



STRATEGIC DIRECTIVE FOR INNOVATION IN THE ARMED FORCES

2022 | 2032



ESTADO-MAIOR-GENERAL
DAS FORÇAS ARMADAS



STRATEGIC DIRECTIVE

FOR INNOVATION IN THE ARMED FORCES

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Introductory note

In the 2021 | 2032 Strategic Directive of the General Staff of the Armed Forces (EMGFA), I set out my main priorities to face the growing complexity of the internal and external security environments, significantly influenced by a global pandemic, to continue to guarantee the relevance and usefulness of the Military Institution for Portugal and the Portuguese citizens.

Considering the strategic guidelines established by the national legislation which frames the Armed Forces (AF) roles and responsibilities, I have established the digital transition and the dynamization of innovation as an AF strategic goal to further strengthen and promote our national scientific and technological capabilities as well as our scientific research and innovation initiatives.

Focused on this level of ambition, the current Strategic Directive for Innovation in the Armed Forces (SDIAF) is a fundamental vehicle to promote open and cross-cutting innovation efforts involving the contributions of all collaborators, the importance of acquired knowledge and experience, and the promotion of information sharing. Ultimately, the SDIAF will encourage the participation and cooperation of all in the fulfillment of the established goals.

The unity of effort and economy of resources between the EMGFA and the Services are the pillars of this Directive. These principles are materialized through the concept of diversity, which incorporates equal opportunities, the safeguarding of stakeholders specific identity and culture, and a broad-based approach to initiative and entrepreneurship at the organizational and individual levels.

By taking advantage of national and international funding mechanisms, this SDIAF should contribute to the development and advancement of national academic, scientific, and industrial programs as well as our national commitment to achieve a carbon neutrality by 2050.

To embrace the holistic nature of innovation, this Directive adopts strategic management perspectives in the genetic, structural, operational, and mission domains. These perspectives are duly framed by strategic themes such as resource leveraging, organizational enhancements, dynamization, interoperability, and effectiveness - all which constitute the key ideas that guide the strategic process in each of the management perspectives.

Inspired by a determined attitude and constant affirmation of military values that promote innovation in the organization, this Directive is materialized according to three specific strategic guidelines:

- (1) Promote a leadership and a culture of innovation;
- (2) Reinforce cross-cutting and collaborative innovation;
- (3) Foster operational centric innovation.

The conceptual framework in this directive will assist in the establishment of the mechanisms required to implement this innovation strategy in the AF within a 10-year window ranging from 2022 to 2032. In order to guarantee its adaptation to a strategic context marked by increasing volatility and complexity, this directive should be revised every two years.

The strategic environment assessment was accomplished using a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. This analysis helped identify the strategic goals required to carry out the necessary transformation of the Portuguese AF to maintain the military advantage over its competitors.

The strategic goals from the SWOT analysis are in synch with the adopted management perspectives and the guidelines established by me toward the development of this Directive. They assisted in the design of the following strategic map which depicts the formulated strategy.



STRATEGY MAP

Vision	Innovating and Transforming Portuguese Armed Forces in order to obtain and maintain operational leveraging, instigated by an open, intuitive and diversified culture of innovation					
MISSION	Lead the process of innovation and transformation in the Armed Forces, in coordination with the Chiefs of Staff of the Services, including the development of innovation projects that contribute to new military capabilities with joint employment potential					
EFFICIENCY	Strategic Guidelines					
	Promote a LIDERSHIP and a CULTURE of Innovation		Reinforce CROSS-CUTTING and COLABORATIVE Innovation		Foster OPERATIONAL CENTRIC Innovation	
OPERATIONAL	7 FOSTER the implementation of instruments that facilitate innovation in terms of generating ideas and sharing knowledge		8 PROMOTE the synchronization of the RD&I and Experimentation activities within the AF		9 MAXIMIZE military and dual-use capabilities through open innovation and the incorporation of disruptive technology	
	DYNAMISM AND INTEROPERABILITY					
STRUCTURAL	4 ADOPT a personal and organizational culture of innovation		5 IMPLEMENT a governance model that enhances innovation in the AF		6 DYNAMIZE the digital transition of the processes in the AF	
	ORGANIZATIONAL ENHANCEMENT					
GENETICS	1 ENHANCE human capital and talent for innovation		2 STIMULATE the cooperative and collaborative development of technologies, solutions and systems		3 INCREASE the contribution of innovation to the Armed Forces operational readiness	
	RESOURCE LEVERAGING					
VALUES	DISCIPLINE		LOYALTY		HONOR	
					INTEGRITY	
					COURAGE	



To better achieve the strategic goals and obtain the unity of effort between EMGFA and the Services, I have also drafted the main lines of action in order to provide a comprehensive understanding of the SDIAF.

My intention is that this Strategic Directive will drive the role innovation must assume in the transformation process of the Portuguese AF, so we are able to enhance our operational use in mission execution and accomplishment.



António Silva Ribeiro
Admiral

Chief of the Armed Forces General Staff
February 02, 2022



Index

Introductory note	1
1 Mission	7
2 Management Perspectives and Strategic Themes	8
3 Values	10
4 Vision	12
5 Strategic Guidelines	14
6 Strategic Goals	16
7 Lines of Action	26
8 Operationalization and Control	32
List of abbreviations	34





1 | Mission

Per the Organic Basic Law of the Organization of the Armed Forces (LOBOFA), approved by Organic Law no. 2/2021, as of August 9 the EMGFA's mission is to **"... to plan, direct, and control ... innovation and transformation in the Armed Forces"**¹.

Consequently, the Chief of the General Staff of the Armed Forces (CEMGFA) is responsible for leading *"the process of innovation and transformation in the Armed Forces, in coordination with the Chiefs of Staff of the Services, including the development of innovation projects that contribute to new military capabilities with joint employment potential."*². As of January 24, 2022 and per Decree-Law no. 19/2022 which establishes the Organic Law of the EMGFA within the Joint General Staff, the creation of the Division for Innovation and Transformation (DIT) will support the CEMGFA's decision in this matter and, in coordination with the Services, develop the process of innovation and transformation from a perspective of managing synergies in the AF.

¹ Paragraph 2, article 9 of the LOBOFA.

² Paragraph 1(s), article 12 of the LOBOFA - "Competencies of the Chief of the General Staff of the Armed Forces".

Hence, the promulgation of this SDIAF, and the control of its execution, result from the responsibility of the CEMGFA to plan and implement a transformation strategy, capable of applying the existing innovative potential in the AF, and reflecting the evolution of research and development activities in the area of military sciences and defense technologies.

Innovation is understood as the implementation of a new or significantly improved solution, capability, system, equipment, product, or process aiming to reinforce the competitive position and increase performance or knowledge. In collaboration with the Services, this enables the adoption of a systematic process of unity of effort and economy of resources toward the development of AF operational capabilities, and gap mitigation in the force system.

Therefore, modern and entrepreneurial AF are intended to promote innovation as the driving force for their transformation, clearly contributing to the effectiveness and efficiency of their mission:

To guarantee the military defense of the Republic, to contribute to national and international security and to support the development and well-being of populations.



2 | Management Perspectives and Strategic Themes

The SDIAF is based on four priority axes that shape the four different perspectives of strategic management: Genetic, Structural, Operational and Mission. These ensure that the innovation strategy has a comprehensive, inclusive, and diversified character. In addition, they will enable research, development and subsequent construction, structure, and employment of innovative capacities within the AF. Such perspectives also serve to frame the Strategic Goals.

For each Strategic Management Perspective, a Strategic Theme is established that, in this context, translates the key idea that guides the innovation strategy for a time horizon of 10 years.

The **Genetic Perspective** provides building and sustaining the ability to innovate in people and within the culture of the AF. Additionally, this ability will assist in incorporating financial, technological, and informational resources necessary for their consolidation and development in national and international contexts. Its Strategic Theme is the Resources Leveraging.



The **Structural Perspective** relates to the organization's sustainable development connected to innovation and the necessary articulation with military capabilities. This is accomplished by creating knowledge, synergies, saving efforts, favoring the digitalization and the dematerialization of processes and procedures. The Strategic Theme that guides this Management Perspective is Organizational Enhancement.

The **Operational Perspective** explains how the AF should use innovation to promote the creation of national and international collaborative projects at a wide range of levels, namely at operational, personnel, cooperative, research and development, academic, training and cultural levels, among others. These innovation initiatives may generate additional income, resulting in the reinforcement of Mission relevance and usefulness. This perspective is guided by the Strategic Theme of Dynamization and Interoperability.

The Genetic, Structural, and Operational Perspectives compete for the **Mission's Perspective**, whose Strategic Theme is Efficiency. Its goal is to guarantee the relevance and usefulness of innovation in the dynamic and flexible transformation of the Military Institution at the service of Portugal and the Portuguese people.

3 | Values

The fulfillment of the Mission stated above follows a framework of values by which all AF members must live. Our Values serve as a reference for the model of conduct to be adopted internally and constitute a differentiating factor and affirmation of the Institution's identity vis-à-vis society. **Discipline, Loyalty, Honor, Integrity,** and **Courage** stand out from this framework of Values.

Discipline constitutes a pattern of behavior that is not restricted to simple hierarchical obedience but that promotes esprit de corps, cohesion, and a sense of duty.

Loyalty translates into the practice of frankness and sincerity towards all those who serve in the AF, both in-service situations and outside of it, constituting the basis of solidarity.

Honor is embodied in irreproachable conduct and extreme zeal within the rigid moral standards that acts of service impose, demanding righteousness, firmness of character, and nobility of soul.

Integrity is related to taking on responsibilities and is materialized through transparency, honesty, and fairness in decisions and actions, leading to a feeling of strengthening one's morale.



Courage reveals itself in the ability to make timely adequate decisions in the face of adversity, danger, or threat, evidenced by the commitment to establishing new ideas or behaviors that constitute solutions to existing problems.

These Values should be reflected in a principle of teamwork, which should favor the results and the quality of the wide range of services that the AF provide to the country, resisting adversities and overcoming difficulties.



4 | Vision

In an era of proliferation of threats and sources of tension on a global scale, innovation has become, more than ever, a strategic and operational need that emerges from technological advances and inherent disruptive capacity in vital sectors to national sovereignty, such as Defense.

Thus, the Portuguese AF must ensure adequate operational capacity through an ambitious but realistic agenda for innovation that is instigated by strong motivational leadership and promotes different options for obtaining and building joint capabilities based on innovative and disruptive technologies.

Under the risk of obsolescence and consequent irrelevance and marginalization, organizations such as the AF must incorporate innovation in a structured and systematized way. The AF must follow a strategy of information processing and knowledge sharing, both downward and upward, based on the role of the leader and a culture of intuitive and permanent innovation.

This Directive is intended to reflect the Joint will to innovate and transform the AF through the recognition of effort and the determination of the Services to foster internal innovation processes. The transformation will be

based on the **paradigm of open innovation** translated into equity and equal opportunities, the acceptance of all contributions, developing innovative projects and recognizing and respecting the values and character of the organizations and their human capital.

Therefore, this SDIAF should be an instrument to promote an innovative organizational culture that **considers diversity as a strategic part of innovation** and that, while safeguarding idiosyncrasies, encompasses the current and acquired knowledge, enhances its sharing, and encourages collaboration and cooperation, from a perspective of the unity of effort and economy of resources.

It is also paramount to have permanent, effective, and multidirectional communication, which contributes to an organizational culture founded on processes that promote creativity, the generation of ideas, and risk-taking as a permanent state of mind of all in the military. The organization's success therefore stems from the creation of an environment conducive to the flourishing of innovation in which **voluntary, intuitive and continuous participation** is assumed as a factor of quality and dynamism.



Shaping and preparing the AF in an increasingly complex and volatile security environment, forces the challenge of innovation to result in a strategic imperative for the AF. This is also an opportunity for the CEMGFA, in close collaboration, openness, and mutual assistance with the Chiefs of Staff of the Services to achieve his vision of:

“Innovating and Transforming Portuguese Armed Forces in order to obtain and maintain operational leveraging, instigated by an open, intuitive and diversified culture of innovation.”



5 | Strategic Guidelines

The strategic guidelines for Innovation are intended to direct and guide the main effort of the AF in formulating their strategy, and to facilitate the integration and coordination of available resources to execute the CEMGFA's innovation vision.

a. Promote a Leadership and a Culture of Innovation

To think of innovation as one of the pillars of organizational culture is to ensure the success of the AF in their ability to anticipate, adapt, and manage the challenges and changes that come from an increasingly competitive and globalized scenario.

The role of the leader in promoting a culture of innovation translated into behaviors, values, beliefs, and habits that enhance individual and collective creativity is paramount. He must apply innovative thinking to his leadership tasks (innovative leadership) and create a work environment that inspires and drives each collaborator in his ability to innovate (leadership for innovation).



b. Reinforce Cross-cutting and Collaborative Innovation

The successful implementation of a strategy for Innovation in the AF requires management guided by a shared vision merged to the entire organization and whose values encourage a collaborative and positive attitude, thus promoting teamwork and knowledge sharing.

Internally, the AF must integrate Research, Development, and Innovation (RD&I) in a joint perspective. This integration will be based on creating an innovation network that will utilize digital platforms that facilitate communication and contribute to the continuous transformation of processes and the consequent increase in the efficiency and quality of the services provided.

Simultaneously, within its innovation strategy, the structure of the AF must consider the national industrial and technological offer with relevant competencies for the field of Defense. For this purpose, innovation ecosystems must be established to engage with the Defense Technological and Industrial Base (DTIB) and other external partners in building innovative and disruptive capabilities.

c. Foster Operational Centric Innovation

In the current geostrategic context, which consists of unpredictable and difficult-to-perceive threats, it is essential to have technologically advanced AF that are easily adaptable to the demands of the new operational environment and capable of suppressing their gaps at a considerable speed that ensures their military advantage.

The management of innovation in a solid, systematized, and sustained way allows for a reduction of response time toward meeting operational forces' needs and improving their performance. In addition, the objectivity of innovation for creating value at an operational level and in a joint perspective provides greater efficiency in allocating resources, which is essential for the alignment of strategies and a desirable unity of effort.

These three Strategic Guidelines direct the pursuit of the Strategic Goals, which are framed by different Management Perspectives, and establish the guidelines necessary for the strategic execution process to be implemented.



6 | Strategic Goals

The necessary transformation of the AF as a response to the challenges of an increasingly global and multipolar society emphasizes the need for an innovation strategy that proceeds with a prospective analysis of the current geostrategic context associating the Potential and Vulnerabilities of the internal environment with the Opportunities and Threats from the external environment.

The achievement of the Strategic Goals, deduced from a SWOT analysis, is assumed as an organizational imperative in adapting the EMGFA and the Services to the surrounding environment.

There are many and diverse factors in the internal and external environments that impact the innovation strategy for the AF while taking the demands of the ongoing technological revolution in a digital age of constant acceleration into account. However, only seven factors are listed in each quadrant to simplify and systematize the process.

As far as the analysis of the external environment is concerned, the Strategic Concept of National Defense and the Military Strategic Concept were used, as well as other sources of geopolitical and geostrategic analysis, namely from NATO and the European Union (EU). That is where the factors with greater relevance or potential to influence strategic formulation were selected from.

Moreover, the internal environment was characterized through an analysis of the potential and vulnerabilities of the various bodies of the EMGFA and the Services involving the respective heads of the sectoral bodies. The aspects related to the combined action of the AF within the framework of the powers legally entrusted to the CEMGFA, have also been considered.





The SWOT matrix made it possible to identify the nine Strategic Goals that aim to take advantage of the opportunities of the current situation, tackle vulnerabilities, and explore internal potentials to overcome the threats that are anticipated.

The nine Strategic Goals presented above are in compliance with the Genetic, Structural, and Operational Management Perspectives. They fall within the three established Strategic Guidelines focused on a Leadership and a Culture of Innovation, Cross-cutting and Collaborative Innovation, and Operational Centric Innovation which enables the construction of the EMGFA Strategy Map presented on page 3.

A brief description of each of the Strategic Goals is provided below.

Opportunities

1. Collaborative initiatives (Innovation Hubs)
2. Political commitment to innovation and digital transition
3. Definition of requirements for capability building, namely in terms of Doctrine, Organization, Training, Materiel, Leadership, Personnel, Infrastructure, and Interoperability
4. Increase in emerging and disruptive technologies
5. Impulse of organizations to participate in innovation
6. Collaboration and participation in international projects (NATO, EU)
7. Involvement of DTIB, research centers and universities in strengthening military capabilities

Threats

1. Rapid technological changes (premature system obsolescence)
2. Limitations of the national DTIB
3. Legal limitations and impositions
4. Scarcity and perception of the effectiveness and applicability of initiatives linked to innovation
5. Financial limitations and constraints
6. Keep pace with the technological evolution
7. Absence of accredited laboratories in relevant technological areas



Strengths

1. Defense Research Centers
2. Teaching, training, and experimentation infrastructures in the AF
3. Support of the higher structures of the AF
4. Diversity of Human Resources
5. Diversity of skills, activities, and technologically advanced equipment
6. Implementation of Institutional Strategic Directives
7. A hierarchical structure in the AF that can facilitate the implementation and alignment of decisions

Weaknesses

1. Low level of organizational maturity for innovation
2. Organization with a reduced level of openness to the outside
3. Limited and poorly integrated Research & Development
4. Lack of funding sources dedicated to innovation
5. Bureaucratic processes
6. Little sharing of knowledge, experiences, and lessons learned
7. Little articulation and collaboration among the Services

FOSTER

the implementation of instruments that facilitate innovation in terms of generating ideas and sharing knowledge

MAXIMIZE

military and dual-use capabilities through open innovation and the incorporation of disruptive technology

INCREASE

the contribution of innovation to the AF operational readiness

PROMOTE

the synchronization of the RD&I and experimentation activities within the AF

ADOPT

a personal and organizational culture of innovation

DYNAMIZE

the digital transition of the processes in the AF

ENHANCE

human capital and talent for innovation

STIMULATE

the cooperative and collaborative development of technologies, solutions, and systems

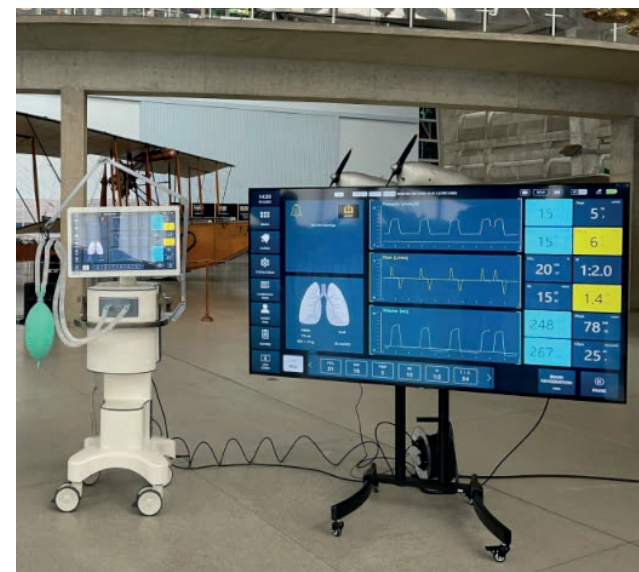
IMPLEMENT

a governance model that enhances innovation in the AF



SG1 – ENHANCE human capital and talent for innovation

This goal aims to provide the military and civilian personnel of the AF with knowledge and social and technical skills in innovation, thus integrating a set of essential skills to increase their ability to contribute to the organization with valuable ideas. Within a dynamic and extremely



evolving society, the organization's capacity for growth and future resides in the training of its human resources and in the innovative spirit and character of its leaders. People who are more motivated to innovation promote greater cooperation and social interaction and provide greater versatility, dynamism, and entrepreneurship in organizations.

The intended effect is to enhance the human capital of the AF by investing in their intellectual capacity, talent, and knowledge management.

SG2 – STIMULATE the cooperative and collaborative development of technologies, solutions, and systems

This goal focuses on cross-cutting and collaborative innovation initiatives to explore opportunities provided within the framework of "partnerships for innovation" with the scientific community and with the Defense industry sector. This will ensure the implementation of the innovation strategy for the AF is not decoupled from national interests. It is also essential to promote the development of projects and solutions of a technological nature based on sustained and incremental innovation, with joint strategic relevance and ideally in a cooperative perspective with allied nations. Network collaboration between Defense, Academia, and Industry should



therefore be encouraged, promoting the identification of synergies focused on national partnerships for development.

The intended effect is the creation of innovation ecosystems that enhance the participation of the Defense Industry in the modernization and transformation of the AF.

**SG3 – INCREASE the contribution of innovation to the AF operational readiness**

This goal aims to explore technological advances in simulation and training in the Defense sector. The intent is to increase the degree of preparation and consequent readiness of the Portuguese AF making them more interoperable and capable of acting together in a coherent, effective, and efficient way. Furthermore, the quality and accessibility of virtual, augmented, and mixed reality technologies based on artificial intelligence and autonomous systems makes it possible to establish integrated training programs, more focused on military personnel and their preparation.

The intended effect is to contribute to the establishment of training standards in the preparation of forces which ensure greater homogenization, reduce time consumption and costs, and promote the unity of action and interoperability of the Portuguese AF.

SG4 – ADOPT a personal and organizational culture of Innovation

This goal aims to establish an organizational management model based on a set of practices and values that challenge its staff to develop behaviors of voluntary and permanent innovation in fulfilling its mission. In this regard, the role



of the leader is particularly important in promoting a work environment that conveys trust, encourages initiative, promotes the sharing of knowledge, and values the presentation and discussion of ideas. In this sense, this goal should also include a communication plan that gives meaning and promotes innovation in the organization.

The intended effect is to foster new ideas and stimulate creativity within the AF.

SG5 – IMPLEMENT a governance model that enhances Innovation in the AF

This goal aims to assume the innovation process sustainably, permanently, and systematically. It defines a management structure that efficiently leads to the coordination, execution, monitoring, evaluation, and supervision of all innovation activities in the AF. At the EMGFA level, the full activation of the DIT will enable a fruitful interaction with and between the Services, other EMGFA bodies, and external entities, thus promoting the development of innovation projects with interest for AF operations.

The intended effect is the implementation of an innovation management model in the AF that results in a clear unity of effort and ensures a permanent cross-cutting alignment of the entire RD&I strategy for Defense.



SG6 – DYNAMIZE the digital transition of the processes in the AF

This goal aims to enable better and more efficient information sharing within the AF based on the modernization of their digital networks and the dematerialization of processes. Innovation, as an engine of the digital transformation of organizations, should explore technological platforms that increase desirable administrative interoperability, modernize the architecture of information systems, and implement



orchestration services and message exchange between systems (integration platforms).

The intended effect is the synergistic and expeditious implementation of technology and concepts with practical effects on the improvement of the AF work processes and tools and on the modernization of the military institution.



SG7 – FOSTER the implementation of instruments that facilitate innovation in terms of generating ideas and sharing knowledge

This goal aims to create mechanisms and conditions that encourage people to be part of the organization's life, sharing their ideas spontaneously and constantly to improve their individual and collective performance. Therefore, the effort of innovation must focus on identifying and implementing procedures and work tools that speed up the process of collecting and recording ideas, and disseminating the knowledge generated in the meantime.

The intended effect is to increase the organizational performance of the AF based on the innovative capability of their human capital, highly committed to the institution's mission.

SG8 – PROMOTE the synchronization of the RD&I and Experimentation activities within the AF

This goal aims to enhance and give greater visibility to work developed by the different bodies of the AF with RD&I and experimentation capabilities in a logical unity of effort framework and desirable resource savings. To achieve this, it is essential for the Research and Development Center of the Military University Institute to assume itself as the primarily responsible entity for ensuring the



coordination and articulation between the RD&I centers of the University Autonomous Organic Units³, as well as the coordination with the Military Polytechnic Unit, to develop lines of investigation in areas of paramount interest in national security and defense.

The intended effect is the alignment and synchronization of the functioning RD&I and experimentation entities, thus becoming innovation accelerator networks in AF.



3 Naval School, Military Academy and Air Force Academy.



SG9 – MAXIMIZE military and dual-use capabilities through open innovation and the incorporation of disruptive technology

This goal aims to maintain the competitiveness and relevance of the AF in a national and international employment framework, based on their ability to keep up with technological advances in the defense sector and incorporate disruptive technologies to improve their capabilities, avoiding the obsolescence of equipment and consequent vulnerability of military forces. Therefore, through open innovation and the use of disruptive technologies, the Portuguese AF must permanently be able to accelerate the innovation process to mitigate capability needs in military and humanitarian operations in supporting the development and well-being of the population.

The intended effect is to ensure the improvement and constant updating of the AF materiel and equipment and provide them with innovative added value in line with the force's needs and technological advances.



7 | Lines of Action

To facilitate and guide the achievement of the Strategic Goals stated, the main lines of action for each goal are identified below. These lines are presented starting with the goals under the Genetic Perspective, followed by those of a Structural scope, and finally the Operational ones.

These major lines of action aim to constitute the guiding elements of the process of strategic alignment of the EMGFA bodies and the Services through the respective strategic initiatives that materialize the Strategic Initiatives Plan for Innovation (SIPI), covered in the next section.

SG1 – ENHANCE human capital and talent for innovation

LA1.01 – Foster training in innovation related areas, deepening specialized knowledge in leadership for innovation, risk management and problem-solving, agile methodology, and patent registration process, and the safeguarding of intellectual/industrial property.

LA1.02 – Develop mechanisms that enhance the qualitative and quantitative allocation of human resources, which are necessary for the implementation and sustainability of innovation at the organizational level.



SG2 – STIMULATE the cooperative and collaborative development of technologies, solutions, and systems

LA2.01 – Stimulate the alignment of the interests of the AF with those of Industry and Academies to boost the DTIB and the Technological and National Scientific System in the development of future military capabilities.

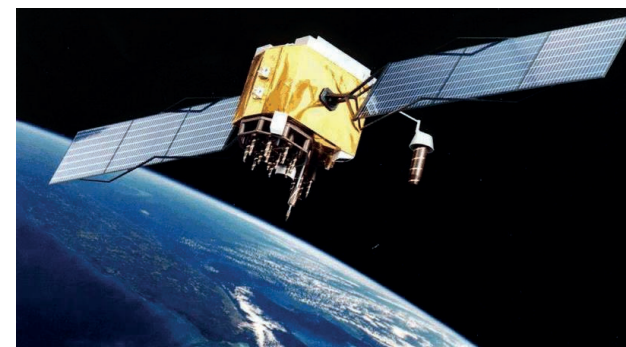


LA2.02 – Explore applications of Autonomy, Artificial Intelligence, Quantum, Data, Hypersonic, Space, Biotechnology, and their integration in building capabilities for the AF.

LA2.03 – Promote the development of a satellite communication system that ensures the connection between national forces autonomously and uninterruptedly.

SG3 – INCREASE the contribution of innovation to the AF operational readiness

LA3.01 – Contribute to an increase in the use of simulation systems that enhance the levels of training and preparation of the AF.



LA3.02 – Promote events for the development, experimentation, and integration of new technologies within the operational community.

SG4 – ADOPT a personal and organizational culture of Innovation

LA4.01 – Foster the development of a culture of innovation in the academic and training courses of the military personnel in the AF.



LA4.02 – Promote a culture of risk management and fault tolerance and encourage the acceptance of calculated risks in problem solving.

SG5 – IMPLEMENT a governance model that enhances Innovation in the AF

LA5.01 – Develop and implement an organizational structure for innovation in the AF that establishes the necessary mechanisms to ensure alignment with the RD&I policy/strategy and an adequate integration between the operational, genetic, and structural aspects.



LA5.02 – Create a structure specialized in the administrative procedure of innovation, capable of identifying and exploring project opportunities and providing legal and financial advice to the AF in obtaining and monetizing the available and supplementary sources of funding.

SG6 – DYNAMIZE the digital transition of the processes in the AF

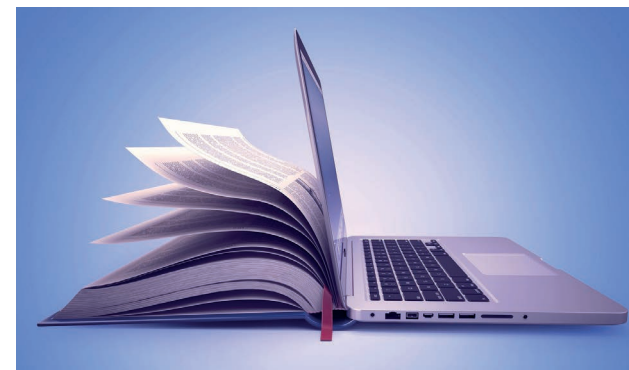
LA6.01 – Enhance joint automatic data processing solutions leading to the dematerialization of processes.

LA6.02 – Increase digital literacy in the AF to favor the ongoing digital transition process.



SG7 – FOSTER the implementation of instruments that facilitate innovation in terms of generating ideas and sharing knowledge

LA7.01 – Develop the ability to obtain ideas from internal and external collaborators, promoted by agile and interactive processes for sharing information and supported by systems for recording and monitoring innovation ideas.



LA7.02 – Foster the holding of specific events and forums for innovation from a perspective of incubators of ideas and projects oriented towards the future challenges of the AF and their operational needs.

SG8 – PROMOTE the synchronization of the RD&I and Experimentation activities within the AF

LA8.01 – Implement a model that articulates the coordination of RD&I and experimentation entities for research in the areas of innovation and transformation of the AF, encouraging collaboration and teamwork.



LA8.02 – Foster the development of Defense RD&I projects with joint teams exploring synergies of existing resources in the AF.



SG9 – MAXIMIZE military and dual-use capabilities through open innovation and the incorporation of disruptive technology

LA9.01 - Establish open innovation networks promoting clusters in emerging and disruptive technologies to accelerate the process of continuous improvement of military capabilities according to the force's needs.

LA9.02 - Explore solutions to reduce the environmental footprint of the AF, namely in the conversion of platforms and reuse of materiel.



LA9.03 - Promote the improvement of dual-use military capabilities by using innovative processes and technological means to increase the efficiency and prestige of the AF in fulfilling their mission of military support to civil emergencies, namely in the surveillance and patrolling of the national territory.



8 | Operationalization and Control

The Strategic Goals established in this Directive are to be implemented through the SIPI that will be prepared by EMGFA bodies and the Services in an aligned and coherent manner. In this regard, the different Strategic Initiatives must be deducted from the Lines of Action already identified to speed up and facilitate the strategic alignment process.

The SIPI must be developed in accordance with the information established in a common database (to be implemented) and **submitted to the CEMGFA for approval within 60 days after the entry into force of this Directive**. There, one must briefly and clearly explain the relationship between the Strategic Goals and the Strategic Initiatives to be developed, the Entity who is primarily responsible (including the identification of the person responsible), the desired product (deliverable), and the deadline for completion.

Subsequent updates to the SIPI, including the introduction of new Strategic Initiatives, must be approved by the **Superior Council for Innovation in the Armed Forces**⁴

⁴ Consisting of the Chief of the Joint General Staff, the Deputy Chiefs of General Staff of the Navy and Air Force and the Coordinating Director of the General Staff of the Army.



(SCIAF) and submitted to the CEMGFA for approval.

It is incumbent upon the Chief of the Joint General Staff to establish a **Commission for the Innovation in the Armed Forces**⁵, (CIAF) which will collaborate with the Services and with the bodies of the EMGFA in the task of coordinating the effort of standardization, harmonization, alignment, and verification of conformity between the SDIAF and the developed SIPI.

The implementation of this Directive and the SIPI will be monitored and evaluated to assess the degree of execution of the established goals and implement eventual corrective measures, at the level of Strategic Initiatives.

Monitoring and evaluation are carried out at three levels:

- At CEMGFA level, through periodical updates;
- At the SCIAF level, which ensures the updating of the indicators of the Strategic Goals of the strategy map for the Innovation of the AF, monitors its global evolution and evaluates the reasons for any

⁵ Consisting of the DIT, as a coordinating element, and representatives of the homologous bodies of the Services.

deviations, as well as the changes in the AF mission environment;

- At the level of the EMGFA bodies and Services, which ensure the updating of the planning and degree of execution of the Strategic Initiatives under their responsibility, reporting this information to CIAF every two months.

The following must be carried out, within this framework:

- Executive reviews**, under the responsibility of CIAF and on a bimonthly basis to evaluate the degree of execution of this Directive and identify possible corrective measures to be implemented. These reviews are presented through status reports made by representatives from the Services and the EMGFA, during coordination meetings with the CEMGFA, following a standardized briefing structure, to be provided by CIAF.
- Strategic reviews**, under the responsibility of SCIAF every two years to assess the adequacy of the SDIAF in the face of the current framework of priorities of the AF and the challenges arising from technological developments. This review will enable an update of the SDIAF and the SIPI, redirecting the innovation effort, according to the goals and missions of the AF.

Situation tables are available and are updated by the EMGFA-DIT to help monitor and control the execution of this strategy and are used in collaboration with the point of contact in each Service. This information must be equally accessible to the Services.

Without prejudice to other performance indicators that may be adopted in the future, the monitoring of progress is primarily based on the percentage of execution of the Strategic Initiatives against the established deadlines.



List of abbreviations

AF	Armed Forces
CEMGFA	Chief of the General Staff of the Armed Forces
CIAF	Commission for the Innovation of the Armed Forces
DIT	Division for Innovation and Transformation
DTIB	Defense Technological and Industrial Base
EMGFA	General Staff of the Armed Forces
EU	European Union
LOBOFA	Organic Basic Law of the Organization of the Armed Forces
NATO	North Atlantic Treaty Organization
RD&I	Research, Development and Innovation
SCIAF	Superior Council for Innovation in the Armed Forces
SDIAF	Strategic Directive for Innovation in the Armed Forces
SIPI	Strategic Initiatives Plan for Innovation





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