

In general terms, Prospective studies supply:

- The trend analysis.
- The choice of solutions.
- The search for policies.
- The search for future scenarios.
- The analysis of the implications of scenarios.

In order to carry out this study, the IIEEE has applied the following sequence:

- General analysis of events and policies which favour or impede P&S.
- Research into the future situation expected in Spain and in Europe in the year 2020.
- Identification of the facilitating policies, that is to say, those policies which contribute to leading the Spanish and European situation towards the preferred scenario.

2. BACKGROUND

In the year 2010, the IIEEE began a framework project in research which involved the conduct of a range of prospective studies based on the technological treatment of the opinion of groups of experts with the aim of developing a new prospective system for application in the sphere of security and defence. In the first, carried out during 2010, the future of the Common Security and Defence Policy was studied and, in the second, carried out during 2011, the future of the European Common Defence was analysed.

For the conduct of this kind of studies, it is necessary for final objectives of the analysis to be set down and for the tasks to be carried out by each one of the three groups of clearly differentiated participants (experts, analysts and information treatment specialists) to be identified.

The traditional techniques of forecasting, such as the Delphi method or the Cross Impact analysis, may involve laborious work which is not exempt from complicated mathematical operations within the field of probabilities. On the other hand, with the initiative of the IIEEE, it is intended to apply new technologies to strategic planning and, more exactly, to the field of production and analysis of future scenarios by means of forecasting with techniques such as online consultation of experts, treatment of information by means of blurred computational techniques or the generation of possible scenarios by means of pattern analysis.

The TECNALIA corporation has played an essential role in this study as a technological partner supplying the knowledge necessary for the conduct of the prospective study. A detailed description of both the phases of the method used and its theoretical basis is included as “Appendix I”.

2.1. Related studies.

The European P&S initiative awakens concerns not only in the IEEE but also in other centres and organisations devoted to the study of European security, with the report recently published by the European Union Institute for Security Studies (EUISS)¹ being of particular significance.

In the report, the EUISS makes clear the need for a reaction which advocates European military strengthening as opposed to the maintenance of isolated sovereignties. The question is put forward as to whether isolated national sovereignties will be capable of dealing with the important challenges which Europe faces in the field of defence and security and whether the slowness of this process of renunciation and reunification might ruin the rapid response which Europe will have to give to certain threats.

The above-mentioned study claims that the EU has a limited knowledge and recognition of the emerging threats, shows a certain lack of interest in strategic matters and has relatively few voices which demand effective and sustainable European armed forces. Furthermore, European policy presents a fragmented panorama as regards the military and defence fields.

The same report considers that there is little hope for growth in national defence budgets and that the only solution to counter the possible risks is that of working together. Five different pathways, which must be cumulative and not necessarily mutually exclusive, are identified along which it is possible to advance in this regard:

- The first is centred on consolidating the implementation of P&S by improving military efficiency. This involves a reduction of duplicated and obsolete capabilities.
- The second consists of favouring the impulse towards greater military effectiveness

¹ See, for example, ROGERS James & GILLI Andrea, “Enabling the future. European military capabilities 2013-2025: challenges and avenues”, *Report num. 16*, European Union Institute for Security Studies (EUISS), Paris, 6th May 2013, available at <http://www.iss.europa.eu/publications/detail/article/enabling-the-future-european-military-capabilities-2013-2025-challenges-and-avenues/>. [Consultation: 18.10.2013].

by means of improvements in equipment and ability.

- The third proposes innovation and reinforcement of military technology, promoting effective plans for innovation.
- The fourth is based on framing the bilateral relations which are currently conducted individually between EU countries under a broad European perspective.
- The fifth consists of making a strong commitment to integration, advancing towards it and aiming to ensure sustainability.

Between the study carried out by the EUISS and that of the IIEEE, there are similarities and differences. On the one hand, both initiatives have as their common objective concern about the materialisation of the European P&S initiative. On the other hand, the EUISS carries out a generic study of the optimisation of European military abilities and puts forward five routes of action while the IIEEE study is centred on the analysis of the future situation both at the European and the Spanish level, to identify policies for boosting P&S. The IIEEE study starts from possible future situations so as to attempt to give methods for solution while the EUISS deals with the problem in a global and conceptual manner contributing generic solutions. The two studies complement each other although their approaches start from different points.

3. MEMBERS OF THE PROJECT TEAM

From the IIEEE:

Study leader	Brigadier General Mr. Miguel Ángel Ballesteros Martín
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The technical Team is made up of:

Project Manager	Dr. D. José Miguel Castillo Chamorro
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4. CONDUCT OF THE STUDY

In the studies carried out by the IIEEE in 2010 and 2011, the choice of events which shaped the possible future scenarios fell exclusively on the Institute's analysts. In the study on P&S carried out during 2013, it was decided to carry out an online consultation of the experts so that, writing freely, they could indicate what they believe will be the most significant events in each one of the spheres set down by the analysts, with which

it was intended to cover all the variables which make up the object of the study:

- Political and regulatory environment.
- Defence planning.
- Military level of ambition of the Common Security and Defence Policy.
- Availability of resources.
- Industrial and Technological Base of European Defence.
- Evolution of the EU-NATO relationship.

The detailed description of each of these spheres as well as an in-depth analysis of the responses of the experts is included as “Appendix II”.

4.1. Selection of experts

The selection of experts is a critical activity for the conduct of the project. Thus, the IEEE proceeded to select them according to their knowledge and experience in the matter being studied, and, at the same time, attempted to achieve a plural vision of the object of study, which was guaranteed by their number (33 in total), prospective attitude and the diversity of their origins (military, academic, diplomatic, researchers from think-tanks, ex-ministers, senior managers of national companies and also those from other countries).

4.2. Selection of events

Once the on-line “brainstorming” had been carried out, the IEEE analysts proceeded to extract the most representative events which could shape the future scenarios of development of the P&S initiatives in 2020. Due to the importance and interest of what has been contributed by the experts and in order to maintain the coherence of the report, a synthesis is included as “Appendix II”, indicating its essential character as a starting point for the study and specifically recommending that it should be read as a fundamental part of this work.

The aim of the prospective study is to obtain a range of possible scenarios, which are made up of a certain number of events. This number of events should not be very numerous as this would make the number of possible scenarios unmanageable. This matter, in reality, does not limit a prospective study as, if it is really considered necessary to handle a larger number of events, it is possible to use the procedure of scenarios in cascade, in which certain events represent a sub-scenario in reality.

Unlike the studies from 2010 and 2011, in which a single scenario was considered, on this occasion, the selection of events was carried out for two clearly differentiated scenarios: one European (made up of seven events) and another Spanish (which was made up of six).

4.2.1. LIST OF EVENTS FROM THE EUROPEAN SCENARIO AND FROM ITS ASSOCIATED ACTIONS.

The events selected by the analysts for the European scenario were the following:

1. The world geo-political environment is multi-polar, the United States has moved the centre of gravity of its foreign policy towards Asia and the Pacific and has therefore weakened its commitments to Europe, which must face up to the instability in its immediate environment alone, which implies such actions as:

- The relations between the United States and Europe should improve or remain stable.
- Europe identifies the change of priorities in the security and defence policy of the United States.
- There is greater European responsibility with regard to its close environment.
- The drift of the United States towards the Asia-Pacific area will progressively empty NATO's transatlantic ties of content and will affect the US economic contribution to its costs.
- The Free Trade Agreement is signed between Europe and the US.

2. Europe advances, in small steps, towards political union giving itself improved mechanisms in the field of CSDP. This involves such actions as:

- The CFSP and CSDP continue to be policies with a low level of agreement although advances are achieved in this direction. The States retain their capacities regarding the use of force.
- Tensions between the northern and southern countries of the Union.
- The regulatory novelties included in the Treaty of Lisbon, such as the mutual defence clause and Permanent Structured Cooperation.
- The decision-making system is perfected, with greater intervention of qualified majorities.
- The regulatory framework favours the appearance of a multi-speed Europe in security. Countries with similar strategic cultures and similar geopolitical ambitions take more similar positions and sign cooperation treaties in the matter of defence.
- Public opinion prefers interventions as the EU rather than as NATO. These interventions will be for humanitarian as well as strategic reasons.

3. Reduction in the dimensions of the Armed Forces in the western world on the national scale below the levels demanded for the missions and objectives that they are

given. This implies actions such as:

- In view of the absence of a severe threat, there is no significant perception among the public of risk, threat or danger in the immediate environment of the EU, which has a specifically military component, despite an increase in unrest in the near environment.
- Reduction in the dimensions of the Armed Forces on the national scale in the western world.
- The EU will have insufficient resources for the missions and objectives in which it will have to take action itself in view of the step back taken by the US.

4. The problems of harmonisation between NATO and the EU, as a result of their different perspectives and members, continue although the relationship between the two and the efficiency of their actions is improved. This implies actions such as:

- NATO continues to have a preponderant role in the management of security and defence problems.
- More efficient management of the resources placed at the disposal of NATO and the EU is carried out.
- More coordinated action of NATO and the European Union in crisis management.
- The requirements of the EU's P&S are harmonised with NATO's "Smart Defence" in the framework of the "EU-NATO Capability Group".

5. The European Defence Agency is strengthened in the context of a policy in favour of industrial and technological development while a restructuring of the Defence industries is encouraged at the European level compatible with transatlantic cooperation with US companies. This implies actions such as:

- An advance is made towards the formation by sectors of large business clusters, backed by a network of small and medium-sized businesses, scattered throughout all members States.
- Strengthening and development of the EDA and securing its place in the institutional and decision-making framework of the Union.
- Use of European funds for research in the matter of Security and Defence. Reduction of dependence on external suppliers, in particular the USA, with the consequent increase in the security of European supply.
- Promotion of dual use technologies.
- Development of joint programmes between European and American businesses. Progress in EADS/BAE System relations and even the possibility of a merger.

- The development of new areas commences (cyberspace, space industry, etc.) linked to Security and Defence.

6. Defence budgets do not exceed the levels prior to the crisis but the start-up of a number of PSCs (Permanent Structured Cooperation), with restrictive participation criteria, gives a boost to pan-European initiatives. This implies actions such as:

- European society does not accept the importance of guaranteeing its own security, with the result that it is against assigning greater resources.
- The Defence Budgets of the Member States, in the best possible case, only get back to the levels prior to the economic crisis.
- A number of PSCs are started up with clear and restrictive participation criteria.
- The boost to P&S comes from the “pioneer groups” which are involved in the PSCs with a Europe with multi-speed security.
- Improvement in military R&D thanks to its inclusion in the Horizon 2020 framework programme, with greater development of capacities for civilian-military dual use.

7. A permanent EU Headquarters for planning and conduct of operations is created and built up and mechanisms of certification and funding are set up for the Battle Groups (BG) as well as automatic criteria for activation and deployment. This implies actions such as:

- It is not foreseeable that the European Council will approve the deployment of one of the BGs on standby, except if clear criteria are set which bind participating Member States.
- Contingency Plans are worked out for the crisis situations for regional security.
- The level of military ambition will not depend on military criteria but on the available budget.

4.2.2. LIST OF EVENTS FROM THE SPANISH SCENARIO AND ITS ASSOCIATED ACTIONS

The events selected by the analysts for the Spanish scenario were as follows:

1. A political crisis cannot be discounted in the context of a political, social, economic and institutional crisis in Spain. Self-explanatory, it does not include associated actions.

2. Spain remains committed by regulations equally to the EU CSDP and to NATO, although it has a growing preference for the former due to the preferences of public opinion. This implies actions such as:

- All the majority political forces and public opinion are in favour of Europe and desire a greater role for the EU in the field of security and defence.
- The change in Washington's interest from the Atlantic to the Pacific weakens NATO.

3. The consequences of the economic crisis and the accumulated debt to the Defence Industry, the result of the Special Armament Programmes, are a burden for the Defence budgets which are at best maintained or slightly reduced significantly affecting the operations of the Force. This involves actions such as:

- Economic stagnation, social tensions and the need to reduce the public debt mean that the Defence budget does not recover the levels prior to the crisis.
- Due to lack of funds, the refinancing formula for the Special Weapons Programmes is not sufficient to prevent a significant reduction in national capabilities.
- A significant reduction in the size of the Spanish Armed Forces.

4. Global policies for the promotion of the Spanish industrial fabric are started up, including the restructuring of the Industrial and Technological Defence Base. This implies actions such as the following:

- The industrial capabilities in which Spain can play a leadership role are promoted.
- A greater share of the non-EU market is taken on, in view of the meagre European defence budgets.
- Fewer companies in the defence sector, the absorption of some existing companies by large groups.
- Secondly, the entire technological and industrial fabric of linked SMEs will be weakened. The situation will get much worse before it begins to get better and the technological and industrial base will be substantially different in the future from the current one.

5. The type of missions for which our Armed Forces have to be prepared needs to be rethought, with a more regional perspective and without long-term commitments such as those accepted in Bosnia and Afghanistan, which modifies defence planning. This implies actions such as the following:

- Spain's international missions will not repeat the model of the last few decades.
- The Armed Forces will be more limited and the most active instruments will be different.

- Military capabilities will be re-oriented with a new design for the missions.
- Capabilities with greater technological weight and fewer human resources will be necessary, with more limited armies which are better equipped, more flexible and much more multi-purpose.

6. Spain maintains its current level of participation and commitment with both the EU's CSDP and with NATO. Self-explanatory, there are no associated actions.

4.3. Preparation of the questionnaires

In the case of the European scenario, the total number of possible scenarios is the result of the combination of the existence or non-existence of the above-mentioned seven events, for a total of $2^7=128$ scenarios. In the case of the Spanish scenario, the number of events is six, and therefore the total number of scenarios is $2^6=64$.

The experts are not consulted about all the scenarios but the most representative ones are selected and are validated by means of logical-algorithmic procedures in such a manner that there is certainty that there are no highly-likely scenarios which have not been consulted about. The consultation phase took place in two sub-stages:

- In the first, the experts were consulted about the possibility of the existence of 15 scenarios for each one of the fields, European and Spanish.
- In the second, another 15 scenarios were selected, bearing in mind those events which were present in the scenarios of the first sub-stage.

Therefore, the experts were consulted on a total of 30 scenarios, compared with 15 in 2010 and 20 in 2011. The consultation was again carried out on line and consisted of collecting the opinion of each expert on the probability, expressed in natural language from “Very High” to “Very Low”, that in 2020 the combination of events contemplated in each scenario would arise.

A detailed list of the thirty scenarios selected for each field is included as “Appendix III” together with the events included in each of them, as well as the probability of occurrence indicated by the experts for each one of them.

A clear and definite scenario was obtained from the surveys which represents the most probable trend in the opinion of the group of experts. In order to validate that there is no scenario from those not subjected to the survey which presents a higher degree of probability, the response of the experts was simulated by means of a neural network. In this way, the results of the ninety-eight rejected scenarios was obtained in the case of Europe and the thirty-four in the Spanish case and all of them are below the values obtained for the scenarios surveyed with a greater possibility of occurring.

5. ANALYSIS OF THE RESULTS

The result supplied by the specialists in the treatment of the information, after the responses given by the experts, is as follows:

5.1. European scenario

After the analysis of the information, it was determined that, of the thirty scenarios consulted with the experts, a total of eight had a high probability of occurring (the events which are verified in each scenario are shown with a grey background):

	EV1 ²	EV2 ³	EV3 ⁴	EV4 ⁵	EV5 ⁶	EV6 ⁷	EV7 ⁸	Weighting %/000
Scenario 11-2	X	X						27.32
Scenario 12-2	X	X		X				26.23
Scenario 2-1	X			X				26.23
Scenario 12-1	X	X	X			X		24.04
Scenario 9-2	X		X		X	X		22.95
Scenario 3-2		X		X				21.86
Scenario 7-2	X			X	X			20.77
Scenario 14-2	X	X	X		X			19.67

² The world geo-political environment is multi-polar, the US has moved the centre of gravity of its foreign policy towards the Asia-Pacific region and has therefore weakened its commitments to Europe, which must face up to the instability of its immediate neighbourhood alone.

³ Europe is taking small steps towards its political union by giving itself improved mechanisms in the field of the CSDP.

⁴ Reduction in the dimensions of the Armed Forces in the western world on the national scale below the levels required for the missions and objectives that they are given.

⁵ The problems of harmonisation between NATO and the EU which are the fruit of their different perspectives and members are maintained although the relationship between the two and the effectiveness of their actions is improved.

⁶ The European Defence Agency is strengthened in the context of a policy of promotion of industrial and technological development while the restructuring of the Defence industries at the European level compatible with trans-Atlantic cooperation with US companies is promoted.

⁷ Defence budgets do not exceed the pre-crisis levels but the start up of a number of PSCs, with restrictive participation criteria, boosts pan-European initiatives.

⁸ A permanent EU headquarters is created and strengthened for the planning and conduct of operations, and mechanisms of certification and funding are set up for the Battle Groups (BG) as well as active criteria for activation and deployment.

The most probable scenario is 11-2. It is possible to extract a number of conclusions for the 2020 time horizon from the study of these eight probable future scenarios:

- Event 1 is realised in all except one of these scenarios, including the five with the

greatest probability of occurring. Therefore, the switch of the US towards the Asia-Pacific region is confirmed and Europe will have to face the security crises in its immediate vicinity alone.

- Event 2 is realised in five of the scenarios, including the two with the greatest probability of occurring. Therefore, CSDP would progress in small steps using Permanent Structured Collaboration for the development of capacities, taking decisions by qualified majority and at different speeds according to the group of countries.
- Event 3, the only one which is negative for the development of P&S, it is only realised in three scenarios, none of which have the greatest probability of occurring. In any case, it is necessary to avoid the EU lacking the necessary capability of crisis management in the new strategic environment.
- Event 4 is realised in four scenarios, including two of the three that are most likely to occur. Therefore, it is very possible that the NATO-EU relationship will be, if not optimal, at least one in which the efficiency of their actions will improve. Scenario 12-2 should therefore be considered since, together with events 1 and 2, it incorporates event 4.
- Events 5 and 6, relating to the strengthening of EDTIB and the EDA, and to giving the CSDP the necessary financial resources, are only realised in three and in two scenarios respectively, which, in turn, are those with the least probability of occurring.
- Event 7, identified as a key deficiency of the CSDP, is not realised in any of the scenarios. Therefore, the EU would lack a permanent Headquarters and key pre-established criteria for the deployment of the BGs.

5.2. Spanish scenario

After the analysis of the information, it was determined that of the thirty scenarios for Spain, on which experts were consulted, a total of five had a high probability of occurring (the events which are verified in each scenario are given on a grey background):

	EV1 ⁹	EV2 ¹⁰	EV3 ¹¹	EV4 ¹²	EV5 ¹³	EV6 ¹⁴	Weighting ⁹ /000
Scenario 1-2			X				30.60
Scenario 12-1		X	X				26.23
Scenario 3-2			X	X	X		25.14
Scenario 6-2		X	X		X		21.86
Scenario 2-2			X		X	X	19.67

⁹ A political crisis cannot be discounted in the context of a crisis of political, social, economic and institutional model in Spain.

¹⁰ Spain remains committed equally to the EU's CSDP and to NATO in terms of its regulations, although it is moving progressively towards the former due to the preferences of public opinion.

¹¹ The consequences of the economic crisis and the accumulated debt to the Defence Industry, the result of the Special Armaments Programmes, are a burden on the Defence budgets which are maintained or reduced slightly notably affecting the operations of the Forces.

¹² Global policies of promotion of the Spanish industrial fabric are being started up, including the restructuring of the Defence Technological and Industrial Base.

¹³ The type of missions for which our Armed Forces must be prepared needs to be reconsidered, with a more regional strategy and without long-term commitments similar to those accepted in Bosnia and Afghanistan, which modifies defence planning.

¹⁴ Spain is maintaining its current level of participation and commitment both to the EU's CSDP and to NATO. Self-explanatory; it does not include associated actions.

The most probable scenario is 1-2. From the study of these five probable future scenarios, it is possible to extract a number of conclusions for the 2020 time horizon:

- Event 1 is not realised in any of the scenarios. Therefore, it is not expected that Spain will be involved in a crisis of State which will affect its participation in CSDP and in the P&S initiatives.
- Event 2 is realised in two scenarios, including the second most likely to occur. It cannot therefore be ruled out that Spain will progressively give more weight to its contribution to CSDP at the expense of NATO. It would therefore be necessary to consider scenario 12-1.
- Event 3 is realised in all scenarios. Therefore, it is expected that, as a consequence of the crisis and the debt accumulated from the main weapons programmes, the Spanish Armed Forces will reduce their importance and capabilities.
- Events 4 and 6 are only realised in one scenario. Both the reinforcement of the Spanish Industrial and Technological Base and the maintenance of the current degree of commitment to the EU and NATO are therefore considered to be unlikely.
- Event 5 is realised in three scenarios. A change in planning for capabilities of adaptation to new missions, which are more limited in duration, with a greater technological weight and fewer human resources is therefore foreseeable.

6. CONCLUSIONS AND FACILITATING POLICIES

6.1. European scenario

From the start, there appears to be unanimity in the diagnosis of the strategic environment in which the P&S initiatives will take place on the 2020 horizon: the world geo-political axis will have moved from the Atlantic to the Pacific with a change of priorities for the United States which, together with an isolationist tendency after

a decade of foreign intervention, will mean that America will wash its hands to some extent of security in Europe.

Therefore, and given that the instability in the immediate environment of the EU is not going to disappear (rather the contrary), Europe will have to take on greater responsibility for maintaining its security for which it requires sufficient civil and military capabilities for crisis management. That is to say that, regardless of the fact that the remaining events make it possible to achieve them or otherwise, and of whether it is favourable or unfavourable for European interests, there is no doubt that the realisation of event 1 promotes the development of P&S initiatives.

Events 5 and 6 are precisely key to the EU being in a condition to take on that responsibility. Given that they are not verified in the scenarios with the greatest probability of occurring, the associated actions which contribute to their realisation are a basic reference when establishing the plan of action to take us from the current situation towards the desired future scenario (the preferred one from among the probable future scenarios) in 2020, the more so in that non-realisation would contribute to the realisation of negative event 3.

With regard to event 4, a greater coordination and effectiveness in the NATO-EU relationship would contribute to optimising the efforts to obtain the capabilities in particular if the requirements of NATO's "Smart Defence" and the EU's P&S are harmonised. Nevertheless, that optimisation would be even greater in a new framework of bilateral cooperation between the US and the EU in the security and defence sphere, which would involve a progressive loss of importance by NATO as we presently know it.

Finally, and although the prospective study determines a low probability of occurrence for event 7, as it has been identified by the experts as a key development for the efficacy of CSDP, the associated actions must be considered in the above-mentioned plan of action so as to minimise the damage caused by non-realisation on the 2020 horizon.

It can therefore be stated that in the future scenario no great advances stand out in a positive manner in the articulation of a system of European defence but, on the other hand, nor is there an absolute obstacle to the creation of such a system; rather, we are advancing in that direction but with "small steps". That is the panorama shown by the scenario with the greatest probability of occurring, 11-2 with event 1 and 2, and also 12-2, which adds event 4 to the previous ones, which makes clear the continuity of the EU and NATO at the same time as it influences improvement and efficiency in their relationships.

It is therefore advisable to evaluate whether those "small steps" are going to be sufficient to achieve the proper level regarding the articulation of the mechanisms for defence at the European level within a reasonable space of time or whether, on the other hand, the threats that Europe faces may be realised before the integrated concept of European Defence is achieved and consolidated.

In conclusion, it is considered necessary to have influence on the following policies which will facilitate the achievement of the desired final situation, that is to say, the most favourable situation among the probable ones, on the 2020 time horizon:

- Emphasising to public opinion in the Member States that Europe cannot continue to trust in external resources to guarantee its own security, not only *per se*, due to the necessary autonomy of defence, but also because the interests of the EU will progressively gradually separate from those that are specific to the US.
- Undertaking a clear diagnosis of the risks and threats in our environment, of how the Union must face up to them jointly, and of the tools which it requires to do so, through a thorough review of the 2003 European Strategy.
- Translating the great framework approaches into concrete and limited objectives for the development of CSDP in such a manner that the maxima established by the Treaty of Lisbon are progressively and constantly achieved, also in the scope of obtaining capabilities.
- Giving a fundamental weight to the PSC as a main tool of realisation of the P&S concept. For this purpose, we should promote a pioneer group who will implement an initial Cooperation to test applicability.
- Progressively strengthening the EDA, but more as an agency to provide Services to the Member States which embark on P&S initiatives than as a management and control organisation, which is a role which is not supported by European nations.
- Imposing the transfer of community regulations on the defence industry into national legislation, while being conscious of the difficulty of strengthening EDTIB from the Commission and of the fact that defence budgets will not grow.
- Creating a bilateral framework of cooperation on security and defence matters between the EU and the US, in which NATO progressively dilutes some of its powers such as the standardisation of equipment and procedures.

6.2. Spanish scenario

To begin with, a pessimistic panorama is derived from expert opinion with regard to the situation of Spain in the spheres related with the P&S initiatives. Although in general no political crisis is foreseen, as regards security and defence there appears to be unanimity in that the combination of the economic crisis, the reduction of the Defence budget and the accumulated debt from the large weapons programmes will affect the future capacities and importance of the Armed Forces.

Given that Spain not only has multi-lateral commitments in the framework of

NATO and the EU but also has threats which it does not share with its allies, the need to adopt measures which minimise the impact of Event 3, which is precisely the only one which is verified in the scenario with the greatest probability of occurring, the scenario I-2.

It is also advisable to contemplate scenario I2-1 made up of events 2 and 3, as, in the opinion of the expert group, it also has a high degree of probability of being realised, especially for the relative values obtained from the blurred inference module. Taking the actions associated with event 2, while prioritising the action of Spain in the EU vis-à-vis NATO, is an immediate way to minimise the impact of event 3, which is plausible both as a result of the European preferences of the population and due to foreseeable loss of importance of NATO mentioned in the foregoing section.

Another option would be the realisation of event 4 and of its associated actions, oriented towards the restructuring and strengthening of Spanish BITD but, as is concluded from the prospective study, it is not foreseeable that that will happen. Therefore, the Spanish defence industry might undergo substantial restructuring losing capabilities drastically, which would affect not only the economy related with this sector and its jobs, but also the maintenance of military capabilities which would allow Spain to act in defence of its own commitments regarding the preservation of national sovereignty.

Returning to scenario I2-1 and event 2, it is evident that if Spain is seen to be determined to maintain its commitments to the EU regarding defence, and that trend is maintained over time, it will have a positive influence on the sufficiency of the defence budgets in order to achieve certain positions at the European level. Unfortunately, the question is not only limited to improving the defence budgets, as the positioning within European P&S requires planning at the strategic level which will position the Spanish industrial fabric within the European defence industry, thereby strengthening the Spanish economy in this sector and will also align public opinion in a favourable manner, all of which might turn out to be a disproportionate ambition.

For all these reasons, it is considered that the most viable alternative to deal with the consequences of this pessimistic scenario is the realisation of event 5, the associated actions of which fall, above all, in the field of the Defence Staff: new models for international missions, reorientation of military capabilities and of the relative weighting of the land-sea-air components, and greater weighting for technology compared with manpower.

In conclusion, it is considered necessary to have an influence on the following policies for controlling the desired final situation, that is to say the situation which is most favourable among the probable ones, on the 2020 time horizon:

- Attempting to maintain a nucleus of key military capabilities and the industrial base for defence necessary for obtaining it at the national level, in view of the existence of threats not shared by our allies.
- Optimising, through the operative planning of the General Staff, the use of

the limited material resources available in such a manner as to minimise the negative impact of its clear insufficiency.

- Prioritising the CSDP of the EU as Spain's framework of action in the international sphere, in coordination with its allies, with regard to other frameworks such as NATO or even the United Nations.

7. FUTURE WORK.

The objective of the prospective studies is none other than that of analysing the future with the intention of having an influence over it. Therefore, the greater the number of variants that are studied in the area analysed, the better the information will be which is obtained in order to be able to take decisions of a strategic nature.

As has been set out throughout this work, the first “brainstorming” with the experts had as its main objective the identification of the key events for the development of the P&S initiatives of the EU on the 2020 time horizon, grouped in a series of areas selected by the IEEE analysts with which it was intended to cover the key variables which make up the object of the study.

That objective was realised with the selection of seven events for the future European scenario and of six events for the future Spanish scenario, with which the specialists in information treatment made up the questionnaires for the new expert consultation. But, furthermore, the quantity and quality of the responses made it possible to carry out a precise diagnosis of the current of the CSDP and of the measures to be taken to strengthen it.

In consequence, a list of practical actions and regulatory measures to be taken (included in Appendix II) was made at that stage of the study in such a manner that at the above-mentioned time horizon an ideal scenario would be reached for the development of P&S initiatives. Nevertheless, that list of measures, which are clearly identified in multiple official EU documents and those of European think-tanks, is still an exercise of wilfulness in an attempt to achieve a scenario which cannot in practice be realised.

On the other hand, in the forecast, instead of putting forward an ideal scenario which might not be achievable, the whole range of possible scenarios is contemplated, those with the highest degree of probability of occurring are identified and that which is most favourable for the evolution of the object of the study is selected. Furthermore, to this common characteristic of all prospective studies, those carried out by IEEE add the value of being carried out with innovate data treatment techniques.

In consequence, in the foregoing section, the policies of control which would bring us closer to the most favourable scenario in the Spanish scenario and which would contribute to achieving the most favourable scenario in the European sphere

have been formulated but avoiding proposing the actions which would contribute to events which, after the prospective study, it is concluded, would not arise in the period of time considered.

Any exercise of forecasting which attempts to glimpse a future scenario should be validated over time. This validation should be carried out periodically, in such a manner as to analyse whether the circumstances on the basis of which the exercise has been carried out remain in effect. If they vary, a new analysis should be carried out.

The monitoring of the different scenarios once they have received feedback with their real evolution is thus left pending so as to optimise the work of planning using the tools supplied by the strategic planning.

THE METHOD

1. THE METHOD BASED ON AGENTS.

The IEEE project presents a model of planning which, without losing the objective for which the prospective techniques are applied, aims to avoid the difficulties which, from the formal point of view, are presented by the current methods of strategic planning. The method which is applied has a scientific and technological basis described in depth in the book, “Una solución a la planificación de operaciones para la defensa basada en agentes inteligentes” (A solution to planning of operations based on intelligent agents”), published by the Ministry of Defence in 2007 under ISBN 978-84-9781-473-7.

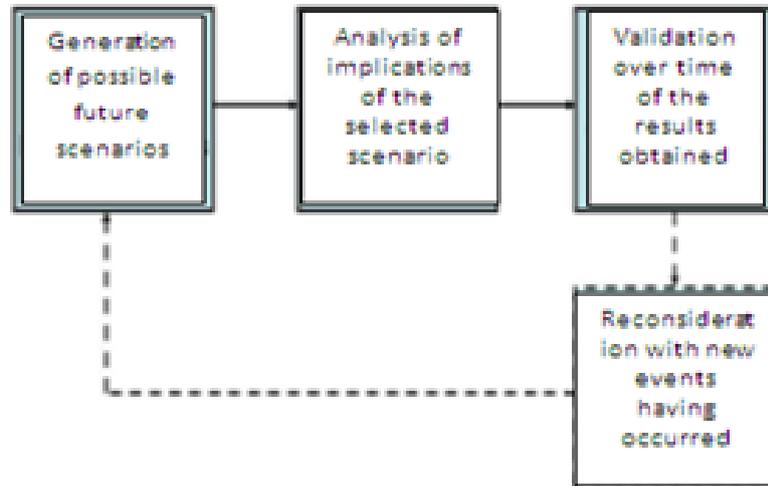
2. VALIDATION CYCLE.

With the process of generation of possible future scenarios, the set of scenarios is explored which, in the opinion of a group of experts, might occur as a consequence of the development of specific events.

Once the scenario which is believed to be most probable is obtained, its implications or influences are analysed with collateral or global scenarios. All the scenarios are generated by virtue of a number of direct internal events and their relationships with collateral scenarios the evolution of which might have an influence on or alter the achievement of the scenario which is the object of study.

Although the prospective method based on scenarios is put forward within a medium to long-term time horizon, it is necessary to validate the agreement between the scenario generated and the scenario which arises in reality. For this purpose, the need to carry out monitoring of the development of events which are considered key to the formation of the scenario is put forward. If the situation varies over time, it becomes necessary to reconsider the problem with the approach in which the new events are included.

3. PHASES OF THE METHOD



[Generation of possible future scenarios
Analysis of implications of the selected scenario
Validation over time of the results obtained
Reconsideration with new events having occurred]

The objective of the prospective method based on agents is none other than that of making accessible in terms of time and costs the processing of the opinion of experts within strategic planning. It aims to be a tool which, in the hands of a manager-strategist, makes it possible to obtain information on which to base decisions. In this way, it can act in an active and justified way on the complex process of modelling of future scenarios.

The phases of the method used are summarised below:

3.1. Selection of the scope and the time horizon

Definition of the objective of the prospective study, in which the subject that is the object of study is set. if necessary, at this phase, the time horizon to which the study refers is also defined.

3.2. Determination of participants and work

There are three differentiated profiles of the staff participating in this kind of study: analysts, experts and specialists in the treatment of information.

- The analysts decide on the scope and objective, work on the consultation and analyse the results. Thus, their task is to select the events which may make up part of the scenarios, formulate the consultations and draw up the questionnaires as well as, very specially, carrying out a strategic analysis of the information which is obtained after the consultations have been carried out.
- The experts have the knowledge and respond to the consultation carried out by the group of analysts. It is their job to answer, on the basis of their experience and intuition, the questionnaires drawn up by the group of analysts.
- The specialists in the treatment of information supply the way of carrying out the consultation, draw up the data using specific methods and supply results to be analysed by the group of analysts.

3.3 Selection of the group of experts

The knowledge resides in the group of experts. This knowledge exists in an isolated form in each one of them. The experts must have a thorough knowledge of the area on which they are to be consulted and have a prospective attitude. The selection of the components of the group is carried out by the organisation which is behind the study, helped by the group of analysts.

The experts who took part in the study were as follows:

- Arturo Alfonso Meiriño
- José Carlos De La Fuente Chacón
- Juan Carlos Villamía Ugarte
- Ignacio Horcada Rubio
- José María Terán Elices
- Juan Antonio Castillo Mesete
- Francisco J. Ruiz González
- Emilio Fajardo Jimena
- Iñigo de la Puente Mora-Figueroa
- Enrique Mora Benavente
- Constantino Méndez Martínez
- Antonio Fonfría Mesa
- Bernardo Navazo
- Mercedes Guinea Llorente
- Eduardo Serra Rexach

- Nicolás Sartorius Álvarez
- Jordi Marsal Muntala
- Félix Arteaga Martín
- Carlos Westendorp Cabeza
- Santos Castro Fernández
- Carlos Fernández Arias
- Guillermo López Maclellán
- Juan Díez Nicolás
- José Luis Orts Pales
- Juan Manuel García Sieiro
- Álvaro De Vasconcelos
- Juan Martín Villalón
- Ricardo Torrón Durán
- Jesús Argumosa Pila
- Luis Peral Fernández
- José Carlos Ayuso Elvira
- Vicente López-Ibor Mayor
- Emilio Sánchez de Rojas Díaz.

3.4. Selection of events

In order to make up the questionnaires for the study, the first process and one of the most important, is the choice of the events which will make up the said questionnaires. In order to satisfy this objective, on this occasion and unlike other years, a consultation based on brainstorming techniques was carried out with the aim that it should be the experts who supplied the necessary information for the determination of the possible scenarios which might arise in the field of “Pooling and Sharing” both in Spain and in the European Union, as well as the policies of facilitation to achieve the most desired scenario among the probable ones.

For the correct selection of events, they must be independent one from another and must be of a limited number, in such a manner that they make it possible to generate a computationally manageable number of scenarios. These events must be proposed in free writing by the set of experts for each one of the fields defined by the IEEE analysts.

Once the experts had carried out this task using the digital forms developed by

TECNALIA, the IEEE analysts discerned and selected those that they considered most relevant in defining the future scenario, within the 2020 horizon and for the P&S initiatives.

3.5. Drawing up of the questionnaires

Having gone through the previous phase, the extraction of the knowledge of the experts was carried out using a consultation via questionnaires. The questionnaires must be intuitive in their understanding and easy to answer. These requirements were considered to have been satisfied in this case.

3.6. Conduct of the consultation

The technology company, TECNALIA, developed a web environment for the on-line consultation of the experts. The advantages of this system are innumerable but include the comfort of the expert, who can answer from any point where he has an Internet connection and the immediate reception of responses for subsequent processing.

On the main page of the website, the Director General of the IEEE presents the project. Subsequently, the functioning of the digital questionnaire is briefly commented on and the expert gains access to the questionnaires on the two fields (Spanish and European).

At this stage, the experts are not consulted about all the scenarios but rather the most representative are chosen and are validated by means of logical-algorithmic procedures in such a manner that it is certain that there are no highly probable scenarios which have not been consulted about.

For this purpose, the consultation phase takes place in two sub-phases. In the first phase, the experts are consulted about the possibility of the existence of fifteen scenarios for each one of the fields, European and Spanish. In the second consultation, the results of the first are borne in mind and the other fifteen questionnaires are again selected, this time bearing in mind those events which, in the opinion of the experts, have been present in the scenarios of the first sub-phase.

In order to facilitate access to the web environment, at the beginning of each one of the sub-phases, a personalised link was sent to each expert which made it possible to record their responses on the system without it being necessary to register. The response to each one of these questionnaires by the experts consists of classifying the possibility of its occurrence in the year 2020 as Very High, High, Medium, Low or Very Low.

3.7. Qualitative processing of the data

Once the questionnaires had been responded to, the data received proceeded to be analysed with the aim of converting them into information which would make it

possible to generate possible future scenarios. In the study of the data, three clearly differentiated stages are established:

- Grouping of the responses around the median:

The first verification of the suitability of the method consists of analysing the tendency of the responses around a central value. From the first analysis of the responses of the experts, it is clear that the group response is coherent in the majority of the questionnaires since the tendency in the response generally follows a normal distribution following a Gaussian-type function. A different distribution in which this kind of grouping did not take place would mean that the question might have an ambiguous interpretation or that it is not well formulated. It is worth stating that no individual response was detected of an anomalous nature.

- Generation of the rules from which the possible future scenarios arise:

The first step for processing the data consists of converting the responses from the experts into rules. The set of events which make up the possible scenario form the antecedent to the rule, while the possibility that this scenario might be realised is the consequent correspondent. Therefore, for each one of the questionnaires there will be five possible responses. From the thirty questionnaires and bearing in mind the five possible responses, a total of 150 rules will be obtained for each one of the fields (European and Spanish).

- Weighting of the rules:

From the set of 150 rules for each field (European and Spanish), there will be a certain number which have been selected by the experts; others, very probably, do not get a single response. The rules are weighted according to the number of times that they have been selected by the experts. From the set of rules, all those which have not been chosen by the experts are eliminated. The index of weighting of the rule is calculated by means of the relationship between the number of times which it has been selected and the total number of valid rules.

3.8. Quantitative processing of data

After the verification of the result of the consultation by means of qualitative techniques, the data are processed with the aim of obtaining relevant information which brings together the information supplied by the experts.

3.8.1. CREATION OF A BLURRED INFERENCE MODULE

Unlike the Delphi method, the method based on agents uses the opinion of the experts supplied individually to subsequently merge it with the rest of the opinions in the group. Those rules or scenarios selected by a larger number of experts will receive a higher weighting coefficient.

The blurred inference module makes it possible to quantify the response of the set of experts with regard to each one of the fifteen questionnaires. The quantified values which are obtained are expressed in a manner which is relative to the total set of scenarios reflected in the questionnaires. In this way, a certain rule will have more influence the greater the number of experts who have selected it and will be quantified in a manner relative to the total of rules.

3.8.2. EXTRAPOLATION BY MEANS OF A CLASSIFYING AGENT

The use of a classifying agent has as its aim the extrapolation of the knowledge extracted from the experts with the intention of generating responses to the rest of the possible scenarios which have not been consulted on. The classifying agent is trained on the basis of the opinion supplied by the expert group.

Once the agent is obtained, it is loaded into a computer application which makes it possible to consult on the possibility of materialisation of any scenario or to carry out the study of those scenarios with the highest possibility of realisation.

3.9. Analysis of the information

The analysts must study the results obtained after the preparation of the corresponding information by determining the possible scenarios within the space of time set down, choosing one of the possible futures as the preferred one and determining the policies to go from one to the other. The coherence of results, the possible causes and their corresponding effects will also be analysed.

3.10. Analysis of inferences from the environment. Fresh consultation of experts

Once the objective of the consultation is obtained, it is possible to link the scenario obtained with other events of a global nature which might have an influence on the possible future scenario or a desired scenario. This process may give rise to a new consultation of the group of experts repeating phases 5-9 of the method. On this occasion, it was not necessary to carry out a new consultation.

3.11. Validation of the results

Depending on the time horizon of the consultation, the results of the study may be validated by comparison with the real situation in the short, medium or long term. Nevertheless, it should not be forgotten that the future evolves continuously and that it is not exempt from the appearance of new events which were not taken into account when beginning the study. For this reason, the method of application must be dynamic, in such a manner that the evolution of the scenario is analysed in the short term and it is possible to generate variants and new consultations of the expert group while the future is being modelled.

EUROPEAN SCENARIOS CLASSIFIED AS HAVING A “HIGH” POSSIBILITY OF OCCURRING

(the values 0 and 1 represent the absence or presence of the event in the scenario)

	EV 1	EV 2	EV 3	EV 4	EV 5	EV 6	EV 7	CLASSI- FICATION	% Absolute votes	% Accumulated votes	Weighting °000
Questionnaire2-1	1	0	0	1	0	0	0	High	59,36	75,00	26,23
Questionnaire12-1	1	1	1	0	0	1	0	High	40,63	68,75	24,04
Questionnaire3-2	0	1	0	1	0	0	0	High	55,17	68,97	21,86
Questionnaire7-2	1	0	0	1	1	0	0	High	58,62	65,52	20,77
Questionnaire9-2	1	0	1	0	1	1	0	High	24,14	72,41	22,95
Questionnaire11-2	1	1	0	0	0	0	0	High	44,83	86,21	27,32
Questionnaire12-2	1	1	0	1	0	0	0	High	51,72	82,76	26,23
Questionnaire14-2	1	1	1	0	1	0	0	High	44,83	62,07	19,67

SPANISH SCENARIOS CLASSIFIED AS HAVING A “HIGH” POSSIBILITY OF OCCURRING

	EV 1	EV 2	EV 3	EV 4	EV 5	EV 6	CLASSI- FICATION	% Absolute votes	% Accumulated votes	Weighting °000
Questionnaire12-1	0	1	1	0	0	0	High	59,38	75,00	26,23
Questionnaire1-2	0	0	1	0	0	0	High	55,18	96,55	30,60
Questionnaire2-2	0	0	1	0	1	1	High	34,48	62,07	19,67
Questionnaire3-2	0	0	1	1	1	0	High	72,41	79,31	25,14
Questionnaire6-2	0	1	1	0	1	0	High	55,17	68,97	21,86

CURRENT STATE OF THE MATTER: DIAGNOSIS OF THE EXPERTS ON THE “POOLING & SHARING” ENVIRONMENT OF THE EUROPEAN UNION

The detail of the responses obtained and the different fields of knowledge of the experts make it possible, apart from the primary objective of determining the events for the prospective study on the future P&S scenario, to carry out a thorough examination of the current state of the matter.

AMBIT I: POLITICAL AND REGULATORY ENVIRONMENT.

In this ambit, the experts were asked about the political or regulatory trends to determine what EU commitments are binding, which are negotiable and which are exclusively national obligations related with the threats that are not shared, which must be harmonised with them. Some references are as follows:

- European Security Strategy 2003, Monitoring report from 2008, EU Treaty of Lisbon from 2009, Spanish Security Strategy 2011, and National Defence Directive 2012.
- European directives on the “Defence Package”: 2009/1 on procedures for awarding contracts and 2009/43/EC on conditions for transfer of products related with defence.

As regards the opportunities and threats arising from the world geo-political environment, the experts emphasised the importance of the change in priorities in the security and defence policies of the United States, with the displacement of the strategic axis from the Atlantic to the Asia-Pacific region. This might lead to a weakening of the trans-Atlantic link and, as a consequence, a decline in NATO, which might in turn accelerate the efforts to integrate the EU in the sphere of PESC/PCSD.

As regards the internal weaknesses of the EU, the main thing is the persistent economic and financial crisis, as it is creating some tendencies in favour of breaking up in the EU which might affect its foreign policy and security. In this regard, the weakness of the single currency, the reduction in defence budgets, a possible tendency towards protectionism and the renationalisation of economic policies and even the eventual departure of the United Kingdom from the Union are particularly important.

In this regard, the need to extend the “*Athena*” mechanism for common funding of CSDP is specifically mentioned, so that it can include preparatory activities and those of deployment, withdrawal and recovery of the forces mobilised, independently of the nations supplying the capabilities in each case, reducing to the minimum the concept

of “*costs lie where they fall*”.

As regards the concrete situation of the CSDP, all the experts have emphasised the transcendence of the European Council which will be held in December 2013 devoted entirely to this question, from which a global strategy of foreign policy should arise and route maps with clear landmarks for the development of this policy. An important matter is the inability to agree on a new Security Strategy to replace the one from 2003, due to the differences in strategic cultures of the Member States.

The main regulatory reference for undertaking those advances is the clause in mutual defence from Article 42.7 of the Treaty of Lisbon, which states that “*If a Member State is the victim of armed aggression on its territory, the other Member States shall have towards it an obligation of aid and assistance by all the means in their power*”. However, doubts persist about the real extent of this commitment and the need of member States to face up to unshared risks, something which is especially relevant in the case of Spain as will be detailed below.

Despite the provisions of the Treaty of Lisbon, it is noted that each Member State continues to have its own security policy, independently of its size and perception of threats. The experience of the EU - and of NATO - reveals that the political commitments and rules are fulfilled to the extent that they coincide with these national interests, given that the decisions in this field are adopted in the inter-governmental framework of the Council (and not the intra-governmental one of the Commission), and generally lack a binding nature.

Among the new tools in the Treaty, the experts specially emphasise the Permanent Structured Cooperation, which makes it possible to form pioneer groups with the countries that have the capability and the will to develop specific capabilities. This facilitates the development of SCDPs at different speeds, with initiatives which are integrated not at the level of the 28 Member States but by means of sub-regional cooperation (Mediterranean, Nordic, Eastern, Balkan, etc.), promoted by the crisis and the impossibility of obtaining advanced military capabilities individually.

In the field of obtaining crisis management capabilities, it is obligatory for the States to transfer the European Directives of the “Defence Package” (2009/1 on contract adjudication procedures, and 2009/43/EC on conditions of transfer of products related with defence) into their domestic legislation. The inclusion of defence in the next European Framework Programme on R&D is also positive, and the development and progressive reinforcement of the powers of the European Defence Agency (EDA) and its cooperation with the Commission for the creation of a European common space in the matter of the defence industry and technology.

On the negative side of the balance, the experts mention the possible resistance of purely national companies to any integration which involves a reduction in their *captive* business volume, which might cause conflicts of a legal-economic nature between the EU and nations. In order to avoid this, it is key to establish clear commitments to correct the key absences of capabilities in the Union, mainly through P&S initiatives.

In order to end this field, the experts evaluated the role of Spain in CSDP, emphasising that the National Defence Directive 2012 indicates that, in the current scenario of economic crisis, the defences of the Member States of the EU are only viable and sustainable through cooperation. Both the Government and the opposition are pro-Europe and therefore they have a certain desire to go more deeply into this area.

The optimistic vision emphasises that the above-mentioned mutual defence clause of the Treaty of Lisbon extends, unlike Article 5 of NATO's Washington Treaty, to all the territories with national sovereignty, including non-European ones and that the application of the clause is automatic, does not require prior political agreement and constitutes a legal obligation for Member States.

On the other hand, the pessimistic vision insists on the existence for Spain of threats that are not shared with the other Member States, which makes it impossible to trust our security to the multi-national cooperation frameworks, especially in the case of the defence of Ceuta, Melilla and other points of sovereignty in North Africa.

AMBIT 2: DEFENCE PLANNING.

In this ambit, the experts were asked about the possible implications of multi-national planning (the EDA's Capability Development Plan 2008), bearing the need to prioritise according to the limited available resources in mind, with criteria such as that multi-national initiatives:

- Should correspond with a priority national lack in planning.
- Should be more efficient in terms of cost on economies of scale compared with a possible national solution.
- Should favour consolidation and development of the national defence industry.
- Should be able to take in the "Permanent Structured Cooperation" contemplated in the Treaty of Lisbon of the EU.

The objective of the Union in this field is synthesised in what the president of the Council, Herman Van Rompuy, denominates the *three keys to success*: prioritising future acquisitions, strengthening the European industrial base so that it can continue to be competitive, and guaranteeing the preparation and availability of the Armed Forces.

As regards the strategic environment which serves as a base for planning, the missions for which the Armed Forces must be prepared will have a more regional perspective without long-term commitments, thus avoiding the model of the last few decades (the Balkans or Afghanistan). The Armed Forces will be more limited and the most active instruments will be different, reorienting the obtaining of military capabilities: with greater technological weight and fewer human resources, with forces more limited in number but more flexible and multi-purpose.

As regards the planning organisations for military capabilities in the EU, the experts consider it necessary to have greater involvement of the General Staff of the EU at the military-strategic level for coordination with systems of national planning as well as the definitive constitution of a permanent EU Headquarters at the operational level. At the level of each Member State of the EU, the rationalisation of defence planning is foreseeable in accordance with the joint planning model by capacities, which in turn facilitates the adoption of multi-national solutions for obtaining new arms systems.

As regards the specific cooperation initiatives, the combination of a European Defence Agency reinforced with the tools of the Treaty of Lisbon (especially the PSCs), favours the development of joint programmes if the Member States perceive them as more efficient in economic terms. The concept of P&S, understood as multi-ownership of the enabling capabilities such as, for example, the European fleet of tanker planes. The agreements will be multi-lateral or, if applicable, bilateral such as the Franco-British treaty of 2010 (in this case, signed outside the EU framework).

At the industrial level, the training and consolidation of large European clusters (like the EADS) would favour defence planning in the EU, but the opposition of the Member States to renouncing an independent strategic capability is foreseeable. Under these conditions, Spanish companies must choose their partners (national and international) well in order to be able to offer complete products to the Spanish Armed Forces and, in turn, to be competitive in order to export. They must also be capable of specialising in niches with high added value as each nation will be assigned a certain area for contribution of materials and equipment and the process will be much more directed than up to now.

Planning by capabilities will maintain its validity over the next few years but with a greater focus on obtaining civilian resources. The organisations devoted to civilian planning in crises will be increased as the importance of cyber-defence and the use of space grows, as well as intelligence needs.

AMBIT 3: MILITARY LEVEL OF AMBITION OF THE CSDP.

In this ambit, the experts were asked about the influence of the military level of ambition of the CSDP established by the “Declaration of the Council on the reinforcement of capacities” in 2008 for the military CSDP operations:

- For the deployment of up to 60,000 troops in a maximum of 60 days, correct all the deficiencies identified in the European Capabilities Action Plan (ECAP) of March 2002.
- For the two main operations of stabilisation and reconstruction, which involve the deployment of up to 10,000 troops for at least two years, new concepts such as the *Battlegroup* 10,000 or the TF 5,000.

- For the two rapid response operations, using the *Battlegroups*, establish clear criteria of use and automatic mechanisms for activation and deployment.
- For the emergency operation of evacuation of EU citizens in an area of conflict in less than ten days, clarify the role of the national delegations and of the EEAS.

It will be recalled that the final Declaration of the Franco-British summit in Saint-Malo in 1998 (considered the origin of the CFSP) mentioned the need that “*the Union must have the capacity for autonomous action, backed up by credible military forces, the means to decide to use them, and a readiness to do so, in order to respond to international crises*”. That is to say that the CSDP depends both on the availability of capabilities and the political will to use them but, in general, the experts have discovered deficiencies in both.

On the one hand, the budgetary resources to obtain new capabilities are becoming progressively less as a consequence of the crisis, although this might precisely be a stimulus for the development of the P&S. Unless the security situation in the immediate neighbourhood of the EU (for example, in North Africa) becomes worse to the extent that it is perceived by the European population as a direct threat, it is not foreseeable that there will be public support for greater investments in security and defence.

On the other hand, the military level of the CSDP has been characterised according to the breach which exists between the wilful declarations and the reality of the commitments of the Member States. For this reason, the experts identify the lack of political will as the main limiting factor to European foreign action and, in consequence, to its level of military ambition. The following are emphasised as examples:

- The limited role played in the most recent conflicts, and especially Libya, where France and the United Kingdom acted unilaterally in view of the incapacity of the EU to adopt a common position, and the lack of political direction and guidance during the planning of the ultimately aborted EUFOR Libya operation.
- The lack of agreement between the Member States for setting up a permanent EU Headquarters that is at an operational level, a need classified as urgent and evident, so that it can carry out effective planning and conduct of operations.

In any case, it is not foreseeable that the EU will launch a military operation of the magnitude set down in the Helsinki Council of 1999, with the result that the deficiencies of the ECAP in 2002 will never be entirely covered. For this reason, it is important to concentrate on the development of the concept of the Battle Groups, two of which have been ready and prepared since January 2007 but have never been deployed. In order to achieve this, it is key that the Council should establish clear criteria of activation which are binding on the Member States. The evacuation of EU citizens in a conflict zone close to the European continent is viewed as a more likely situation for the deployment of one of the Battle Groups on standby.

With regard to the criterion of non-duplication of capabilities which exist in NATO,

the experts mention the difficulty involved in the fact that the national resources assigned to NATO and to the CSDP are exactly the same and that, although the Headquarters of NATO are also European and therefore should be at the disposal of the CSDP, avoiding additional investments especially in times of budget restraints, in practice, their availability depends on the goodwill of agents from outside the EU such as the United States or Turkey.

In order to relaunch the level of military ambition in the EU, it is necessary to have a conjunction of a decisive “*top-down*” political impulse by statesmen of the first order, together with the effective construction by “*bottom-up*” blocks as the bases of negotiation are consolidated as satisfactory agreements on commitments are reached (a habitual mechanism in the EU). For this purpose, it is indispensable to accept the difference in real capabilities of the Member States, despite their vote in the Council and the different levels of commitment towards the missions of the CSDP.

As a conclusion to this ambit, once again the Treaty of Lisbon offers the solution with Permanent Structured Cooperation, where the commitments of the States are evaluated and sanctions can even be decided on or expulsion if any participant does not respect its commitments. The PSC is made up therefore as an instrument to supply the EU with the military capabilities that it requires in order to fulfil the security missions which it is assigned by the Treaty.

AMBIT 4: AVAILABILITY OF RESOURCES.

In this ambit, the experts were posed questions from a quantitative and qualitative point of view, and taking into consideration such questions as:

- Global quantities which the Member States devote to their security and defence policy and percentages of GDP that they represent.
- Percentage of investments in new equipment developed in the framework of collaboration programmes at the European level.
- Supply of funds to pan-European R&D programmes in the sphere of defence.

Although the experts agree on the fact that Europe can be a relevant agent in security, the defence budgets of the Member States should put a brake on their decline, which they do not consider to be probable in the current scenario of economic crisis. The construction of Europe in defence will be strengthened by the real operations in which it gets involved using tools appropriate to a limited availability of resources such as the PSCs and the P&S.

The importance of the PSCs is again emphasised as the participation in them demands commitments which may include, for example, devoting a minimum percentage of GDP to the defence budget as well as the fact that a proportion must be devoted to R&D projects. Any development of capabilities which is not strictly

national, involves optimisation in the use of the available financial resources, such as greater common funding of EU operations which distances itself from the concept of “*costs lie where they fall*”.

In any case, although the resources may not be increased or may even continue to diminish, it must be borne in mind that on the one hand the Armed Forces will tend to reduce their number of forces, with fewer staff positions, and that the continuous nature of internal-external security will mean that many more civilian crisis management capabilities will be put at the disposal of national defence than in the past. The authorisation for access to R&D+i funds of the Horizon 2020 framework programme for civilian-military dual use projects is included in this concept.

Finally, in the case of the large and medium-sized powers at the European level, the existence of independent security policies, of threats which are not shared and of very different strategic cultures means that the scarce financial resources continue to be divided between the European initiatives and those that are strictly national, while the specialisation of the smaller countries is not entirely accepted.

AMBIT 5: EUROPEAN DEFENCE TECHNOLOGICAL AND INDUSTRIAL BASE (EDTIB).

In this ambit, the experts were asked about the events which affect the European Defence Technological and Industrial Base of (EDTIB), such as:

- Training by sectors of large business clusters backed up by a network of small and medium-sized companies scattered throughout all the Member States.
- Development and preservation of key European industrial capacity, reducing dependence on outside suppliers, in such a manner that the EU can improve its security of supply.
- Implementation of the R&D strategy approved in 2008, achieving the objective of 2% of the budget for research, increasing the synergies between the Commission and the EDA in dual-use technologies.

In the opinion of the experts, it is possible to make out three levels of industrial collaboration with different effects on the defence industry; non-collaboration, in such a manner that each country keeps for itself those inalienable capacities, for which it requires a sufficient development of its industry; collaboration which does not mean absolute dependence on partners, creating a pool of capabilities with high degrees of industrial collaboration but maintaining their own; and the establishment of a higher degree of dependence between partners, through industrial specialisation and taking advantage of the know-how of the partners. In general, the factors which may stimulate consolidation of a defence industry in Europe, which is highly fragmented and national, are the following:

- Leadership of the Council to agree on a new Security Strategy with concrete objectives, a new level of realistic ambition and a common budget. The application of the concept of P&S will be initially oriented towards the development of certain critical capabilities, where the pooling of requirements is simple, but in order to consolidate a technologically advanced and competitive EDTIB, the only way is to put together the national capacities by means of international industrial consortia.
- Obligatory restructuring of national defence industries, which are currently over-sized, by means of an industrial policy coherent with the European strategy.
- Leadership in the large industries in the sector so as to achieve agreements based on specialisation and the added value that each can contribute. Export to third countries will be an added stimulus.

Among the threats to that consolidation of the EDTIB, the tendency of the Member States to put the economic interests of their defence sector first, thus placing obstacles in the way of the formation of large business clusters; that R&D has been one of the main victims of the economic crisis and, at Horizon 2020, previous levels of investment will not have been recovered; and a growing lack of coordination between the Council and the Commission which makes it more difficult to achieve the objective of finding synergies and developing dual-use (civilian-military) technologies. ,

In fact, the optimistic vision considers that greater development of the EDTIB, with even greater management from the Commission, is inevitable, with the same regulations as other industries. The EDA would come to have a greater dependence on the Commission or might even be attached to a newly-created organisation to regulate all EU industrial processes: large industrial groups will be formed to compete with North American and emerging Asian industry, especially in the naval and space sectors; and a clear reduction in dependence on non-EU suppliers, particularly the US, will take place, which will increase the security of supply in Europe in global terms.

The implementation of the process of integration of markets and industries must be carried out at all speed but with sufficient guarantees of protection of sovereignty, in which transparent selection criteria are set out and made public, from the elementary specialisation in basic technologies to the choice of processed products, taking into consideration the promotion of existing know-how on which to base the competitive projection towards the future as we emerge from the crisis.

On the other hand, and although the collaboration of the Commission in the regulation of the European defence market is to be appreciated, it is necessary to recognise that this initiative lies very close to the limits of its powers and the dogmatism applied in the Directives put out up to the present runs the risk of being interpreted as beneficial to the large corporations to the detriment of the industries in those countries which had not finished consolidating their processes of national development, as is the case in Spain.

In summary, the consolidation of the internal market is the only thing that can

guarantee the survival of defence companies, but it must be carried out in an orderly manner and with a technological impulse which guarantees the advantage over the emerging challenges. In a manner which is similar to what happened during the construction phase of the EU, it is necessary to accept that this process of integration of markets and industries will not be possible without making sacrifices which will only be accepted by a majority of European citizens if the final result is better than the current situation for all of them.

AMBIT 6: EVOLUTION OF THE NATO-EU RELATIONSHIP.

Considering that the P&S initiatives of the EU coincide in time with the “*Smart Defence*” (SD) of NATO, a concept approved at the Chicago Summit of the Atlantic Alliance in 2012, in this field, the experts were asked about the coordination between both organisations as both initiatives make use of the same resources, and another group of questions such as:

Evolution of EU-USA relations.

- Evolution of the NATO-EU Capabilities Group.
- Relations between the EDA (EU) and the Conference of National Armaments Directors (CNAD, of NATO).
- Coordination of the military planning of the EUMS and of the International Military Staff (IMS, of NATO).

In the first place, the experts again state that the US will progressively distance itself from European security and its immediate environment, in order to concentrate on the Asia-Pacific region, which implies a loss of importance to NATO. The tendency will be, therefore, that Europe will have to take care of its own backyard and the US will see to the rest of the world. Coming out from under the American umbrella will mean greater maturity for the EU while at the same time involving new responsibilities in defence, which will be difficult to take over due to the consequences of the economic and financial crisis.

The political key lies in an improvement which will deepen and strengthen as much as possible the trans-Atlantic link on the basis of our shared interests and values. For some experts, the future will be marked by a bilateral relationship in security and defence policy between the US and the EU, reducing the importance of NATO in European security architecture. In this regard, the inclusion or otherwise of defence in the Free Trade Agreement between the US and the EU will be a decisive factor for the future of EDTIB and, therefore, possible P&S projects.

On the other hand, relations at the political-strategic level between NATO and the EU continue to be paralysed by the insoluble conflict between Turkey and Cyprus, with consequences also in the field of the development of defence capabilities and

the normal functioning of the Capabilities Group. For this reason, any work which is done at a more technical level such as within the above-mentioned Group, among the Weapons Directors or in military planning will have an effect on making the political relationship, which is not at its best, closer.

The NATO concept of Smart Defence and the EU's P&S are two faces of the same coin: how to gain maximum advantage from restricted defence budgets. Furthermore, both organisations aspire to have deployable and efficient Armed Forces with the paradox that we are talking of the same forces due to the overlap in 22 states. The EU-NATO relations are, without a doubt, key to the future of the P&S initiatives; nevertheless, while the development of the military capabilities in the framework of the Atlantic Alliance has a much more military dimension, in the EU it also has, without a doubt, an important industrial component.

In the short-to-medium term, and despite the fact that the political statements insist on the existence of a great coordination between the SD and P&S projects so as to avoid duplication, it does not seem that there is going to be the possibility of establishing a clear dividing line. The reluctance of certain countries such as the United Kingdom regarding the development of CSDP should not be forgotten.

What is taken into consideration is either the model of pooling national capabilities for the benefit of both organisations, or the acquisition of capabilities by the said organisations to make them available to the States for their use in international missions. In this regard, the EU still has a long way to go as NATO already has joint capabilities that are managed supranationally as is the case of the AWACS fleet.

In any case, NATO's SD might become a dead letter as the US already has the necessary capabilities and the Europeans are concentrating their limited resources on obtaining their own national capabilities while in the multi-national ambit they prioritise the EU's P&S, which is more coherent with the current strategic environment. In any case, the existence of a single planning system at the European level and on the basis thereof an addendum to NATO planning would be the way which favours the development of future P&S projects at the European level which might be at the disposal of NATO.

7. SUMMARY OF THE DIAGNOSIS OF THE SITUATION PREPARED BY THE EXPERTS.

From the responses of the experts to the brainstorming, from which the events were extracted which make up each one of the future scenarios, both a detailed diagnosis of the current state of affairs is obtained and a first group of corrective measures which favour the EU Pooling & Sharing initiatives which may be compared *a posteriori* with the results of the prospective study. As a summary, the following key ideas are emphasised:

- The displacement of the strategic axis of the US from the Atlantic to the Pacific will have significant consequences for the EU and its CSDP.
- The EU's economic and financial crisis has an enormous influence on the development of all its policies, including CSDP.
- The European Council meeting of December 2013, dealing only with CSDPs, must be a landmark in the relaunch of the external action of the EU.
- The difference in strategic cultures between the key States of the EU makes the development of CSDPs and the formulation of a new Security Strategy more difficult.
- The legally binding nature of the mutual defence clause in Article 42.7 of the Treaty of Lisbon should boost the development of CSDP.
- The PSC is the main development tool for P&S initiatives for obtaining the military crisis-management capabilities.
- The States are obliged to bring the Commission Directives on the defence market into their national legislation.
- There is a tendency towards protectionism of the industrial fabric of each nation, to which the existence of threats which are not shared contributes.
- The crisis management experience of the last few decades will lead to shorter operations with lesser involvement of forces.
- The lack of a permanent Headquarters at the operational level in the EU is identified as one of the main weaknesses of CSDP.
- The common funding of CSDP operations and missions must be strengthened, developing the Athena tool.
- The trend towards the formation of large pan-European industrial clusters demands the prior consolidation of our national defence industry and specialisation in niches of high added value as regards SMEs.
- The dividing lines between internal and external security are becoming blurred, with a growing synergy in the development through R&D of civilian and military capabilities.
- The Battle Groups are the main crisis-management tool and it is necessary to strengthen their use and establish clear criteria for deployment.
- It is not acceptable for the EU to depend on capabilities shared with NATO, as their use might be vetoed by external agents such as the US or Turkey.
- The development of a security and defence component in the bilateral US-EU relationship is key to the development of CSDP and the role of NATO in the European security architecture.

APPENDIX III

SET OF QUESTIONNAIRES AND EVENTS INCLUDED

The values 0 and 1 represent the absence or presence of the event in the scenario.

European scenario

Set of questionnaires for the first consultation:

Scenario	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7
1	1	0	0	0	0	0	1
2	1	0	0	1	0	0	0
3	0	0	0	1	1	0	1
4	0	0	1	0	0	0	1
5	0	0	1	1	0	0	0
6	0	0	1	0	1	0	0
7	1	1	1	0	1	0	1
8	1	1	1	1	1	0	1
9	1	1	0	0	0	1	1
10	1	1	0	1	0	1	0
11	1	1	0	1	1	1	0
12	1	1	1	0	0	1	0
13	1	1	1	1	0	1	0
14	1	1	1	0	1	1	0
15	1	1	1	1	1	1	0

Set of questionnaires for the second consultation:

Scenario	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7
1	0	0	0	1	0	1	1
2	0	0	1	1	0	1	1
3	0	1	0	1	0	0	0
4	0	1	0	1	1	0	1
5	0	1	1	1	1	1	0
6	1	0	0	0	1	0	1
7	1	0	0	1	1	0	0
8	1	0	1	0	0	1	1
9	1	0	1	0	1	1	0
10	1	0	1	1	0	1	1
11	1	1	0	0	0	0	0
12	1	1	0	1	0	0	0
13	1	1	0	1	1	1	1
14	1	1	1	0	1	0	0
15	1	1	1	1	0	1	1

Result of the inference module:

Scenario	Subsurvey value	Global value	Classification
1-1	0.553	0.553	Medium
2-1	0.697	0.697	High
3-1	0.461	0.461	Medium
4-1	0.549	0.549	Medium
5-1	0.622	0.622	Medium (High)
6-1	0.518	0.518	Medium
7-1	0.523	0.523	Medium
8-1	0.508	0.508	Medium
9-1	0.579	0.579	Medium
10-1	0.637	0.637	Medium (High)
11-1	0.610	0.610	Medium (High)
12-1	0.658	0.658	High
13-1	0.648	0.648	Medium (High)
14-1	0.565	0.565	Medium
15-1	0.564	0.564	Medium
1-2	0.493	0.485	Medium
2-2	0.547	0.536	Medium
3-2	0.664	0.668	High
4-2	0.493	0.485	Medium
5-2	0.613	0.609	Medium (High)
6-2	0.550	0.539	Medium
7-2	0.662	0.656	High
8-2	0.605	0.593	Medium (High)
9-2	0.671	0.664	High
10-2	0.573	0.562	Medium
11-2	0.749	0.749	High
12-2	0.728	0.729	High
13-2	0.538	0.527	Medium
14-2	0.667	0.661	High
15-2	0.529	0.519	Medium

Spanish scenario

Set of questionnaires for the first consultation:

Scenario	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6
1	1	0	0	0	0	1
2	0	0	0	1	0	1
3	1	0	0	1	1	0
4	0	0	1	0	0	1
5	1	0	1	1	0	0
6	1	0	1	0	1	0
7	1	0	1	1	1	0
8	1	1	0	0	0	0
9	1	1	0	1	0	0
10	0	1	0	0	1	0
11	0	1	0	1	1	0
12	0	1	1	0	0	0
13	1	1	1	1	0	1
14	1	1	1	0	1	1
15	1	1	1	1	1	0

Set of questionnaires for the second consultation

Scenario	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6
1	0	0	1	0	0	0
2	0	0	1	0	1	1
3	0	0	1	1	1	0
4	0	1	0	0	1	1
5	0	1	1	0	0	1
6	0	1	1	0	1	0
7	0	1	1	1	0	0
8	0	1	1	1	1	0
9	0	1	1	1	1	1
10	1	0	1	0	1	1
11	1	0	1	1	1	1
12	1	1	0	0	0	1
13	1	1	0	1	1	1
14	1	1	1	0	0	0
15	1	1	1	1	0	0

Result of the inference module:

Scenario	Subsurvey value	Global value	Classification
1-1	0.492	0.492	Medium
2-1	0.445	0.445	Medium
3-1	0.522	0.522	Medium
4-1	0.621	0.621	Medium (High)
5-1	0.494	0.494	Medium
6-1	0.511	0.511	Medium
7-1	0.461	0.461	Medium
8-1	0.451	0.451	Medium
9-1	0.412	0.412	Medium
10-1	0.624	0.624	Medium (High)
11-1	0.551	0.551	Medium
12-1	0.697	0.697	High
13-1	0.469	0.469	Medium
14-1	0.5	0.5	Medium
15-1	0.453	0.453	Medium
1-2	0.794	0.782	High
2-2	0.661	0.654	High
3-2	0.703	0.696	High
4-2	0.588	0.584	Medium
5-2	0.625	0.612	Medium (High)
6-2	0.686	0.679	High
7-2	0.598	0.603	Medium (High)
8-2	0.608	0.613	Medium (High)
9-2	0.551	0.549	Medium
10-2	0.577	0.564	Medium
11-2	0.485	0.477	Medium
12-2	0.522	0.512	Medium
13-2	0.503	0.493	Medium
14-2	0.565	0.553	Medium
15-2	0.512	0.502	Medium

(Footnotes)

1 The world geo-political environment is multi-polar, the US has moved the centre of gravity of its foreign policy towards the Asia-Pacific region and has therefore weakened its commitments to Europe, which must face up to the instability of its immediate neighbourhood alone.

2 Europe is taking small steps towards its political union by giving itself improved mechanisms in the field of the CSDP.

3 Reduction in the dimensions of the Armed Forces in the western world on

the national scale below the levels required for the missions and objectives that they are given.

4 The problems of harmonisation between NATO and the EU which are the fruit of their different perspectives and members are maintained although the relationship between the two and the effectiveness of their actions is improved.

5 The European Defence Agency is strengthened in the context of a policy of promotion of industrial and technological development while the restructuring of the Defence industries at the European level compatible with trans-Atlantic cooperation with US companies is promoted.

6 Defence budgets do not exceed the pre-crisis levels but the start up of a number of PSCs, with restrictive participation criteria, boosts pan-European initiatives.

7 A permanent EU headquarters is created and strengthened for the planning and conduct of operations, and mechanisms of certification and funding are set up for the Battle Groups (BG) as well as active criteria for activation and deployment.

8 A political crisis cannot be discounted in the context of a crisis of political, social, economic and institutional model in Spain.

9 Spain remains committed equally to the EU's CSDP and to NATO in terms of its regulations, although it is moving progressively towards the former due to the preferences of public opinion.

10 The consequences of the economic crisis and the accumulated debt to the Defence Industry, the result of the Special Armaments Programmes, are a burden on the Defence budgets which are maintained or reduced slightly notably affecting the operations of the Forces.

11 Global policies of promotion of the Spanish industrial fabric are being started up, including the restructuring of the Defence Technological and Industrial Base.

12 The type of missions for which our Armed Forces must be prepared needs to be reconsidered, with a more regional strategy and without long-term commitments similar to those accepted in Bosnia and Afghanistan, which modifies defence planning.

13 Spain is maintaining its current level of participation and commitment both to the EU's CSDP and to NATO. Self-explanatory; it does not include associated actions.

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