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The history of armaments cooperation shows that resounding failures rub shoulders with very fine successes... It also says that successes are in fact unpredictable, and that the best-built projects are not always the ones that succeed....

A necessary alignment of the planets

In order for cooperation to be successful, several prerequisites (or "convergences") must be met: conditions without which it is illusory to want to set up a solid project:

- . Similar military needs: the partners must be able to harmonise their needs; they must also be willing to make concessions to avoid the final need being the simple addition of the needs of the armies involved .
- . Similar levels of allocated resources: good cooperation is built around comparable levels of ambition, which translates into funds to be spent that do not lead to divergent solutions.
- . Compatible timetables: if the deadlines by which equipment from previous generations must be replaced are not the same, there is a risk of tensions, as not all partners plan to operate at the same pace .
- . Complementary industrial capacities: in a cooperation that "works well", each of the partners should be able to feed its own national industry; if this is not the case, we enter into another scheme, one that is closer to export .

Lower costs due to the "scale" effect

One of the main expectations of cooperation is lower ownership costs:

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- . The fact of having a single design office developing a single object makes it possible to pool R&D costs from the outset; this is the main benefit to be expected from a successful cooperation.
- . The production lines can then be optimised, remain active for longer, and successively deliver the expected materials to the different partners.
- . The pooling of maintenance can then bring additional gains.

However, experience shows that these savings are not always there. The causes of these disappointments can be diverse:

- . When the different partners do not know how to remain reasonable in the specification of their needs and accept arbitrations, and end up with an over-specified solution;
- . When one of the partners leaves the cooperation before its term and questions its financial balance :
- . When the industrial stakes lead to an exaggerated dispersion of the production sites;
- . When technological choices favour costly solutions;
- . When divergent agendas lead to an exaggerated spread of the program;
- . When the final product comes in too many versions to take into account too divergent needs .

Major areas of capability cooperation

In which areas do we cooperate best? Statistics show that European cooperation in recent years has been mainly in the air and space sectors, to some extent in the naval sector, and hardly any on land... We can deduce from this that European cooperation in the past few years has been mainly in the air and space sectors, to some extent in the naval sector, and hardly any on land. It can be deduced from this that it is the cost of the most expensive equipment that has led to the acceptance of cooperation and the abandonment of purely national strategies.

However, sovereignty issues also remain sensitive and determine a different distribution of subjects according to their sensitivity. For France, the issue is important because of its status as a "nuclear weapons holder"... Capabilities can be roughly divided into three main groups:

- . What is sovereign: deterrence, intelligence, encryption... For these subjects, cooperation is excluded for reasons of preserving autonomy of assessment, decision and action; no form of dependence is acceptable.
- . Subjects of industrial excellence: combat aeronautics, space, missiles, intelligent munitions, cyber, SIC's... In these areas, cooperation is possible, but with a strong requirement for mastery, therefore leadership, and exclusively within a European framework to preserve the achievements of our industry.
- . Subjects with lower stakes, open to all forms of cooperation, or even off-the-shelf purchases on the world market; for these subjects, it is necessary to convince oneself that the abandonment of certain industrial skills is acceptable. This is typically what happened

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for the successor of FAMAS.

With which partners? Cooperation on armaments programmes in which France is a stakeholder generally involves only European Union member states located in Western Europe. Is this observation a fact of experience that reflects a long-lasting rule? Or that of the existence of a solid community of partners with whom trust sets the conditions for success?...

Transparency is essential

The main cause of the failures, beyond the lack of convergence mentioned above, is undoubtedly the lie by omission which unfortunately remains all too often the case in the construction of projects.

It is imperative that the partners announce their ambitions: acquisition of a military capacity, development of industrial know-how, setting up of strategic partnerships, subsequent export prospects, etc.

It must be understood that anything that is not said from the outset will inevitably return to the negotiating table, with the risk of tensions or breakdowns. Because the later the differences appear, the more resentment they generate...

An example worth mentioning is that of industrial objectives. Common sense would dictate that each partner should put the best of its industrial know-how in the basket, and that successful cooperation is ultimately based on a healthy distribution of subjects to be dealt with according to the skills held.

However, experience shows that some, on the contrary, may seek to take advantage of cooperation to develop industrial skills that they lack...

Another common lie concerns the targets of equipment to be acquired: it is tempting to display a large number to justify a place of choice in the industrial sharing, and then formalize significantly smaller quantities ordered...

The choice of a contracting agency

One of the hardest points of a cooperation is often the choice of the organization that will award the contract(s), and thus de facto steer the project. This choice takes place at two successive levels:

- . That of the preliminary studies ;
- . The development and production of the system itself.

Two schemes are possible:

- . The first consists in entrusting an international agency with the management of the programme; the European Defence Agency (EDA) is well equipped for the initial studies; the joint body for cooperation in the field of (OCCAR) is responsible for the development and production phase. These agencies benefit from a neutrality that enables a balance to be maintained; they may, however, lack responsiveness .
- . The second is based on the acceptance by all the partners to leave the steering of the project to the national contracting agency of one of them. This choice automatically

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places the country playing this role in a favourable position to the potential detriment of the others, but it has the merit of greater coherence.

In both cases, the setting up of a single contracting authority must be an inviolable principle. This unity of responsibility requires the designation, very early on in the process, of a clearly defined design authority with precise attributions accepted by all stakeholders. This centralization is one of the most important factors of success. In most cases, it is intended to be applied at the industrial level by designating a single or "main" prime contractor.

The question of industrial sharing

It is an eminently political issue, because it is reflected in terms of jobs, preservation of the industrial fabric, technological skills held, economic performance...

It involves a notion of "fair industrial return", according to a fairly classic scheme whereby each contributor benefits from an industrial charge equivalent to his or her financial share in the project...

Industrial schemes are often complex to set up in such a context. Contrary to popular belief, large industrial groups of European size are not necessarily better placed than national champions.

And the distribution of the burden is more often a matter of economic, or even political or diplomatic choices, than of industrial know-how or technological level.

Support and pooling of parks

Good cooperation should not stop at the delivery of equipment to its users, as scale effects also have the potential to generate substantial savings on maintenance issues.

A solution that is always economical consists in pooling the fleets: it is generally based on a single peacetime structure bringing together the project actors, whose mission is to provide each of them with the capabilities they need for their operational commitments in a "capacity reservoir" logic.

This type of structure has several advantages:

- . The equipment is grouped together on a single site to reduce infrastructure requirements;
- . MCO contracts are shared, with savings on spare parts, spares or tooling;
- . The fact of sharing fleets allows to reduce their initial dimensioning;
- . The availability of equipment is generally better .

Towards a shared use as well?.

Concerning the use of equipment acquired through cooperation, the main advantage is that of native interoperability. But it is probably not the only one.

For the idea of going further in mutualisation is obviously tempting. Why not imagine jointly operated capabilities in theatres of operation? Why not accept mutual

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dependencies (a capacity operated by one actor for the benefit of another)?

We then come up against questions of freedom of action that should be analysed not in terms of the economic benefits to be derived from industrial cooperation, but in terms of the level of sovereignty that we wish to preserve depending on the employment situation...

This possible extension of the perimeter of cooperation to employment issues in operations is in fact a very different level of ambition: it can only be reasonably envisaged when other issues much more political will have been settled. It is within the framework of a European army, made up of European citizens and commanded by a European political authority, that a European VéThis point raises a much broader question than that of cooperative armaments programmes.

To sum up

Cooperation has virtues; the first of these is to generate savings. It is therefore legitimate to make cooperation the preferred method for acquiring the capabilities of our armed forces.

But not everything is so simple, which is why they are not in fact widespread. The difficulties, constraints, imperatives and prerequisites outlined above illustrate this.

In this delicate context, political will is essential. But it must be relayed by the armed forces in order to create favourable conditions and eliminate obstacles, as well as by the industrial teams who must accept sometimes delicate partnerships with competitors.

State and industrial actors must in all cases be convinced of a very simple reality: the acquisition costs of certain "top of the spectrum" capabilities (fighter aircraft, battle tanks, aircraft carriers, etc.) have become so high that they are no longer affordable. In this context, to remain on one's own is to condemn oneself, for the forces to give up their needs, for industry to die for lack of customers!...

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