



To build the army of the future: stay in control of the preparation of the future!

Thoughts for the Army of Tomorrow

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Histoire & stratégie

For GCA (2S) Jean-Tristan VERNA, we cannot free ourselves from a reflection on the respective roles of those who preside over decisions in terms of preparing for the future.

The combination of unprecedented operational and technological challenges, as well as the acceleration of time, raises the question of adapting the role of the actors of the Ministry of Foreign Affairs. Do the combination of new operational and technological challenges and the acceleration of time not raise the question of adapting the role of those involved in the Ministry of Defence who, for the past twenty years or so, have been sharing responsibility for preparing for a future whose prospects are gradually being renewed and tightened?

In particular, how can the Army Chief of Staff become the central actor, for his army, of the ambition of innovation brought by the 2019-2025 military programming law, in order to "face the challenges of the future"?

The operational challenges, themselves consubstantial with geopolitical and socio-demographic realities and uncertainties, are well known.

Land forces are confronted with polymorphous adversaries who are above all highly reactive in their technical and tactical adaptation capabilities. They must be able to engage in a wide variety of human and physical environments. They are subject to the sometimes rapid evolution of the general context of current operations. They share with naval forces the imperative to last in their environment of engagement.

On the basis of structuring human and material capacities, the army must therefore be able to adapt its system of men, its equipment and its doctrines of use very quickly. The objective is to make available to each theatre of operation commander, land forces⁴ meeting his just needs of the moment. This need to adapt is all the stronger as it is clear

that emerging technologies can impose disruptions unrelated to the usual cycles of renewal of weapon and information systems.

Indeed, the technological challenges are beginning to be well identified.

We know that connectivity and data processing - with their advantages and disadvantages - will be at the heart of both land and joint capabilities, as well as those of our adversaries, even those that may seem the most rustic.

We know that the automation of systems and their greater or lesser degree of autonomy will profoundly modify the conditions of combat over the next fifteen years.¹⁵ This is particularly true for high-force and first-entry operations. These technological revolutions will also be an asset in the hand of the asymmetric enemy and any well-established or defensive adversary.¹⁶

We know that physics, chemistry and biology combine to increase the range of weapons and the accuracy of ammunition, to lighten and strengthen armour, to miniaturize electronic devices, making their implantation possible in all components, including in the bodies of combatants.

We can see that the technical and societal upheaval brought about by the ecological transition in the civilian sphere will not be without consequences for the design, operation and use of a large part of military means, first and foremost those using thermal engines or requiring a large amount of electrical power.

Above all, we know that the pace of these technological upheavals is accelerating: New technologies, new equipment, new uses are following one another at a frantic pace, in the civilian world as well as in our ranks, among our allies, but also among our adversaries. What captain who was engaged in Afghanistan a few years ago would have imagined being today the commander of a regiment that is testing the operational use of rugged smartphones loaded with intuitive applications?

It is therefore perfectly justified to give innovation, both technical and conceptual, and the preparation for the future, and their financing, the priority announced in the next LPM.

However, it is clear that the rapid integration of emerging technologies, the equally rapid militarization of innovations detected in the civilian world, the adaptation of equipment to new uses, all require the development of new technologies and the adaptation of equipment to new uses. It is now necessary to shorten the processes that lead from the expression of a military need to the commissioning of an item of equipment, its integration into an existing system or a change in its use: it is necessary to adapt to a capability development that is no longer based exclusively on the identification of needs, but also takes into account an effervescent technological offer.

There is no question of calling into question the methods that have proved successful in conducting the major equipment programmes of armies, including those of the army, over the last twenty years.¹⁷ On the other hand, the period ahead will require much more systematic recourse to very agile methods in order to respond rapidly to the needs of the armed forces and to ensure that they are able to respond rapidly to the needs of the population. The period ahead, however, will require much more systematic recourse to highly agile methods in order to respond rapidly to the changing needs of land forces engaged in permanent operations and to make the best possible use of technologies that

are attractive in terms of their potential, but which are growing very rapidly and also carry risks.

The debate that is being opened on developments in the DGA will perhaps meet this need, provided that the place and role of the Chiefs of Defence Staff are also re-examined in this framework.

Since the end of the 1990s, the responsibilities of the Chiefs of Defence Staff in preparing for the future have changed considerably, with a gradual but decisive transfer of responsibility to the Chiefs of Defence. Since the end of the 1990s, the responsibilities of the Chiefs of Defence Staff in preparing for the future have changed significantly, with a gradual, but now largely completed, transfer of these responsibilities to the joint Chief of Defence Staff and the Chief Armaments Officer. The division of budgetary responsibilities when the LOLF was established¹⁸ amplified these transfers, leaving CEMAT with a relatively limited scope for action.¹⁹

We are therefore experiencing a paradox which sees the CEMAT, like its counterparts, confined within the Ministry to the role of expert and adviser to its "milieu", whereas for national representation, which regularly interviews him, and no doubt for the general public, he is still well perceived as the head of the army, responsible for everything that happens, good and bad, in daily life and in operations. Isn't he, moreover, the one who welcomes the families of his soldiers killed in combat?

It would no doubt be pointless to rework the distribution of responsibilities within the Ministry, as this exercise is still unsatisfactory, torn between the operational need for a pyramidal structure and the political concern to "make the army more efficient". A balance between the administrative and military leaders, although the ease with which it tends to dissolve "the" responsibilities should not be overlooked, as the history of the Louvois system has shown.

However, in view of the challenges of the next fifteen years, the question can be raised of strengthening the role of the CEMAT in taking into account the imperatives of consistency in the equipment of land forces and their responsiveness in adapting to the rapid changes in technology and threats.

Admittedly, the CEMAT and its representatives are involved in "comitology" which, at various levels of the Ministry, including the Minister's, is supposed to ensure overall coherence and weigh up the consequences of the various trade-offs. But in practice, the angle of analysis of the army as a coherent system of men and equipment rarely finds its place in these processes. This is why the production of "small equipment" (under the name of "other armament operations - AOA") intended for the army in the "forces equipment" programme has been gradually reduced as a result of trade-offs unfavourable to the army.

So, if we stick to the field of equipment alone, what can we do if we wish to avoid the army being reduced, at the end of the next two programming laws, to a set of major equipment that is certainly recent, but often lagging behind in terms of technology or functionality? How can we also ensure that land forces identify and experiment more systematically and fluidly with emerging technologies and their new uses, and equip themselves with them in a reactive but coordinated manner with the capabilities already deployed? Above all, how can we ensure that the CEMAT takes full responsibility for this capability approach?

First idea: CEMAT is considered by the political world, but also by citizens, as the head of the army. For capability development and the choice of equipment for the land forces, it cannot be regarded as an "optional" player.

The role of the Ministerial Investment Committee (MIC) is to ensure that investments are kept under control, but above all to verify their overall coherence. It should therefore monitor the capability coherence of each army, especially the land forces, which are less tied than the other two to major structuring programmes.

Whatever the subjects addressed, CEMAT's presence at the CMI should make it possible to systematically gather its assessment of decisions that could have positive or negative effects on the capability development of its army.

Above all, it would not be absurd for a CMI to be devoted once a year to an overall review of the army's present, future and planned capability coherence. This annual review would logically find its function upstream of the work to update the programming reference system.

Second idea: Broaden the scope of "support and coherence equipment" (EAC) in the "Land" budget of programme 178, insofar as this budgetary scope is now the responsibility of the CEMAT. However, it is an illusion to imagine that, under current conditions, the steering of the EACs would suffice for CEMAT to provide the link between the major equipment.

On the one hand, their volume, less than 200 million euros each year, is insufficient.

On the other hand, the support equipment absorbs the bulk of that budget, although it often has only a tenuous link with the operational capabilities of the land forces and is often not linked to the operational capabilities of the armed forces. They are more applicable to their activities in garrison (specialised commercial and public works vehicles, tools, etc.), to operational preparation (simulation, targeting, etc.) and to ammunition stocks.

Above all, however, placed outside the technical perimeter of DGA and its responsibility as a ministerial authority in this regulatory field, this EAC budget can under no circumstances be the main vehicle for integrating technological or usage innovations.

In order to make the EACs a real coherence tool in the hand of CEMAT, two prerequisites are necessary.

Firstly, to secure a financial order of magnitude close to 600 million, which constitutes a reasonable and controllable base according to military programming processes. This is possible if part of the financial flow of the AOA "Land" is transferred from programme 146 to the BOP "Land" of programme 178 .

Above all, establish a robust link with the DGA for the technical qualification of the equipment developed and acquired in this framework, to guarantee both its security of use and its technical coherence with existing systems, especially those implemented with the procedures of programme 146. The EACs would thus be treated with the same standards as the AOA.

Third idea: Give the Army the legitimacy and the means to maintain a very up relationship with the producers of technologies and uses of these technologies, to make it one of the standards for integrating innovations. This would put on an equal footing the approaches to the technological offer from the outside world and that of the military need elaborated according to traditional methods and then translated into technical specifications.

This is in principle the exclusive role of the DGA, and perhaps even of the Defence Innovation Agency whose creation has been announced. Without ruling it out, experience shows that the initiatives of field users are now as productive as the monitoring carried out by the DGA's specialised structures.

The creation of a "land combat laboratory" will only be productive if the participation of industrialists does not ultimately constitute a legal handicap for them, and if the demonstrators or ideas that emerge from it are labelled by the Ministry, on the model of the results of upstream studies. So that the results of this laboratory can then rapidly lead to production contracts, a new methodology for moving from decentralized experimentation to the controlled production of equipment must be recognized by all.

It would therefore be necessary to agree to create platforms or experiments at shared costs with industrialists. The Army Technical Section¹⁴ seems to be the most appropriate vector to carry the approach and the state share of the budget.

It is also necessary for the practice of the public procurement code to evolve in order to move more fluidly from the idea and the demonstrator to the realisation of a capacity brick.

Implementing these ideas will not solve all the problems involved in preparing the future of land forces, as the tension between operational requirements, technological possibilities and financial resources will continue to exist. But it would undoubtedly be a decisive step towards giving the CLS a role that is more consistent with the reality of its command responsibilities.

14 Semantic clarifications: The term "Preparing for the future" can be the subject of several understandings. In particular, it is readily associated only with the field of R&T (and therefore "upstream studies"). It will be used here as covering all the actions contributing to building the "army of tomorrow" in the field of equipment: financial programming, the process of conducting armament operations, doctrinal prospective. The word "innovation" can also be used to describe many phenomena. It will be understood here as the rapid, and not systematically programmed, introduction into the military of a technology, product or use developed in the civilian world.

15 Conventional land forces and special forces land. As the first autonomous robots are expected to appear within a decade or so.

16 Sometimes to the point of allowing it to "move back towards symmetry", which puts an end to the total technological superiority that has been the basis of Western doctrines of use over the last twenty years: end of total control of airspace, including in the lower layer, the fragility of information superiority...

17 In spite of the criticism that is always possible, the French system for producing new equipment has a higher performance than that of our European neighbours. One need only take a look at the inventory of recent army equipment to be convinced of this. The rate of equipment production is another subject, linked to budgetary choices.

18 Organic law on finance laws, passed in 2001 and implemented with the 2006 finance law.

19 Unlike the 2005 decree, the text currently in force setting out the powers of the Chiefs of Defence Staff and the Chiefs of the Armed Forces, which is not yet in force, is based on the following principle: no longer stipulates that they are "responsible for the organic coherence of their army".

20 Placed under the orders of the Major General of the Army and headed by the Deputy Chief of Programme Planning and his offices, the mission of the Army Technical Section (STAT) is to conduct, in coordination with the Army's other departments, a programme of technical assistance to the army.s mission is to conduct, in close coordination with the DGA, all armament programmes for the air-land forces (weapons, information and communication systems) and to propose to the CEMAT, after evaluation, their operational commissioning.

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