DEFENCE INDUSTRIAL STRATEGY

OFFICE OF THE SECRETARY OF STATE FOR DEFENCE
General Directorate for Armament and Materiel
Defence Industrial Strategy

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GENERAL DIRECTORATE FOR ARMAMENT AND MATERIEL

Under Directorate for Inspection, Regulation and Defence Industrial Strategy

MINISTERIO DE DEFENSA
In December 2013, on the eve of the European Council meeting devoted almost exclusively to the European defence industry, we initiated a process of reflection and analysis with a view to designing a strategy for our industry’s future that has now reached an important milestone with the publication of this document outlining our «Defence Industrial Strategy».

The importance of the defence industry, measured in economic terms, is very significant, but it would be neither accurate nor sufficient to consider this factor alone. The defence industry’s contribution to the development and growth of a country is much more than revenue or employment figures; it is a key element of national sovereignty and security, and therefore vital for ensuring the well-being of citizens. Today the national defence industry is in the process of adapting to a situation marked by the challenges of globalization and the actions that the European Union is taking to establish a strong Common Security and Defence Policy.

In light of these circumstances, during this legislature the Ministry of Defence has implemented a variety of wide-reaching measures designed to boost the industry while also laying the solid foundations necessary for entering a new investment cycle that is more coherent from an operational, economic, industrial and technological perspective.

One of the principal measures adopted by the Administration was the recent approval by the Council of Ministers of an agreement defining the industrial capabilities and knowledge areas that affect the nation’s essential security and defence interests. This document establishes the guidelines that will govern the Ministry of Defence’s technological and industrial policies, and also provides orientation for companies as they design their strategies for the future.

When launching new programmes to promote a more realistic, consistent industrial policy, certain key elements must be taken into consideration: existing key industrial capabilities, their potential to increase technological capabilities and improve competitiveness, the need for a more intelligent management of industrial knowledge, the importance of promoting closer and fuller cooperation among institutions and coordinated support in foreign markets, and the need to use the best financing instruments. All are decisive factors that have determined the structure and underpinnings of this strategy.
This «Defence Industrial Strategy»—the first that Spain has approved and released to the public—sets out our goals and objectives for the defence industry and proposes a series of actions to be taken under the supervision of the Ministry of Defence, as well as a number of ideas which we hope will be useful to the entire industrial base with a stake in Spanish defence policy.

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Spain’s defence industrial policy with regard to armament and materiel is designed to protect our national interests in strategic technological fields and ensure that the needs of the Armed Forces are met as efficiently as possible, both now and in the future. The Armed Forces currently have state-of-the-art materiel thanks to the collective investment efforts made by the Spanish society between 1990 and 2012.

Due to their highly technological nature, defence systems must constantly be updated and modernized to remain effective in the increasingly unpredictable and changing operational scenarios of today’s world.

The Spanish industry sector that participated in the main armament programmes of the last two decades acquired a high level of technological capability, productivity and competitiveness and a strong position in international markets which, despite the many difficulties we now face, must continue to receive Government backing.

The existence of a Defence Technological and Industrial Base (DTIB) is, given its ability to create both jobs and wealth, a determining factor not only for the operational capacity of any army but also for the welfare of society as a whole.

The DTIB contributes decisively to increasing the country’s technological and innovative capabilities, and as such its scope encompasses far more than merely supplying our Armed Forces.

The innovative nature of the defence industry, dictated by the military’s high standards, facilitates countless practical applications in civilian life and is also the key to improving the competitiveness that will ensure its own sustainability.

In Spain, according to the National Armament Directorate (DGAM - Dirección General de Armamento y Material) Companies Register, there are over 600 registered companies that work or would like to work in the defence industry. The vast majority (80%) are small and medium-sized enterprises (SMEs), and 56% of these have fewer than 50 employees.

Identifying, promoting and fostering the growth of the national DTIB and its technological and industrial capabilities are among the
fundamental aims of the Ministry of Defence’s industrial policy.

The concern and interest of European authorities in this sector was also made perfectly clear at the European Council meeting in December 2013, where participants identified priority actions related to enhancing the development of capabilities and strengthening Europe’s defence industry, among others.

For its part, in the Agenda published in July 2014, the Spanish Administration proposed a series of specific lines of action and measures to strengthen the whole of Spain’s industrial base. These include initiating a new cycle of investment in military R&D adapted to Key Industrial Capabilities (KICs) as a contribution of the Ministry of Defence.

Thus, in accordance with Law 24/2011 of 1 August on Public Procurement Contracts in the Defence and Security Sectors, the Council of Ministers ratified an agreement on 29 May 2015, identifying the industrial capabilities and knowledge areas deemed of key importance as they affect essential national security and defence interests.

Fully coordinated with the industrial strategy of the Administration and the European Union, the defence industrial policy has been designed to meet the Department’s specific needs, with a special emphasis on acquiring or enhancing, as applicable, the KICs identified.

At the same time, in the context of a strategic alliance with the defence industrial sector, industry itself must also be geared towards acquiring or enhancing said capabilities.

If the defence industrial policy is properly formulated and implemented, Spain’s entire industrial base will be more productive, competitive and technologically advanced.

Therefore, the purpose of this Defence Industrial Strategy is to establish, with regard to armament and materiel, the lines of action and instruments needed to develop and strengthen the DTIB and to acquire or enhance those industrial capabilities deemed to be of key importance.

To this end, the industrial strategy presented here calls for a series of initiatives which, bearing in mind the existing capabilities of the national technological and industrial base at this time, the technologies currently available and their stage of development and, of course, their financial viability, will facilitate the supply and sustainment of the resources our Armed Forces require or will require at some point in the next ten years.

The formulation of the 2015 Defence Industrial Strategy is therefore focused on actions designed to enhance the industry’s competitiveness and sustainability while also increasing the efficacy and efficiency of procurement processes and the organizational structure through which they are channelled.
1. Introduction

In order to exercise its national sovereignty, every country must devise and implement a defence policy that is consistent with the interests of the State, aligned with all other national policies, and capable of ensuring an appropriate, viable, realistic response to the threats and risks that the nation faces. In this context, the purpose of the armament and materiel policy is to equip the Armed Forces with the material resources necessary to carry out their assigned missions. These resources must be supplied by an efficient, competitive DTIB whose operations are aligned with the country’s essential defence and security interests.

The consequent proposal of strategic actions affecting the defence industry must be aligned with the recommendations and initiatives laid out in various master plans and projects implemented by government institutions in recent years:

- The 2012 National Defence Directive states that promoting the domestic defence industry as preferred supplier of the needs of our Armed Forces is essential to the defence of Spain.

- The 2013 National Security Strategy goes one step further, recommending strategic actions that include strengthening the Spanish defence industrial base and enhancing ties between the actors that make up the system’s optimum architecture (Ministry of Defence - Industry - Technology Centres and Universities).

- The defence industry is also targeted by some of the measures the Administration has designed to strengthen the whole of Spain’s industrial base, as reflected in the Agenda enacted for this purpose in July 2014.

- In 2013 the Ministry of Defence and the Ministry of Industry, Energy and Tourism created a working forum to analyse the situation, prospects and possibilities of the defence industry. Representatives of other ministries, companies representatives and industry specialists participated in the forum.

- The various working groups and tables at the December 2013 symposium on «The Spanish Defence Industry: Forward Strategy» identified several work strands: build technological capabilities in the industry, increase its competitiveness and productivity, establish financing and contracting formulas and, above all, define KICs, based on national requirements and European opportunities, to guide a new industrial cycle.

These initiatives constitute the framework of the different measures that the Ministry of
Defence has taken in recent years with regard to defence technological and industrial policy, targeting areas such as:

- **organization**, i.e. the restructuring of the DGAM as the sole interlocutor for the Armament and Materiel programmes industry, the integration of defence technology centres into the (INTA - Instituto Nacional de Técnica Aeroespacial), and the enhancement of the Foreign Support Office (OFICAEX - Oficina de Apoyo Exterior);

- **regulation**, setting rules for Government-to-Government (G2G) contracting and drafting a Code of Conduct (CoC) for contractors and subcontractors;

- **programmes**, striving to ensure the financial viability of projects already underway and prepare for a new investment cycle;

- **strategy**, identifying the industrial capabilities and knowledge areas that affect essential defence and security interests, as the primary benchmark that must guide the efforts of both companies and Government offices with regard to the industrial component of defence.

The latter action, approved by the Council of Ministers on 29 May 2015 and published in Resolution 420/381/2015 of 30 July, guides the initiatives that the Ministry of Defence is currently pursuing for the industry, such as identifying the assets and capabilities of the main defence suppliers, strengthening and improving the industrial knowledge management system, and conducting a strategic revision of industrial cooperation agreements and the technology transfer control plan.

For the Ministry of Defence, the 2015 Defence Industrial Strategy is a reaffirmation of the importance of the national technological and industrial base and of its commitment to that supply base, confident in the belief that strategically planning its efforts in this area will give a decisive boost to that base as the preferred supplier of our Armed Forces.

**Essential Defence and Security Interests**

Security is essential to the development and progress of any free society. Therefore, the first obligation of any administration is to safeguard national security as the guarantor of its citizens’ well-being, of constitutional values and of the stability of the State itself.

The 2013 National Security Strategy establishes that Spain’s national security and vital and strategic interests should be orientated towards achieving stability, peace, and international security in a globalized, highly competitive world.

In keeping with the above, and for descriptive purposes, the concept of essential defence and security interests is defined as those interests directly linked to the development of strategic lines of action and the fulfilment of the objectives set out in the National Security Strategy (outstandingly among them, the national defence).

From the Ministry of Defence’s perspective, protecting essential defence and security interests requires certain military capabilities that make it possible to carry out assigned missions and maintain a credible deterrence level, and to this end it must guarantee access to and free use of industrial capabilities that are vital to developing the former (military) ones. In order for these military capabilities to be truly effective and deterrent, we must abide by the principles of the
virtuous circle of *Essential Defence and Security Interests*, which are described below.

The first is the protection of *national sovereignty* which, from an industrial and technological perspective, depends on our ability to guarantee access to and free use of KICs for developing the military capabilities essential to our Armed Forces. This in turn translates into two fundamental concepts: *operational advantage*, based on the idea that the products and services supplied by our industry must be of a quality that situates our Armed Forces in a position of superiority with regard to the threats they must combat; and *freedom of action*, which is guaranteed when national industry is technologically and industrially capable of rapidly, freely and flexibly modifying, upgrading and maintaining the products and services it uses.

Moreover, in order to implement these guiding principles effectively in the field of technology and industry, we must adhere to a number of secondary principles, such as *security of supply* and the possession of *technologically advanced systems*, which help to achieve a DTIB aligned with the defence industrial policy.

### KICs and Knowledge Areas

Article 7.1.b) of Law 24/2011 of 1 August on public-sector procurement in the areas of defence and security stipulates that exemptions will be made for contracts which, if governed by said law, would entail the disclosure of information contrary to essential security interests or, in accordance with Article 346 of the Treaty on the Functioning of the European Union, might undermine essential national security or defence interests.

In this respect, the ninth additional provision of Law 24/2011 establishes that the Administration will determine the industrial capabilities and knowledge areas that affect essential national security and defence interests.

Protecting these essential interests requires military capabilities supported by the technological and industrial base of suppliers. For this reason, key areas must be identified with a view to protecting technological, industrial or economic interests deemed vital to the sector’s sustainability.

In fulfilment of the above-mentioned clause, but with an even more ambitious scope, the Ministry of Defence initiated a process of reflection with the aim of identifying KICs in the defence sector. When defining key capabilities, due consideration was given not only to defence and security criteria in compliance with the mandate of the aforementioned law, but also to technological, industrial and economic concerns, thereby encompassing the entire system of the national defence industry and its activities.

As a result of this process, on 29 May 2015 the Council of Ministers adopted an agreement (published in the Official State Gazette or BOE
by Resolution 420/38100/2015 on 30 July 2015) approving the following technology and knowledge areas:

- a) Command and control, communications, computers and information (C4i)
- b) Cyber defence
- c) Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR)
- d) Traffic control and navigation aids
- e) Platform on-board Critical systems
- f) Space, data processing and mission systems
- g) Equipment and weapons systems simulators for advanced training
- h) Navigation, guidance control and payload systems for missiles and complex munitions
- i) Complex systems incorporating other advanced weapon systems whose integration requirements are linked to essential defence and security interests

It is important to note that the integration, maintenance, supply and engineering activities needed to keep weapons systems operational throughout their entire life cycle, as and when required, especially in the technology and knowledge areas listed above, are also considered key.

Based on these areas, and following the criteria set out in the Agreement of 29 May and the conclusions of the DGAM analysis, we were able to define a number of KICs for defence.

The identification of these capabilities provides a frame of reference for the national priorities we need to defend within the new Common Security and Defence Policy of the European Union, as well as a set of criteria for guaranteeing and prioritizing competitiveness and innovation in the defence industry.

Enhancing these industrial capabilities and knowledge areas is a priority of the Defence Industrial Policy, framed within the Armament and Materiel Policy, and as such has been one of the basic guidelines for formulating the Defence Industrial Strategy.

The Role of the National Defence Industry

The defence industry is the pillar of the Spanish technological and industrial base in a broad sense, as the activities it pursues have a high degree of technological sophistication and added value, and beyond its defining statistics or figures, it is vital to maintaining our KICs and avoiding reliance on offshore suppliers.

Primarily due to excessive reliance on an insufficient, unstable domestic market with very unique characteristics, the Spanish defence industry currently has several weak points that must be addressed by making the following improvements:

- Increase critical mass to remedy the industry’s excessive fragmentation in comparison to the size of its international competitors
- Consolidate investments in R&D&I (research, development and innovation)
- Diversify customers and business activities
- Improve competitiveness in foreign markets
Minimize reliance on external technology for key products/capabilities

Provide additional support for system life cycles

Meanwhile, on the international stage sweeping changes are affecting practically every aspect of defence policy, owing to shifting geopolitical realities, increasingly diversified threats, the consolidation processes of the European Security and Defence Policy (ESDP), slower economic growth and budget restrictions, among other causes.

Therefore, Spanish companies operating in the defence industry must consolidate their efforts and form a strong, capable industrial base to overcome the following challenges:

Maintain operations in a context of economic constraints

Develop increasingly complex technological systems that require a high level of investment

Adapt to a more competitive market and a more restrictive environment

Respond with agility and speed to the shifting, diverse nature of new threats

Knowing the strengths of the defence industry as well as areas needing improvement facilitates the intelligent management of industrial knowledge and its associated technological base. This intelligent management gives us an undeniable competitive edge and is a decisive tool for the Defence Industrial Policy.

The Defence Industrial Strategy must therefore serve to strengthen the defence industry as both a key economic player and a key supplier of the military capabilities that give our Armed Forces an operational advantage and freedom of action.
In the arena of defence industrial policy, the Ministry of Defence has been charged with the mission of promoting a capable, efficient, sustainable DTIB focused on those industrial capabilities deemed to be of key importance for national security and defence interests.

In fulfilment of this mission, the 2015 Defence Industrial Strategy aims to achieve three major objectives:

1. Equip the Armed Forces with the best possible systems they require.

2. Enhance KICs.

3. Consolidate the Spanish DTIB.

These three objectives will make it possible to realize the vision which the Ministry has established as its ultimate goal: an economically sustainable, internationally competitive, technologically advanced, independent industry associated with national defence as one of the many resources of our Armed Forces, committed to guaranteeing the security and defence of our citizens and constitutional values.

To this end, we must define a series of strategic pillars and lines of action to guide us in taking the appropriate steps to achieve the desired scenario.

In the 2015 Defence Industrial Strategy, the three strategic objectives have served to come up with a cross-cutting scheme of seven strategic pillars.

These will allow us to configure a DTIB that adheres to the principles of strategic alignment, efficiency, international competitiveness and the concentration of industrial and institutional capabilities.

Each of these seven strategic pillars is in turn broken down into a set of lines of action that express the strategic purpose of each pillar as a series of more concrete goals and define the actions that the Ministry of Defence has committed to undertake.

The first four pillars described in this strategy target government institutions and focus on giving the industry stability and aligning corporate and defence objectives.

The actions grouped in the last three pillars fall more within the sphere of corporate responsibility. Even so, the Ministry of Defence will do everything within its power to encourage and facilitate the strategy’s implementation, striving to make companies more competitive as a means of achieving more autonomy from the domestic demand and as a vital prerequisite for accessing other markets.
Strategic Objectives and Pillars

The 2015 Defence Industrial Strategy seeks to promote the DTIB in order to guarantee the supply of material resources that the Spanish Armed Forces require or will require in the medium and long term.

The Defence Industrial Strategy responds to the challenges that have been identified and targets the three major objectives mentioned above:

1. Equip the Armed Forces with the best possible systems they require: The DTIB is responsible for supplying the Armed Forces with all necessary material, technical and technological resources, and as such it must considered a capability at the service of national defence and linked to the purposes and objectives of the defence policy.

2. Enhance KICs: The process of planning financial and material resources for the Ministry of Defence must advance to a point where criteria of interest or technical, financial and industrial viability act as effective strategic filters in the procurement process.

3. Consolidate the Spanish DTIB The national DTIB must be strengthened to face a number of major challenges: the new and complex threats of today as well as the traditional threats that still exist; the high degree of technological sophistication needed to combat these threats; and the new defence industry model, which has gone from the single-customer paradigm to a highly competitive global market.

The seven strategic pillars defined in this strategy are cross-cutting contributions to achieving the three objectives described above, and will facilitate the consolidation of a national DTIB capable of facing the most important challenges that lie ahead.

Pillars A and B address the challenges related to economic sustainability, the financial crisis and the limited availability of resources.

A. Budgetary Stability and Viability: The defence-associated industry model we propose must be viable and sustainable. It is therefore important to have a stable, predictable budgetary scenario so that corporate investments can be planned efficiently.

B. Targeted Investment in KICs: Armament and materiel programmes that target key industrial capabilities are the most powerful tools for bringing the supply base in line with essential defence and security interests.

Pillars C and D focus on the strategic alliance between Government and industry, which requires knowledge-sharing and coordination among all stakeholders.

C. Intelligent Management of Industrial Knowledge: Industrial knowledge or «competitive intelligence» must be used by the Ministry of Defence to safeguard its industrial interests in the national and international spheres.

D. Institutional Communication and Cooperation: Improving communication among stakeholders, Government, industry and the Armed Forces is essential to ensuring an appropriate level of co-responsibility in the defence of mutual interests.
Pillars E and F are related to the higher standards of the Armed Forces, technological independence and improvement, flexibility, etc.

**E. Quality, Competitiveness and Sustainability:** The Ministry of Defence must support companies in their efforts to become more competitive and improve the quality of their products with incentives that reward efficient, sustainable practices, foster an environment with more active corporate participation, and promote high-value activities.

**F. Innovation and Technological Capability-Building:** In today’s highly competitive defence market, innovation is the key to success, bearing in mind the high-tech nature of defence products.

Pillar G addresses the challenges of international competition and competitiveness and the need to diversify customer portfolios.

**G. International Cooperation and Foreign Support:** The defence-associated industry model that the Department aspires to implement, in addition to supplying the most critical systems and services required by our Armed Forces, must be results-oriented and competitive enough to be sustainable in the long term and operate successfully in other foreign markets.
Goals and Indicators

The ambition of the defence industrial strategy is to place the Spanish technological and industrial base on a par with that of our most important European neighbours.

To this end, we have established the following performance indicators and goals to be achieved by 2025, which will be evaluated each year by the DGAM to gauge the efficacy of the implemented strategy.

1. DEFENCE SPENDING
   
   Increase the real spending of the Ministry of Defence to 0.2% of GDP.

2. DTIB REVENUE
   
   Increase total industry revenue to 1% of GDP in direct sales of defence equipment.

   Increase revenue associated with KICs as a part of total DTIB revenue by 10 percentage points, with respect to the average of the last five years.

3. DTIB EXPORTS
   
   Increase the relative weight of Spain’s defence exports, until they account for 15% of all European Union defence exports.

   Increase the number of exporting defence companies to account for at least 30% of all firms included in the DGAM Companies Register.

4. DEFENCE R&D INVESTMENT
   
   Increase DTIB investment in R&D as a percentage of its total defence revenue by 8 points.

5. NATIONAL CONTENT
   
   Increase national added value to account for 75% of defence companies’ total revenue.

   Raise proportion of Spanish companies participating in armament and materiel programmes to 70%, and in KICs-related programmes to 60%.

6. SME INVOLVEMENT
   
   Raise proportion of SMEs participating in national defence programmes to 30% (in terms of revenue and number of companies).

7. SKILLED JOBS
   
   Increase proportion of skilled workers (employees with degrees) to total HR in KICs by 6 percentage points.

8. PRODUCTIVITY
   
   Increase the industry’s average productivity per worker by 30%, benchmarked to added value, with a special focus on the performance of prime contractors and SMEs.

9. FRAGMENTATION AND CRITICAL MASS
   
   By 2025, turn 30% of existing micro-enterprises in the defence sector into SMEs and 15% of small enterprises into medium-sized enterprises through growth or mergers.
PILLAR A: Budgetary Stability and Viability

In an increasingly globalized economy, the defence industry needs a strategic focus with long-term vision as well as an adequate and stable investment plan to guarantee, on the one hand, the freedom of action and operational advantage of our Armed Forces, and, on the other, an environment more conducive to the growth and consolidation of companies operating in this sector.

In line with the Administration’s strategy of promoting the industrial sector as a protagonist of a new, more sustainable growth model and one of the pillars of economic recovery, the Ministry of Defence remains committed to seeing that investments benefit Spain’s technological and industrial base, a vital source of wealth, innovation and skilled jobs.

A capable, efficient, sustainable industrial base linked to national defence interests requires a steady financial commitment in the short, medium and long term.

The renewal of this commitment is essential in order for our country’s industry to play a decisive role in the process of updating, upgrading and/or modernizing the state-of-the-art material supplied to our Army, Air Force and Navy thanks to defence spending over the last two decades.

The acquisition of these systems has generated industrial and technological wealth in our country, giving Spanish defence industry companies an edge in what is now a fiercely competitive market.

The need to maintain investment on a level that guarantees the suitability of the equipment used by our Armed Forces in their theatres of operations naturally accounts for a substantial portion of the Department’s budget. Consequently, efforts must focus not only on maintaining spending levels but also on meticulously analysing our systems’ whole-life costs in order to obtain even more accurate estimates.

The Ministry of Defence must support initiatives that facilitate this sustainment and adjustment of its allocated budget, always within the context of the larger national economy, so that, considering the specific nature of the investments involved, it can devise financing instruments that will lend stability to technological development, procurement and sustainment programmes.

We must remember that the stability of defence investments is also important for Spain’s reputation as a country that honours its payment obligations, both at home and abroad.

This means that we need to develop budgetary stabilization initiatives, seek additional forms of financing and devise solid procurement strategies, in the broadest possible framework of consensus.
At the same time, we should not hesitate to seek or intensify the use of alternative sources of funding to complement traditional ones. The use of alternative financing methods is not new, but what is new is the emphasis on taking the necessary measures to guarantee planning, sustainability and stability within the timeframe of those financing options.

Notable examples of alternative financing include the commercial exploitation of intellectual property rights owned by the Ministry of Defence as a result of the development of programmes in which it participates, or the profits on exports of systems developed and produced with Department funding.

Finally, it goes without saying that we must continue our efforts to promote cost optimization—always a top priority—in the use of the financial resources allocated to the Ministry of Defence.

To achieve these goals, we have established the following lines of action:

**Line A.1. Maintain an adequate and sustainable spending budget**

Both the Armed Forces and the industry must plan their actions for the long term, so that acquisitions and armament and materiel procurement programmes do not suffer unduly during economic downturns. Investment cycles must be governed by the principles of economic stability, responsibility and public transparency.

We will address this challenge with the dual aim of meeting the needs of our Armed Forces and firmly supporting the consolidation of a defence industry model that will contribute to the recovery of economic growth and job creation.

The objective of the Ministry of Defence is to design a stable, sustainable spending budget, in line with the financial capabilities of the State but protected from the negative effects of extreme economic cycles.

The Government, through scrupulous and transparent economic management, is responsible for ensuring that defence investments are sustainable and, at the same time, serve to stimulate economic recovery, development and innovation.

**Line A.2. Establish financing mechanisms for special programmes**

Procurement programmes are the most likely place for measures that directly affect the defence industry to materialize, and it is therefore essential, bearing in mind the interests of the supply base, that these have a stable, predictable financing framework.

In the past, the lack of stability has led to unsynchronized planning, budget and contracting cycles, matching annual budgets with procurement contracts to be performed over a period of 10 years or more and financing terms of 20+ years.

The Ministry of Defence, in coordination with other Government bodies, will work to establish a legal framework for defence investments so that special procurement programmes have sufficient assurance of future funding.

This legal framework will introduce commitment mechanisms that establish a maximum period for financing terms.

A procedure will also be proposed for regular reports to Parliament on budget implementation, providing full details on all variances that
may arise, their causes and the steps taken to handle them.

**Line A.3. Study the financial viability of systems’ life-cycle costs**

The new systems acquired via special programmes have financial repercussions far beyond the initial cost of purchase, as they are quite costly to operate and sustain, and this puts considerable strain on the Ministry of Defence’s budget.

Therefore, the financial implications of acquired systems over their whole life must be carefully assessed in order to determine the financial viability of each investment.

Although the life-cycle cost estimate processes in place are already quite rigorous, the Ministry of Defence will intensify efforts and improve the quality of cost assessment for programmes at the viability stage, and will formulate exhaustive estimates of each system’s whole-life costs to get a realistic idea of its future operation and sustainment needs.

Thus, by reinforcing the mechanisms used to determine overall financial viability in the long term, the Ministry of Defence will have a useful instrument for making accurate and realistic long-term budget forecasts.

**Line A.4. Use mechanisms to monitor and evaluate financial management**

Effective financial monitoring of programmes is performed to measure, evaluate and, when necessary, correct any deviations that may arise, thereby avoiding exponential cost inflations while also offering greater transparency in the use of allocated financial resources.

This requires close cooperation with the industry, materialized in the form of detailed Work Plans with verifiable milestone deliverables linked to payment milestones.

Additionally, we will promote the application of mechanisms for periodically controlling and checking incurred costs against budgeted costs in order to foresee and correct possible variances.

Consequently, and for the sake of transparency in financial reporting, we will implement control mechanisms such as technical and financial audits of programmes, focusing particularly on technology programmes that entail a considerable investment in innovation.

**Line A.5. Explore new, alternative financing methods and sources**

Although acquisitions must generally be financed by direct credit allocation, the Ministry of Defence will continue to seek funding from the Ministry of Industry, Energy and Tourism or the Ministry of Economy and Competitiveness, as applicable, for activities related to innovation or improving corporate competitiveness.

At the same time, we will prioritize public-private partnerships with industry to share the cost and financial risk associated with developing new systems.

We will also promote the use of mechanisms to obtain returns on the export of systems derived from developments funded by the Ministry of Defence, which can then be reinvested in new innovation programmes.
Finally, we will analyse the viability of other complementary financing methods, such as: joint operation with industry of available infrastructures and facilities; commercialization of existing intangible assets (intellectual property rights derived from R&D and procurement programmes funded by the Ministry of Defence); providing expert or managerial services required by national industry; extra-budgetary funding from organizations such as the EU or NATO; selling the Armed Forces’ surplus equipment, etc.
PILLAR B: Targeted Investment in KICs

Defence planning is a strategic process whose ultimate goal is to ensure that the defence budget and the actions of the Department are geared towards obtaining the military capabilities the Armed Forces need to carry out their assigned missions.

The estimate of the Armed Forces' future military needs, as expressed in the Military Capabilities Objective (OCM - Objetivos de Capacidad Militar), must guide the industry's preparations for the future.

The Ministry of Defence, through the DGAM, has undertaken and completed the task of identifying the capabilities of the national defence-related industry and determining which of those are key capabilities, either because they are directly related to national security and geostrategic factors, or because of their unquestionable economic and industrial value.

industry is not an end in itself; rather, it sets the standard for the type of defence industry that Spain needs in order to guarantee, depending on available resources, its competitive advantage and freedom to decide how to use military capabilities directly related to its security and defence objectives (set out in the National Security Strategy).

Thus, the different policies on material resources developed by the Ministry of Defence must fulfil two purposes: the first and most obvious is to meet the military needs of the Armed Forces; and the second, of particular importance in this area, is to acquire and sustain KICs. Among these policies, some of the most important deal with procurement, R&D&I, industrial cooperation and export support.

In this context, the Ministry of Defence's primarily connection to industry is through armament and materiel programmes, whether for R&D&I, procurement, upgrading or sustainment. The guidelines established by the Depart-

Defence spending is a public investment that generates high added value, skilled jobs and wealth in sectors of strategic interest for the defence and security of citizens

Defining the industrial capabilities of key importance (KICs) from a defence perspective involves much more than a simple technological and industrial analysis of the operations of companies whose products and services are required by the Armed Forces; other factors must also be considered, such as the defence of national sovereignty, common defence commitments, and new threats to citizen well-being and security. Identifying the KICs of the defence industry policies are applied to the conception and design of these programmes.

Armament and materiel programmes are a useful tool for promoting the desired model of the defence industry, one with the industrial capabilities considered key from a defence perspective.

Moreover, the clear definition of all industrial capabilities and those designated as key
capabilities by the Ministry of Defence also helps companies to identify new opportunities (market niches) and develop strategies to ensure their sustainability and competitiveness, addressing any of the various factors that serve to enhance them (costs, processes, product, internal organization, etc.).

This facilitates the desired alignment of companies with defence industrial interests, making them another of the many resources available to national defence, and helps to improve the comparative position in Europe of a sector with considerable economic relevance, a high capacity for innovation, and the ability to create skilled jobs.

**Line B.1. Classify and prioritize industrial capabilities**

KICs in defence are not fixed and immutable; in fact, they are constantly evolving to keep pace with the changing needs of the Armed Forces as they adapt to new threats and assignments.

Therefore, the Ministry of Defence will consistently update, in accordance with the OCM, and periodically publish the official KICs List to be used as a constant reference for the actions of the Department and the industry.

The Ministry of Defence will integrate the KICs definition process into the defence planning cycle, as described in Ministerial Order 37/2005, to ensure that supply (the products and services of the defence industry) is able to keep up with demand (the needs of the Armed Forces).

Moreover, the Ministry of Defence will develop a procedure for identifying KICs, specifying methodologies, organizations involved, timeframes and mechanisms of approval and publication of results. This procedure will serve as a benchmark for subsequent planning cycles, and it will incorporate improvements and lessons learned from experience in a dynamic of continuous improvement.

**Line B.2. Launch programmes to build key capabilities**

Given its size and highly innovative nature, the defence industry is a vital part of the industrial base and a key factor in the process of Spain’s economic recovery.

For this reason, the Ministry of Defence has begun to articulate a new cycle of investment in military R&D&I that is more connected from the outset to enhancing and building up our industry, with an emphasis on KICs.

This new investment cycle will make it possible to launch new Special Armament and Material Programmes (PEAS - Programas Especiales de Armamento y Material) with a stable financial outlook, primarily for meeting the needs of the Armed Forces but also for consolidating a new industrial model to underpin the sustainability and competitiveness of defence-industry companies.

To this end, the Ministry of Defence has already taken the necessary steps for launching technological development projects within two new special armament programmes: the 8x8 vehicle and the F-110 frigate. The goal of these projects will be to reduce the technological risks of the new systems and build the industry’s capabilities so that it can eventually participate in the procurement programmes.
Line B.3. Align technology, procurement and sustainment programmes

The identification of all KICs should serve as the guideline for developing all future armament and materiel policies. While we cannot forget that their ultimate purpose is to meet the needs of the Armed Forces, the KICs must also be a top priority of institutional support policies from which the different technology, procurement and sustainment programmes are derived.

In its efforts to establish a new model of the defence industry, the Ministry of Defence will use the KICs as a means of promoting technology programmes that will help to consolidate a highly innovative, albeit overly fragmented, industrial sector.

These technology programmes will serve the dual purpose of meeting military needs and encouraging and ensuring the involvement of the national DTIB in subsequent procurement programmes.

The latter will in turn provide the systems our Armed Forces require while helping to consolidate the KICs in particular and the industrial supply base in general.

Last but not least, the Ministry of Defence will also use the KICs as a point of reference when launching and prioritizing sustainment programmes (maintenance, upgrading and modernization) for equipment acquired in the previous phases. These programmes ensure that the armament and materiel used by our Army, Air Force and Navy are always operational and available, but they also generate activities with high added value for our industry and an operational advantage for the Armed Forces, such as customizing systems by integrating domestic equipment or other components specifically requested by the customer, thereby improving the international reputation and position of Spain’s DTIB.

Line B.4. Formulate master plans for financial and material resources

Master plans are the documents that culminate the process of planning financial, human and material resources, setting out the policies that the Ministry of Defence adopts in respect of said resources on the basis of the defence policy’s strategic pillars.

Through the DGAM, the Ministry of Defence has begun working to offer a vision of material resource planning by sectors that is harmonized, accessible and transparent to industry, and these efforts have resulted in the publication of the Helicopter and RPAS (Remotely Piloted Aircraft Systems) Master Plans and the development of the Space Systems and Missile Master Plans.

The Department intends to continue in this vein by publishing master plans for armament and materiel systems in other sectors, and these plans will include actions deemed necessary to protect or reinforce the KICs identified for the systems in question.

Line B.5. Prioritize KICs in industrial procurement plans

Procurement programmes involving equipment and systems of a certain magnitude, either because of the amount of investment required or the technical complexity of the target solu-
tion, will have an industrial plan that includes the list of domestic and foreign companies involved in their development, as well as the relationships and responsibilities established among those players.

The participation of companies will be decided based on competitive criteria and according to their capabilities, with a particular emphasis, in the case of domestic companies, on retaining the KICs involved.

When these programmes entail the participation of foreign technology suppliers, the industrial plan will incorporate objectives for industrial cooperation. These objectives will be determined in accordance with the KICs, so that domestic suppliers can acquire capabilities in key areas. Once a key capability has been acquired, we will support the company with R&D&I projects to preserve its competitive advantage in that area.

While the programme is underway, the Ministry of Defence will verify compliance with the established industrial plan and assess the real degree of participation and capabilities acquired by Spanish companies. This analysis will in turn serve as a benchmark for reviewing the KICs in subsequent planning cycles.
PILLAR C: Intelligent Management of Industrial Knowledge

The intelligent management of knowledge about the industry and its associated technological base, its organization, operations, structure, capabilities and dependences, both at home and abroad, is an undeniable competitive advantage for any procurement organization and a decisive industrial interest for national defence and protection.

Accurate knowledge of the defence industry or «competitive intelligence» must be used by the Ministry of Defence to protect its industrial interests in Spain and abroad, defining the best strategies and positions for each moment in a competitive, swiftly changing, global environment.

In order to develop this competitive intelligence capability, the Department must be able to acquire a profound knowledge of both the national industrial base and the global market in which it must operate (business opportunities, products, competitors, risks, threats, etc.), and it must be equipped with the right tools and capabilities for integrating, processing and analysing all of that information.

The Ministry of Defence has numerous and valuable sources of industrial information scattered among its different units and offices, which bring an essential value in the professionals environment of the operational body where they are allocated. Nevertheless, this information must be integrated and analysed from a more comprehensive perspective for the mutual benefit of all stakeholders (industry, Armed Forces and Government).

At the same time, the existence of countless open sources offers an international perspective on the defence industry that cannot be ignored and should be integrated with information supplied by internal and external sources.

In recent years, the Ministry of Defence has developed an Industrial Knowledge Management System (SGCI - Sistema de Gestión del Conocimiento Industrial) which, when fully fledged, should give the Department the sufficient industrial or competitive intelligence capability to integrate and process all of that information and support decision-making in the area of industrial policy and the establishment of more effective industrial strategies.

Once this competitive intelligence capability has been developed, the Ministry of Defence should be able to provide companies in the sector, by whatever channels are established for this purpose, with the knowledge deemed necessary for supporting its operations and defending its interests in key areas and capabilities.
In this respect, the recent definition of KICs for defence has made it possible to identify those capabilities that require special attention from the Ministry, in light of their high strategic value for defending security-related interests and their high economic and industrial value for the nation.

The goal now is to encourage the Spanish technological and industrial base to acquire, develop or enhance those key capabilities and to defend our industrial interests through intelligent knowledge management, and to achieve this we must articulate all of the players and interests at stake.

The first step is to gain a clear understanding of the current industrial reality in terms of KICs and assets.

Also, in order to safeguard the intellectual and industrial property rights of all industrial knowledge and intelligence gathered, we must capitalize on opportunities for cooperation between the Ministry of Defence and the Ministry of Industry, Energy and Tourism to promote the protection of valuable knowledge and ensure its proper use by the Ministry of Defence.

In accordance with all of the above, we have established the following lines of action for this third pillar, the intelligent management of industrial knowledge:

**Line C.1. Identify the assets and capabilities of companies**

Over the last two decades, the Ministry of Defence has invested heavily in modernizing and acquiring new weapons systems, and this has allowed companies to develop a series of assets and capabilities, many of which the Ministry considers key, that require constant supervision and, in some cases, incentives or promotional actions to ensure their maintenance and sustainment.

Therefore, all key capabilities and assets need to be fully identified in order to possess adequate and sufficient knowledge of their nature and scope as well as of their ownership and rights of use and commercialization.

Once it has acquired comprehensive information on key capabilities and assets, the Ministry of Defence will be in a better position to define and implement future actions related to the development of new policies, strategies, plans or programmes with an impact on the DTIB that will translate into effective measures for meeting our main objective: maintaining full freedom of action as a sovereign State.

**Line C.2. Integrate all of the organization’s industrial intelligence**

To supply this high-value knowledge for making decisions that affect the DTIB, we will need to provide industrial analyses that take all available information on the industry into account, including intelligence in possession of the Ministry of Defence as well as that scattered among various open sources, often in unstructured, disorganized form.

We will have to identify all user needs and, on that basis, identify existing sources of information within the Ministry to establish the necessary coordination mechanisms among its various departments and establish processes for mining and collecting data in identified open sources to complete that information.

To acquire the desired level of industrial intelligence, the information to be integrated
must address different aspects of the defence industrial base, such as market, products and technology, acquisitions, competitive position, R&D, processes, laws and regulations, etc.

The integration of industrial knowledge will encompass different procedures to satisfy intelligence needs, depending on whether these are periodic or sporadic.

**Line C.3. Promote industrial prospecting and observatory systems**

The intelligent management of industrial knowledge should provide added value to both the Ministry of Defence and companies in the defence industry, helping them to become more competitive in domestic and international markets.

Therefore, industrial knowledge management should be viewed as one of the Department’s contributions to improving the competitiveness of the national DTIB.

This service must be provided via a system of people, material resources and procedures, one that is capable of performing all necessary intelligence sourcing and analysis activities, verifying and using that intelligence, and facilitating the distribution of products generated by the system that add value to the decision-making process for the defence industrial base.

To this end, we will promote the creation and regulation of an industrial prospecting system, similar to the DGAM’s existing Technological Prospecting and Observation System, which will be responsible for providing that service efficiently and effectively, establishing different profiles and functions.

**Line C.4. Focus the DGAM’s SGCI on intelligence functions**

The implementation of the DGAM’s SGCI has given the Ministry of Defence the verifiable analytical capacity to make decisions on industrial policy and define future industrial strategies, sector and geographical analyses, etc.

However, this capacity is currently limited, and in order to generate the analyses and reports required in decision-making processes, the SGCI must focus on implementing an industrial intelligence cycle that meets the objectives and needs of its users.

With this new focus, the SGCI will gradually acquire a more thorough knowledge of the interests, assets and capabilities of the defence industrial base in the national and international arenas, and so offer a clearer picture of the industry’s competitive position.

After traceable links are established between targets to be achieved and user requirements to be met, the targets must be periodically reviewed as new users appear or requirements change.

Once intelligence techniques have been applied to industrial knowledge management, the Ministry of Defence will disclose to industry the information deemed necessary for supporting its operations.

**Line C.5. Enhance information processing resources**

In order to implement an effective competitive intelligence system, certain resources are needed to process information at every stage of the intelligence cycle so that the Ministry of
Defence can comprehensively manage all industrial knowledge.

These resources range from software (data mining, open-source tracking, statistical analysis or big data tools) to activity-regulating procedures and, most importantly, analysts and experts with in-depth knowledge of the defence industry.

The availability of suitably qualified analysts and necessary material resources must be complemented by procedures that allow the system to work smoothly.

These procedures facilitate efficient management at every stage of the intelligence cycle: establishing and updating targets, requirements and planning according to user needs at any given time; collecting intelligence and, above all, coordinating with other Ministry bodies to facilitate the flow of current information; preparing analyses and reports; and sharing the results with designated users in the Ministry or with third parties as and when disclosure is deemed appropriate.
PILLAR D: Institutional Communication and Cooperation

Building a solid framework of participation and cooperation among all contributors to economic activity related to national defence is a necessary condition for articulating any strategy or policy to support the DTIB.

Communication between the Ministry of Defence, industry and other parties with an interest in the sector—other ministries (Ministry of Industry, Energy and Tourism, Ministry of Economy and Competitiveness, Ministry of Finance and Public Administrations), regional governments within Spain, European and regional organizations, universities, business associations, etc.—is essential for building a set of shared interests that must be strategically channelled by the Department to ensure their alignment with the higher interests of national defence. Ministry of Defence has taken steps to improve communications with various stakeholders, especially the defence industry. Examples include the development of the SGCI, the organization of conferences to disseminate industrial knowledge, the publication of master plans for armament and materiel, and the recent reorganization of the DGAM to reinforce its role as manager and sole interlocutor with industry in procurement programmes.

The Ministry of Defence’s efforts to strengthen its relations with industry must be complemented by other actions whose ultimate aim is to create a framework of institutional cooperation that will guarantee consistency and coordination among the initiatives launched by all official organisms, whether they pertain to the central Government or to Spain’s regional authorities.

Meanwhile, the defence industry as a creator of wealth and its decisive contribution to the well-being of society is an incontrovertible fact that must be clearly explained to society as a whole, giving the defence industry the respect it deserves and creating a supportive environment in which it can operate and flourish with the benefit of social protection.

In line with all of the above, the lines of action grouped under the fourth pillar have two aims: to strengthen and institutionalize the mechanisms and channels of dialogue and co-

Creating a solid framework of participation and cooperation among all defence players is a necessary condition for the industry’s efficient development

Nevertheless, the richness and variety of enterprises in the Spanish industrial base and the inherent complexity of the sector make the associative function of industrial interests a key ingredient of Government-company relations, using those associations and professional clusters as tools for channeling the industrial base’s interests and initiatives in the direction of the Department. Knowing the importance of its role in the scheme of industry relations, the
operation between the Ministry of Defence, the technological and industrial supply base and other parties involved in the economic activity of the defence industry; and to participate in dissemination initiatives to make the Armed Forces and society in general aware of the positive contributions of the defence culture and its industrial and economic dimensions.

**Line D.1. Consolidate the DGAM as sole interlocutor**

In order to forge a solid strategic relationship between the Ministry of Defence and its supply base, it is essential to confirm the Ministry’s procurement arm, the DGAM, in its role as the sole interlocutor or liaison with industry.

A single interlocutor can represent the combined interests of the Armed Forces and all other agents involved in defence activities and defend them satisfactorily in dealings with the supply base, thereby improving coordination and monitoring processes in all procurements.

Moreover, a single interlocutor can make wiser use of filters to influence decisions that impact industry, pushing for an emphasis on strategy, risk assessment and the evaluation of industrial alternatives.

To this end, the Ministry of Defence will analyse the distribution of internal responsibilities related to industry and reorganize them in accordance with the sole interlocutor scheme, taking into account its dual role as regulator and customer.

In particular, the Department, working through the DGAM, will move forward with its plan to implement the Industry Service Gateway (PAID - Portal de Atención a la Industria de Defensa) as a one-stop online solution centre for the sector, which will incorporate those portions of the SGCI accessible to companies as well as other initiatives set out in this document.

To consolidate the DGAM as sole representative and implement the proposed policies to support the one-stop solution centre idea, professionalization and an increase in available resources are also necessary.

**Line D.2. Promote public-private partnership mechanisms**

In times of economic uncertainty like the present moment, when budget cuts and controlled spending are still the order of the day, it is essential to promote public-private partnership mechanisms that present new opportunities for obtaining funding from the DTIB.

Therefore, we will strive to expand the current model of public-private business partnership beyond the traditional areas of system sustainment and exploitation, allowing the Ministry of Defence to acquire assets and capabilities deemed to be of interest to national defence.

We will promote the creation of forums for dialogue between Government and the defence industry, where potential requirements and foreseeable demand will be rigorously defined and possibilities of mutual cooperation explored.

To facilitate the smooth operation of this partnership model, we will also study how to capitalize on existing laws and regulations in this area or devise new measures to give legal certainty to both parties and minimize the risks of partnership.
Line D.3. Intensify cooperation with clusters and associations

The business associations and clusters operating in the defence sector are key liaisons, and as such their primary purpose, from the perspective of a defence industrial strategy, is to harmonize industry interests which, once channelled through the Ministry of Defence, can be aligned with national defence interests.

Dialogue with business clusters and associations is also important because they are the Ministry of Defence’s principal line of communication with SMEs.

With the aim of improving cooperation with the various associations that represent companies, the Ministry of Defence, working through the DGAM, will identify all defence-related industrial associations and Spanish business clusters at the national and regional levels, and work with them to establish a permanent forum for dialogue with the industry where matters of mutual interest can be discussed.

The Ministry of Defence will also work on developing appropriate measures to strengthen sector-specific business clusters, forums and associations, especially in knowledge-intensive areas, and integrate them in a network to facilitate the exchange of knowledge, experience and best practices.

Line D.4. Enhance inter-ministerial interaction and coordination

The defence industry, for all its particularities, is still part of national industry, and in order to work properly the State must coordinate its actions when applying policies in different areas, such as defence, internal affairs, foreign affairs, economy and industry.

Consequently, the Ministry of Defence’s actions to strengthen industry must be accompanied by initiatives from other Government bodies at both the national and regional level, within a framework of institutional coordination that guarantees consistency and cooperation.

The Ministry of Defence will work to improve its communication with other Government agents, identifying those with responsibilities related to industry and technology in both the central Government and regional institutions.

In order to establish a formal and adequate institutional framework, the Ministry of Defence will promote the creation of inter-ministerial working groups specifically related to the defence industry. These groups will be clearly defined and equipped with suitable inter-ministerial mechanisms, protocols and agreements.

Line D.5. Improve social perception of the DTIB’s benefits

In order for any industrial policy and strategy to be truly effective, the Armed Forces and, ultimately, society itself must have a favourable perception of the DTIB.

The defence industry is, and should be acknowledged as, another key capability for national defence, to the extent that the products and services it provides make a decisive contribution to safeguarding national defence and security interests, while also generating financial returns, innovation and skilled jobs.

We will therefore promote and encourage the drafting and dissemination of internal publications that disclose, in the sphere of
the Ministry of Defence and its Armed Forces, the objectives of our industrial policy and strategy.

We will also promote the organization of informative campaigns and events that explain to the general public the benefits of certain national industry support policies, and how they contribute to the national economy and the improvement of their own well-being.

These initiatives will need to be implemented in cooperation with other agents in this sector, such as other ministries, DTIB companies, clusters, associations, the media, etc.
PILLAR E: Quality, Competitiveness and Sustainability

The defence industry is now at a major turning point due to various factors that affect both the Ministry of Defence and the national industrial base.

Globalization, the role of new emerging economies and, above all, the financial crisis have forced a revision of national models in which the State was the sole or principal customer.

As systems become increasingly complex and costly, budgets shrink, and system standardization and compatibility is being pushed by Europe and NATO, it seems clear that the traditional industrial model needs an overhaul.

Of particular importance in this respect are actions at the European level that reveal a clear and firm tendency to limit the protectionist practices of EU member-states.

Business excellence, critical mass and free competition must be the means of enhancing and sustaining the DTIB

The European Defence Agency (EDA) has spent the past decade working to strengthen the European Defence Technological and Industrial Base (EDTIB), with the goal of creating a European defence equipment market capable of competing at the global level.

The EDA has launched various initiatives in pursuit of this aim. Among the most relevant of those still in force at this time are the EDTIB strategy, the Guidelines and Action Plan for facilitating SME access to the defence market, an online Procurement Gateway with information about contracts and business opportunities in the defence industry, a Framework Arrangement for Security of Supply and, finally, diverse measures to promote the creation of clusters and facilitate access to EU funding opportunities for the defence industry.

The Ministry of Defence has unequivocally supported, supports and will continue to support EDA initiatives with a positive impact on our DTIB, as evidenced by our voluntary subscription to the main codes of conduct and best practices adopted by the EDA and, in 2011, the publication of our own Code of Conduct for Armament and Materiel Contractors and Subcontractors.

The European Commission, for its part, is playing an increasingly active role in the defence market and industry, primarily in the arena of standards and regulations which, based on similar principles to those that guide the EDA’s initiatives, are forcing member-states to thoroughly revise their policies on the procurement of materiel and services for security and defence. Finally, it must be noted that the transformation process is even more complicated in Spain due to the structural weaknesses of our industrial base, such as its over-fragmentation and the fact that many of our companies are still heavily reliant on the Ministry of Defence’s demand.

In this context, it is clear that business excellence, critical mass and, above all, competitive products and services in an increasingly open
market must be the means of enhancing and sustaining the Spanish DTIB.

The unstoppable advance of globalization means we must consider global requirements. Today, the exportability of a weapons system is a basic aspect of the design process, as this is crucial to the programme’s viability throughout its life cycle.

National users must be aware that the viability of their own programmes depends largely on their ability to adapt their own requirements to those of the global market: this is what is commonly known as a «commercial approach».

For all of these reasons, Pillar E includes activities aimed at helping industry through the transition process with measures that complement their efforts to improve competitiveness and promote the quality of business facilities, thereby contributing to a stronger, more consolidated industry.

**Line E.1. Promote business excellence and continuous improvement**

Operational excellence is a key factor for making companies more competitive, and the quest for excellence on both the organizational and productive levels must be built into corporate culture as a means of obtaining a competitive advantage and making the most of market opportunities.

As both customer and regulator, the Ministry of Defence must encourage this quest for excellence and continuous improvement in every process of the value chain, as this will help the industry become more competitive and productive.

With this goal in mind, the Ministry of Defence will encourage the use of performance-oriented contracts for acquiring and sustaining equipment that contain incentives for continuous improvement in the industry.

We will also seek ways of adapting current bid assessment mechanisms to reward companies that make a demonstrable effort to develop efficient models and improve the quality of their products.

Additionally, we will cooperate with other institutions to devise formulas for promoting and supporting the design and implementation of corporate improvement plans in companies, and we will encourage rewards and recognitions in this area to further motivate the entire industrial base.

**Line E.2. Support the concentration of capabilities and strategic alliances**

In an increasingly globalized and competitive market, alliances can be vital to the reinforcement and growth of organizations, especially SMEs.

These types of partnerships and alliances have several benefits: they open the door to new business opportunities, capitalize on distribution channels and facilitate access to new markets and customers, increase companies’ international visibility, promote technology transfers, etc.

To help Spanish industry locate potential partners for forming alliances, the Ministry of Defence will create a business contact network on the PAID to facilitate the identification of complementary companies.
We will also support decisions which, based on the State’s participation in certain defence companies as a shareholder, promote new alliances or concentrations of the industry that serve to consolidate or protect key capabilities.

Likewise, at the European level the Ministry of Defence will support all efforts to integrate the technological and industrial base that serve the strategic interests of industry and the nation.

**Line E.3. Help SMEs to build capabilities and participate in the DTIB**

Promoting supply chains based on national SMEs and facilitating access to new opportunities for these companies is a fundamental priority for any State. Their capacity for innovation and agility in developing new solutions is a key asset in the face of today’s rapidly evolving and variable threats.

The Ministry of Defence will seek to adopt contracting strategies and industrial schemes that encourage the participation of smaller companies in the principal defence programmes.

We will work to expedite bidding procedures, especially for contracts of lesser value, as these constitute the primary field of action for SMEs.

Additionally, we will contemplate actions to help publicize the capabilities of SMEs, so that more efficient procurement strategies can be designed to target this type of company.

Companies of strategic importance to defence will be given special consideration, and prime suppliers will be encouraged to subcontract SMEs, thus facilitating relations between SMEs and the formation of common competence groups (clusters).

**Line E.4. Promote transparency and free market competition**

In accordance with European and national laws on defence and security procurement, the Ministry of Defence can and must promote transparency in procurement processes for non-strategic defence capabilities.

To this end, the Ministry will continue to regularly organize industry events to announce its future plans for procurement and technological priorities, so that the industry can adequately prepare to meet those needs.

To ensure that potential bidders receive information in time to prepare their bids, we will continue to work on the advance announcement of contracts we intend to offer over the next 12 months.

We will also promote transparency and free competition in the sector by supplying the national DTIB with relevant, updated information on procurement plans and programmes obtained via IT tools developed by European institutions.

Finally, the Ministry of Defence will institutionalize the organization of industrial conferences on major programmes, where companies will be informed of their operational requirements and work schedules to encourage industry-wide participation and cooperation among companies.
**Line E.5. Reinforce the code of conduct for defence contractors**

The Code of Conduct for Defence Armament and Materiel Contractors and Subcontractors, published in 2011, aims to guarantee the free access of companies to bidding processes and promote transparency, non-discrimination and equal treatment across the value chain, with a view to creating a more competitive procurement scenario.

To reinforce the implementation of this voluntary code, the Ministry will work to disseminate it and its precepts, not only among the components of the DTIB but also within the Department itself. We will devise incentives for companies who subscribe to the code and study the possibility of including it in bid evaluation criteria or even making subscription mandatory, at least for prime contractors.

We will also establish a method for monitoring the code’s impact on the DTIB, so that preventive or corrective actions can be identified to improve the entire process.
PILLAR F: Innovation and Technological Capability-Building

The consolidation of a national model of defence R&D&I (research, development and innovation) is a strategic objective of the Ministry, as this guarantees the technological superiority that provides a significant operational advantage in terms of weapons systems and improves the competitive edge of the industrial base that supplies them.

The creation of a defence technology branch, by integrating all of the Ministry of Defence’s R&D&I bodies into the INTA, must be the foundation of that consolidation process.

This will strengthen the role of the INTA as an intelligent tool of the Ministry of Defence in systems procurement processes; as an instrument of technological support for the defence industry; as a liaison between the Department and

italize on the various national and European funding mechanisms for R&D&I.

To support the efforts of companies, the Ministry of Defence will continue to promote high-value activities in its technological and industrial base, with the aim of achieving sufficient technological autonomy to avoid reliance on foreign partners for KICs.

Identifying the KICs and linking them to priority defence technology areas allows Government and companies to focus their efforts in R&D&I and other fields on the niche specialization of our industry. These niche areas must naturally be of interest to defence, but they should also be competitive and have realistic commercial viability in the international market.

The Ministry of Defence’s lines of action in R&D&I are set out in the Defence Technology and Innovation Strategy (ETID - Estrategia de Tecnología e Innovación para la Defensa). It should be noted that the target-oriented nature of defence R&D&I, focused on results and

Creativity and technological knowledge are key factors for generating value and competitive advantage in defence companies in the medium and long term

other R&D&I bodies and organizations; and as a promoter of synergies between defence and civil technological capabilities (dual-use technology). Technology and innovation are key factors for operating in a competitive, global and increasingly open defence industry.

In this respect, the private sector must dedicate more resources to researching new technology while also constantly striving to cap-

products closely linked to the market and user requirements, contributes to the creation of a competitive national industrial and technological sector and facilitates its internationalization.

The potential dual use of many defence technology products and applications is a window of opportunity for companies operating in this industry, especially SMEs, and never more so than today when the distinction between (military)
defence and (civil) security is becoming increasingly blurred.

Greater integration of the civil and military industries facilitates the diversification of activities, turning the benefits of technological innovation into concrete solutions for one or the other sector.

On the other hand, making better use of the synergies that exist between military and civil R&D&I would give defence projects access to national and European funding options normally reserved for the civil sector.

The Ministry of Defence continues its efforts to bring civil companies closer to the defence industry via the COINCIDENTE programme and is carrying out joint actions with European organizations to identify dual-use R&D&I projects as potential beneficiaries of technology policies and funding in the civil sector.

Finally, it is worth mentioning that the Ministry is working to consolidate a new investment model focused on the technological enhancement of the industrial base and its orientation towards KICs. This new approach, initially centred on technology projects, has two aims: to minimize the risks inherent in developing new systems, and to build up our industry’s technological capabilities and thereby strengthen its position in the global defence market.

Line F.1. Align technological strategies with KICs

Although the implementation of the ETID includes detailed technological road maps to acquire capabilities considered a top priority for our Armed Forces, additional efforts are required to bring technological policy in line with evolving KICs.

Firstly, we need a permanently updated map of priority technology areas associated with KICs to identify which technologies are most likely to enhance our KICs and should therefore be targeted for greater investment efforts by both industry and the Ministry of Defence.

In addition to identifying these areas, we will analyse the technological capabilities that companies already have or plan to acquire in the short and medium term, in order to target and enhance those linked to KICs with specific R&D&I policies.

We will also analyse activities related to technology transfers contemplated in industrial cooperation agreements and international cooperation programmes, in order to align them with our defence KICs.

Line F.2. Revise the Defence Technology and Innovation Strategy (ETID)

Since the ETID was published in 2010, it has served to centralize management of R&D&I activities, prioritize key technological capabilities, and plan R&D activities.

However, five years down the road, it has become necessary to adapt the content of the Defence Technology and Innovation Strategy to changing military requirements, new technological breakthroughs and trends, and the different milestones set out in the strategy itself.

Among other things, the ETID should provide technological orientation and help to coordinate the actions of different players, within and
outside the Ministry, involved in the use of technology to solve specific problems related to the current and future needs of the Armed Forces.

The revised version of the 2010 ETID should also establish the basic guidelines for drafting a plan to boost defence R&D&I. This plan, designed around technological goals linked to KICs, must address aspects such as the participation of SMEs, a key sector in innovation, and promote the necessary coordination and knowledge-sharing that must exist between the academic community, research centres and the defence industry.

**Line F.3. Support diversification into emerging technologies**

Technological surveillance activities give us information on state-of-the-art technological solutions being used by armies in different countries and identify existing or emerging technologies of interest to defence as well as technology suppliers and their capabilities.

Among our top priorities are identifying technologies with a high potential for disruption in defence; technology of interest to defence that is not being pursued by civil industry; and emerging technological fields and applications, especially those with a strong dual-use potential.

Technological surveillance, prospecting, prioritization and evaluation are all highly useful tools for identifying and selecting such technologies.

The Ministry of Defence will reinforce the Technological Prospecting and Observation System (SOPT - Sistema de Observación y Prospección Industrial) as the sole defence technology surveillance system responsible for strategic technological planning, and will continue to conduct prospective studies to determine the foreseeable evolution of emerging technologies.

**Line F.4. Promote dual-use technology R&D&I for defence applications**

For some years now, many of the technological breakthroughs most relevant to military capabilities have originated with civil-sector R&D&I activities. In light of this fact, industry and Government must coordinate and target their investments at developing technological demonstrators that will build the capabilities of our technological and industrial base and support the evolution of military capabilities, always in the context of the applied, results-oriented R&D&I conducted by the Ministry of Defence.

The Ministry of Defence believes that dual use of technological efforts and applications is vital to creating a more stable, favourable environment for the progress of defence R&D. Therefore, the Department will continue to draw civil companies closer to the defence industry by enhancing existing tools like the COINCIDENTE programme or via Public Procurement for Innovation (CPI - Compra Pública Innovadora).

In order to generate broad-based, stable demand for the dual-use products and services industry, thereby stimulating innovation in both sectors, the Department will also launch actions to coordinate and combine requirements with other public agents, particularly those who operate or have responsibilities and authority in the security field.
Line F.5. Drive joint technology development: companies, OPIS, technology centres, etc.

With a view to anticipating industry investments, encouraging joint technology development initiatives, and making public demand a driving force of innovation, the Ministry of Defence will take action to improve the advance announcement of its technological priorities.

SMEs are a key industrial player in the technology field thanks to their flexibility and agility in developing highly innovative solutions. For this reason, the Ministry of Defence will work to design strategies that facilitate closer relations and knowledge-sharing between SMEs and the INTA, a Public Research Institution (OPI - Organismo Público de Investigación) associated with the Ministry of Defence.

Moreover, we will strengthen the role of the Research Results Transfer Office (OTRI - Oficina de Transferencia de los Resultados de Investigación) of the INTA and study the possibility of transferring patents to the industrial sector as an incentive for proactive conduct, within the framework of the ETID. Finally, the Ministry of Defence will continue its efforts to organize exchange conferences, sector-specific encounters and conferences on specialized themes that bring technology users and suppliers together, foster open innovation in the sector and promote new technological alliances.
PILLAR G: International Cooperation and Foreign Support

Today’s increasingly complex and costly weapons systems and the downward pressure on defence budgets in Western countries have made it very difficult for any one country, acting on its own, to completely guarantee security of supply for all products and services required by its Armed Forces.

From an industrial perspective, the fact that states must now rely on offshore suppliers for goods and services at different levels of the supply chain has underscored the importance of relations between national and foreign companies.

In order to meet the need for military capabilities based on technologically advanced systems, to do so more efficiently and to enhance their own industrial capabilities, states have had to devise a number of special initiatives, such as operations, which means that the capabilities contributed by each nation must be interoperable, are also important factors for understanding the context in which defence companies operate today, where the principles of competitiveness and financial sustainability have become the keys to success. The Ministry of Defence must exercise strategic management in this scenario to support the national defence industry.

Given the importance of international relations and forums in the defence industry, it is especially critical that we develop the ability to support the foreign activities and reputation of Spanish firms and the Ministry itself, ensuring that we are present in and able to influence the supranational forums that currently chart the course of the global defence industry and its associated market.

Consequently, the importance of the international dimension in the defence industry means that the Ministry must manage the resources at its disposal with the utmost efficiency and coordination.

Corporate internationalization must be the key driver for advancing towards an innovative, prosperous, competitive model of the Spanish defence industry

multinational programmes, international organisations for armament cooperation (the EDA and OCCAR, for instance), treaties to restructure the European defence industry (like the Lol-EDIR), specific structures to provide export support, and new legislation directly related to exports.

The initiatives of the European Commission for building a more efficient common defence market and the multinational nature of many Aware of this importance, the Ministry of Defence has adopted different initiatives to support the activity of our companies abroad: industrial cooperation agreements linked to the launch of major procurement programmes or Spain’s participation in various multinational programmes; the revitalization of the OFICAEX, whose aim is to support Spanish companies in their export enterprises; and other more institutional forms of enhancing visibility abroad,
such as G2G contracts, the involvement of authorities in bidding processes, and the Office of the Secretary of State for Defence’s Information Requirements Plan with regard to Defence Attachés.

Thus, the internationalization of armament-related companies is an important priority of the defence industrial strategy, pursued by actions that seek to promote Spain’s official presence in international forums, boost exports and attract activities and funding from abroad. All actions are performed in consonance with the Ministry of Defence’s duty to control the foreign trade of defence and dual-use technology and materiel, and with European Union directives and the UN Arms Trade Treaty, among other regulations.

The Ministry of Defence will focus its strategy especially on the European context, with the goal of adapting the Spanish business sector to a future European market with virtually no national protectionist barriers.

**Line G.1. Foster technological associations with our partners and allies**

International alliances and agreements and the fusion and concentration of industrial and technological capabilities are fundamental to the competitiveness and internationalization of companies and, as such, a key factor for the consolidation of the Spanish DTIB.

Therefore, the Ministry of Defence intends to improve institutional knowledge of the technological capabilities and synergies that exist in countries with strategic ties to Spain, and at the same time it will work to enhance national channels for the dissemination of our companies’ technological capabilities with a view to facilitating possible agreements in this area.

We will strive to ensure that the importance of technological and industrial partnerships is included and emphasized in our country’s foreign relations.

However, when national defence industrial interests are at stake and there is a risk of losing KICs linked to State security and defence interests, the Ministry of Defence will monitor corporate, product and commercial technology alliances in line with the actions implemented up to this point. We will also continue to monitor direct and indirect foreign investments and mergers to make sure that they do not threaten industrial interests or capabilities related to national defence, given their strategic importance and contribution to our Armed Forces’ security of supply and their industrial and economic relevance in terms of jobs, added value and growth for the Spanish defence industry and Spanish society as a whole.

**Line G.2. Redirect the strategic focus of industrial cooperation programmes**

Industrial plans deriving from our participation in international cooperation programmes and industrial cooperation agreements associated with procurement programmes in general have been very useful tools for building and consolidating the Spanish industrial base; however, such instruments must be updated to reflect current strategic priorities in order to remain effective in these changing times.
One important action in this respect is giving special consideration to KICs when negotiating the terms of national industry’s involvement in new programmes, or when redirecting—in so far as this is possible—the focus of activities already underway or pending implementation in previously defined plans.

Another priority is the technology transfer component of different industrial cooperation formulas, which will be closely monitored and supervised to protect and, whenever possible, increase the knowledge and know-how of our companies.

**Line G.3. Reinforce Spain’s presence in international organizations**

The Ministry of Defence will play an active, coordinated role in the various defence-related international forums in order to watch out for the interests of the Spanish defence industry and increase its opportunities in foreign markets. We will identify the key posts in international organizations with influence over defence industry matters, and we will carefully select Spanish military and civilian personnel compatible with those positions deemed to be of interest.

The Ministry of Defence will also work to reinforce the coordination of activities conducted by its personnel in different defence industry forums, revitalizing the role of the Commission that exists for this purpose (Ministerial Order DEF/1951/2009) and promoting the creation of cross-cutting working groups to coordinate the efforts of different Department sections whose activities have the ability to influence our companies’ international presence.

Special attention will also be devoted to improving coordination with the network of Defence attachés and armament advisers assigned to international organizations (NATO and the EU), and we will intensify our relations and coordination with the Ministry of Foreign Affairs and Cooperation and other Government bodies with responsibilities in the area of supporting industry internationalization. Additionally, we will advocate the assignment of special armament attachés to organizations and countries of critical interest to Spain in the area of armament and the defence industry.

**Line G.4. Assist Spanish companies in their convergence with Europe**

Europe’s evolution towards greater cooperation in essential areas affecting national sovereignty, especially defence, has an industrial component that must be considered and protected.

The Ministry of Defence is therefore committed to assisting Spanish DTIB in its efforts to adapt to a future European market where national protectionist barriers will be virtually non-existent.

In general, the Ministry of Defence will step up its vigilance and efforts to ensure that Spanish industrial interests are duly defended and valued by participating in those forums where the future of the European technological and industrial base is decided.

On the political level, the Ministry of Defence will support State actions that promote bilateral or multilateral agreements with our partners to share and consolidate defence technological and industrial capabilities while developing and retaining those deemed to be key capabilities.
We will also facilitate the real and effective implementation of European initiatives with an impact on industry, such as those aimed at rationalizing military capabilities, guaranteeing security of supply or boosting SMEs.

**Line G.5. Establish proactive models for foreign support**

Cultivating foreign business opportunities in the defence industry is a complicated process, and tangible results often take a long time to materialize.

For this reason, it is necessary for public institutions to bring forward actions and strategies that support the commercial activity of our companies in foreign markets.

Consequently, the Ministry will continue, through the OFICAEX, its proactive efforts to publicize and make institutional players in other countries aware of our DTIB’s capabilities.

The Ministry of Defence will step up its participation in inter-ministerial initiatives to promote the internationalization of the industry through actions specifically designed to support the defence business sector, especially SMEs.

One key action will be to expedite and reinforce coordination with Spanish personnel who defend the DTIB’s industrial interests before various existing international organizations, so that their actions will be particularly effective in the early stages of procurement processes.
### SUMMARY OF THE PILLARS AND LINES OF ACTION OF DEFENCE INDUSTRIAL STRATEGY

<table>
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<th>Pillar</th>
<th>Lines of Action</th>
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| **A. Budgetary stability and viability** | - Maintain an adequate and sustainable spending budget  
- Establish financing mechanisms for special programmes  
- Study the financial viability of systems’ whole-life costs  
- Use mechanisms to monitor and evaluate financial management  
- Explore new, alternative financing methods and sources  |
| **B. Targeted investment in KICs** | - Classify and prioritize industrial capabilities  
- Launch programmes to build key capabilities  
- Align technology, procurement and sustainment programmes  
- Formulate master plans for financial and material resources  
- Prioritize KICs in industrial procurement plans  |
| **C. Intelligent management of industrial knowledge** | - Identify the assets and capabilities of companies  
- Integrate all of the organization’s industrial intelligence  
- Promote industrial prospecting and observatory systems  
- Focus the DGAM’s SGCI on intelligence functions  
- Enhance information processing resources  |
| **D. Institutional communication and cooperation** | - Consolidate the DGAM as sole interlocutor  
- Promote public-private partnership mechanisms  
- Intensify cooperation with clusters and associations  
- Enhance inter-ministerial interaction and coordination  
- Improve social perception of the DTIB’s benefits  |
| **E. Quality, competitiveness and sustainability** | - Promote business excellence and continuous improvement  
- Support the concentration of capabilities and strategic alliances  
- Help SMEs to build capabilities and participate in the DTIB  
- Promote transparency and free market competition  
- Reinforce the code of conduct for defence contractors  |
| **F. Innovation and technological capability-building** | - Align technological strategies with KICs  
- Revise the defence technology and innovation strategy  
- Support diversification into emerging technologies  
- Promote dual-use technology R&D&I for defence applications  
- Drive joint technology development: companies, OPs, etc.  |
| **G. International cooperation and overseas support** | - Foster technological associations with our partners and allies  
- Redirect the strategic focus of industrial cooperation programmes  
- Reinforce Spain’s presence in international organizations  
- Assist Spanish companies in their convergence with Europe  
- Establish proactive models for overseas support  |