemented under the competitiveness and

security area of (current) Pillar II, overseen by our proposed CRICS. Yet importantly, to be effective, efforts to address global challenges through collaborative R&I should go beyond openness in data, intellectual property, and research results, in a number of crucial ways.

- **Openness to researchers and research entities from all over the world**. Projects dealing with global challenges should ideally involve researchers from across the globe – especially from LMICs, far more than Horizon 2020 did or Horizon Europe has to date (Yeung et al., 2025). Involving researchers from all over the world, including from LMICs, is not only ethically justified but also strategically indispensable. Global challenges like climate change, pandemics, biodiversity loss, and antimicrobial resistance transcend national borders and demand collaborative solutions (Buchholz & Sandler, 2021). Furthermore, open scientific exchange and co-creation enhance innovation and the external validity of findings, as cross-border collaborations often yield higher citation impact and more robust results (Wang, Lee & Uzzi, 2024).

  Moreover, equitable partnerships foster local capacity in LMICs, helping to redress structural power imbalances in global science and ensuring that technologies and policies reflect local contexts and needs (Cabrera-Mendoza, El-Khatib & Folayan, 2024; Saenz, Abimbola & Nyirenda, 2024). From a science diplomacy and a global legitimacy perspective, including LMIC researchers helps align Horizon Europe's outputs with global ownership. It ensures that research outcomes are adopted more widely, rather than seen as Eurocentric or even neo-colonial impositions (Faure, Matagne & Smith, 2021; Ingenhoff, Radu & Chariatte, 2025).

- **Openness to international multistakeholder partnerships for global R&I collaboration**. When it comes to global public goods, no one can 'go it alone'. International multistakeholder partnerships offer a promising platform for Horizon Europe to project the EU as both a leader and a collaborative actor, especially in addressing global public goods and sustainable development. By anchoring Horizon Europe calls around partnerships that include governments, international organisations, philanthropic foundations, industry, civil society, and academic institutions, the EU can leverage pooled legitimacy and diversified resources to tackle complex challenges more effectively (Higham et al., 2024; Fast et al., 2025).

  The Horizon Europe framework already embeds partnerships as instruments combining public, private, and institutional actors under joint programming and governance, with formal coordination procedures and flexibility to adapt to changing needs. However, as we already highlighted in CEPS (2025a), the partnerships launched under Horizon Europe tend to be smaller in scale and ambition, and much less collaborative than those for global R&I to address global challenges. To increase its leadership role, the EU should design flagship

partnership initiatives (e.g. in global health, climate, and digital infrastructure; see CEPS, 2025(b)), support co-funding from external actors, and expand the association of non-EU countries. This would enable it to anchor Horizon Europe as a convening centre of global research coalitions.

- **Openness to co-designing priorities with international partners**. Evidence we collected on Horizon 2020 and Horizon Europe (Yeung, Reynolds & Renda, 2025) shows that Europe reaches the best results in global R&I collaboration when it jointly sets priorities and missions with its partners. When done with the same spirit and approach it started using in the Global Gateway (at least in theory), it can move from a donor-recipient mindset to embracing equitable and impactful partnerships among peers. Depending on the circumstances, the co-design of priorities may be led by the EU or determined with bilateral partners (e.g. the EU-Africa Union R&I cooperation). It could likewise be led by one of the partners (e.g. the WHO) or even by partnership institutions or mission-oriented 'orchestration schemes' set up for the specific purpose of implementing the agenda of the international partnership (e.g. GAVI or CEPI; see Renda et al., 2024).
- **Attention to R&I as part of a global investment journey**. Past research by CEPS (2025a; 2025b) has highlighted the chasm in the European Commission between the work done by DG RTD on R&I cooperation and the activities of DG INTPA in the Global Gateway, especially related to the research, education and innovation pillar. The post-2027 Horizon Europe will have to bridge that chasm by creating a structured, cohesive coordination mechanism, which leads to
    - embedding the education component more clearly in Horizon Europe's international R&I cooperation activities (e.g. through expanded Marie Sklodowska-Curie and Erasmus+ actions);
    - creating pathways for partner LMICs to benefit from a *continuum*, which moves from establishing the preconditions for fruitful R&I, including infrastructure, enhanced capacities for science and skills, to the deployment of jointly developed, innovative solutions on the ground; and
    - scaling up existing efforts that traditionally remain within European borders, using world-leading European solutions such as Copernicus, the European Open Science Cloud, and many more (see below).

  Ensuring that collaborative R&I aimed at global challenges is genuinely international is essential for the EU to punch above its weight on innovation and fill the existing gaps in R&I left by the deterioration of global cooperation among nations.

For all these reasons, we propose that the EU creates a coordinating mechanism called the Council on Global Societal Challenges (CGSC), with the objective of streamlining Europe's actions in the related area of the proposed Pillar II. Similar to the CRICS described in Section 1.1, the CGSC would carry out a number of key functions for the proper implementation of the entire MFF.

- **Oversee the whole lab-to-market journey.** In this case, this entails working with DG INTPA and DG EAC, plus the European Investment Bank and national development finance institutions to create the preconditions for fruitful R&I cooperation whenever the related ecosystem is not sufficiently developed. This must follow through to ensuring that once launched, R&I collaborative projects and partnerships can be effectively implemented on the ground in partner countries, with researchers bringing value at the local level, through direct research, as well as exchanges and secondments during the life of projects. A good example in this respect is the ARISE project, which is currently being scaled up given the encouraging results in EU-Africa R&I cooperation.
- **Draw on the work of the ERC**, in particular for those projects that lend themselves to proofs of concept and deployment in countries around the world to tackle global challenges. Here too, the proposed CERN for AI should in principle develop solutions for science, robotics, and the future of public services, which could then be the subject of joint R&I projects and eventually deployment in the EU and in partner countries. This approach would also benefit from parallel actions under the International Digital Strategy and the Global Gateway, such as cooperation on digital public infrastructure.
- **Carry out ongoing foresight and horizon scanning**, to identify areas where collaborative R&I can bring important solutions to outstanding challenges, be they related to climate, health, biodiversity, disinformation, etc. Situational awareness in terms of geopolitics, emerging technologies and complexity analysis to identify suitable collaborations is essential to ensuring that resources are correctly prioritised.
- **Coordinate and oversee the work of EU institutions such as European Investment Bank Global, as well as national development finance institutions**, to ensure the launch of effective Team Europe R&I collaboration projects. This may entail launching ad hoc new initiatives drawing on the list of moonshots proposed under the next Horizon Europe (or ensure their successful continuation, whenever they follow pre-existing workstreams), to the extent that they pertain to global challenges. Notably, the proposed CGSC could also oversee and shape the different strategies the EU pursues in its bilateral cooperation with other regional entities (e.g. MERCOSUR, African Union, ASEAN, etc.).

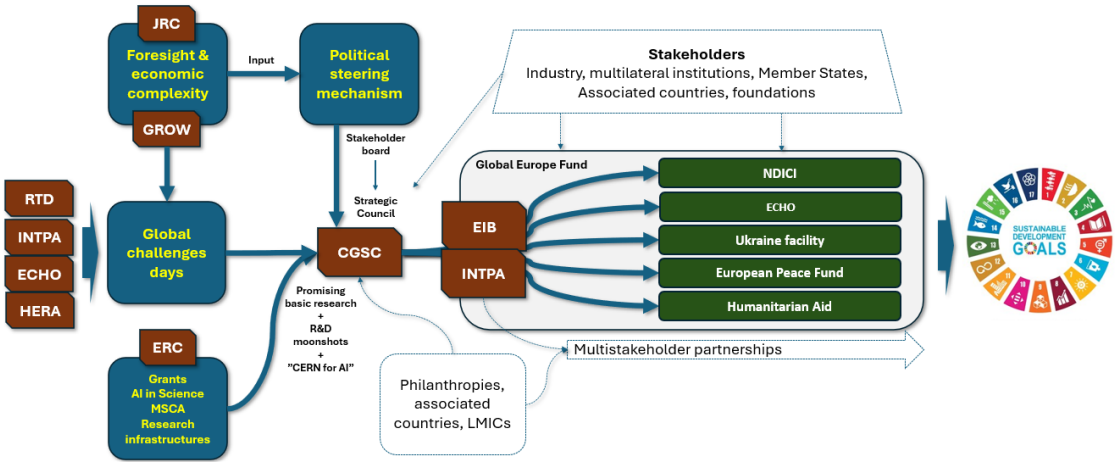
- Ensure consistency and coordination between investment decisions on R&I for global challenges and the deployment of external action instruments as subsumed under the Global Europe instrument. This includes coordination between DG RTD and DG INTPA in the launch of Team Europe Initiatives on R&I (e.g. on health, climate, and biodiversity); the inclusion of R&I collaboration in free trade agreements, as well as in instruments launched under the International Digital Strategy (e.g. the 'EU Tech offer') and the Clean Trade and Investment Partnerships envisaged by the Clean Industrial Deal. Notably, the creation of the CRICS and the CGSC would also allow for a more precise definition of global and societal challenges, and a better division of work between EU institutions when it comes to pursuing them. For example, the current European Commission Proposal for Horizon Europe refers to "societal challenges" as including "migration, disinformation, democracy, social and economic transformations, inclusive societies, and social cohesion"; whereas most organisations around the world emphasise other topics, such as climate change, global health, etc. Ongoing coordination between CRICS and CGSC would reduce uncertainty as to whether, and to what extent, specific domains are included in either area within the proposed Pillar II. The same applies, for example, to the Global Health Resilience Initiative announced by Ursula von der Leyen in her State of the Union speech in September 2025.[4]
- Collaborate with international governmental organisations, philanthropies, and civil society organisations for the launch or recast of multistakeholder partnerships for global R&I collaboration to tackle outstanding and future challenges. The CGSC would become instrumental in shaping Europe's positioning vis-à-vis the sustainable development debate, along with the global agenda post-2030. It would also be the most appropriate place to decide whether, on a specific global concern, Europe and its associated countries are in a position to lead a multistakeholder R&I collaboration initiative or become a partner under the leadership of another public or private institution. A key role for the CGSC would also be related to the scaling-up of European partnerships into global ones, in the context of the envisaged reorganisation of partnerships, especially when not directly related to European industrial transformation or defence. Notably, scaling up collaboration will imply overseeing the terms of engagement, which often appear very rigid for potential partners, be they intergovernmental organisations, private entities or philanthropies. Finally, the involvement of a diverse group of stakeholders could also boost social innovation, very often cherished by donors

[4] We thank Martin Smith for highlighting the very important aspect of the "division of labour" between the two councils, especially when it comes to global challenges.

and foundations, and aimed at tackling societal blockages towards the diffusion and uptake of innovative solutions.[5]

- **Identify possible new countries, including LMICs, for association with Horizon Europe**. The separation of governance between the CRICS and the CGSC would enable a more proactive approach to recruiting members and associated countries. This in turn would extend the reach of the EU and its global R&I collaboration network: involvement of LMICs should be seen as development aid, but rather as a path to excellence, as emphasised in some of our recent reports (see Yeung et al. 2025). In times of abrupt deterioration of the multilateral order, a vast network of scientific diplomacy and cooperation is the best visiting card for Europe and its ambition to remain, or become, a leader in tackling global challenges. This point applies even more now, when in many fields of science the US is in stark retreat, creating enormous gaps and equally sizeable opportunities for the EU to show leadership, in collaboration with like-minded partners.
- **Suggest to the Political Steering mechanism the reallocation of resources**. Again, the ultimate decision on the reallocation of resources would be left to the Political Steering Mechanism. Yet geopolitical shifts, unexpected shocks (e.g. a pandemic) or emerging scientific discoveries may lead to the need to re-prioritise funding, in general or within boundaries earmarked for specific areas (e.g. health). Together with the CRICS, the CGSC and possibly the ERC board would support the Political Steering mechanism with expert knowledge and accountability on how and where to prioritise investment for the subsequent years.

Figure 2 – The proposed CGSC in the context of the future MFF



Source: Author's own elaboration.

[5] Many thanks to Christian Möllmann for contributing this additional, very important perspective on social innovation.

2. MAPPING HOMOLOGOUS EXPERIENCES AT THE INTERNATIONAL AND NATIONAL LEVEL

The two proposed councils would not be entirely new structures in the international landscape of R&I policy. There are several institutions – public and private – with similar powers and functions, which have proven effective in carrying out their tasks. Section 2.1 below compares the proposed CRICS with several agencies and initiatives in both European and non-European countries. Section 2.2 does the same for the proposed CGSC, adding examples from private philanthropies and multi-donor initiatives.

2.1. ANALOGUES TO THE PROPOSED CRICS: ARPA-STYLE AND COMPETITIVENESS-ORIENTED INITIATIVES

The proposed CRICS would orchestrate ARPA-style initiatives and cooperate with foundations and the private sector. Besides DARPA and other ARPA institutions, already described above, other instruments and programmes around the world can be considered homologous, at least in part, to the proposed CRICS. Highly industrialised countries have developed various institutions to steer mission-driven R&I for competitiveness and security. These bodies coordinate dual-use technology development (civil and military applications), industrial innovation, and defence-oriented R&I, often inspired by the ARPA model of agile project management. They typically blend public and private sector involvement and emphasise high-risk, high-reward innovation to maintain a strategic edge.

Some of these bodies, like DARPA and the Japanese Council for Science, Technology and innovation, have been in place for a long time. Below, we provide a brief description of a select number of such institutions.

2.1.1. The UK's Advanced Research and Invention Agency

The UK recently established ARIA, explicitly modelled on DARPA's agile, high-risk research ethos. ARIA was conceived to enable transformational innovation outside traditional bureaucratic constraints. It was devised in 2021, legislated into existence by the ARIA Act 2022, and formally established on 26 January 2023. The ARIA Act 2022 provides its statutory basis, setting it up as a body corporate with powers to conduct, commission, or support scientific research, to develop and exploit knowledge, and to collect, publish, and share knowledge. The UK government committed an initial GPB 800 million investment over the first five years to support ARIA's mission, with a further allocation of GPB 184 million for 2025-26 reported in public sources.

Importantly, for the purposes of our report, ARIA is intended to function with maximum autonomy, shielded from many of the procedural constraints typical of public funding

agencies. The design allows ARIA to use various funding modes (grants, loans, equity, prizes/challenges, or moonshots) and encourages a tolerance for failure as part of its operating philosophy.

ARIA's Statement of Policy Intent outlines key principles guiding ARIA's design and operation:

(i) capacity to foster bold, speculative research that is too risky, interdisciplinary, or unconventional to receive funding through conventional channels;

(ii) programme-led funding, centred on programme directors (expected to serve for limited tenures, typically three to five years) who propose 'opportunity spaces', outline project portfolios, allocate funding, and actively steer progress;

(iii) the offer of fellowships to promising researchers (early to mid-career) to work closely with programme directors and explore translation paths into commercialisation;

(iv) transparency of experimentation – ARIA commits to publishing 'what is working well and not so well' in its funding methods, so that the wider research community can learn from successes and failures;

(v) independence guaranteed by statute and agreements (e.g. memoranda of understanding between the UK central government and devolved governments to protect strategic and operational autonomy, ensure minimal bureaucracy, and prevent undue interference); and

(vi) an innovative governance framework, with ARIA and the Department for Science, Innovation and Technology (DSIT) operating under a framework agreement, delineating responsibilities, accountabilities, and oversight arrangements.

ARIA's working model is structured to maximise flexibility and nimbleness. Programme Directors steer multi-project portfolios within broader 'opportunity spaces'. They can fund multiple related projects with varying risk profiles and durations and can dynamically pivot based on results. A Programme Director might manage approximately GPB 50 million in funding for multiple sub-projects across disciplines and institutions. ARIA explicitly seeks to minimise scaling barriers in its funded projects: alignment with deployment pathways and practical constraints is baked into programme design. The agency employs a portfolio approach, accepting that many individual projects may fail, as long as a few yield major breakthroughs.

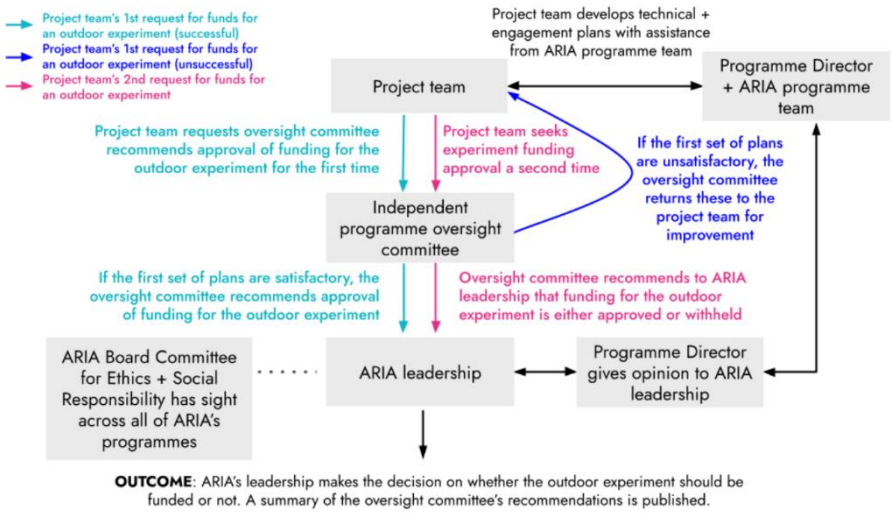
While ARIA's mandate is intentionally open-ended, it is already rolling out priority programmes and domains aligned with national strategic goals. These cover areas such

as biosecurity, synthetic biology, climate engineering, computational science, materials, and quantum systems. One notable recent programme is a GPB 50 million initiative in geoengineering – solar radiation management experiments, designed to provide empirical data on climate intervention techniques under controlled conditions, and an ambitious and controversial test of ARIA's mandate for high-risk science. In the life sciences domain, ARIA has announced a major precision neurotechnology programme (approximately GPB 69 million) in partnership with the NHS and external collaborators from academia and the private sector. The agency recently expanded by recruiting eight new Programme Directors, effectively increasing its capacity and signal that it is entering a more active phase of project funding.

ARIA is one of the most advanced real-world attempts to build a DARPA-style innovation engine in a democratic, non-defence context. For the EU post-2028, ARIA offers a relevant benchmark. Its statutory protections and independence agreements can inform how CRICS might be shielded from short-term politics. The programme director model – including accountability and fellowship pairing – is a blueprint for how to structure agile, empowered R&I leadership. The balance ARIA must strike with incumbent agencies (e.g. UK Research and Innovation (UKRI)) is analogous to the challenge EU must manage between CRICS/CGSC and existing bodies (e.g. Horizon and Joint Undertakings). The public commitment to open experimentation and transparency of failure is central to legitimacy – an approach that EU could mirror in designing the CRICS.

ARIA has recently developed a 'predict', 'test', 'monitor', 'validate', and 'societal aspects' model to experiment with solutions to cool down the Earth. Figure 3 below shows an example of the decision-making process by ARIA in that context.

Figure 3 – An example of ARIA's agile decision-making



Source: ARIA.

2.1.2. Germany's Federal Agency for Disruptive Innovation

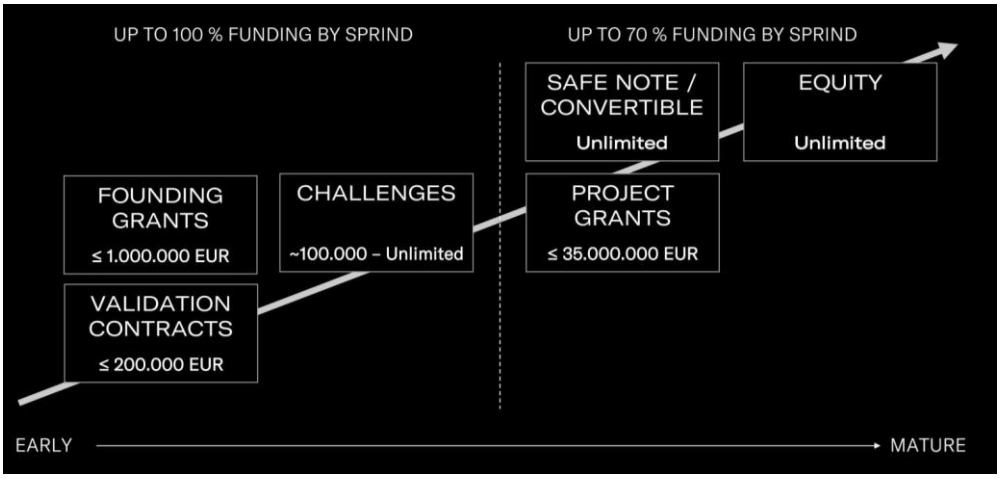
Germany's Federal Agency for Disruptive Innovation – Bundesagentur für Sprunginnovationen (SPRIND) – is the country's flagship attempt to institutionalise DARPA-style innovation in a civilian setting. Founded in 2019 and headquartered in Leipzig, SPRIND's mission is to identify, validate, and finance breakthrough projects (defined as products, processes, and services with the potential to create new value and markedly improve quality of life) while anchoring resulting value creation in Germany and Europe. The federal government is the sole shareholder but SPRIND is the tool of the Federal Ministry of Research, Technology and Space (BMFTR) and the Federal Ministry for Economic Affairs and Energy (BMWE) to accelerate the search for visionary ideas, their development, and market launch.

In its first years, SPRIND operated under constrained public sector rules that reportedly hampered pay, speed, and risk-taking. That changed with the SPRIND-Freiheitsgesetz (SPRIND Freedom Act), in force since 30 December 2023. The law formally confers the public task of promoting breakthrough innovation on SPRIND and grants far greater operational autonomy: it can fund subsidiaries, take equity, recycle proceeds (50% back into SPRIND's budget), use private-law funding instruments, and hire outside the usual civil-service constraints. The intent is to cut interministerial micromanagement and enable rapid decision-making befitting high-risk R&D.

SPRIND was conceived as a 10-year 'experimental phase' (from 2019) with an expected total budget around EUR 1 billion, following a start-up allocation of at least EUR 151 million for 2019-2022. Subsequent federal budgets and special programmes have expanded the pipeline; public materials now describe a fast-growing portfolio and staffing footprint as the agency moves from set-up to steady operations. While modest relative to the scale of some challenges, the ability to co-invest and recycle returns via the Freedom Act is designed to stretch public funds further.

SPRIND borrows heavily from the ARPA playbook but adapts it to the German context. Rather than one-off project grants, it runs portfolio 'Challenges', i.e. competitive, multi-round funding programmes in a targeted opportunity area (e-waste recovery, long-duration energy storage, new antibiotics, etc.). Teams that clear an expert panel can receive money within days (SPRIND emphasises 'time-to-money') under a pre-commercial procurement model that minimises bureaucracy, with successive rounds increasing award size and pressure to demonstrate traction. The goal is to compress the path from idea to spin-out within three years, culminating in investable ventures or scalable deployments.

Figure 4 – SPRIND funding instruments



Source: SPRIND.

SPRIND complements challenges with programme manager-style leadership and active portfolio shaping. It solicits radical ideas from unconventional thinkers ('*Neudenker:innen*') across science and industry and pairs them with flexible contracts, milestone-based tranches, and bespoke technical and entrepreneurial support. In 2024, SPRIND announced cooperation with the US National Science Foundation's TIP Directorate to exchange practices and coordinate in areas of shared interest (e.g. use-inspired research and translation), including tech metal transformation.

Independent reporting and evaluations point to several emerging strengths of SPRIND, which could be useful references for the design of the CRICS. The first is speed and flexibility. SPRIND's Challenges and procurement approach materially reduce time-to-money, a chronic pain point in EU innovation funding. The second is portfolio logic and risk tolerance: the agency accepts that many bets will fail, so long as a few produce outsized impact – consistent with breakthrough innovation dynamics. After the Freedom Act was adopted in 2023, SPRIND was able to take stakes and reinvest returns, helping address gaps in Europe's scale capital for deep tech.

That said, there are a number of outstanding issues, which include the 'second round' capital cliff, i.e. the difficulty in mustering the hundreds of millions needed to scale the most capital-intensive breakthroughs (advanced manufacturing, new materials, and bioproduction). While SPRIND can de-risk early, follow-on finance is scarce. In addition, the recruitment of world-class programme leaders vis-à-vis private markets remains difficult despite improvements introduced with the Freedom Act. Another vexing issue is the policy coordination between SPRIND's portfolios, Germany's High-Tech-Strategy 2025, and industrial policy levers (procurement, standards, and demand-pull) across federal and Länder levels.

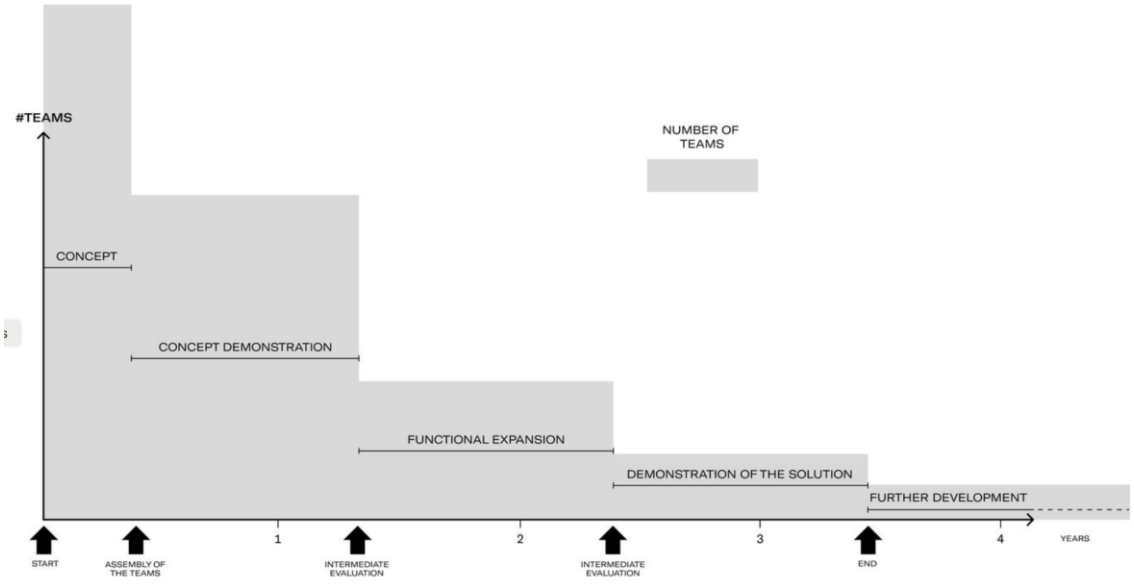
SPRIND provides a good benchmark for the future design of Framework Programme 10. In terms of institutional design for the CRICS, key lessons learnt include the need to

(i) legislate autonomy up front by guaranteeing freedom to hire, invest, and recycle returns, to match the speed of frontier tech;

(ii) use staged, challenge-driven competitions with very rapid disbursement to unlock broader talent pools and accelerate iteration; and

(iii) plan for the scale-up valley by aligning with public banks, sovereign funds, and EU instruments so that ventures do not subsequently stall for lack of capital.

Figure 5 – Timeline of SPRIND Challenges



Source: SPRIND.

2.1.3. France's Defence Innovation Agency

France's Agence de l'Innovation de Défense (AID) was established in 2018 as part of the Ministry of the Armed Forces to provide a coherent framework for defence innovation and to overcome the fragmentation that had long characterised France's research and development in this field. Situated within the Délégation générale pour l'armement (DGA), the agency was conceived as a focal point for aligning the needs of the armed forces with the opportunities emerging from both traditional defence laboratories and the civilian innovation system.

While integrated within the DGA, AID collaborates widely, including co-funding projects with civilian agencies like Bpifrance (France's public investment bank). For example, a EUR 275 million Defence Innovation Fund managed by Bpifrance takes equity stakes in

promising defence-tech start-ups. This multi-stakeholder financing mechanism shows France's emphasis on public-private partnerships in defence innovation. AID not only designs and coordinates innovation strategies across the ministry but also identifies promising technologies in the civilian sector that might be adapted for dual-use applications. It supports their maturation through targeted funding schemes and facilitates their eventual transfer into operational deployment. It also undertakes foresight and horizon scanning to guard against strategic surprise, thereby linking immediate technology capture to longer-term anticipation of disruptive shifts.

A defining feature of AID is its commitment to open and participative innovation. The agency serves as a single-entry point (Guichet Unique) for innovators, offering start-ups, SMEs, and research organisations a channel to engage with defence needs. It manages dedicated instruments such as the ASTRID and RAPID programmes, which support exploratory research and accelerate dual-use technologies, and issues thematic calls in domains ranging from counter-drone systems to space defence. In addition, AID runs experimental initiatives such as the Innovation Defence Lab and the imaginative Red Team Défense, which enlists science fiction writers, strategists, and technologists to stress-test future scenarios and provide unorthodox perspectives on emerging threats. Though relatively small (around 100 staff), AID is designed to be agile, capable of moving more quickly than traditional procurement or research bureaucracies and is able to act as a convening point across ministerial divisions.

AID has already demonstrated added value by making France's defence research ecosystem more accessible to non-traditional actors, while simultaneously embedding innovation more firmly into strategic planning. It also positions France as a more active participant in European collaborative initiatives, particularly through the European Defence Agency, where AID's experience of open innovation and rapid technology capture can contribute to EU-level capability development.

Yet despite these strengths, significant hurdles remain. AID must prove its capacity to move projects from prototype to large-scale deployment – a persistent weakness in European innovation systems – while operating within finite budgets and often cumbersome legal and export-control frameworks. Its cultural environment is also less tolerant of failure than that of DARPA, making it more difficult to support the most radical high-risk projects. Moreover, tensions between speed and accountability, and between ministerial silos and whole-of-government coordination, continue to shape its evolution.

In comparison with its peers, AID does not enjoy the statutory independence or financial scale of the UK's ARIA or Germany's SPRIND, nor the deep risk culture of DARPA in the US. Nevertheless, it is distinctive in its explicit mandate to connect defence needs with the wider innovation ecosystem, and in its adoption of foresight and participatory

mechanisms that extend beyond traditional procurement logics. For Europe, AID represents an instructive model of how to institutionalise defence innovation in a way that is both strategic and outward-looking. In the context of the proposed CRICS, it demonstrates the value of creating agile interfaces between civilian and defence research, of embedding horizon scanning into governance, and of lowering barriers for external innovators to contribute to security challenges.

2.1.4. Japan's Council for Science, Technology and Innovation

The overall institutional design in Japan is characterised by central strategic oversight, dedicated funding programmes that foster public-private collaboration, and a trend towards more flexible project management (inspired partly by the ARPA model) within the constraints of Japan's bureaucratic traditions. Japan's Council for Science, Technology and Innovation, known as CSTI, is the central body through which Japan coordinates its national R&I strategy.

Established in 2014 within the Cabinet Office, it replaced the earlier Council for Science and Technology Policy. The significance of the reform lay in placing the Council directly under the authority of the prime minister, thereby granting it exceptional political weight in a country where ministries are often highly autonomous and fragmented. CSTI was charged with setting national priorities in science, technology and innovation, allocating major R&D budgets, and ensuring that the work of different ministries could be brought in line with industrial and societal needs. Its creation reflected the long-standing recognition that Japan required a more integrated and strategic approach if it was to maintain competitiveness and address global challenges in an era of accelerating technological change.

The governance of CSTI embodies this ambition. The Council is chaired by the prime minister and includes ministers from portfolios as varied as finance, education, industry, and health. Alongside these political figures sit up to eight expert members drawn from academia, research organisations and industry. This hybrid membership is intended to ensure that political authority, economic strategy and scientific expertise can interact at the highest level. Day-to-day work is coordinated by a secretariat in the Cabinet Office, but the Council's decisions are reported directly to the Cabinet and to Parliament. In formal terms it acts as Japan's 'control tower' for innovation policy, guiding the strategic direction of funding streams from the Ministry of Education, Culture, Sports, Science and Technology (MEXT), the Ministry of Economy, Trade and Industry, and other departments.

Although CSTI is not itself a research funding agency, it exerts powerful influence through the programmes it oversees. Chief among these is the Cross-ministerial Strategic Innovation Promotion Programme, or SIP, launched in 2014. SIP provides large mission-

oriented funding in areas considered to be crucial to Japan's future, including automated driving systems, hydrogen energy, and cyber-security. Each SIP programme is placed under the stewardship of a Programme Director, who may come from industry or academia and is given considerable discretion to assemble consortia, fund projects across ministerial boundaries, and steer the work through stages of research, demonstration and deployment. SIP has also been distinctive in linking research to regulatory reform, recognising that novel technologies cannot be adopted if old rules remain in place. This combination of cross-ministerial scope, empowered leadership and attention to deployment makes SIP one of the most DARPA-like structures within the Japanese system.

CSTI also sponsored a more explicitly disruptive initiative in the form of the ImPACT programme (Impulsing Paradigm Change through Disruptive Technologies). Running from 2014 to 2019, ImPACT was directly inspired by DARPA and set out to fund high-risk, high-reward projects led by visionary programme managers. While it produced notable prototypes and helped cultivate a culture of risk-taking, it was not renewed, reflecting Japan's political and bureaucratic reluctance to accept visible failures. In its place CSTI and the Cabinet Office launched the Moonshot R&D Programme in 2020. The Moonshots set very long-term, ambitious goals for 2050, ranging from a carbon-neutral society to human augmentation. Like SIP, the Moonshot programmes are led by directors who have freedom to shape portfolios, but their remit is explicitly to stimulate disruptive breakthroughs that address both industrial competitiveness and global societal challenges.

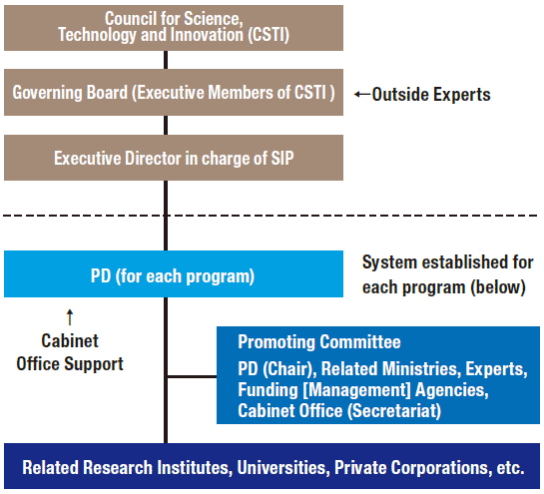
CSTI's strengths are clear. By placing innovation policy under the direct chairmanship of the prime minister, it brings a level of political attention rarely matched in other countries. Its ability to convene ministers across portfolios and to embed independent experts into decision-making has made it a genuine cross-ministerial forum. Through SIP and Moonshot it has demonstrated the advantages of portfolio-based, programme director governance. Its insistence on linking research to regulation and deployment has sought to overcome the 'valley of death' that so often prevents ideas from reaching the market.

Yet CSTI also faces limitations. Its overall budgets, while significant in Japanese terms, remain modest compared with the resources of DARPA or of major European initiatives. Risk aversion continues to be a cultural constraint: the discontinuation of ImPACT revealed that tolerance of failure is less entrenched in Japan than in the US, and political actors have sometimes been wary of programmes that appear too speculative. Commercialisation is another challenge, as Japan has sometimes excelled at prototype development without turning the results into globally competitive industries. Even with CSTI's authority, entrenched ministerial silos have proved difficult to overcome entirely,

and there remains a tendency for departments to defend their own funding streams and priorities.

From a European perspective, the Japanese experience provides several lessons. CSTI illustrates the importance of locating science and innovation policy at the heart of government and ensuring it is championed by the highest political offices. Its cross-ministerial scope and reliance on empowered programme directors resonate strongly with the ambitions of proposed structures such as the CRICS; at the same time, its Moonshot initiative offers parallels with the EU's own missions and with the envisaged CGSC. The Japanese case shows that programme-based governance can be adapted to different national cultures, but also that political risk aversion and weak follow-through to commercial scale can blunt its effectiveness.

Figure 6 – Japan's cross-ministerial innovation strategy



Source: Japan Science and Technology Agency.

On the defence side, Japan established the Acquisition, Technology & Logistics Agency (ATLA) in 2015 to consolidate defence R&D, procurement, and industrial base support. ATLA manages programmes to develop advanced defence systems (fighter jets, missile defence, etc.) with cooperation from domestic companies, thereby strengthening the dual-use industrial base. Notably, Japan explicitly promotes 'science and technology diplomacy', leveraging international science ties for security and development through CSTI and the foreign ministry.

2.1.5. South Korea's Agency for Defence Development

In South Korea, the Ministry of Science and ICT and the Presidential Advisory Council on Science & Technology coordinate a national R&D strategy that highlights strategic industries (such as semiconductors, batteries, and 5G) critical to competitiveness and

security. Funding mechanisms include massive R&D investments (South Korea tops OECD charts in R&D spending as a share of GDP) and incentives for industry-led research. Public institutes (like ETRI in electronics) frequently partner with companies, showing a preference for collaborative governance.

In the realm of defence, the Agency for Defence Development (ADD) is the principal organisation for defence R&D. Established in 1970 and located in Daejeon within the Daedeok Innopolis science cluster, the agency was created at a time when the Republic of Korea sought to reduce its dependency on foreign suppliers and build a more self-sufficient defence industrial base. Over five decades it has grown into a substantial institution employing more than 3 000 scientists and engineers, making it the largest research establishment under the Ministry of National Defence. Organisationally, it reports through the Defence Acquisition Program Administration (DAPA), the body responsible for procurement, and is funded directly from the national defence budget.

The remit of ADD is comprehensive: it is expected to carry forward the entire spectrum of national defence research, from the earliest concept studies through to the production of prototypes, before handing technologies over to industry for serial manufacture and integration. It has been responsible for nearly all of South Korea's major indigenous weapons systems. Its portfolio ranges from the Hyunmoo series of ballistic and cruise missiles to air defence systems, torpedoes, submarines, and surface combatants, as well as the ambitious KF-21 Boramae fighter programme developed in partnership with Korea Aerospace Industries. In addition, the agency pursues advanced radar, command and control networks, cyber defence technologies, and emerging areas such as hypersonic weapons, space launch vehicles and satellite platforms.

The scale of investment is considerable. South Korea's defence R&D budget has expanded to more than KRW 5 trillion annually (approximately EUR 3.5 billion), a significant proportion of which is channelled through ADD. This sustained public investment has enabled the country not only to equip its own armed forces with increasingly sophisticated systems but also to enter the international defence export market with some success. Tanks, self-propelled howitzers, and training aircraft that trace their origins to ADD's laboratories are now exported widely, strengthening South Korea's strategic position as an emerging global supplier of defence technology.

ADD does not work in isolation. Its model is deliberately designed to cooperate closely with South Korean defence contractors such as Hanwha, LIG Nex1, and Korea Aerospace Industries. The agency frequently acts as prime contractor for national projects, overseeing systems integration and ensuring that technologies are transferred effectively to the industrial base. This collaborative approach has accelerated the growth of the domestic defence industry, which has in turn created a virtuous circle of technological

learning, industrial development, and export capacity. At the same time, ADD has engaged in selected international partnerships, most notably with the United States on missile defence technologies and with Indonesia in the joint development of the KF-21 fighter aircraft.

In its methods, ADD increasingly adopts flexible approaches, making use of rapid prototyping, testbeds, and iterative development cycles, though its culture remains more closely tied to traditional procurement pathways than to the highly experimental ethos of DARPA in the US. The South Korean agency is less free to pursue radical or speculative projects, partly because of its direct connection to acquisition programmes and the political sensitivity surrounding large defence budgets. Failures are not easily tolerated, and the bureaucratic framework in which it operates can slow the adoption of disruptive methods. Nevertheless, its expanding work in AI, advanced materials, and space technologies demonstrates an awareness of the need to move beyond incremental weapons development towards more transformative technological fields.

ADD's strategic role has become even more pronounced in recent years under the Defence Reform Plan 2.0, which emphasises autonomy, high-technology capabilities, and the ability to deter threats independently. The agency is therefore both a research institution and a strategic instrument, underpinning South Korea's defence sovereignty and enabling the country to act as a credible defence exporter. Many of its programmes have dual-use dimensions, with radar systems, aerospace technologies, and cyber tools offering potential civilian applications, although the agency itself remains tightly embedded within the security apparatus.

The strengths of ADD are obvious: it provides a comprehensive, national framework for defence innovation, connects effectively to industry, and has demonstrated the ability to deliver complex systems that compete on global markets. Yet challenges persist. Its close linkage to procurement cycles can hinder agility, and its risk tolerance is limited compared with agencies explicitly designed for disruptive innovation. Political oversight is strong, making it difficult to insulate the agency from pressures that discourage experimentation. Furthermore, South Korea still faces a shortage of follow-on capital to scale the most ambitious technologies, a systemic constraint not unique to the defence sector.

For European debates about new institutional forms, ADD represents a different kind of benchmark. It is not an 'ARPA' in the strict sense, but rather a large state laboratory whose mandate is to secure indigenous defence capacity. Its success illustrates how a determined, long-term commitment to state-led defence research can transform a country's industrial base and strategic posture. At the same time, its relative lack of autonomy and its conservative approach to risk highlight the limits of a procurement-centred model if the goal is to achieve disruptive breakthroughs. The EU, in contemplating

bodies such as the CRICS, could draw lessons from ADD's achievements in linking defence research to industrial growth, while also recognising the importance of granting agencies sufficient independence and tolerance for failure if disruptive innovation is to be sustained.

In recent years, the government has encouraged dual-use innovation via the DAPA, which manages procurement and sponsors defence-tech incubators and competitions (e.g. for AI and unmanned systems). Headquartered in Gwacheon with a staff of around 1 500, DAPA was created to streamline acquisition processes and overcome corruption scandals and inefficiencies in earlier procurement systems. Unlike research-focused agencies such as ADD, it is tasked with turning technologies and requirements into operational systems, guiding them through tendering, contracting, and integration into the armed forces. Its remit extends beyond procurement to nurturing the national defence industrial base by setting localisation targets, structuring technology transfer agreements, and supporting key industrial champions such as Hanwha, LIG Nex1, and Korea Aerospace Industries.

DAPA plays a prominent international role by promoting South Korean defence exports, brokering high-profile contracts such as the recent multi-billion-euro deals with Poland for K2 tanks, K9 howitzers, and FA-50 fighter aircraft. These have propelled the country into the top tier of global arms exporters. The agency also negotiates offsets and co-production agreements with foreign partners, making it an important actor in defence diplomacy and industrial cooperation.

Strategically, DAPA complements ADD's upstream R&D by ensuring that innovations move into production and deployment, while also aligning procurement with broader industrial and geopolitical goals. Its strengths lie in the integration of acquisition with industrial policy and export promotion, but critics highlight its bureaucratic procedures, risk-averse culture, and occasional tensions with ADD over the pace and ambition of technology adoption.

2.1.6. Israel's Innovation Authority

The Israel Innovation Authority (IIA) is the country's central public agency for supporting research, development, and innovation across the civilian economy. Originally created in 1965 as the Office of the Chief Scientist in the Ministry of Economy and Industry, it was restructured in 2016 into the current authority to give it greater operational autonomy and a more strategic, forward-looking mandate.

The IIA's core role is to finance and de-risk innovative projects undertaken by start-ups, established firms, and academic researchers, thereby sustaining Israel's reputation as the 'Start-up Nation'. Its budget, which in recent years has averaged around ILS 1.5 billion annually (roughly EUR 350-400 million), supports a wide array of programmes, ranging

from early-stage R&D grants to scale up support, technology incubators, and binational funds with the US, Europe, and Asia. It targets sectoral initiatives in fields such as AI, life sciences, agri-food, and advanced manufacturing. The agency operates through a series of divisions – start-up, growth, technological infrastructure, international collaboration, advanced manufacturing, and societal challenges – each tailored to a different part of the innovation pipeline.

Beyond funding, the IIA acts as a policy entrepreneur, continually mapping emerging technological trends and advising government on strategic priorities such as quantum technologies, climate tech, and defence-civilian spillovers. A hallmark of the IIA's design is its emphasis on international partnerships, with binational R&D funds (e.g. BIRD with the US) and participation in EU programmes enabling Israeli firms and researchers to integrate into global value chains. Another distinctive feature is its risk-sharing philosophy: companies that receive support repay only if their projects succeed commercially, aligning public investment with market outcomes and encouraging ambitious experimentation. This flexible, industry-oriented approach has allowed Israel to achieve the world's highest ratio of civilian R&D spending to GDP.

However, challenges remain. Among them are balancing investments between the vibrant high-tech sector and lagging traditional industries, ensuring that innovation benefits peripheral regions and underrepresented groups, and addressing geopolitical constraints on certain collaborations. All the same, the IIA stands out as one of the closest international counterparts to an ARPA-style body in a civilian context: nimble, risk-tolerant, and deeply embedded in both national industrial policy and global innovation networks.

2.1.7. Beyond DARPA: the US Global Development Lab

In the US, until recently, similar initiatives were launched beyond the ARPA model. In 2014, the now-defunded US Agency for International Development (USAID) launched the Global Development Lab as a 'DARPA for global development'. This was an in-house innovation hub to apply cutting-edge science and technology to poverty reduction. The Lab doubled USAID's science and innovation funding (to roughly USD 600 million/year) and forged partnerships with corporations and universities in an effort to co-design solutions. Founding partners included tech firms (Coca-Cola, Intel, and Microsoft), NGOs, and philanthropies like the Skoll Foundation.

The Lab's mandate was to take smart risks in R&D, rapidly prototype and scale technologies (from mobile apps for farmers to low-cost medical devices), and develop new procurement and hiring models to mirror DARPA's agility. It created a network of university-based innovation centres and used public-private partnerships (e.g. leveraging

Coca-Cola's logistics for clean water delivery) to speed deployment. The Lab's governance included an external advisory board drawn from technical experts. Although housed in a development agency, it focused on dual-use development tech (like off-grid energy or disease diagnostics) that could benefit developing regions and potentially US markets, bridging security and development.

By institutionalising co-creation with diverse stakeholders and tolerating failure in the search for breakthroughs, the Global Development Lab illustrated a donor-backed, ARPA-style model linking research to industrial and societal impact. To some extent, this model sits in between the proposed CRICS and the proposed CGSC.

2.1.8. A comparison of public CRICS-like institutions

Across these countries, successful models share certain design features. They tend to be mission-oriented agencies or councils with clear mandates linking R&I to strategic outcomes (economic or security). Many adopt the ARPA-style governance: empowering expert managers, operating with flexible procurement and personnel rules, and tolerating high failure rates in pursuit of disruptive innovation. Funding is substantial and often directly from central governments but frequently paired with industry co-funding or cost-sharing to align incentives. Notably, public-private partnerships are a dominant theme: whether through formal consortia (Japan's SIP and Germany's SPRIND) or venture-style investments (France's innovation fund and Israel's grants), governments leverage private sector ingenuity and speed.

Multi-stakeholder governance is evident in advisory boards that include industry leaders, or in programmes explicitly requiring collaboration (as DARPA does via contracting, or AID via its start-up outreach). Importantly, these institutions maintain a balance between competitiveness and security – recognising that long-term economic strength and technological sovereignty are two sides of the same coin. They often focus on dual-use innovations (e.g. AI, aerospace, and cybersecurity) that bolster the civilian economy while enhancing defence capabilities.

Each institution provides different useful lessons for the design of CRICS. Table 1 below compares these institutions in terms of size, budget, autonomy, and main functions.

Table 1 – Comparable institutions to the proposed CRICS

Institution	Governance / Autonomy	Budget Scale	Mission Focus	Tools & Approach	Relevance to CRICS
DARPA (US)	DoD agency, high autonomy	~$4bn/year	Defence, dual use	Programme managers, portfolios, tolerance for failure	✓ Strong model for CRICS
ARIA (UK)	Independent statutory body	£800m/5y	Civilian, high-risk R&D	Programme directors, fellowships, flexible funding	✓ Pilot for CRICS civilian side
SPRIND (DE)	Federal agency, now autonomous	~€1bn/10y	Breakthrough, disruptive innovation	Challenges, rapid funding, equity, recycling returns	✓ Strong CRICS analogue
AID (FR)	Defence ministry service	Few 100m/year	Defence innovation	Open innovation, Red Team, RAPID/ASTRID	✓ Security side of CRICS
CSTI (JP)	Cabinet council, PM-led	SIP ~¥50-60bn/year	Cross-ministerial STI, missions	SIP, Moonshot, programme directors	✓ Comparable to CRICS
ADD (KR)	Defence R&D agency (MND)	~€3.5bn/year	Weapons systems, defence tech	In-house R&D, tech transfer to industry	✓ Defence side of CRICS
DAPA (KR)	Procurement/export agency	Multi-billion contracts	Acquisition, exports, industrial policy	Procurement mgmt., export promotion	✓ Industrial/competitiveness lens for CRICS
IIA (IL)	Autonomous authority	~€350-400m/year	Civilian innovation, dual-use spillovers	Grants, incubators, binational funds, risk sharing	✓ Strong CRICS analogue

✓ strong alignment • ◐ partial/indirect alignment

2.2. ANALOGUES TO AN EU'S COUNCIL ON GLOBAL SOCIETAL CHALLENGES

There are a few comparable structures and programmes to the proposed CGSC. These are often initiated by advanced economies to coordinate research that tackles grand societal challenges (climate change, public health, food security, etc.) in partnership with other nations. These institutions emphasise openness, co-design with LMICs, and multi-stakeholder governance (engaging governments, academia, NGOs, and multilateral organisations). Key examples include the UK's Global Challenges Research Fund, Japan's Science and Technology Research Partnership for Sustainable Development, and the (now almost entirely defunded USAID Global Development Lab). We add to these a short description of other relevant entities such as the Coalition for Epidemic Preparedness Innovation (CEPI), due to its mission-oriented, collaborative R&I nature, and the Belmont Forum.

2.2.1. UK initiatives for global R&I collaboration

The UK has had long and sometimes tortuous experience with funding for international R&I cooperation. An early example is the Newton Fund, launched in 2014 as one of the UK's flagship instruments for international R&I partnerships. With a budget of GPB 735 million over seven years, matched by partner country funding, it aimed to build long-term research and innovation capacity in emerging economies through equitable partnerships. Unlike traditional aid projects, the Newton Fund was co-funded and co-designed with partner governments in countries such as India, China, Brazil, South Africa, and others, often through national science councils or academies. Its activities ranged from joint research calls and training fellowships to institutional partnerships and innovation incubators. The Fund embodied a vision of science diplomacy as a tool of development cooperation and soft power, aligning UK research strengths with global needs.

However, reviews by the Independent Commission for Aid Impact (ICAI) in 2019 criticised weaknesses in monitoring, limited developmental focus, and insufficient Southern leadership. The Fund closed to new awards in 2021, with ongoing projects honoured until completion. It left a legacy of strengthened bilateral partnerships and capacity, but its abrupt end created uncertainty for many collaborations.

Meanwhile, in 2016 the UK government launched the Global Challenges Research Fund (GCRF), a flagship UK government initiative to support research responding to the pressing problems faced by developing countries. Announced in late 2015 as part of the UK's official development assistance (ODA) strategy, GCRF came with a budget of GPB 1.5 billion for 2016-2021.

GCRF's mission was twofold: to ensure that UK science 'takes the lead in addressing the problems faced by developing countries', leveraging the UK's world-class research base to tackle global challenges; and to generate innovative solutions to them through a 'challenge-led', impact-focused approach rather than curiosity-driven research (GCRF, 2018). In practice, this meant funding interdisciplinary projects directed at issues like poverty alleviation, health and sanitation, food security, climate change, and conflict – broadly mapped on the SDGs. A further explicit objective was to strengthen R&I capacity in both the UK and LMICs through equitable partnerships. As such, we consider GCRF to be a very relevant benchmark for the proposed CGSG at the EU level.

Managed by the UK government, GCRF worked primarily via UKRI's councils and national academies, as well as other entities like the UK Space Agency. These 'delivery partners' received GCRF allocations and then awarded grants onwards to specific research projects. Oversight of GCRF's strategy and high-level priorities formally rested with the science

minister, but day-to-day programme management and the peer-review selection of projects were largely delegated to the funding councils and academies in line with the UK's Haldane Principle (which entrusts funding decisions to scientists). A cross-government Strategic Advisory Group provided advice on aligning GCRF with development policy. In addition, UKRI set up an International Development Peer Review College to ensure proposals were assessed with developing country perspectives in mind.

GCRF's funding mechanisms combined block grants and collective initiatives. At its peak, it represented roughly 10% of the UK's aid budget and about 6-8% of total UK public research funding (ITAD) – a significant commitment that positioned the UK as a leading country in 'global research for development'. Over its lifespan, it funded over 3 000 research grants across more than 40 developing countries, involving collaborations between UK institutions and partners in Africa, Asia, Latin America, and beyond. GCRF's collective funds specifically backed interdisciplinary consortia on issues like protracted displacement, non-communicable diseases, and urban resilience. Early metrics were promising: hundreds of peer-reviewed publications, numerous policy briefs and reports to governments, new technology prototypes (such as low-cost medical devices), and the training of thousands of early-career researchers in both the UK and partner countries. GCRF also established partnerships with organisations like the United Nations Development Programme (UNDP) to better connect research with development practice.

An independent evaluation by ITAD in 2024 concluded that GCRF had 'achieved faster progress towards real-world impact than had been anticipated during Fund design', noting that research was translating into practical outcomes in several key areas. GCRF-funded teams tackled systemic development challenges (e.g. intersecting issues of health, climate, and inequality) and often did so in novel ways that traditional aid or research programmes had not. Notable successes included new methods for improving crop resilience to drought in African agriculture, community-driven renewable energy solutions in South Asia, and policy frameworks for managing disaster displacement that have been taken up by UN agencies (as reported by principal investigators to the evaluators).

A major outcome of GCRF was capacity building: as concluded by the independent evaluation, early-career researchers in both the UK and partner countries benefited from GCRF projects – learning to apply novel methodologies and engage with stakeholders. Non-academic partners (such as NGOs or government departments) gained research skills by working alongside academics. In several cases, local researchers in Africa, Asia and Latin America became co-leads of projects, helping to redress the traditional donor-recipient dynamic. In this respect, GCRF provides interesting experience of the

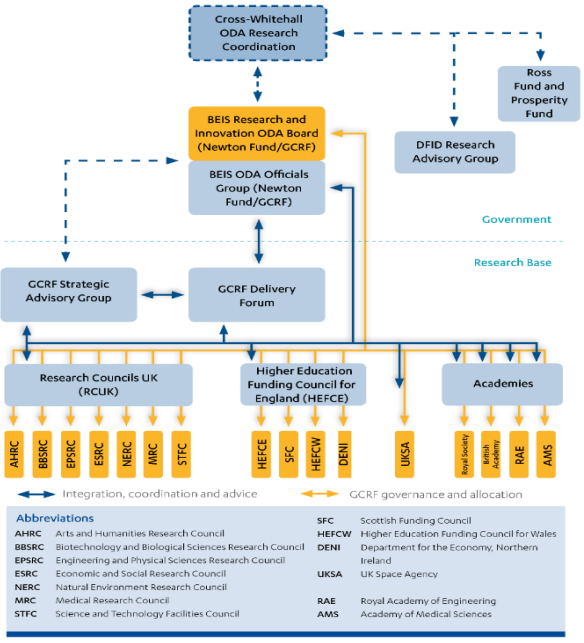
involvement of LMICs in collaborative R&I as well as researcher mobility (see Yeung, Reynolds & Renda, 2025).

GCRF also provided resources for research infrastructure in low-income countries (for example, upgrading laboratory facilities or data systems), with lasting benefits beyond the project lifespan. Importantly, GCRF's flexible funding (including the ability to issue follow-on grants or adapt projects when circumstances changed) 'greatly enhanced the potential for development impact' (ibid.), enabling researchers to seize opportunities and ensure their findings were put to use in real contexts.

On a global scale, GCRF contributed to knowledge underpinning the SDGs: its projects generated policy-relevant evidence on climate adaptation, pandemic preparedness (some GCRF grants on vaccine research and epidemiology proved valuable during Covid-19), sustainable cities, and governance innovations. An example often cited is GCRF's quick response in funding Zika virus research in 2016, which led to improved disease monitoring in Brazil and informed WHO guidelines. Additionally, the fund strengthened networks between UK universities and developing country institutions – partnerships that continue to collaborate on new challenges (even securing other funding after GCRF's grant ended).

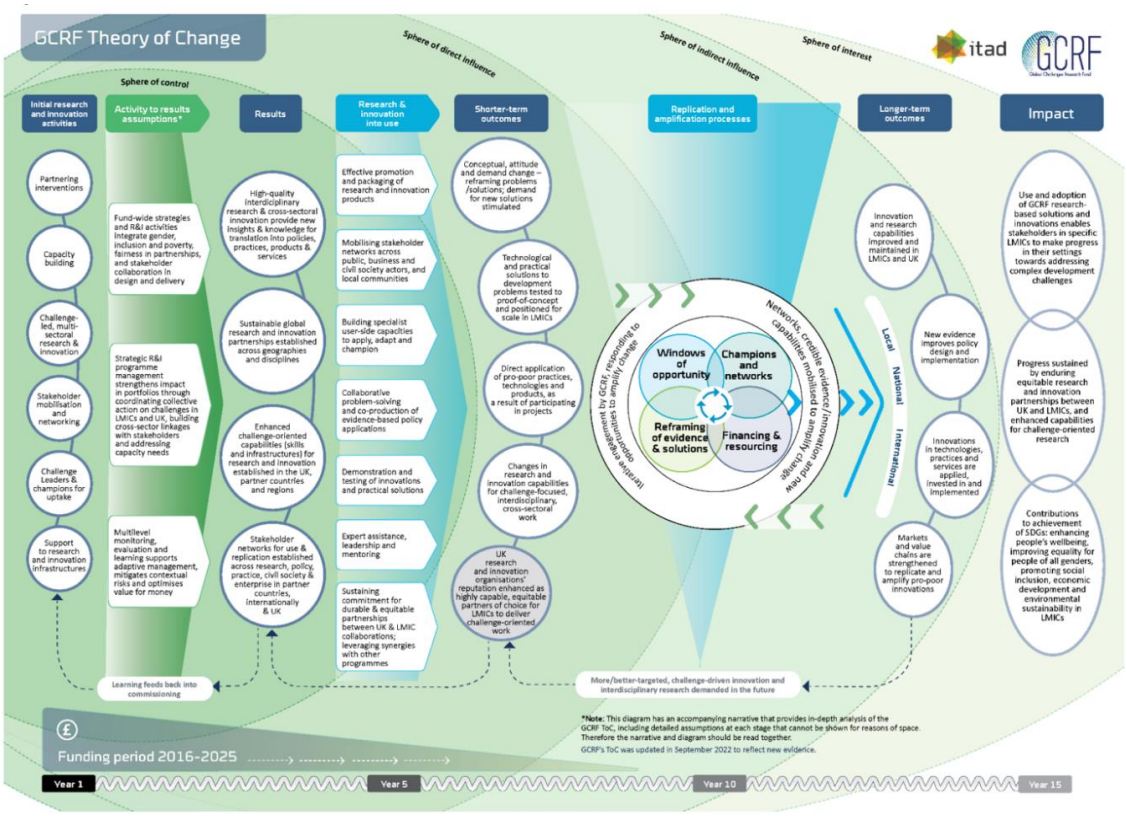
In sum, while the full impact will play out over years, GCRF demonstrably accelerated the application of UK-led research to global development problems, yielding both tangible solutions (technologies and interventions) and intangible benefits (enhanced research ecosystems and trust between UK and developing country collaborators).

Figure 7 – Governance of the UK GCRF (2015-2022)



Source: Independent Commission for Aid Impact.

Figure 8 – GCRF's Theory of Change



Source: ITAD, GCRF.

The experience of GCRF highlights key lessons for future large-scale research-for-development programmes. A central issue was its over-broad remit across all SDGs, which produced a scattered portfolio rather than concentrated impact. While the bottom-up approach engaged academics widely, it limited focus on the most urgent global concerns. Governance weaknesses also emerged: with seven research councils acting autonomously, the Fund lacked strong central coordination and strategic direction. Reviews recommended clearer thematic priorities and more active ministerial leadership to steer resources. The absence of clustering and knowledge-sharing mechanisms further reduced impact, as similar projects worked in isolation rather than forming critical mass. An abrupt ODA budget cut in 2021 exposed the vulnerability of long-term partnerships to political shifts, underlining the need for stable, protected funding. GCRF also advanced equitable partnerships, involving developing country researchers, but sustaining equity required continual attention and stronger Southern leadership.

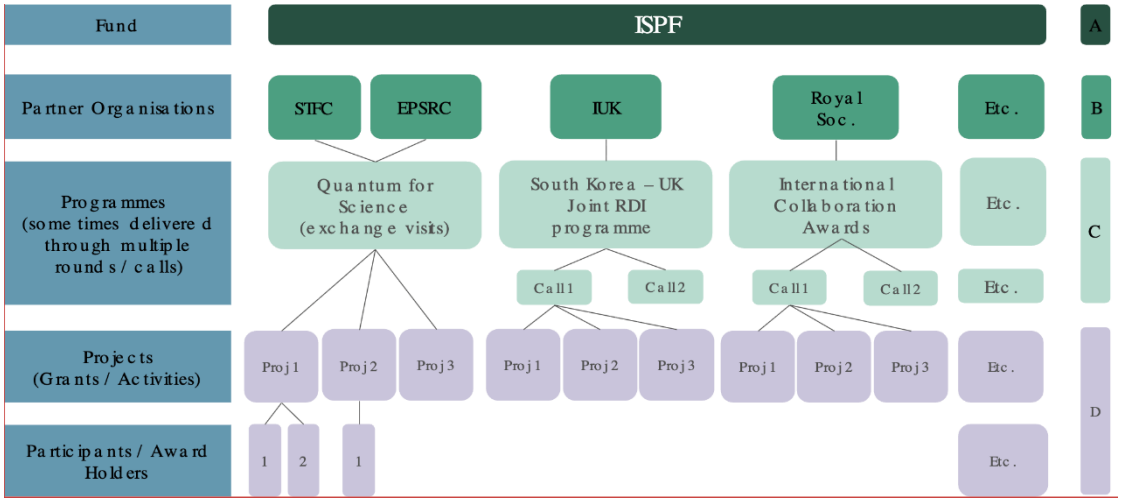
Overall, GCRF demonstrated both the promise of challenge-led R&I and the risks of diffuse portfolios, underscoring the need for balance between bottom-up creativity and top-down strategic focus in future initiatives such as the proposed European CGSC. In 2022, the government announced that both GCRF and the Newton Fund would be discontinued.

The International Science Partnerships Fund (ISPF) was announced as the replacement, comprising a mix of ODA and non-ODA funding, and falling under the DSIT Managed Programmes ring-fence.

One immediate successor in the transition was the Fund for International Collaboration (FIC), administered by UKRI, with a budget of GPB 160 million. FIC awarded 37 programmes and over 571 grants, involving partner agencies from 26 countries. However, it was always intended as a 'legacy fund'. Its timeline was finite, with most programmes and projects concluding by the end of 2024, and it is now formally being sunsetted. An evaluation published in 2025 reached rather positive findings.

The real successor to GCRF is the ISPF, which aims to bring together UK ODA and non-ODA R&I funding under a common structure (UKRI, 2025). ISPF is administered by the DSIT and delivered through UKRI and partner bodies. ISPF marks a shift from 'challenge-led aid' to 'partnership-led science diplomacy'. It embodies the recognition that international collaboration is essential for tackling global societal challenges such as climate change or pandemic preparedness, while also supporting the UK's industrial strategy in areas like AI, quantum technologies, and advanced manufacturing. Its design reflects lessons from GCRF: the need for clearer strategic orientation, stronger bilateral structures, and flexibility in spanning ODA and non-ODA domains.

Figure 9 – ISPF partners, programmes and projects



Source: Gov.UK.

Alongside ISPF, UKRI now incorporates international collaboration across its core councils. Its 'Get funding for international research' portal lists many opportunities: travel grants, networking, joint calls with partners abroad, and bilateral 'lead agency' models where UKRI and foreign funders agree shared evaluation and funding processes. This suggests a decentralised 'mainstreaming' of international research support into UKRI's regular funding streams, rather than confining it to a dedicated global fund. UKRI's international

strategy includes an International Strategic Advisory Group to guide priorities and increase coherence across its global engagement. In 2025, UKRI also launched a Global Talent/Attract Researchers scheme with GPB 54 million to help UK institutions recruit outstanding researchers globally, covering relocation, visa costs, and research funding. Though not a direct replacement for GCRF's ODA focus, this initiative signals the UK's continuing ambition to maintain global research excellence and connections.

The transition from GCRF to FIC and beyond reflects both continuity and disruption. Somehow contrary to what will happen in the EU post-2028, the UK is shifting from a single, large, dedicated fund (GCRF) towards a blend of mechanisms (with the FIC acting as a bridge, ISPF, and integrating global collaboration into core programmes). There are institutional risks: without a unifying global fund, the coherence of UK development-oriented research may suffer.

2.2.2. Japan's Science and Technology Research Partnership for Sustainable Development

Japan has been very active in coupling scientific research with international development collaboration. A good example is SATREPS (the Science and Technology Research Partnership for Sustainable Development), a Japanese government programme launched in 2008 out of recognition that many global issues – from climate change to infectious diseases – cannot be solved without scientific innovation, and that Japan's advanced R&D capacity could be leveraged as a form of science diplomacy to tackle shared problems while strengthening international ties. SATREPS was then set up as a structured programme to support joint research between Japan and developing countries. Its overarching objective is to generate new scientific knowledge and technology that can be applied to solving global-scale problems, in partnership with countries that need these solutions.

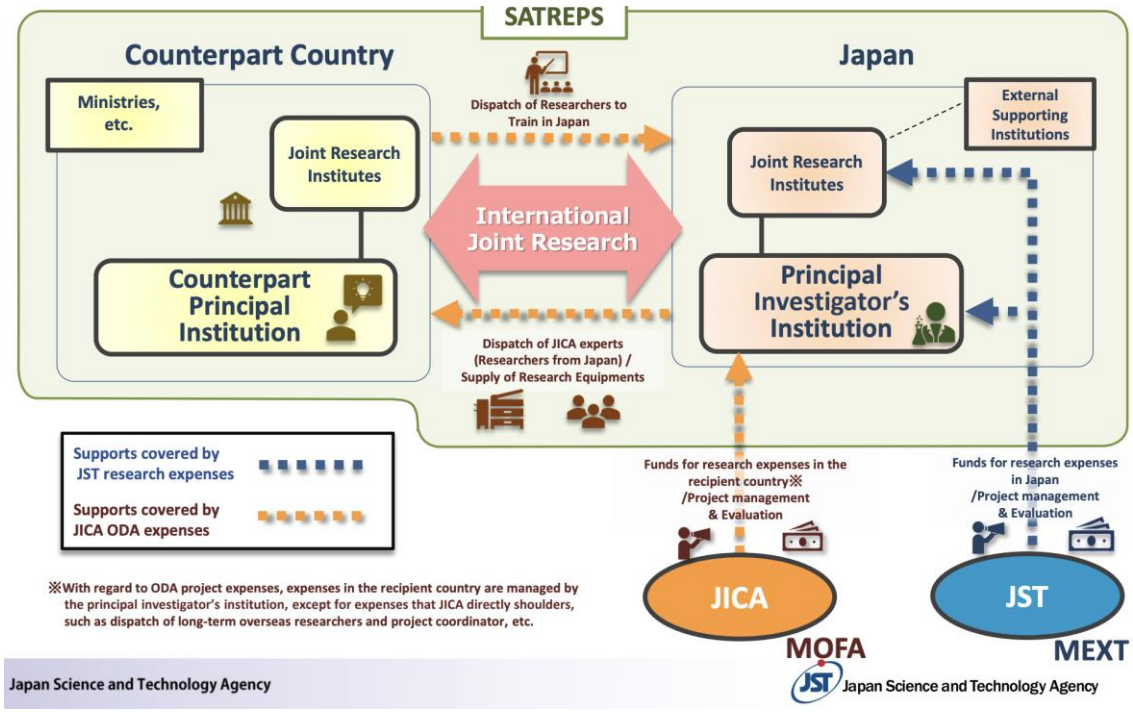
Concretely, the programme pursues a dual mission:

(i) *research for development* – to conduct research that addresses specific socio-economic needs or environmental challenges in the partner (developing) country, yielding practical outcomes that benefit society; and

(ii) *capacity building* – to enhance the scientific and technological capabilities of the partner country through collaboration.

During the 2010s, four priority fields were emphasised: environment and energy, bioresources, disaster prevention and mitigation, and infectious diseases control.

Figure 10 – The SATREPS programme structure



Source: Science and Technology Research Partnership for Sustainable Development.

As shown in Figure 10, SATREPS is implemented via a collaborative governance structure involving multiple Japanese ministries and agencies. It is jointly funded and managed by the Ministry of Foreign Affairs (MOFA) and its Japan International Cooperation Agency (JICA) on the development cooperation side. They are joined by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), along with its science funding agencies (Japan Science and Technology Agency (JST), and Japan Agency for Medical Research and Development (AMED)) on the science and technology side (JST, 2016). This inter-agency partnership is at the heart of the SATREPS model and is also a good reference for the proposed CGSC. SATREPS projects are funded through a unique blend of ODA funds and science research funds, reflecting its hybrid nature. Each project is provided total funding of roughly JPY 100 million (approximately USD 0.9 million), spread over a project duration of typically 3 to 5 years.

A review in 2019 noted that SATREPS had produced hundreds of scientific papers (including in high-impact journals) and dozens of patent applications or prototypes as direct outputs. More importantly, a number of SATREPS projects graduated into larger implementation projects or attracted follow-up funding from other sources (e.g. a successful SATREPS pilot on new rice varieties in Africa was later scaled up by an international agricultural programme).

The programme also has an implicit diplomatic metric: it has engaged over 50 countries in substantive cooperation with Japan. Many projects have led to tangible outcomes. For example, in the field of infectious diseases, a SATREPS collaboration with Kenya produced a new diagnostic kit for tuberculosis that is faster and more suited to local conditions than previous methods, now being tested in rural clinics. In disaster management, a SATREPS project in the Philippines developed a landslide early warning system using Japan's sensor technology and local community input. This system has been adopted by several Philippine municipalities, directly contributing to disaster risk reduction. Positive outcomes further extend to capacity building and research infrastructure.

2.2.3. International multi-donor partnerships

An important challenge for the proposed GCRF will be to cope with limited resources, bridging R&I and international partnerships, and at the same time boosting the EU's role as leader in dealing with global challenges. This, as highlighted in Lenz & Scenczyn (2025) and in Renda et al. (2025), will require a more open approach towards international multi-stakeholder partnerships. Below, we provide a short description of some well-known examples.

Philanthropies and international public institutions have also launched agile models for promoting swift and collaborative R&I over the past few years. Wellcome Leap is a good example of how a large foundation can create an ARPA-style organisation to boost industrial competitiveness in biotech while tackling global health security challenges. This philanthropy-funded, DARPA-like entity was set up by the Wellcome Trust in 2020 to drive 'transformative improvements in human health at a speed and scale not usually possible'. Led by former DARPA directors, it employs empowered programme managers and engages in high-risk, high-reward projects modelled on the DARPA approach.

With an initial investment of over USD 300 million (aiming for USD 1 billion) from Wellcome and partners, Leap's mission is to build a global network for health innovation, unencumbered by national boundaries. Its governance features an independent board and agile management, enabling it to fund multi-disciplinary teams in 30+ countries. By operating internationally and outside government, it seeks to accelerate dual-use biomedical technologies (e.g. mRNA vaccines) and other breakthroughs with both civilian health and biosecurity benefits. The initiative emphasises public-private collaboration (engaging academia, start-ups, and industry) and encourages the open sharing of interim findings to speed translation.

In the realm of public-private 'orchestration schemes', the Global Innovation Fund (GIF) stands out as a multi-donor, impact-first investment vehicle launched in 2014 to support scalable innovations in developing countries. Backed by governments (the UK, US,

Sweden, and Australia) and philanthropists (Omidyar Network) with an initial commitment of USD 200 million, GIF was deliberately structured as an independent non-profit to operate with venture capital-like flexibility outside government bureaucracy.

Its mission is to invest in the development, testing and scaling of technological, social, and business innovations that improve the lives of people living on less than USD 5 a day. GIF provides grants, loans, or equity to innovators at different stages – from pilot to growth – and emphasises rigorous evidence and impact measurement. Stakeholders include bilateral aid agencies (as funders), entrepreneurs and researchers worldwide (as recipients). Its governance features a board of international experts and a Strategic Advisory Committee that helps align investments with global development goals. By pooling public and private capital, GIF is a model of a public-philanthropic partnership for competitiveness in the social sector – essentially bringing venture-style R&D funding to challenges like financial inclusion, agriculture, and climate resilience. Its investments have ranged from digital infrastructure (e.g. mobile payment platforms) to technology transfer initiatives (like affordable medical devices), often in LMICs.

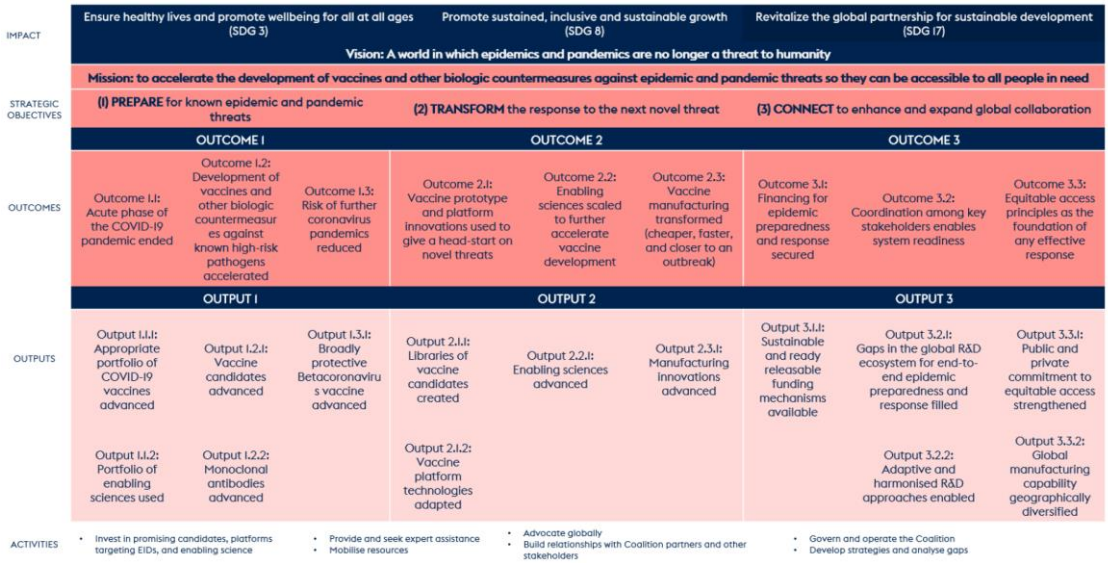
On global R&I collaboration, GIF's open worldwide call for ideas and its offices in London, Washington, Nairobi, and Singapore facilitate international reach, connecting innovators in LMICs with global capital and expertise. This demand-driven, portfolio approach mirrors the agile governance envisaged for CGSC – focusing on high-potential projects with industry and local partner engagement to drive both development impact and economic opportunities.

The CEPI was created in 2017 following the Ebola crisis, when it became clear that neither markets nor national governments alone could ensure the rapid development of vaccines for emerging infectious diseases. Launched at the World Economic Forum with the governments of Norway and India, the Gates Foundation, Wellcome Trust and other partners, CEPI's founding principle was to close this gap by pooling resources and coordinating global efforts. Organised as an independent foundation headquartered in Oslo, CEPI brings together governments, philanthropies, industry and researchers to finance vaccine R&D for WHO priority pathogens such as Lassa fever, Nipah and 'Disease X'. Its governance includes a multi-sectoral board and advisory councils, and its funding base has grown to over USD 1.5 billion from more than 30 countries and donors (CEPI, 2022).

A defining feature of CEPI is its equitable access policy, which commits partners to making CEPI-funded vaccines affordable and available in low-income countries. During Covid-19, CEPI co-led the COVAX facility, illustrating the value of a standing coalition able to act at speed. CEPI therefore exemplifies science diplomacy in practice, using international cooperation to treat pandemic preparedness as a global public good.

CEPI aims, inter alia, to 'compress vaccine development timelines to 100 days' for future outbreaks (ibid.). By uniting industry, governments, and philanthropies under agile programme management, CEPI illustrates how a mission-driven R&I consortium can tackle pandemics. Likewise, a CGSC would address global challenges through pooled funding, shared governance, open data (e.g. CEPI has funded open vaccine libraries), and capacity building (like supporting vaccine manufacturing in Africa).

Figure 11 – CEPI's Theory of Change



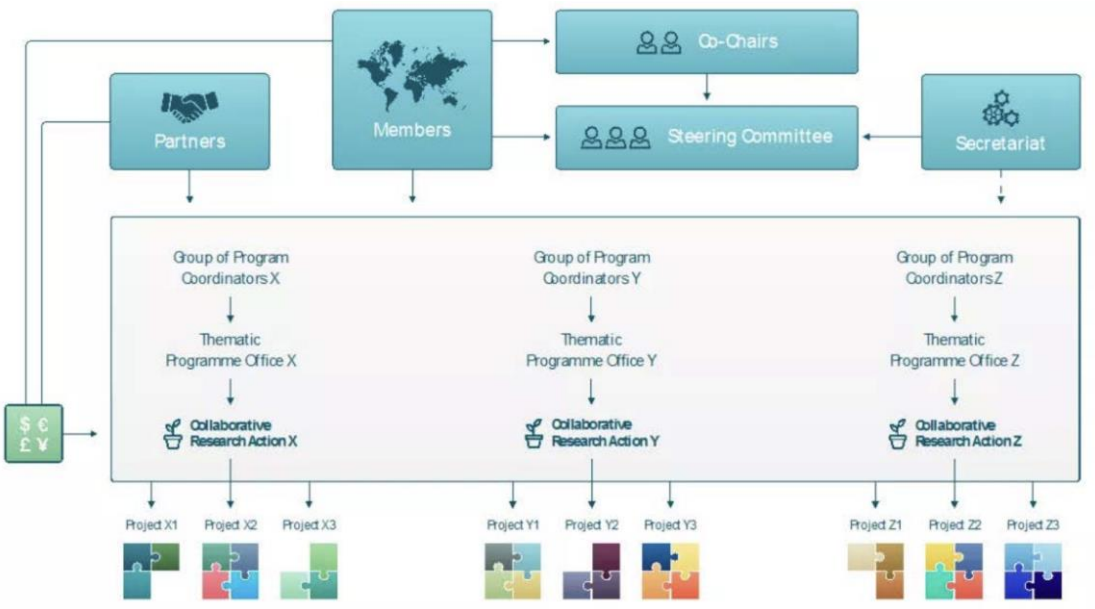
Source: CEPI.

The Belmont Forum, established in 2009, provides a complementary model focused on environmental and sustainability science. It is a consortium of over 30 national and regional research funders and international organisations committed to advancing transdisciplinary research on global change. Rather than creating a new funding stream, the Forum operates as a co-funding mechanism: members align their priorities, issue joint calls, and contribute to supporting researchers in their own countries. This flexible structure allows the Forum to tackle challenges that transcend borders, from biodiversity loss to extreme weather resilience. Its governance is deliberately light, based on consensus among funders, while the research itself is co-designed with natural and social scientists and with stakeholders such as policymakers and communities.

The Belmont Forum has pioneered the integration of open data requirements, capacity building in LMICs, and the creation of international 'knowledge hubs' that pool expertise across continents. Its model demonstrates how relatively modest financial commitments, when strategically aligned, can create critical mass for addressing global environmental challenges. An evaluation by Technopolis in 2020 concluded that the Forum's scientific impact is 'impressive', ranging from significant contributions to the scientific communities working on environmental change and associated topics to notable impacts on policy. The

evaluators conclude that 'despite the high concentration of countries from the Global North as members, the Forum did in fact manage to establish collaboration between the Global North and the Global South'.

Figure 12 – Governance of the Belmont Forum



Source: Belmont Forum.

Another well-known example of global collaboration in R&I is the Grand Challenges initiative. It is a global research programme launched in 2003 by the Bill & Melinda Gates Foundation as *Grand Challenges in Global Health*, initially targeting 14 ambitious scientific challenges whose solutions could dramatically improve health in low-income settings. In 2014, the initiative expanded its scope beyond health to include development challenges such as agriculture, education, and sanitation. Yet, the core mission has remained consistent: to 'solve key global health and development problems for those most in need' by funding innovative, high-risk projects and attracting new minds to these challenges.

The Gates Foundation provided the initial impetus and funding (USD 450 million in the first years), but governance has since become distributed. National and international agencies adopted the model, creating programmes like Grand Challenges Canada (funded by the Canadian government), Grand Challenges India (co-funded by India's government and global donors), and others across Africa, Brazil, South Africa, and beyond. For example, Grand Challenges Africa, launched in 2015, is co-led by the African Union's development agency (AUDA-NEPAD) with support from global partners including the Gates Foundation, UK and Swedish aid agencies, UNICEF, Germany's research ministry, and philanthropic groups. Such partnerships illustrate a multi-stakeholder governance structure: each Grand Challenge programme has its own leadership (often a mix of

government, foundation, and scientific advisers) but they coordinate through annual Grand Challenges meetings and a community of practice.

Funding for the initiative comes from a blend of philanthropic grants, national R&D budgets, and multilateral support. This pluralistic funding base ensures that no single funder dictates the agenda, and it encourages *public-private collaboration*. Private sector involvement often occurs when promising ideas are translated into products or services, but the grant funding primarily flows through public and non-profit channels.

Another important initiative is CGIAR, a long-standing international consortium that mobilises science to improve food security, livelihoods, and natural resources management across the globe. Established in 1971, CGIAR originally stood for the Consultative Group on International Agricultural Research – a partnership of governments, international organisations, and foundations inspired by the successes of the Green Revolution. Its creation was spearheaded by the World Bank, UN agencies (Food and Agriculture Organization and UNDP), and the Rockefeller and Ford Foundations, aiming to unify and scale up agricultural research for developing countries.

Today, CGIAR is organised as a network of 15 international research centres (such as the International Rice Research Institute in the Philippines and the International Institute of Tropical Agriculture in Nigeria) spread across Africa, Asia, Latin America, and further afield. These specialise in areas like crop breeding, livestock, water management, or policy research, and collectively employ over 9 000 staff in 89 countries (CGIAR, 2025). The centres are legally independent but bound together by a common strategy and governance framework. In recent years, CGIAR has undergone reform towards a more integrated 'One CGIAR', enhancing coherence among centres. It features a tiered governance including:

(i) a System Council, comprising representatives of funders (donor countries and multilateral institutions) and developing countries, which sets strategic direction and ensures accountability;

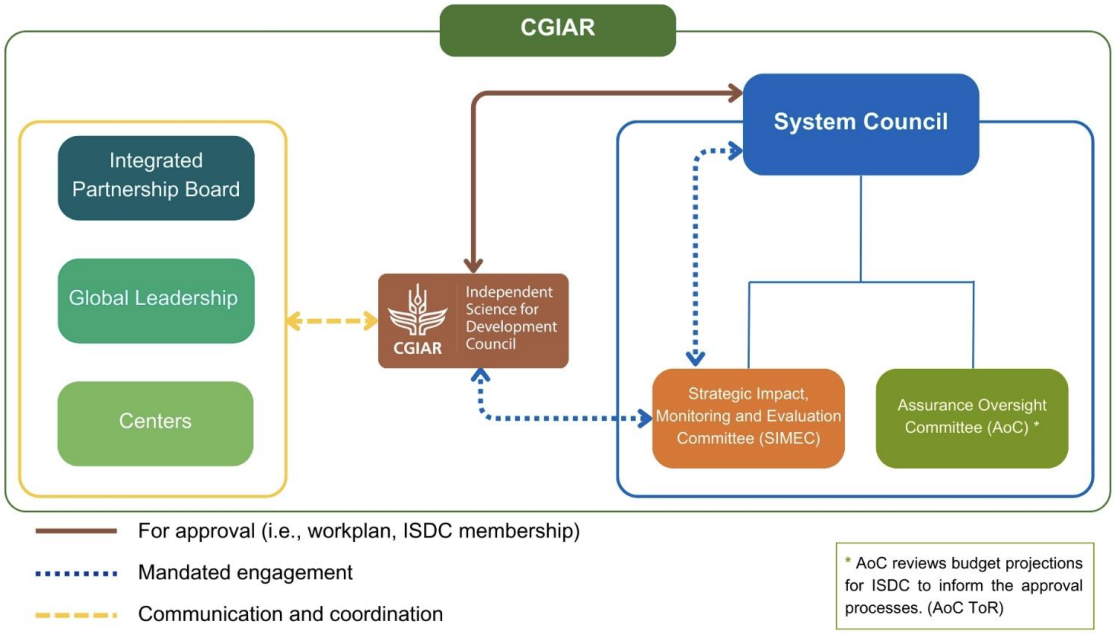
(ii) an executive System Board that oversees operational matters; and

(iii) a System Organisation that coordinates day-to-day management.

The Independent Science for Development Council is an external advisory body to the CGIAR System. It provides rigorous, impartial scientific guidance to ensure that CGIAR's global agricultural research is high-quality, strategic, and aligned with development impact. The Council assesses research priorities, reviews programmes, and advises on the science needed to tackle hunger, poverty, and climate challenges. Its members are internationally recognised experts who act in their personal capacity, giving independent

advice rather than representing institutions or governments. CGIAR's annual research expenditures are about USD 900 million, funded through a blend of pooled contributions and targeted grants for specific projects or 'CGIAR Research Programs'. CGIAR stands as a model of global R&I partnership – leveraging open science, public/private funding, and North-South collaboration to address societal problems of hunger, poverty, and environmental sustainability.

Figure 13 – The Independent Science and Development Council



Source: CGIAR Independent Advisory and Evaluation Services.

2.2.4. Product development partnerships

Product development partnerships (PDPs) are a unique model of collaborative innovation that has emerged since the late 1990s to tackle diseases of poverty. They are essentially public-private partnerships dedicated to developing new health technologies (vaccines, drugs, and diagnostics) for neglected diseases that predominantly afflict LMICs. They arose from the recognition that traditional market-driven R&D was failing to produce interventions for ailments like malaria, tuberculosis, and HIV in resource-poor settings, or tropical diseases (e.g. sleeping sickness and dengue) that offer little profit potential.

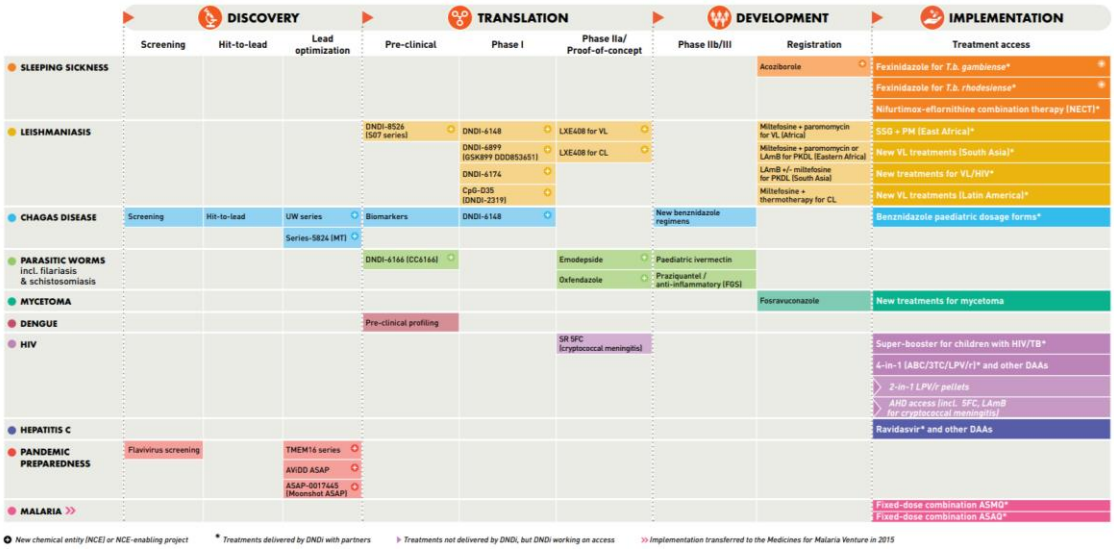
The PDP model was born at a 1994 Bellagio conference (organised by the Rockefeller Foundation) on accelerating an HIV vaccine. Subsequently, over a dozen PDPs have been established. One early example is the International AIDS Vaccine Initiative (IAVI), launched in 1996 as a non-profit alliance to ensure development of an HIV vaccine for global use. Others soon followed, including the Medicines for Malaria Venture in 1999, Global

Alliance for TB Drug Development in 2000, and the Drugs for Neglected Diseases initiative (DNDi) in 2003 (Global Adv Health Med, 2012).

A typical PDP is set up as an independent, not-for-profit organisation with its own governance board. These boards often include representatives of donor governments, scientists, pharmaceutical or biotech industry experts, and sometimes endemic-country health officials or patient advocates – reflecting a *multi-stakeholder governance*. For example, DNDi was founded by a coalition including Doctors Without Borders (MSF) and research institutions from India, Kenya, Brazil, and Malaysia, as well as the WHO's TDR programme on tropical diseases – ensuring developing countries had a say in priority-setting from the start.

Funding for PDPs predominantly comes from public and philanthropic sources. Major donors have included the Gates Foundation (which poured hundreds of millions into various PDPs), European country aid agencies, the US and UK governments, the Wellcome Trust, and UN agencies. Some PDPs receive modest contributions from industry or innovate co-funding models (e.g. in-kind contributions of chemical libraries or expertise from pharma companies), but by and large PDPs operate on grant funding.

Figure 14 – DNDi activities, June 2025



Source: DNDi.

Over the past two decades, PDPs have proven highly effective in delivering health solutions that otherwise might not exist. Collectively, PDPs have developed and brought to market over 60 new health products, including drugs for malaria, tuberculosis, sleeping sickness, visceral leishmaniasis, and vaccines such as the first vaccine against meningitis A in Africa. According to the WHO, these innovations have benefited *around 2.4 billion people* worldwide. Importantly, PDPs actively engage researchers in endemic countries:

for example, clinical trials for PDP-developed drugs are often run in Africa, Asia or Latin America by local investigators, building capacity and ensuring the products are tested in target populations. This co-design with LMIC partners not only improves the relevance of outcomes but also strengthens health research systems in those countries. Many PDPs also partner with health ministries to plan for uptake, ensuring that once a product is approved, it can be quickly introduced into public health programmes.

While PDPs focus on product development, many embrace principles of open science and equitable access. Research findings are often published openly; some PDP projects use open-source approaches (e.g. Open Source Drug Discovery for malaria). Crucially, PDP agreements with industry typically include provisions that the resulting drugs or vaccines will be made affordable and accessible in developing countries (e.g. no patent enforcement or low-cost licensing in those markets). This flips the traditional proprietary model to a more humanitarian one, aligning with PDPs' non-profit status. The collaborative networks forged by PDPs also serve as a form of science diplomacy. The PDP model's success has led global bodies like the WHO to recognise it as a 'successful model of public-private partnership' for health innovation.

2.2.5. Regional initiative: DELTAS Africa and its Science for Africa Foundation

The Developing Excellence in Leadership, Training and Science in Africa (DELTAS Africa) initiative represents one of the most ambitious African-led programmes to strengthen research systems and scientific leadership. Initially funded by the Wellcome Trust, the UK's Department for International Development, and later other partners, DELTAS was designed as a multi-year, multi-country scheme to support consortia of universities and research institutes across the continent. Its priorities are to cultivate cohorts of African research leaders, foster interdisciplinary collaboration across regions, and generate high-quality science that responds to pressing health and development issues. Crucially, DELTAS emphasises local ownership, sustainability, and capacity building, ensuring that laboratories, training schemes, and governance structures remain anchored in African institutions rather than donor headquarters.

The creation of the Science for Africa Foundation (SFA) in 2021 provided DELTAS and other regional programmes with a permanent, independent, Africa-based platform for channelling both international and philanthropic investment. The SFA aims not only to administer grants but also to set research agendas, advocate for Africa's role in global science policy, and serve as a hub for partnerships that link African research communities with global challenge-driven initiatives. In this sense, DELTAS and SFA together demonstrate the potential of regional hubs to deliver on three dimensions critical for global cooperation: strengthening capacity, empowering local leadership, and embedding Africa more firmly in global science diplomacy. Their model highlights the importance of

combining training, institutional development, and partnership brokering to create a more equitable global research ecosystem.

Compared with other initiatives on global concerns, DELTAS and SFA stand out for their explicit regional and equity focus. CEPI leads in global health preparedness, CGIAR anchors agricultural and food-systems research, and SATREPS channels Japanese bilateral funding into co-designed projects with LMICs. DELTAS and SFA differ by placing African institutions in the driver's seat and embedding capacity building and leadership development as core goals rather than ancillary benefits. For a future CGSC, this model is highly relevant: it demonstrates how global challenge research can be organised to deliver both world-class science and structural empowerment of LMIC partners.

2.2.6. UNDP Accelerator Labs

The UNDP Accelerator Labs are an ambitious experiment in reimagining development practice through innovation, local knowledge, and global networking. Launched in 2019 as a joint venture between the UNDP and its founding investors – the government of Germany and the State of Qatar – the Accelerator Labs have rapidly grown into 'the world's largest and fastest learning network' on sustainable development challenges (UNDP, 2019). The initial investment (over USD 80 million from Germany, Qatar, and the UNDP's own resources) set up 60 Labs, which had expanded to 91 Labs across 115 countries by 2021. The driving idea was to close the gap between the slow, traditional approaches in development and the fast-paced, complex problems societies face in the 21st century – from climate change to urban poverty to digital disruption.

Each Accelerator Lab is embedded within a UNDP country office, but with a mandate to experiment and innovate beyond business-as-usual. The Labs' mission is to 're-imagine development for the 21st century' (ibid.) by finding and scaling local solutions and leveraging collective intelligence to accelerate progress on the SDGs. In practical terms, this means identifying grassroots innovations that communities are already using, and helping to test, refine, and amplify them, rather than relying solely on top-down planning.

Each Accelerator Lab is staffed with a small, multidisciplinary team typically consisting of a head of exploration, head of solutions mapping, and head of experimentation. The Labs operate in 100-day cycles of learn-test-adapt, documenting everything openly. They form a network that shares insights in real time – if a Lab in Vietnam learns how informal waste-pickers improve recycling, a Lab in Ecuador or Ghana can quickly apply that knowledge. This horizontal learning is facilitated by a global support team that curates cross-country insights and manages an online knowledge platform. The approach emphasises collective intelligence, combining local knowledge with data science and design thinking. For example, some Labs use crowdsourcing and AI to understand problems (like mapping

flood risk via community reports and satellite data). The network also partners with international experts from academia and think-tanks to enrich their toolkits.

Notably, the governance of the network involves the founding donors: the development agencies of Germany and Qatar receive regular progress reports and help guide strategic priorities, illustrating *donor-partner co-management*. But each country Lab aligns its work with the host country's development priorities and UNDP country programme, ensuring relevance on the ground.

Figure 15 – UNDP Accelerator Labs around the world

Source: UNDP Accelerator Labs.

2.2.7. Comparing initiatives around the world: a synopsis

Table 2 below compares the proposed CGSC with the international experiences documented in this Section 2.2. As envisaged, the CGSC would combine strategic coordination of R&I for global public goods with a mission-oriented governance model, substantial risk-tolerant funding, and a mandate to strengthen capacity in LMICs. It would also embed principles of open science, data sharing, and science diplomacy. While there are a number of global initiatives that exhibit some of these features, none integrates them all in a single, cross-sectoral body.

A useful point of comparison is CEPI, which brings together governments, philanthropies, and industry in a public-private partnership focused on vaccine development. CEPI has demonstrated the value of mission-driven, risk-tolerant investment and international collaboration, but its remit is sectoral, limited to health security. Similarly, the CGIAR is a long-standing global network of research centres that has generated transformative agricultural innovations. It exemplifies strong international governance, capacity building

in LMICs, and a commitment to open science, but is narrowly focused on food and agriculture and lacks the flexibility to fund high-risk, disruptive projects.

Philanthropy-driven initiatives such as the Grand Challenges programmes, Wellcome Leap, and the GIF have helped to seed innovation ecosystems across health, agriculture, and social development. They bring agility, risk-tolerant funding, and a global outlook, but operate with donor-driven governance and uneven engagement on LMIC capacity building. Wellcome Leap is particularly noteworthy in that it combines ARPA-style programme management with global health missions, offering lessons for how CGSC might link research governance with societal objectives.

Other relevant models include the USAID Global Development Lab and the UNDP Accelerator Labs, which focus on social innovation, local experimentation, and capacity building. While they provide important platforms for bottom-up innovation and diplomacy, they operate on smaller budgets and lack the capacity to steer global-scale R&I missions. Similarly, Japan's SATREPS scheme illustrates how bilateral science partnerships can foster capacity building and tackle global challenges, but it remains limited to bilateral collaborations rather than global coordination. Regional initiatives such as DELTAS Africa show how targeted investment in research leadership and networks can transform LMIC capacities, yet their scope is geographically bounded.

Taken together, these examples demonstrate a fragmented landscape. Each initiative performs parts of the functions that CGSC would embody – mission orientation, risk sharing, public-private collaboration, open science, or LMIC empowerment – but none integrates them across sectors, geographies, and policy domains. The distinctive contribution of CGSC would be precisely this integration: creating a single institutional platform at European level with global reach, combining the foresight and convening power of a political council with the flexibility and ambition of an ARPA-style innovation agency. In doing so, it would fill a major governance gap between national agencies, philanthropic initiatives, and sector-specific partnerships, enabling Europe to play a leadership role in the coordination of R&I for global societal challenges.

Table 2 – Analogue institutions to the CGSC

Institution	Strategic global R&I coordination	Multi-stakeholder governance	Risk-tolerant funding	International collabo-ration	Global challenge focus	LMIC capacity building	Open science/ data	Science diplomacy
CGSC (proposed)	✓	✓	✓	✓	✓	✓	✓	✓
CEPI	◐ (health-specific)	✓	✓	✓	✓	✓	✓	✓
CGIAR	✓	✓	◐	✓	✓	✓	✓	◐
Grand Challenges	◐ (donor-driven)	✓	✓	✓	✓	✓	✓	✓
Wellcome Leap	◐	✓	✓	✓	✓	◐	✓	✓
Global Innovation Fund	◐	✓	✓	✓	✓	✓	✓	◐
USAID Global Dev Lab	◐	✓	✓	✓	✓	✓	✓	✓
PDPs (DNDi, IAVI, etc.)	◐	✓	✓	✓	✓	✓	✓	◐
SATREPS (Japan)	✓ (bilateral)	✓	◐	✓	✓	✓	✓	✓
UNDP Accelerator Labs	◐	✓	◐	✓	✓	✓	✓	✓
DELTAS Africa	◐	✓	◐	✓	✓	✓	✓	✓

✓ = strong; ◐ = partial

CONCLUDING REMARKS: PLACING THE CRICS AND THE CGSC IN THE ARCHITECTURE OF THE NEXT MFF

There are many reasons why the EU should consider modernising and revamping the governance of the MFF, and with it the institutional architecture of Horizon Europe.

First is the need for a more adaptive structure that coordinates activities more easily by working with more cohesive decision-making hubs. As already explained, the two proposed councils would have to be designed to enable better coordination on how the EU and associated countries plan to pursue competitiveness and global challenges, in the firm belief that the two objectives, while conceptually different, can and should be pursued in a coordinated manner.

Second is the need to oversee the whole 'horizontal' trajectory of initiatives, from lab to market, and from research to meaningful innovation. Involving stakeholders and expertise that can strengthen coherence between activities adopted to promote early-stage research all the way to catering for societal needs is essential for Horizon Europe to become an engine of impactful R&I.

Third is the 'vertical' need to work jointly with individual institutions in charge of specific missions (e.g. ARPA-style institutions managed by the EIC, but also the European Investment Bank, national R&I institutions and development finance institutions). It is crucial to ensure that the Team Europe approach extends to international R&I collaboration, and that multi-level governance best responds to the needs of the 'Competitiveness Coordination Tool'. At the same time, adequate multi-level governance is essential to boost experimentation.

Fourth is a need to establish a one-stop-shop for players such as associated countries, LMICs, international organisations, and foundations to fruitfully coordinate their actions with those of the European Commission. A companion paper to be published in November 2025 tackles the specific issue of how to involve philanthropies in Horizon Europe, including by providing a one-stop-shop mechanism.

And fifth is the reduction of transaction costs in the complex, rather new decision-making procedures, which should lead to the re-prioritisation of funding on a periodic basis under the authority of a political steering mechanism.

This report discusses the complexity of managing the investment journey, from lab to market, for the competitiveness and security aspirations of the Commission in the next budget cycle, and for Europe's legitimate ambitions to lead the world in tackling global challenges. Starting from the current proposal of the European Commission, which leaves space in Pillar II for separate governance of these two budget lines, there is a strong case

for two entities that act as 'orchestrators'. They should be able to bridge several existing chasms and address the needs highlighted in recent evaluations as well as in our past research:

(i) the current lack of coherence and continuity 'from lab to market', i.e. from basic research, innovation and its diffusion to downstream 'delivery' policies and related regulations;

(ii) the gap between EU funding and Member State/associated country funding. In a companion report we will also explore another possible, complementary solution to this problem, i.e. the centralisation of excellence-based research funding at the EU level, coupled with incentives from Member States in the context of the Stability and Growth Pact (Soete & Kattel, 2025);

(iii) the gulf between EU funds and multilateral donors, as well as philanthropies, which find it hard to partner with EU institutions on both competitiveness-related projects and global challenges;

(iv) the necessity of securing more direct and earlier participation of the private sector in setting priorities and in launching public-private partnerships for industrial transformation;

(v) the lack of coherent approaches to policy design principles, which could optimise spillover effects and foster a culture of experimental governance and innovation (including well-designed sandboxes) in the real economy while protecting consumers and citizens;[6]

(vi) the insufficient synchronisation of R&I programmes with policy measures. In this respect, the CRICS in particular could become an important forum for reviving the debate on better regulation and the "innovation principle"; and

(vii) the need to support the future political steering mechanism of the MFF with entities that can implement new priorities and reallocate funds, offering agile governance and world-class expertise.

As shown in Section 2 of this report, the CRICS and CGSC would not be entirely new types of institutions. Many countries have experimented, often successfully, with mission-oriented, nimble, multistakeholder initiatives based on portfolio approaches and strong expertise nested primarily in programme managers. A more agile EU could begin from these forms of governance innovation, and the courage to take Horizon Europe beyond

[6] We thank Dominique Foray, Luc Soete, Darja Isaksson and Geoff Mulgan for insightful comments on this aspect. We plan to dig deeper into instrument design in our forthcoming publications on FP10.

the boundaries that have partly prevented it from becoming an engine of competitiveness, security, and sustainable development in Europe and around the world.

That said, the creation of the CRICS and CGSC would require extensive legal and administrative reform, starting with the Commission's Financial Regulation and staff rules. As pointed out by one of our Advisory Group members, in the absence of such reforms the CRICS/CGSC would risk becoming "high-level think tanks" rather than decision-making engines. Agile, mission-oriented projects (ARPA-type, moonshot) would still have to pass through legacy grant management and auditing systems designed for risk minimisation, not for experimentation. Establishing the two councils would require a parallel reform track which would address a new legal framework for mission-oriented funding, hybrid management models, foresight embedded in units and project-management cadres trained in ARPA-style portfolio logic, and simplified innovation procurement rules integrated into the Financial Regulation.[7] We plan to tackle this topic in a series of future reports, covering needed reforms for the effective involvement of donors such as philanthropies, as well as for a more structured cooperation between the EU and associated countries.

[7] We thank Slavo Radosevic for this very insightful contribution.

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