



ΛΕΥΚΗ ΒΙΒΛΟΣ «Η ΕΛΛΑΔΑ ΤΟ 2040»

ΔΙΕΘΝΕΣ ΠΕΡΙΒΑΛΛΟΝ

INNOVATION AND MANUFACTURING IN THE MODERN ERA

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Innovation and Manufacturing in the Modern Era

Trends and challenges in the global setting that countries (including Greece) will need to face up to over the next 2 decades.

1. INTRODUCTION

In the 4th Century BC, Isocrates observed *“if a man should partake of our culture, let him be called Hellene”*. Hellenism is rooted in the history of the Greek people, but it is bigger than Greek culture. It celebrates openness to **new ideas** and embracing **beauty and truth** wherever you find it. It stands on the shoulders of a heritage 2,500 years in the making.

Greece has drawn on this tradition as it responded to the catastrophe that beset it during the Global Financial Crisis and Grexit. It seems apt to describe The Hellenic Initiative, which I launched in 2012 and that I now chair, as contributing to Greece returning, **like a phoenix rising from the ashes**.

The Hellenic Initiative allows us to bring members of the global Greek and philhellene diaspora together. To lay the foundations for a strong and resilient economy and a united society that draws on the strength of its past to inform and shape its future.

To apply its collective intellect and creativity to replenish and build a thriving economy and restore the Hellene voice on a global stage. As Prime Minister Mitsotakis observed at the United Nations recently, *“...competence and values are essential partners...competence and all that comes with the reliable delivery of results; and values, the framework for how we interact with tolerance and compassion¹”*.

It is this clarity of thinking that has changed the trajectory of the Greek nation over the past decade.

2. GREECE IN 2021

Greece is confident and each stride is taken towards peace, progress *and* prosperity. It has taken astute leadership, clear communication, an acceptance of science and decision making based on facts, to see Greece through the latest challenge presented by the Covid-19 pandemic. This is why from a total of over 635,000 cases, over 608,000 have recovered. We mourn the deaths of the 14, 794 Hellenes and I extend to each of the families affected my deep condolences on their loss.

¹ <https://primeminister.gr/en/2020/09/25/24880>

Politically Greece has also found its equilibrium. There is a recognition that extreme politics cannot work. It divides society and drives away business investment. So Greek politics is now run from the centre.

Geopolitically, Greece is becoming a stabilising force in the region. While old allies turn to traditional adversaries, Greece walks with intent towards friends who are determined to build a better world.

Within the framework of its strategic commitment to the EU and NATO, Greece has promoted Euro-Atlantic institutions in the Western Balkans and strengthened regional cooperation in the Eastern Mediterranean.²

The government has also announced a major weapons programme aimed at modernising Greece's armed forces with the acquisition of fighter planes, frigates, helicopters and missile systems. New economic alliances are attracting much valued global investment from Israel, the United Arab Emirates and Saudi Arabia who are making much-needed investment in infrastructure.

3. GREECE IS RESHAPING ITS ECONOMY FOR THE 21ST CENTURY

It wants to become an extroverted, competitive, green and digital economy³. And the economic trajectory builds confidence in its ability to transform. The economy grew 16.2% in the second quarter of this year with a growth forecast upward to 5.9% for 2021⁴.

The priorities are clear. To achieve its ambitions, Greece has narrowed its focus and is intent on enhancing growth, productivity, job creation and economic and social resilience by mobilising significant resources from the private sector, with the aim of increasing private investment, in order to achieve significant multiplier effects.

3.1. NO ECONOMY CAN BE ALL THINGS TO ALL PEOPLE

This is why Greece is playing to its strengths in three sectors:

1. smart infrastructure
2. renewable energy and the
3. digital technology

It is developing infrastructure that contributes to European energy security and market integration in Southeastern Europe, while promoting EU decarbonization goals.

² <https://www.atlanticcouncil.org/blogs/new-atlanticist/us-greece-relations-in-the-biden-era-why-the-road-to-rebuilding-the-transatlantic-alliance-runs-through-athens/>

³ <https://primeminister.gr/en/2021/09/24/27529>

⁴ <https://primeminister.gr/en/2021/09/24/27529>

3.2. PUBLIC SECTOR FUNDING IS MEETING PRIVATE-SECTOR MATCHING

The public-private partnerships are enabling the co-investment of essential capital to drive the growth of the new economy. There is increasing interest in foreign direct investment by companies from the Gulf, America and Europe.

Australia's Macquarie Bank recently invested 2.116 billion euros to buy 49% of the Hellenic Electricity Distribution Network Operator. Confidence is seeping into the psyche of Hellenes globally as long-term investment and asset sales far exceed valuations.

3.3. IT IS A TRANSITION THAT COMBINES ECONOMIC EFFICIENCY WITH SOCIAL COHESION AND JUSTICE

There is a long way to go and I am conscious of the tremendous strain and the scars of transformation on those living through the change. My message is clear, we see a future and opportunity in Greece. The intention is to support the acceleration of the economy and to unlock opportunities for Hellenes. A way Greece can do this is by investing in its people inviting the diaspora back to help.

3.4. ENDING THE BRAIN DRAIN

Like Israel, Ireland and India, Greece is re-engaging with its diaspora and welcoming the scientists, engineers and technologists who once sought opportunity in global ecosystems because it is building an economy that can now offer world-class education and well-paid jobs.

Graduates from the University of Athens, the University of Thessaloniki and the American University have opportunities to stay in Greece and apply their talent and launch their businesses with access to a market of over 400 million people in the EU.

Technology giants such as Microsoft, Google and Tesla have announced projects in Greece because they can now access highly skilled talent in computer science and information technology, engineering, biotechnology, and pharmaceuticals.

3.5. GOVERNMENT DIGITAL TRANSFORMATION

Greece is also addressing the challenge of navigating the complexity of the Greek government bureaucracy. The extraordinarily long time it takes to get permits and government approvals frustrate business and put a brake on investment. While progress in digitizing the state is being made, much more work needs to be done.

Greece needs to accelerate its efforts to roll out the red carpet, not the red tape. It is a problem that has now been overcome in a number of governments globally by investment in the digital transformation of government.

Examples exist in the [United Kingdom](#), [Canada](#) and [Estonia](#) and most recently in Ukraine. The digital transformation of government services has a number of important benefits.

It **upskills government workers, increasing** the talent pool in the wider population with the skills required.

It **reduces the cost of government service delivery** freeing much-needed funds for investment in other critical areas.

Most importantly, **the satisfaction of users increases** (if the systems are well designed) and the data gathered becomes valuable in the evaluation and design of new policies and strategies.

3.6. INNOVATION ECOSYSTEM

The recipe for creating a thriving innovation ecosystem is well tested and is applied in Greece. It draws on the example of Israel. Faced with few natural resources and the need to balance its budget, the Israeli government turned to innovation to rebuild its economy.

Capturing the lessons of success, in their seminar book Startup-Nation, Dan Senor, Saul Singer bottled the formula for success. There are elements unique to Israel such as compulsory military service, the relationships this fosters and the mass immigration of a million members of the Jewish diaspora from Russia in the 1990s with the skills and capital and a supportive global diaspora.

So too the establishment of the Office of the Chief Scientist in Israel later the [Israel Innovation Authority](#) with an investment budget for experimental startups and the establishment of an Intel Fab bringing their global research and development capability and product development expertise. So successful has the transformation been, that Israel has now shifted its positioning and speaks of itself in terms of the Scale-Up Nation.

It also draws on the experience of Ireland. After the Global Financial Crisis, **Ireland** found itself on the wrong side of the ledger. Its response was determined and swift. Ireland iterated on the Israeli playbook.

Ireland won the right to have an Intel Fab constructed in the country, it attracted the global research and development hubs of Google and Accenture with low tax rates and the pull of a young and highly educated talent pool. The employers then worked with universities to refine the curriculum to ensure a pipeline of talent in areas of greatest need.

The [Enterprise Ireland](#) model was created and now invests 10% or up to 2million dollars into Irish ventures and actively engages with the global diaspora to open doors and introductions. The role of the diaspora is critical for the introduction of Irish startups to capital and customers. The Irish miracle is a shining example of what is possible in Greece. Ireland is now the 3rd wealthiest country by GDP in the world⁵. It has imported an additional 500,000 workers to cope with its booming technology sector and its digital technology companies are solving problems for global markets.

⁵ <https://worldpopulationreview.com/country-rankings/richest-countries-in-the-world>

So, what are the elements of the innovation economy playbook?

- They have bi-partisan support for industry and innovation policies and they take a long-term focus.
- Their public servants develop the skill and experience they need to execute agreed outcomes at speed - in-house and reducing their reliance on outsourcing.
- These economies create and support a thriving innovation ecosystem.
- They invest in their people and have built a strong pipeline of talent in areas of current and future need.
- Their established companies - whether large or small are getting on with their digital transformation.
- They attract global R&D hubs and manufacture in country.
- Their Public Private Partnerships model comes from the top of government, and they are direction setting.
- They also commercialise their IP.
- They engage with their diaspora.

And Greece is drawing on these elements to build its own playbook.

3.7. THE THESSALONIKI INNOVATION HUB

This was established to develop a Digital Innovation Agrofood Hub in an area of 60.000 m² in Thermi, Thessaloniki.

It is also developing a 4th generation International Technology Park **Thess-INTEC** and an innovation hub to support young entrepreneurship in the new facilities of AIZ in the historic centre of Thessaloniki.

It includes the management of the young entrepreneurship pre-incubator **Ok!Thess** and is building international collaborations, such as the one with Pfizer in order to attract foreign direct investment.

Thessaloniki is going to the world with a message that it is an innovation-friendly destination to unlock the power of Hellene creativity and entrepreneurship and to combine this with the legendary Greek hospitality and welcome.

And it is ensuring that the benefit is shared by all Hellenes.

3.8. THE HELLENIC INITIATIVE ANNUAL VENTURE FAIR

To broaden opportunities for all Hellenes, an [Annual Venture Fair](#) was established in 2015. This is one of the major efforts by The Hellenic Initiative to bring investment to Greece. The Venture Fair is a unique event in Greece, where discussion about investment **is transformed into an opportunity to Invest in Greece**. And the focus on equipping **all young people with the skills they need to thrive**.

The Coca-Cola Foundation has announced a donation of \$50,000 to the “**Venture Garden**”. This is a comprehensive educational and training program that helps emerging entrepreneurs **of all ages and backgrounds** to develop their skills, gain access to a continuously growing entrepreneurial network and receive hands-on training. The Program addresses two important needs in terms of entrepreneurial support in Greece. Training to translate an idea into a viable business plan **and** comprehensive mentorship to implement the plan and build a revenue-generating business. The Hellenic Initiative places

the focus of Hellenes globally on celebrating the emergence of a New Greece, a powerful, optimistic force in the Mediterranean.

4. LOOKING TO 2040: WHAT ARE THE TRENDS AND CHALLENGES FACING GREECE?

4.1. ESG

ESG factors are now the critical drivers for sustainable business on the planet, as they should have been all along. The UN's [Sustainable Development Goals](#) and the move to net zero emissions is finally gaining pace.

4.2. CLIMATE CHANGE

The global community's ability to halt the warming of the planet and reverse its impact on humanity is of primary importance. Irrespective of whether I am in Darwin, Athens or New York City, the impact of global warming is at my door.

There is no longer an appetite for catastrophic droughts, catastrophic floods, plagues or catastrophic fires. And so this year and I will join the [B Team](#) at COP26 and support their call for:

- A just recovery
- Aligning our ambition with the science
- Sustainable financing for the transition
- Aligning our incentives
- Diversify the range of experiences from which we draw our ideas

Greece has also actively turned its attention to responding to the challenge of the climate challenge. As you know, global warming has impacted the Mediterranean acutely⁶. It is not a theoretical construct for Hellenes. It is a lived reality. Greece has put in place a very ambitious plan to decarbonize very quickly, and Europe is at the forefront of this effort.

Greece intends to shut down the coal-fired electricity plants by 2028, although it looks like being completed by 2025. It will be adding renewables and in the interim, will depend on natural gas. As a nation of islands, Greece has developed some of the best water infrastructure in the EU.

The same cannot be said for other elements of its infrastructure and much work needs to be done to upgrade this.

⁶ <https://primeminister.gr/en/2021/09/23/27509>

4.3. INVESTING IN ECOLOGICAL INFRASTRUCTURE

Sadly, the recent catastrophic fires tested the country's fire-fighting infrastructure and the destruction was horrific. One challenge is to build resilience and reforest the nation and return bees destroyed by the fires to improve the rate of pollination.

The Hellenic Initiative Bees and Trees program is raising funds to solve this problem. As Greece transitions its economy, it is critical that there be opportunities for more Hellenes. While resilience is in the DNA of Hellenes, efforts to blunt the impact is welcome.

While Hellenes have overcome adversity throughout our 2500 year history, it is critical that at this juncture we aim to leave no Hellene behind. So as Greece transforms, it needs to be mindful of the need:

- To identify and retain the global leading talent in Greece
- To deliver a just transition for the workers who need to reskill and be redeployed
- To embrace and retain older workers so that we can leverage their experience and expertise
- To continue to invest in our young people and benchmark our performance against the best in the world
- To welcome members of the diaspora who want to return and drive success back to Greece
- And to attract immigrants who want to contribute to a thriving economy as Ireland has done.

4.4. CIRCULATE ECONOMY

It is also to Greece's advantage to embrace the benefits of a circular economy. To better manage limited resources, control the cost of production, innovate for better outcomes and grow sovereign capability.

4.5. SECURING GLOBAL SUPPLY CHAINS

Greece must also ensure that it addresses the issue of supply chains. These are complicated by geopolitical considerations and now countries like Greece are necessarily turning their minds to building sovereign capability in the event of supply chain disruption. One way to do so is to invest in advanced manufacturing.

With the uptick in automation, augmentation and addition of new technologies, it becomes cost-competitive to bring production back to higher-cost locations.

Advanced manufacturing has arrived. Take Lucid Motors which I chair. They are manufacturing in the United States, as is Tesla, with operations in California, which is not widely regarded as a low-cost destination.

4.6. DRIVING INNOVATION

I spoke earlier of the Thessaloniki Innovation Hub. It is critical that we leverage the investment that is being made and that we expand the private sector investment. Advanced manufacturing and innovation for this century needs to draw on community and creativity scaled for global markets. Thessaloniki itself can do this now that digital technology has arrived.

As we move to 2040, when we speak of innovation it must mean more than places. When we speak of innovation, we mean:

- the kind that takes research and commercialises it and launches a company that scales globally, solving a problem for the world. When we speak of innovation, we must mean corporate innovation that is needed to keep global companies competitive, that extends their shelf life and keeps thousands of workers employed. In global markets, for example, that includes AO Smith in the United States, that saw the introduction of water technology increase revenue by 100% and deliver compound annual growth of 25% since 2009. It also includes Neste in Finland, which experienced a 70% growth in revenue from the introduction of renewable fuels, with company annual growth since 2010 of 24%.
- the digital transformation of government services makes it better, faster and simpler to serve citizens.
- attracting and encouraging entrepreneurs who solve problems or create opportunities on digital platforms. Platforms that can scale fast and serve global markets.
- insisting that the global multinationals operating in Greece send their advanced manufacturing, R&D and innovation teams, not just their sales team. We need to be top of mind in their corporate headquarters. It is critical we attract the advanced manufacturing, the research and development, the production facilities that are needed to then develop the next generation products, giving us a competitive and comparative advantage.

This is because:

- if Greece owns production, we own research and development
- If Greece owns research and development, we own the products
- This then becomes the Hellene's competitive advantage
- Manufacturing then becomes a capability and modern manufacturing becomes an ecosystem.

The ecosystem of manufacturing is from research to prototyping to production and scaling and selling and designing the prototype for the next product.

4.7. INCREASING ECONOMIC COMPLEXITY

Greece must aim to add more complex products to our export basket. According to the [Atlas of Economic Complexity](#) produced by Harvard University, Greece has added 11 new products since 2004 and these products contributed \$43 in income per capita in 2019. Greece must diversify into more products that contribute to substantial income growth. While its performance is ahead of Australia it is behind that of Canada, Ireland and Singapore.

I truly believe that Greece's best days are ahead of it.

5. FINALLY

While the Hellenes have come a long way in the past decade, there is a long way to go. If the game is 9 innings, Greece has completed the first innings. What is most important now is to *step up the pace* of change and to hold firm to the direction set.

Greece cannot deviate from its ambition to rebuild the infrastructure that supports a thriving economy and where once it once created ships for maritime channels, today it builds businesses that manoeuvre global digital channels.

We all know *the beginning is half of every work*. What Greece needs now more than ever in its history, is the will and the stamina to stay the course *without* distraction.

What is clear to me is that Greece has the leadership, the talent and the focus to succeed.