



## From battlefield digitization to infotainment: gaining the confidence of tactical users

military-Earth thinking notebook

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**The digitisation of the battle space (NEB), launched in the 2000s in the Army, was to have reached maturity ten years later, not only by equipping the forces, but also and above all by ensuring user support thanks to the tactical gains obtained.**

**In 2012, as reflection on the transition to the info-enhancement stage [1] (the next stage of digitisation aimed at optimising the information gathered) is taking shape, the level of confidence of the NEB's tactical users is low. This trend is confirmed by the exercise analyses at levels 2 to 5 and by the various audits commissioned on the results of digitisation.**

**After ten years of financial, technological and human investment, the situation is bitter and the temptation among NEB tactical users to throw it away and consider info-enhancement as the ultimate technological gadget with no added value for the Joint Task Force (JTFC) or the Battle Sub-Group (BG) is great.**

**1) Info-enhancement: optimal exploitation of information resources enabled by new information and communication technologies.**

Even if the current perception is based on a harsh reality that is sometimes difficult to accept, it is necessary, through a lucid analysis of current shortcomings, to regain the confidence of tactical users and to propose areas for improvement of a tactically crucial capability.

The successful transition from digitization to Info-Valorisation should not be seen simply as a technical phenomenon, but above all as a human problem for which a rethink is needed. The successful transition from digitization to info-enhancement should not be seen simply as a technical phenomenon, but above all as a human issue that requires a rethinking and action similar to those carried out within large institutional structures of the "change management" type, and should be carried out without taboos or restraint.

After reviewing the NEB's contrasting results and the resulting lack of trust, the author offers his viewpoint on possible solutions to restore trust and make a firm commitment to a shift to info-enhancement.

### **Digitization of the battlefield: from the demon of inventiveness to human fragility**

The current situation regarding digitization in the Army can only be bitter in view of the level achieved today and the level of ambition initially announced. This situation is due to two main causes: technological drift and human frailties. The consequence is the loss of confidence of users in the tools at their disposal.

The current situation of digitization and its complexity of use is based first and foremost on the development of tools that are more responsive to concerns about the development of technological and industrial capabilities that are out of correlation with the needs of the Army. Technological drift and the "demon of inventiveness" are never very far away when it comes to the subject of digitization. Thus, this phenomenon is perfectly described by Mr Henrotin in his work "The military technology in question». Starting from the American example, the question of the finality of the technologies developed for the armies is raised. Are we developing tools that meet tactical needs and expectations, or are we developing products whose sole purpose is to serve as a showcase for technology?

The situation of the French Army in this respect is quite eloquent. Indeed, the lack of coherence in the digital architecture of our command systems is a major obstacle to their effectiveness. Thus, while the use of digital tools is satisfactory in terms of the design and conduct of manoeuvres at divisional level, there are still major difficulties for subordinates and in particular for the Joint Battle Group (JBG) and the Joint Battle Group Sub-Group (JBGS). As the level of coherence and effort of our system is around the ABWG, this situation cannot remain without serious consequences for our effectiveness.

For example, use during the training and exercise phases is effective because of the voluntarism of the command, but is not convincing for use in operations because of problems of interoperability with our allies and lack of flexibility. A good example of this lack of flexibility is given by the constraints of taking into account the logistical requirements of units requiring the manual entry of unit-specific data. This data (DQP or quasi-permanent data) is essential to feed the system, but requires tedious handling making any deployment or reorganization in an emergency impossible.

These technical constraints accentuate the human frailties due to the difficulties in educating and then maintaining the level of training. These difficulties inevitably lead to a loss of user confidence, which should be the core target of digitization systems.

To begin with, we must not lose sight of the fact that these tools are primarily intended to be used by young soldiers who are the first link in the digital chain of command. And, contrary to what the membership of our young non-commissioned soldiers, non-commissioned officers and officers, suggests, they are not "digital-compatible" from the outset with the systems in the Army. Far from it, they are even rather allergic to them because of their familiarity with very ergonomic civilian systems such as Android or Appstore applications. Admittedly, the applications of the regimental information system (SIR) and the force command and information system (SICF) are, admittedly, rather

remote from this world, so the feeling of rejection and misunderstanding should not be underestimated.

To this first, almost anthropological fragility, we must add the instability linked to training and change. Thus, in many staffs or regiments, numerical competence is always based on a limited number of people. The NEB masters (qualified senior NCOs, responsible for monitoring digitisation systems and their operational implementation in force regiments) remain the linchpins of digitisation in the units. The NEB master is often the man on whose shoulders the digitisation of a unit rests, thus putting the formations at the mercy of an unfavourable transfer plan. The recent territorial reorganization reminds us of this fragility. For example, changes in the geographical location of brigade headquarters or force regiments may have led to a turnover of up to 60% of their personnel, calling into question their digitized skills. This meant that their numerical skills were called into question for more than a year and required a high investment in internal training during particularly dense projection cycles (Ivorian crisis / HARMATTAN / Afghanistan).

The trivialization of digitization is therefore still very fragile, in view of the technical constraints perceived by basic users who expect a tool that is above all practical, as well as the human frailties linked to training and the maintenance of technical knowledge.

As digitization is only the first step leading to info-valuation, it is therefore necessary to face the truth, but above all to take the problem from the right angle in order to provide a suitable solution.

### **Regaining the confidence of tactical users**

The author of these lines, in view of his experience in regiment and brigade staff, considers that the human aspect is paramount for a successful transition to info-value. Of course, technical improvements are essential, but the lack of trust, or even mistrust, among basic users must be overcome by taking a human approach to the problem. This is not only a technical aspect, but also a command concern that must not escape from the hands of the leader.

Thus, many studies conducted on the implementation of complex computer systems conclude that the failure to appropriate these systems is based at least as much on technical factors as on human factors. Digitization is first and foremost a cultural change that must be accompanied by an overall plan, not just the introduction of a new tool. This overall plan can only be based on taking account of the human factor, which can be summed up in three words: simplification, concentration and communication.

First of all, simplification. The soldier, like his leader, is a basic user for whom speed of access to a function and its tactical usefulness are paramount. Improvement in this area is the first way to regain his confidence.

The automation of time-consuming tasks that do not require human appreciation must be developed. This is the case with the SCORPION [1] project, which integrates vetronics [2] right from the platform design stage. This major development will thus make it possible to monitor the logistical situation, shared automatically with the dedicated support units. The initial integration of mechanical and logistical sensors would therefore make it possible to

avoid the tedious entry of quasi-permanent data (the famous DQPs mentioned earlier).ceding), which greatly affects the current logistical use of our digitization and which, above all, deprives it of responsiveness during an emergency deployment such as GUÉPARD.

The second area of effort to be developed to regain the confidence of users is the concentration of future digital tools on the three essential functions of mapping, geolocation and collaborative work for headquarters. Concentration on these main functions has as a corollary a relatively modest need in terms of throughput and therefore the maintenance of voice transmission capacity in parallel with the transmission of non-priority data (the problem arose in Afghanistan with the projection of FÉLIN battalions). This choice would therefore be consistent with the physical media and throughput capacities in our possession. It could be a solution to the crushing of the levels of command and the entryism from the operational to the tactical levels, which is inevitably favoured by data transmission.

These functions meet the right need and correspond to realistic ambitions in view of the increasingly heavy budgetary constraints imposed on the development of new military programmes. Concentration on these functions would increase credibility both internally and externally by placing our ambitions in a realistic framework.

But the most important and above all the most effective way to regain the confidence of users is to communicate openly about the real perception of digitisation and the choices made for the future. Indeed, the management of change, since this is what the digitisation of the army is all about, cannot be effective without this communication aspect. This is all the more important as the trust capital is already in place.

To communicate means to clearly explain the choice that has been made to break with the NEBs of the present and the past to ensure a targeted and exploitable info-valuation for the future. An educational and proactive approach must be taken towards the lower echelons in order to make it clear that the NEB developed so far was an imperfect first step with which the Army decided to break.

Only a clarification of this nature will make it possible to re-establish the bond of trust with the tactical users. Today, relatively few users of this imperfect digitization know what the Army's major choices are in the field of info-valuation. How would they know if institutional communication is not developed? The truth is sometimes difficult to tell when the results of disappointed ambitions have to be exposed.

Nevertheless, it is still essential to find a decisive support for a future project that depends on the success of major training initiatives and on the willingness of individuals to maintain their know-how on a daily basis.

### **To conclude...**

As General Poirier said: "the weapon is only a prosthesis of man". Thus, digitization, and even more so, info-valuation, will not take place without the support of the soldiers. Training and the maintenance of these training courses will only be effective in the long term if the users are interested in them. This is to be deplored, but it remains a fact.

The imperfect situation of the present NEB is known and taken into account at the technical level. This is essential, but not sufficient to guarantee the future. The battle of trust is the real challenge of info-enhancement. It would be an illusion to believe that a crisis of confidence can only be resolved with an improvement in the material or technical situation. Any cultural change in a professional environment must be supported or, at the very least, accompanied by an overall plan based on effective communication down to the lowest level (the basic user).

The question remains as to how far digitisation can be used to ensure efficient tactical change. Would one dare to imagine a new tactical system based on a minimalist technical architecture in the future, in a country with broad ambitions, powerful industrial interests, but also with increasingly modest means, combined with the singularly different choices of European partners on these issues of battlefield digitisation?

1) SCORPION: synergy of contact reinforced by versatility and info-value.

2) Vetronics: "a neologism that refers to the electronic architecture of modern military vehicles, whether for new vehicles or retrofits: multimedia human-machine interface, information distribution, distributed control, architecture of mobility and communication functions, integrated training..." UTU No. 540 of 18 May 2005.

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