Greece 2040: Science Diplomacy, Foresight and Inclusive Transformation

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Abstract

Science diplomacy has the potential to support an inclusive transformation of Greece toward 2040 by improving its Science, Technology, and Innovation (STI) system. Greece's overall strategic goal should be to become a knowledge-producing nation that generates, transfers, and utilises knowledge to create wealth, foster social cohesion, and elevate its autonomous position. For Greece to achieve this transformation, it is essential that Research and Development (R&D), Innovation, and Education be integrated into a unified knowledge triangle, with foresight as a key tool for governance. The article demonstrates how the Special Secretariat for Foresight in Greece has incorporated forward thinking into policy-making and long-term planning. Furthermore, it explores how Science Diplomacy can facilitate connections between Greek national interests and European and global networks on issues such as climate resilience, the blue economy, AI, talent mobility, and open science. By connecting Foresight, STI Policy, and International Cooperation, Greece aims to convert scientific excellence into public value, regional opportunities, and democratic resilience.

Introduction

The transition from being peripheral tools of economic development to central components of nations' overall strength, democracy, together with strategic position, represents both a major threat and an equally important opportunity for Greece. On the one hand, it poses a risk if Greece does not successfully adopt a model that generates new knowledge and new forms of innovation along with public value domestically, rather than continuing to absorb knowledge and innovation produced by other nations. On the other hand, it also offers Greece the opportunity to create a historical model that produces knowledge, innovation and public value internally. Therefore, whereas the challenges facing Greece are certainly numerous, they do not centre on making Greece more digital or competitive. Rather, the real challenge for Greece will be to develop a truly inclusive transformation* process that unites researchers, educators, innovators, local communities, and international partners and connects each actor's domestic efforts with their respective roles in the global community. Science Diplomacy has the potential to make a vital contribution to this effort.

Historically, science diplomacy has been conceptualised through three primary lenses: (i) science in diplomacy, (ii) diplomacy for science, and (iii) science for diplomacy.[1] Science supports foreign policy decisions; diplomacy facilitates collaborative research; and scientific cooperation fosters mutual trust and understanding. Today, however, science diplomacy must do more. With rising levels of geopolitical uncertainty, technological competition, and climate disruption, it must also help nations align internal

* In this article, inclusive transformation is understood as the capacity of STI policy to generate broad-based social value by ensuring that the benefits of knowledge, technology and innovation reach regions, citizens, institutions and communities across society.

transformation with external positioning. For Greece, this means using science diplomacy to promote Greek research excellence, attract cross-border collaborations, engage the diaspora, and influence EU and regional agendas in areas where Greece has a comparative advantage.

Envisioning a Knowledge-Based Society for All

By 2040, the envisioned future for Greece is that of a knowledge-producing state: a nation capable of creating, distributing, and applying knowledge to enhance citizens' welfare, foster social cohesion, and provide an independent base for sovereign autonomy. Achieving this vision requires more than investment in laboratories, start-ups, or digital platforms. It requires a coordinated and integrated national system connecting knowledge production with societal needs and public policy priorities. STI should therefore be viewed as one component of greater state capacity: the capacity to anticipate change, attract talent, manage technological disruptions, and engage in international scientific networks.

Foresight is crucial in achieving this goal. Greece's Special Secretariat for Foresight[2] shows that anticipatory capabilities are not simply technical exercises; they require embedding anticipation within public administration and policy design. Foresight helps institutions detect early warning signs, map emergent threats, create alternative futures, and integrate science with strategic decision-making. It allows STI policy to move from a reactive paradigm toward a more proactive and mission-oriented one. For Greece, this means using foresight to assess the long-term consequences of artificial intelligence, climate adaptation, biotechnologies, quantum technologies, cybersecurity, energy systems, and ocean governance.

The Research-Innovation-Education Nexus

At the centre of this change lies the research-innovation-education nexus. Greece is moving toward an integrated knowledge triangle that connects universities and research centres with businesses, public institutions, and society. In this context, Prime Minister Kyriakos Mitsotakis' proposal for a dedicated ministry that brings together higher education, research, and innovation represents an important institutional step toward overcoming fragmentation and building a unified research and innovation space.[3] Research produces new knowledge; innovation translates it into solutions; and education cultivates the talent needed to sustain long-term transformation. When these three functions operate separately, knowledge remains fragmented. When they are connected by common strategic priorities, shared infrastructure, coherent evaluation mechanisms, and stronger pathways for technology transfer, they can foster productivity, social mobility, and institutional learning. This nexus is therefore not only an administrative reform but also a cornerstone of Greece's transition toward a knowledge-producing state.

Science Diplomacy can help Ensure Inclusive Transformation in Greece

To ensure that STI creates economic and social value for all regions, small and medium-sized enterprises (SMEs), public administration, and citizens, it is essential to develop new national-level policies. As part of its 2021–2027 Smart Specialisation Strategy (SSS)[4], Greece has begun linking national priorities to regional specialisation processes through an entrepreneurial discovery process that involves the private sector, research organisations, public administrations, and civil society.[5] A Greek science diplomacy initiative could further strengthen these SSS regional ecosystem connections with European Mission initiatives and global research networks.[6]

Several areas have been identified as potential priority areas for a Greek science diplomacy program. Climate and Civil Protection Science Diplomacy would give Greece the opportunity to use scientific knowledge to issue early warnings about wildfires, heat waves, flooding, earthquakes, and island vulnerabilities. Blue Economy Science Diplomacy would leverage Greece's maritime position, long-standing shipping tradition, island ecosystems, and extensive coastlines to support international cooperation on ocean governance, marine conservation, innovative ports, resilient coasts, and the development of a blue

economy. Responsible Digital Transformation and Artificial Intelligence Science Diplomacy would allow Greece to engage in international discussions on trustworthy artificial intelligence, cybersecurity, data management, and ethical innovation, while assuring that technology boosts societal benefits rather than replacing them. Talent Circulation Science Diplomacy would convert Greece's historical "brain drain" into a strategic network of researchers working together on collaborative projects, including joint laboratories, fellowships, doctorate programs, start-ups, and policy advisory networks. Open Science should become an integral component of Greece's democratic STI policy, making publicly funded scientific knowledge more accessible, reusable, and socially beneficial, consistent with UNESCO's principles of collective benefit, equity, diversity, and inclusiveness.[7]

Conclusion

Science diplomacy could provide much more than a vision of "Greece 2040" - it could make knowledge resilient, innovation inclusive, and foresight a form of state capacity. The future of Greece will be defined not only by which technologies are adopted, but also by how institutions are built, who is empowered, and what partnerships are created. With science diplomacy and foresight guiding a knowledge-producing Greece, this transformation can benefit all members of society while giving Greece a greater sense of its place within Europe and the wider region.

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