

THE ROLE OF THE STATE IN FRENCH DEFENCE INDUSTRY CONVERSION

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The French arms production system is characterised by the important role of the State in its functioning. To analyse this role in the current defence industry conversion process it is first necessary to review the extent and modes of the ascendancy of the state in this sector of activities. This will make it easier to understand how the state plays the role of industrial regulator for the system, and how, within its own industrial establishments, via a "creeping" conversion process, it encourages market and production diversification and greater autonomy for subcontractors. It is only within this perspective that aid mechanisms for the conversion of sites and staff make sense. These are the points covered successively in this article.

KEY WORDS: conversion, defence industry, State intervention, France.

INTRODUCTION

The French defence industry was built up over a long period of time, punctuated by state intervention which continues to play a fundamental role in its development. Until 1870, arms manufacture was carried out by state-controlled establishments which took up the arsenals, forges and ironworks left from the old regime, transformed by the revolution and later, by Napoleonic power. It was only during the period of mounting tension and preparation for revenge after the Franco-Prussian war that orders were placed with private industry (Schneider, Châtillon Commentry forges, Homécourt steelworks, Mediterranean forges and shipyards, and shipyards on the Loire and Penhoët).

The movement towards the development of private firms was checked with the nationalisation undertaken by the Popular Front government (39 factories nationalised, including Bréguet, Dewoitine, Potez, Bloch, Farman, Amiot-Caudron, etc.). The period after the Liberation heralded growth in the public sector with the nationalisation of Renault, Gnome and Rhone (later to produce the SNECMA, national company for the design and construction of aviation engines), and the CEA (Commissariat pour l'Energie Atomique) was created in 1945. A series of mergers led to the emergence of the SNIAS in 1970 (known today as Aérospatiale).

It is important to underline the dominant role played by the State in the existence and development of arms industrial production until the present time. Even if, in certain cases, technical evolution led to the setting up of certain

companies outside its area, it relentlessly worked to recover them. The trend is the same for existing companies which have developed thanks to certain technological niches (electronics, missiles, aeronautical markets), as illustrated by the 1982 decisions (nationalisation of THOMSON; major share holding taken in AMD-BA² and MATRA).

The ascendancy of the State over the arms system is further reinforced by the presence of a state controlled regulatory authority: la Délégation Générale pour l'Armement (DGA), the government agency for military R&D and production.³

DGA intervention in the process of arms production and acquisition is three-fold: it produces arms, but also purchases them from private companies on behalf of the Ministry of Defence, and in this same capacity it is responsible for the control of arms companies. The polyvalence of the relations between the DGA and industry significantly colours the arms industry in France as a whole, compared with production and acquisition conditions existing in other European countries and the link between arms manufacturers and the State has found its specific expression within the central position of the DGA.⁴

One of the features of the DGA is its concentration of a significant number of arms engineers. The existence of this body structures the DGA itself and increases its possibilities of intervention, control or influence over industrial manufacturers and over other actors within the system.

Of course, there have been substantial reorganisations within the State sector during this last period. To some extent they have consisted in removing a certain number of production units from the State. Thus, between 1952 and 1972, forty State establishments were converted, merged or closed down, particularly in the production of land-based arms⁵. In 1971, the gunpowder and explosives Department became a national company (SNPE). This evolution continued: in 1990, the GIAT (14 742 jobs at that time), which had been until then a department under direct State control without legal entity, became a public company (under State control).

However, as can be seen in Tables 1 and 2, arms policy was followed through coherently despite political changes, and essentially resulted in favouring the emergence of a national leader per type of product, with a predominance of public and nationalised firms: Aérospatiale for helicopters and strategic aircraft, Dassault Aviation⁶ for combat aircraft, the SNPE for gunpowder and explosives, GIAT Industries for armoured tracked vehicle, the DCN for warships, Thomson CSF for large detection systems, TURBOMECA for helicopter engines. Moreover, it should be noted that private firms play a very modest role in French arms

²Avions Marcel Dassault-Bréguet Aviation, today Dassault Aviation.

³Created in 1961 under the name of Délégation Ministérielle pour l'Armement (DMA), it was given its present name in 1977.

⁴Concerning the DGA, see the economic works (Aben, J. 1992; Chesnais, F. 1990; Dussauge, P. 1985; Fontanel, J. 1983; Kolodziej E.A. 1987; Serfati, C. 1992), periodical articles published in *Defense Nationale* and *L'Armement*, particularly the special issue of the *Bulletin de l'armement*, devoted entirely to the DGA (NNN, 1983).

⁵Between 1960 and 1971, in the sector of land arms, seventeen establishments were closed or converted and the number of jobs dropped from 31800 to 20500.

⁶Dassault Aviation is classified under the public sector: although the major part of its capital is private, the majority of votes puts it in the public sectors, given the number of double voting shares.

Table 1 Public/private business distribution (1/11/1994)

Sector	Public and nationalised	Private
Air	Aérospatiale SNECMA Dassault aviation SEP	Turboméca (groupe Labinal) Matra
Land	GIAT Industries (including Luchaire et Manuzhin) SNPE Thomson-Brandt-Armement Creusot-Loire-Industrie R.V.I.	Panhard et Levassor (groupe PSA)
Naval	DCN	Alsthom (chantiers de l'Atlantique) CMN Leroux et Lotz
Electronics	Thomson-CSF TRT (procured by Thomson) Sextant Avionique Souriau (Framatome)	Dassault Electronique SAGEM SAT Alcatel-Alsthom (ex-CGE) Labinal SOPELEM
Nuclear	groupe CEA (including Framatome)	

production as a whole, which therefore increases the responsibilities of the State in the conversion process, both as regulatory body and arms manufacturer.

THE STATE AS REGULATOR OF THE ARMS INDUSTRIAL SYSTEM

To present the role of the State in the current process, we shall first identify the main features of the conversion to be observed in the French arms system, then show the regulatory role of the State and its evolution, as well as the transformations of the structure and role of the DGA. This will lead to a synthesis of the present relationship between the State and various manufacturers.

1. The "contained" conversion of French manufacturers⁷

Arms industry turnover as presented in Ministry of Defence data for 1993 reached 103.5 billion francs, which represents a drop of 17%, since 1990. There was also a substantial drop (Fig. 1) in exports to 20.6 billion francs in 1993 (– 47% compared with 1990). Direct jobs, as compiled by the DGA, fell from 260,000 to 215,000 between 1990 and 1993, representing a decrease of 17%. There has been a steady

⁷see HEBERT J-P, 1994 and 1992a.

Table 2 "Arms" turnover of main French companies, 1993

Manufacturer	Turnover
	(in millions of 1993 francs)
DCN	20063
THOMSON-CSF	16800
AEROSPATIALE	9177
DASSAULT AVIATION	9052
matra défense/espace	7500
EUROCOPTER	5200
GIAT INDUSTRIES	5111
SNECMA	3798
dassault electronique	2631
sagem	2090
SEXTANT AVIONIQUE	1916
turboméca	1443
SNPE	1397
TTD	1207
sat	1146
alcatel-telspace	994
RVI	977
sfm	963
CELERG	927
SEP	811
messier-bugatti	614
hispano-suiza	577
cnim	575
TBA	572
panhard	430

*in small letters: private firms.
source: Hébert, J.P (1995a).

decreased since the peak in 1982 when the sector counted 310,000 direct jobs. As can be seen in Table 3 this decrease has, to varying degrees, affected the quasi-totality of large firms in the sector. Despite this, it was not until the official report on Defence, the Planning law 1995-2000, and the Finance law 1995 were completed that the importance of these shrinkages and their related financial problems were taken into account.

The slowness with which the economic data relative to the evolution of the arms sector were taken into account can also be seen in the particular mode of conversion to be observed in France. Indeed, the notion of conversion has different interpretations:⁸

⁸see FONTANEL J., 1994.

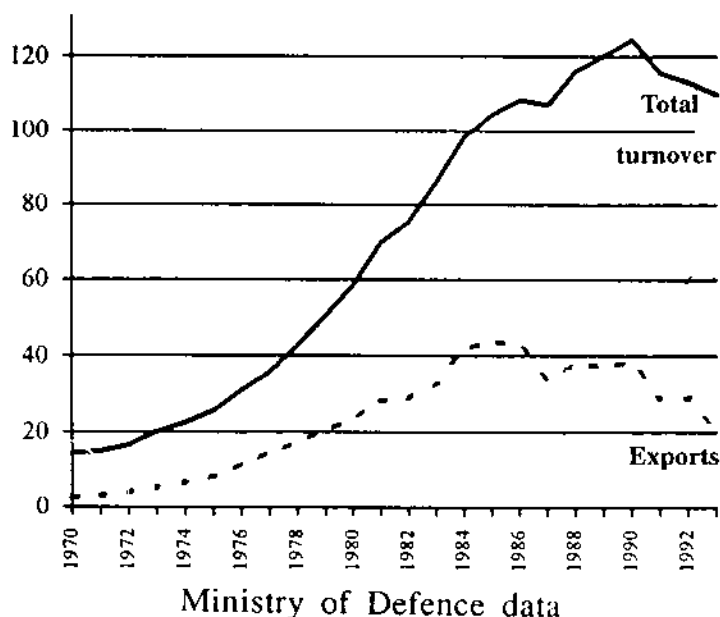


Figure 1 Defence/arms industry: turnover and exports 1970–1993 (in billion current prices, French Francs).

Table 3 French arms firms: staffing evolution 1982–1993 (parent companies)

Firms	Employment 1982	Employment 1993	Difference in numbers	Difference in %
THOMSON-CSF	40148	21000*	- 19148	- 47.7
AEROSPATIALE	36450	25637	- 10813	- 29.7
GIAT-INDUSTRIES	17000	11607**	- 5397	- 31.7
DASSAULT AVIATION	15782	9758**	- 6024	- 38.2
SNECMA	12595	12800**	+ 205	+ 1.6
SAGEM	7787	5759	- 2028	- 26
S.N.P.E	6843	4091	- 2752	- 40.2
TURBOMECA	4351	3838	- 513	- 11.8
DASSAULT ELECTRONIQUE	3238	2771	- 467	- 14.4
SEP	3227	3553	+ 326	+ 10.1

*in 1992, **13888 in 1986.

source: annual reports of companies

- * It may mean a deliberate reorientation of resources, hitherto reserved to military production, to other uses (health, education, culture, etc); a reorientation based on a positive effort to curb the world move to an arms race. In relation to this movement, such a conversion may be seen as an exogenous

variable. It implies that the country which applies such a policy considers that the factors which up to then justified its military outlay have changed and that the same degree of security may now be attained at a lower cost. Implicitly, defence spending is then considered as a burden on the economy. Such a choice represents a major political change. It could be referred to as **deliberate conversion**.

- * But conversion may also be an endogenous variable: in this case, it is no longer an autonomous choice made by the military-political system but a choice brought about by an evolution of overall international relations and arms markets. Hence, conversion is no longer considered as a positive choice *per se* for the economy as a whole, but merely as a move required to adjust to changes in the international situation.

This second interpretation leads us to distinguish two main situations:

- * The first situation being where the public authorities, recording formally that a substantial modification has taken place in international relations making conversion of a part of the military apparatus inevitable, realistically integrates this evolution in their forecasting and anticipates the movement so as to gain time in order to carry out the conversion and avoid taking emergency decisions. This is an **accepted conversion**.
- * The second situation is the opposite, where the public authorities consider that the global movement towards conversion is a reality, but a dangerous reality because it will lead to a lowering of national security, and so strive to delay decisions for as long as possible, decisions which, moreover, they know will be costly at first. This reaction may also be explained by the will to "safeguard" an arms production basis able to carry out autonomously the essential share of the work needed for most major defence systems. Such a situation will firstly involve tapping operating spending in relation to procurement, and as regards procurement, firstly reducing manufacturing costs in relation to R&D expenditure. This is a **contained conversion**.⁹

The latter situation is closest to what can be observed in the French case, which has been qualified as "creeping conversion"¹⁰ i.e. *de facto* job reduction, but one which is the result of adapting to new global circumstances and not from a deliberate political wish to reduce military volume. This contained conversion is reflected in a decline in employment which merely follows on the heels of a decline in activity. It is a well ordered retreat which limits activity and job shrinkage as far as possible.

2. A mode of regulation by mutual consent in the process of disintegrating

In France, arms production is a specific system, characterised by the significance of the link with the State and by the existence of a hard core of firms specialised in defence. This system has reached an overall balance by favouring the emergence of one prime defence contractor in each category, corresponding to situations of "natural monopolies". The capacity of this core to adapt shows that the firms-State

⁹In the same way we speak of "controlled anger".

¹⁰Fontanel, J. (1994b) Economics of disarmament. A survey, *Defence and Peace Economics*, n° 2.

relationship does not confine itself to a mere relationship of subordination and that the administered regulation of the system is not one of bureaucratic monolithic management but plays on a pluralist scale of differentiated means. Within this system, the DGA, by its weight, cohesion, competence and continuity forms the essential organising authority to which is delegated the responsibility of leading the concrete functioning of the system.

The mode of administered regulation in which the system has so far been inscribed is based on the institutionalisation of fundamental compromises covering different dimensions: strategic policy and defence doctrine, social compromise, industrial and economic fields. It is because stable compromises have been reached in all these fields that the arms production system has achieved functional balance which until recently was relatively protected from the decision-making hazards prevalent in other sectors of industrial policy. This balance and this durability met the strategic needs of the State but also guaranteed firms "reasonable" profit margins.

This functioning comes under a "mutual consent" mode of administered regulation, with non-competitive negotiation, where prices are simply an expression of accounting, *ex-post* indicators rather than determinants.

On the whole, firms on the arms markets have benefited from "margin rate" pricing perpetuated by substantial entry barriers. But in return, the system was organised in such a way as to permit the State to economise on operating costs, which it would have been forced to bear if it had been necessary to examine and choose from a large number of competitive manufacturers.

Both international and domestic factors are challenging all the institutionalised compromises which formed the basis of this mode of regulation: transformation of the nature of war, the delegitimising of the economic action of the State, questions about the notion of sovereignty, strengthened by the development of the European Community, the crisis of the Ford-type model and of the global mode of regulation. This disintegration of the administered regulation of the arms production system is currently revealed and orchestrated by the price drift of arms materials. This drift has now reached the limits of what the greatest economic powers are able to finance. It now has so much weight that it is working against the very system which created it. A new approach to the price problem is being set up which is causing considerable changes within the DGA itself.

3. *When the industrial arm of the State becomes an Agency*

The price problem has been posed in a radically different way since 1994. In 1972, price policy aimed at obtaining *prices which were both competitive and suitable for the firm*,¹¹ which involved *less automatic regulation mechanisms than those of the market*.¹² In 1994, based on the statement that *the evolution of technologies between two generations of arms systems leads to cost increases which are becoming unbearable*, the objective was *to reduce the cost of arms programmes*.¹³ Reaching such an objective involves profound changes in the French arms production system

¹¹Debré, M. (1972) *Livre blanc sur la défense nationale*, (avant-propos), CEDOCAR, Paris, p. 51.

¹²*Ibidem*, p. 52.

¹³Ministère de la Défense (1994) *Livre Blanc sur la Défense, 1994*, Collection Documents, Editions 10/18, Paris, p. 201.

since it means *setting up procedures and structures bringing it as closely into line as possible with competition, which indeed represents a revolution of spirit*.¹⁴

This new approach to the price problem implies that the future will see changes in the role of the DGA in the setting up of the arms system. The official report on Defence, 1994, states explicitly that the State will not be able to retain its present industrial role, and the French National Assembly report on military programming 1995–2000 expresses this wish even more bluntly, stressing that *any increase in the power of supervision, already so weighty, which works against industrialists*.¹⁵ is to be avoided; of the DGA it states: “fortunately, strengthening of the role of the DGA is not the policy chosen by the *délégué général*” (*ibidem*). And, concerning manufacturers, it is a question of *developing firms so as to bring them into line with the competitive sector of common law*.¹⁶ The orientation is therefore clear: the DGA will have to move from its present status of industrial arm of the State to that of an expert assessment agency.

The economic and political history of the French arms system had tended to make of the DGA an autonomous, almost sovereign authority in its field, since it was less and less subjected to any real political control. The current evolution imposes a sharp change of direction for the DGA to become a government agency for assessment and implementation in the arms field: because it will be accountable to the government, the DGA will be required to demand much more of firms. But the other aspect of this evolution is that firms will acquire greater autonomy since they cannot be asked both to obey as in the past and at the same time to find ways of drastically reducing costs. The government injunction to “find a way to get costs down!” implies greater room for manoeuvre for firms, which is the final notable aspect of the evolution of the system.

4. A widening gap between the State and firms

This tendency can be seen by the transformation of firms’ capital, the evolution of their structures, strengthened by take-overs and European alliances.¹⁷

The transformation of corporate structures is evidence in the privatisation of Matra and of the CGE, the transformation of land arsenals to national companies, the opening of capital from Aérospatiale to the Crédit Lyonnais (20%). Aérospatiale, traditionally focused on its parent company, now advances the notion of a group. The same evolution exists at the SNECMA and the SNPE. This evolution will clearly grant greater flexibility to group strategies. Activities which used to be carried out within the firm will be “detached” from the firm and more easily turned to the creation of subsidiaries. This takes us from a perspective of relative stability in the area which characterised “national-national” firms to a perspective of mobility.

The evolution of firms towards group structures has allowed them to transform some of their activities into subsidiaries and to form new companies via internal or external regrouping. New industrial actors have thus appeared over the past six

¹⁴*Ibidem*, p. 202.

¹⁵Boyon, J. (1994) *Rapport...sur la programmation militaire 1995–2000*, Assemblée Nationale, document n°1218, 10 Mai, p. 131.

¹⁶*Ibidem*, p. 131.

¹⁷for more detailed information, see HEBERT J-P, 1995b, HEBERT J-P, 1992b and HEBERT J-P, 1991.

years: GIAT Industries, Sextant Avionique, Eurocopter, CELERG. Aérospatiale's satellite activities are preparing a merger with the German group DASA. Aérospatiale has similarly regrouped its laser activities within a single pole called Unilaser, and also created a maintenance pole.

The creation of subsidiaries at Matra has led to the launching of Matra Defense and Matra Espace. This trend affects medium size firms too, the SFIM has affiliated its optronics activities and flight control under the name SFIM Industries.

A significant number of mergers and take-overs have in other respects contributed to giving existing groups greater room for manoeuvre. More fundamentally, the national horizon is no longer the framework of essential industrial action for firms. Indeed, several of the major operators in the defence industry have undertaking the creation of large industrial alliances at the European level: Aérospatiale (see above), Thomson-CSF (take-overs of Philips subsidiaries, Links-Miles, Pilkington's optronics division, British subsidiaries of Hughes Aircraft, Ferranti's "industrial systems" division, Thorn-EMI's "missile electronics" and optronics divisions, the British company Redifon), the creation with Ferranti of a joint venture in sonar systems, with GEC-Marconi for airborne radar, with the Irish company Shorts Brothers for very short range surface-to-air systems, and the creation of two joint ventures with DASA in the fields of land arms and propulsion of tactical missiles.

Matra, with GEC-Marconi, has set up the joint venture Matra Marconi Space which previously took over the space activities of British Aerospace, thus becoming the European leader in this field. The announcement of the merger of the missile activities of Matra and British Aerospace appears to be taking some time, but it should lead to a consistent partnership. Matra has made other moves by taking 20% of the German missile manufacturer BGT.

GIAT Industries has not limited its strategies to France: there has been the takeover of FN-Herstal, of the brand name PRB, a 35% initial share holding in Bezetta, discussions underway for a merger of ammunition activities with the British Royal Ordnance, and the preparation with Panhard Levassor, Mercedes and Krauss Maffei for a joint venture for armoured vehicles (VBM programme).

One cannot underestimate the importance of this movement towards *Europeanisation* as far as the functioning of the French arms production system is concerned. It bears on the firm-State relationship: firms are no longer facing the single national representative and the State is no longer facing such dependent firms. From this point of view, Europeanisation is overturning the deal, introducing, moreover, the birth of a new political authority at the level of the Community, even if the field of Defence currently occupies a place apart at the Community level.¹⁸

II — THE STATE AS ARMS MANUFACTURER

After successively disengaging itself from the Powders and Explosives service over thirty years, then from the GIAT, the State no longer has any significant industrial activity except in one sector: military shipbuilding.¹⁹

¹⁸see HEBERT J.P (1992b) pp 24–30.

¹⁹In aeronautics the State owns three industrial workshops (Ateliers Industriels de l'Aéronautique:

Table 4 Evolution of statutory employment and activity (per 1000 hours) in the DCN for 1984–1994

	1984	1991	1994
statutory employment	31536 (1)	27556 (2)	24500 (3)
activity	31235 (4)	28655	23570 (5)

(1) 1/7/1984 (rapport Boucheron 1985)

(2) 31/12/1991 (info DCN)

(3) 31/12/1994 (Le Flot n.142)

(4) 1983 (rapport Boucheron 1985)

(5) forecast (rapport Boucheron 1992)

The Direction des Constructions Navales (DCN), one of the nine departments of the DGA, and as such a State administrative service, represents a monopoly or virtual monopoly situation for naval warship repairs and construction at the national level. Alongside this colossus there are only three or four civilian shipyards to challenge its supremacy and those only in the field of small surface units (speed boats, patrol boats etc.): these mainly concern the Cherbourg CMN shipyards, the Leroux et Lotz shipyards in Lorient and the Chantiers de l'Atlantique in Saint-Nazaire.²⁰

According to SIPRI statistics,²¹ in 1991 the DCN was the European leader in the military naval field, because of its staff (one and a half times more than Fincantieri, the second largest military shipbuilding employer in Europe) and its military production value (four times more than VSEL which comes in second place). The DCN comes first because it combines shipbuilding activities with repair work. Four of its sites are located at Cherbourg for the English Channel, Brest and Lorient for the Atlantic, and Toulon for the Mediterranean.

The DCN is feeling the effects of the crisis in the defence industry sector. This is reflected by 20% reduction in employment and activity, as can be seen in Table 4.

The DCN took a certain number of measures to face the era of budgetary rigour and to attenuate negative effects on activity and employment. The first, which produces the best results today, was to seek new export markets. This policy worked to a certain extent as can be seen in the following examples: the BRAVO programme, a building contract for six Anti-Submarine frigates with the Taiwan Navy (ASM frigates), and the order placed at the end of last year by Saudi Arabia for two anti-aircraft frigates, their arms system, plus the construction of a naval base equipped to house them — a total contract worth 19 billion francs, and which guaranteed full employment in the Lorient shipyard until the year 2000.²²

But this policy has its limits:

- * technological transfers, which are increasingly present in the offset agree-

AIA) responsible for the maintenance of air force devices. Fewer than three thousand people are employed there today.

²⁰CMN, without doubt the most specialised of the three in military construction, employs 540 people in Cherbourg. Leroux et Lotz (1400 jobs) works equally for civilian and military orders; as for the Chantiers de l'Atlantique (4300 jobs) which carries out 90% of its work on civilian orders, they are the only yards, after the disappearance of Norms, to have survived the civilian shipbuilding crisis.

²¹Wulf, H. (1993). Western Europe: facing over-capacities. In H. Wulf (ed.), *Arms industry limited*, SIPRI, Oxford University Press, p. 155.

²²Cf. *Le Monde* and *Ouest France* 23/11/1994.

ments included in this sort of contract, jeopardise future export possibilities. Take the example of the sales contract for three AGOSTA submarines and three mine hunters with Pakistan which stipulates that only the first craft should be produced entirely in France (Cherbourg for the first submarine, Lorient for the first mine hunter). The production technology transfer as stated in the contract means that from the second ship an increasing part of production and final assembling should be carried out at the Karachi shipyard.²³

- * competitiveness on a particularly active second-hand market where conventional naval arms are offered at attractive prices. Thus, this year, at the beginning of April, Brest was chosen for stop-over by three of the seven ships recently bought by the Brazilian Navy from the British Navy (three mine hunters, and four anti-aircraft frigates, all less than fifteen years old).²⁴

The second measure consisted in finding new civilian outlets for existing skills and industries. Despite the setting up in 1991 of diversification units on the major DCN industrial sites, industrial means, techniques and general know-how concerning warships have found little success in the civilian sector. Military production is not easily transferred to civilian production, especially when, on top of the technical and cultural obstacles, there is, as in the present situation, a legal obstacle: a two-centenary law — the Allarde law — which does not allow any State military establishment to develop civilian activities in those fields which may be covered by the private sector.

Nevertheless, diversification opportunities do exist. The DCN does have at its disposal a huge industrial tool, often the biggest in Europe. On this basis, the DCN considers that the whole field of civilian activities leading to the construction of mega-structures and (or) requiring the use of mega-machines is open to it.

This was the direction recently taken by the DCN Brest which, last year, was subcontracted the manufacture of oil platform sponsors by a local private naval repairs yard.²⁵ DCN-Cherbourg also seems keen to follow suit and is planning to work with a large building and public works group for bridge construction. Its specialised facilities and equipment means that it would be possible to assemble bridge pylon heads "on the flat", in one piece and under shelter. Apart from better working conditions, this technique would meet imperatives of precision and regulation with greater facility and ultimately lead to appreciable time-saving.²⁶

The third measure, the last to date, involves setting up global subcontracting contracts. In order to keep to its work programme and notably to carry out a certain number of subsidiary jobs (putting up and taking down scaffolding) or secondary tasks (ship painting, indoor fittings) which do not -or no longer- count among its basic skills,²⁷ the DCN continuously resorts to a complementary workforce which

²³Cf *Le Flot* n.142 and *Ouest France* 11/4/1995.

²⁴Cf. *Ouest France* 8-9/4/1995.

²⁵By standing aside for a private project manager, the DCN allows the company to situate itself on a market where, until then, it did not have the necessary means to intervene. This may be considered as contributing towards the economic support of a travel-to-work area affected by a reduction in military activities.

²⁶Cf. *Info DGA* January 1995.

²⁷According to the DCN director at Lorient, the core of the trade which should in all cases remain within the competence of the DCN includes research studies, hull assembling, integration of arms

it recruits from small and medium size enterprises (SME) established near its shipyards. Its scrupulous regard for the control and supervision of its various manufacturing stages meant that until recent times the DCN only gave short-term contracts for temporary hiring of manpower (known as "internal subcontracting"), thus keeping control of the work schedule and of the workforce hired.

The urgent need to cut costs is today leading the DCN to exchange this breakdown into individual subcontracting operations for global subcontracting. Within the framework of a fixed price contract, the subcontractor in this type of contract becomes responsible for the design and the complete manufacture of whole parts of a ship, and organises himself to meet deadlines and cost constraints. Apart from the cost-saving expected, this new type of subcontracting should allow subcontractors to move from a system of assistantship to one of responsibility. The time has gone when local SME played the role of temporary employment agencies, hiring out their manpower to meet very clearly defined demand. To get these new contracts they will have to set up research departments, fill out their supervisory structures, and very probably regroup: these are measures which should reinforce local industry and, in time, permit it to become less dependent on its principle contractor for military shipbuilding and repairs.

These new subcontracting contracts are already in place in Lorient. The modular construction of frigates led the local DCN to subcontract to a pool of firms the construction of complete frigate rings, later to be assembled by the DCN. 50% of its subcontracting is carried out along these new lines. This type of contract is also planned in Brest for the manufacture of the Charles-De-Gaulle nuclear aircraft carrier island and for ventilation work on the SIROCO landing platform and dock (LPD) recently under construction.

Of the three measures mentioned, the first two are a matter of internal diversification policy. This diversification concerns both customers and the type of product. So far, only customer-base diversification has had significant results. Export orders for warships today represent about 10% of the DCN's activity, the middle term objective being to increase this figure to 15%. Diversification via development of civilian production is, and will remain, more modest: at completion, a 5% maximum of activity. In any case, as the management frequently reminds us, the DCN's priority is to satisfy the requirements of the French Navy, and these diversification measures, though useful occasionally to maintain an optimum level of activity, will never account for more than one fifth of the orders.²⁸

Beyond the internal adaptations proper to the military establishment which they underpin, the second and third measures lie in the field of conversion activities of travel-to-work areas threatened by a reduction in military activities. These measures also have a side effect, which is to force the military establishment to confront private sector logic: application of civilian quality standards (ISO 9000)²⁹ supervised by private organisms (Veritas offices) on subcontract markets taken up by the DCN for private project managers; opening up of DCN plants to global subcon-

systems and trials. Cf. Info DGA n.72, March 1995.

²⁸Cf. "Politique industrielle: la DCN se renforce sur ses métiers et joue la carte de la solidarité" in *Le Flot* n. 141, September/October 1994.

²⁹For military material, the Service de la Surveillance Industrielle de l'Armement (SIAR) grants RAQ quality labels (Quality Assurance Regulations) which aim to guarantee the perfect quality of the material manufactured by Defence suppliers.

tract private yards, leading to veritable private sector enclaves or "free zones" within military areas.

CONCLUSION

Whether they be the cause(s) (given the changes in the world geostrategic context, in national arms production, or other), the principle initiatives taken by the State over the last few years either as regulator of the national defence system or as manufacturer within this system, has worked towards reducing its hold on the industrial sector.

After having long fought against the very idea of conversion, it would appear that the State has finally recognised the inevitability, and thus the necessity, to follow this trend if it wishes to beat an ordered retreat, without excessive hardship.³⁰ Thus may be interpreted by the Ministry of Defence 1991 decision to create a restructuration delegation (DAR). Benefiting from a defence restructuring fund (FRED), this delegation contributed to military land conversion financing, and to the modernisation of SME in more than 30 French departments concerned with restructuring.³¹ Similarly, the "Formation et Mobilité" programme set up on 1/1/1993 follows suit for the shedding of Ministry of Defence civilian staff.

However, this retreat is far from being a renouncement by the State of its control of this highly strategic sector. Let us take as an example the fact that sixteen Defence industry engineers were made available to regional prefects to carry out the delicate assignment of "assuring the durability of the Defence industry facing a difficult economic climate",³² and the setting up in 1993 of a defence industry structuring apparatus (ASTRID); added to this comes the extension at the beginning of the year of the 700 million franc aid-programme to develop SME technological potential which are expected to contribute to the creation of 10 000 new jobs in the defence industry within two years.³³

Reducing the purchase prices of its arms systems in order to adapt them to its new budgetary constraints and maintaining the independence of its defence system seem to be the present objectives aimed at by the State in defence industry policy and strategy.

The first objective is met by State withdrawal, by a return to competitiveness and to market laws which are expected to lead to better cost-effective production. The second objective is met by greater concern for "second level" firms which are "the source of indispensable innovations for defence" and which, if threatened,

³⁰Cf JP HEBERT "Problématique et situation de la reconversion en France", paper given at the Montreal conference 10-11/09/1993.

³¹According to a note concerning "assessment of economic conversion mechanism" established by the DAR, on 30/06/1994 the programmes approved by the FRED since its creation in 1992 amounted to 303.8 million francs of which 92.1 million went in aid for businesses either creating or preserving jobs. It is believed that 1472 jobs were thus created or saved, which works out at 62 500 francs per job.

³²Cf "Les envoyés spéciaux de la DGA" in *Info DGA* n.72, March 1995.

³³Launched by the Ministry of Defence at the beginning of the year, this plan draws on four funds:

- fund to help SME to accede to Defence research (170 million francs)
- investment fund for firms resulting from the spreading out of defence companies (100 MF)
- two funds for participation in capital stock for strategic (80MF) or innovative (150 MF) SME.

Cf *Air et Cosmos* n. 1511, March 24, 1995.

"would represent a threat to our defence industry as a whole and, in the long term, to our independence".³⁴

In the present context of crisis, of an acceleration in the arms material price drift, are these two objectives still reconcilable?

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³⁴from "Livre blanc sur la défense 1994" ed. 10/18, p. 200.