

# THE HORIZON PROGRAMME

## ORIGINS, ORGANIZATION AND PROSPECTS

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*This is an edited version of the article that was produced for and printed in the French Navy in-house magazine Cols Bleus, Issue No 2277 dated 15 October 1994. It is reproduced with the kind permission of Cols Bleus and has been updated to take into account recent changes.*

### ABSTRACT

The article outlines the origin and the major fundamental principles that have been incorporated in the setting up of the HORIZON project. The memorandum of understanding between the three nations is described, plus the programme and the government and industrial organizations.

### Origins

The requirement existed for the Western navies to be equipped with a new anti-air frigate, at the beginning of the 21st century. This gave rise to the first attempt of a collaborative design of a new ship. This collaboration involved eight countries, including, the UK, France and Italy. In the end, the project, named NATO NFR 90, was abandoned early in 1990, when it became apparent that the programme for the ship and its main weapon system was dangerously lacking in

J.Nav.Eng., 35(3), 1995

consistency and that the proliferation of national variants would prevent any possibility of substantial economies being made.

The continuing requirement on the part of the Naval Staffs and the need to contrive new methods of conducting programmes in order, under the pressure of financial constraints, to reduce their costs of development, acquisition and possession, led the British and French authorities, soon to be joined by the Italians, to relaunch the idea of a collaboration for the procurement of a single class of anti-air frigates.

### **The major fundamental principles**

The lessons drawn from the setback over NFR 90 proved extremely valuable in defining the context in which the collaboration should be carried out in order to adhere to the cost saving objective. Thus, from the start, the leading figures on the staffs and within the Defence Equipment Services, supported by a constant and very strong political will, laid down seven major principles on which the programme was to be founded until its completion:

1. Determination on the part of the countries to commit themselves over the long term.
2. The existence of a common military requirement.
3. The signing of a single collaborative arrangement for the development, construction, and in-service support of a single class of frigates.
4. The setting up of integrated management teams (on the State and industrial sides simultaneously), with effective delegation of authority.
5. Recourse to competition and the maximum use of existing solutions.
6. A dedication to strict cost control by mutual agreement (for instance, no predetermined, detailed work-sharing).
7. No national variants except for those stated in the operational requirement and necessary for satisfactory integration into the Fleet.

### **The tripartite military characteristics**

The tripartite paper stating the military characteristics, signed at the end of 1992 by the three Chiefs of Naval Staff, stipulated that the HORIZON class frigate will be intended for anti-air warfare (against aircraft and missiles of all types) and for exercising command over a group of ships. In addition, she will have secondary anti-submarine, anti-ship and shore bombardment capabilities.

The ship will carry out her tasks either within a naval-air group consisting of a 'task force', in which she would constitute one of the main components, or within a group of lightly armed or unarmed ships. The frigate's capabilities would enable her, on occasion, to operate alone and to take part in humanitarian-type operations.

### **The major stages of the programme**

At present the three nations estimated requirements are:

- Royal Navy — 12 ships.
- Italian Navy — 6
- French Navy — 4

The three navies aim to have the first First of Class (FOC) ships—one per country—in service at the end of 2002.

The time scheduled for the programme, up to and including the three FOCs, is set out in (FIG. 1). It highlights one of the current difficulties—the very tight overall deadlines for completion owing to the progressive slippage of the start of the work.

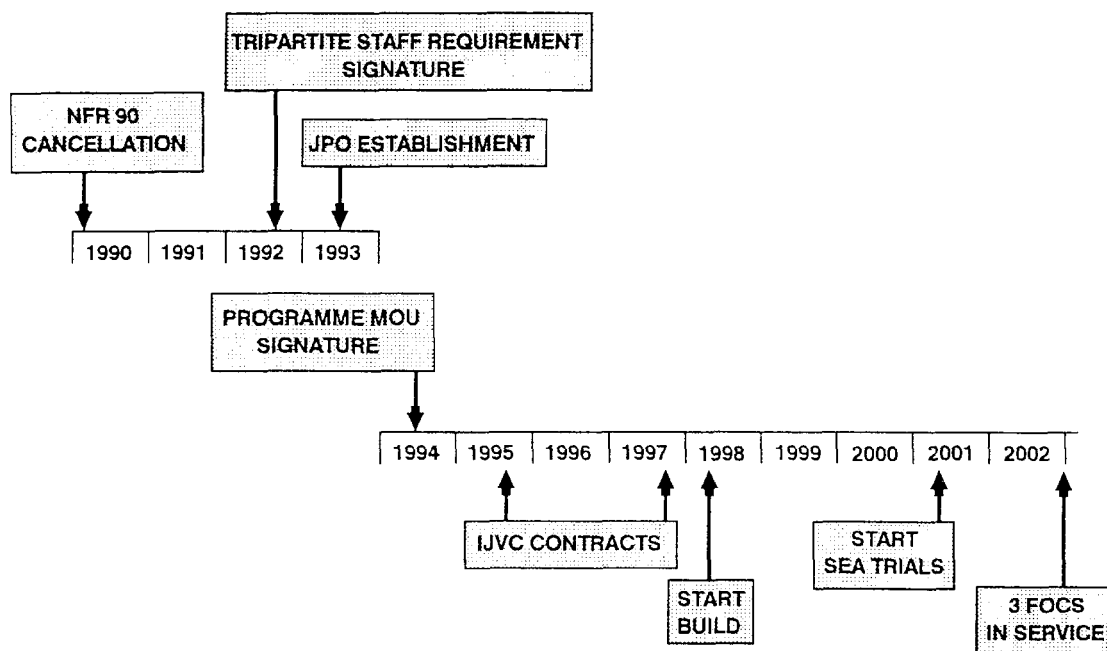


FIG. 1—BUILDING OF A CO-OPERATIVE PROJECT

### The collaboration arrangement

A single general arrangement (called the Memorandum of Understanding (MOU)), signed by the three Defence Ministers on 11 July 1994 in London, defines the major principles which now and will in future govern the conduct of the programme. The MOU establishes:

- The organization for directing the programme.
- The rules regarding cost and work-sharing.
- Selection of equipment.
- Security and the safeguarding of information and the legal provisions concerning the rights and obligations of each party.

The general arrangement is and will be complemented by supplements governing each main phase of the programme:

- Definition studies.
- Detailed studies and delivery of the 3 FOCs.
- The production ship, etc.

Supplement No 1, the content of which was approved and fixed by the Ministers on 11 July 1994, covers the carrying out of the definition phase. It will be signed officially in 1995 (March or June at the latest), thus releasing all the funding for the corresponding phase. Its contents specifically defines the nature of the work to be done, the procurement strategy to be used and the cost and timescale to be complied with.

A preliminary document, also signed on 11 July by the three Ministers, provides for the financing of the work to be initiated immediately under the terms of the first segment of the definition phase.

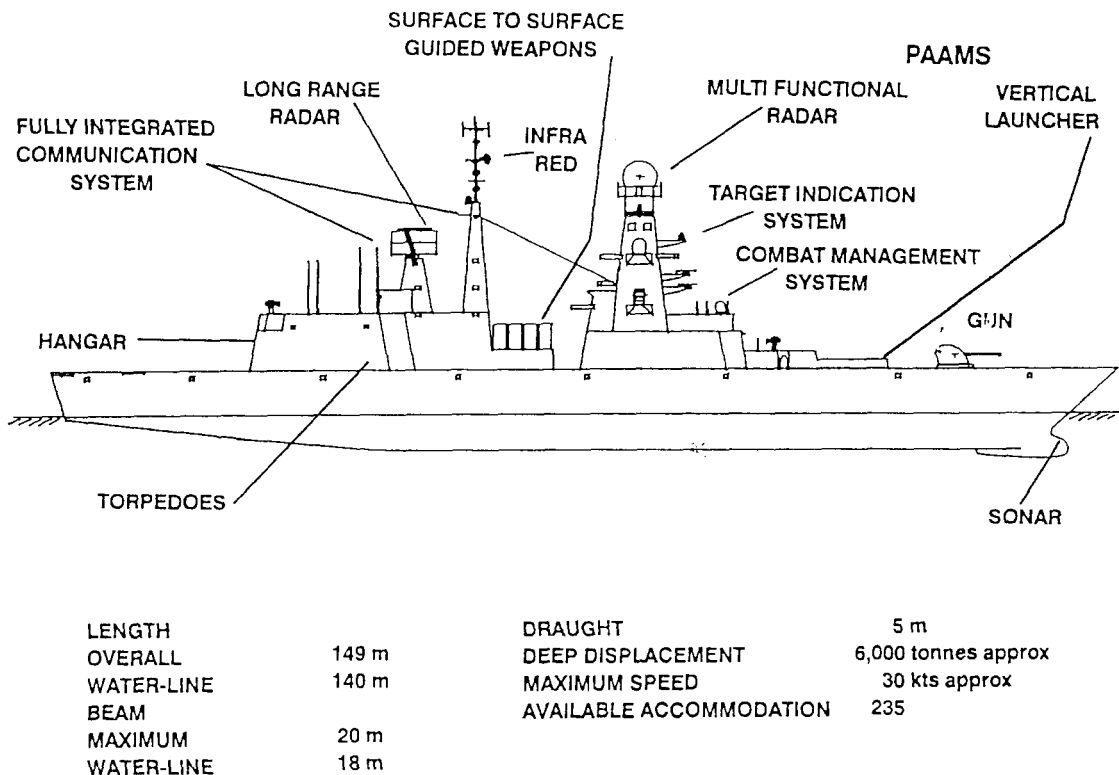


FIG. 2—HORIZON FRIGATE (INDICATIVE DESIGN)

### The main characteristics of the future ship

(FIG. 2) gives the silhouette and main characteristics of the HORIZON class frigate as presently envisaged. The definition study, and then the detailed studies, will specify the other characteristics (propulsion system and main items of the combat system).

The main weapon system, constituting the heart of the combat system and the frigate's *raison d'être*, is the subject of a specific programme. Known as PAAMS (Principal Anti-Air Missile System), it will be developed on behalf of the UK, France and Italy by a Joint Programme Office other than that of the frigate, the latter office being responsible for integrating PAAMS into the ship's combat system. The characteristics of PAAMS' unique architecture will enable it to operate equally well with either of the two multi-function radars envisaged (EMPAR and MESAR) without affecting the frigate's combat system.

### The governmental organization (FIG. 3)

Amongst the major fundamental principles previously mentioned, the setting up of a single, integrated team responsible for all aspects of the running of the programme has shown itself to be a determining factor. Thus control and supervision of the entire programme has been assigned to a steering committee consisting of representatives of the three Ministries' Defence Equipment Services. Nominated by the Staffs, the operational authorities, on their side, form a naval committee, and are represented on the aforementioned steering committee.

The collaboration arrangement signed on 11 July has assigned responsibility for the conduct of the equipment programme to the Joint Project Office (JPO)

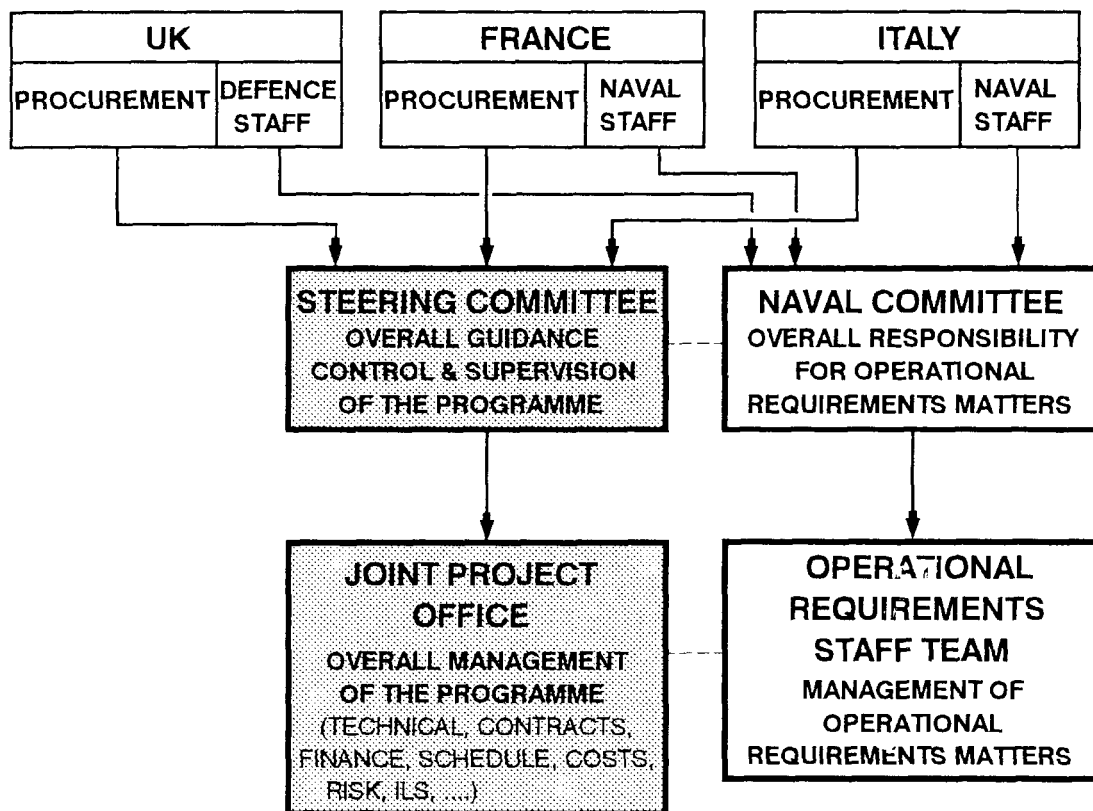


FIG. 3—GOVERNMENTAL ORGANIZATION

which is answerable solely to the steering committee. The management of matters associated with the operational requirements is the responsibility of an Operational Requirement Staff Team (ORST). It is collocated with the JPO which it serves in the capacity of operational expert, and this greatly facilitates dialogue between the operational and procurement teams.

The JPO, which is the cornerstone of this structure, has been in place since 1 September 1993. Installed in London, it consists of personnel from the three countries, selected for their particular areas of expertise but nevertheless with a view to maintaining an overall balance between the nationalities of the holders of the principal posts. Its organizational structure, as required by the highest authorities, concentrates authority and responsibility in each area in the hands of one individual who, irrespective of his nationality, is the three nations' interlocutor in that sphere. This integrated system by-passes the notorious blockage in the decision-making process which arises when posts are duplicated. It has enabled the JPO, by reason of its tri-national character, to gather together and harmonize the preparatory work carried out with the nations and, above all, to propose the compromises which the latter cannot arrive at because of their legitimate but often opposing national interests. This ability to work out technical, financial or industrial compromises which are acceptable to all is indispensable for the continued progress of the programme on a collaborative basis.

In its everyday work the JPO relies, as necessary, on national technical experts and can also use the resources belonging to the countries (such as test facilities, for example). The JPO interface with the national organizations is through the three national focal points.

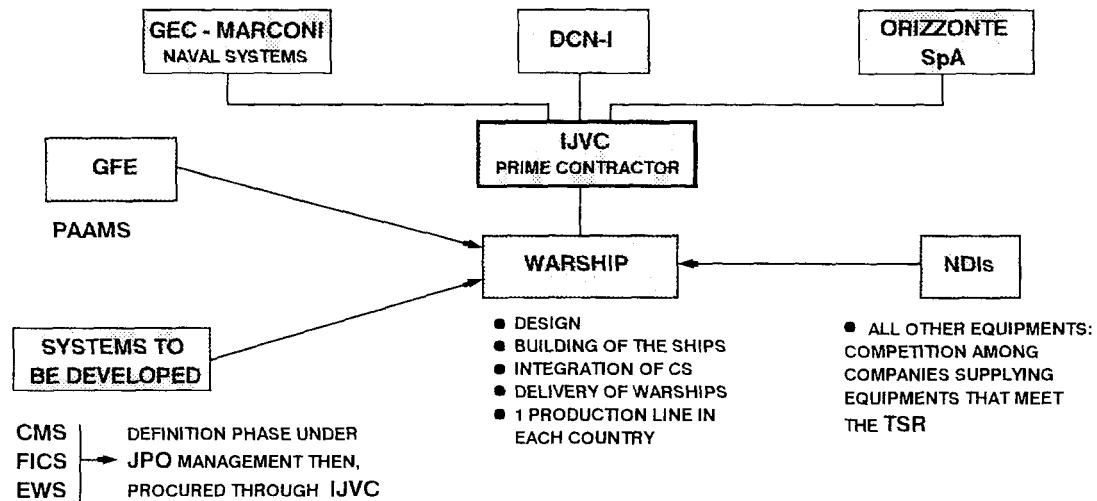


FIG. 4—INDUSTRIAL ORGANIZATION

### The industrial organization (FIG. 4)

This is founded on the need to task a single manufacturer as the Prime Contractor (PC) for the project. The PC is then the sole party responsible to the JPO for supplying the warships fitted out in accordance with the specifications, within the timescales and at the agreed price. This supply task includes the following:

- Ship definition and detailed studies.
- Building of the hull plus propulsion system.
- Integration of the combat system.
- Delivery of warships meeting the required performance.

Discussions between the nations have led to the coming together of:

#### *UK*

GEC Naval Systems (leader of a team consisting of Yarrow Shipbuilders Ltd and British Aerospace Defence with the support of Yard and Vosper Thornycroft).

#### *Italy*

Orizzonte SpA (a 50/50 joint venture between Fincantieri and Finmeccanica).

#### *France*

The industrial service of the Direction des Constructions Navales (DCN) (through DCN International).

An international consortium formed from these companies (the IJVC: International Joint Venture Company), designed to be the PC for the project, was created in February 1995. In the equipment sphere distinctions have to be drawn between three main categories.

- Government Furnished Equipment.

Very few in number, the most important being PAAMS.

- Systems to be developed, such as the:
  - Combat Management System (CMS).
  - Integrated Communications System (FICS).
  - Electronic Warfare System (EWS).

The definition phase, running concurrently, will be conducted directly by the JPO during the warship design definition phase. The participants intention is to transfer the contractual responsibility for development and procurement of CMS, FICS and EWS from the Authority to the IJVC. The IJVC will then act as the warship PC/delegated Authority from phase 2 onwards. The Authority shall obviously at that point need to be convinced that the IJVC proposal for taking this responsibility offers the best value for money with acceptable terms and conditions.

- Items of equipment not requiring development under the HORIZON programme, procured by means of competitive tendering.

### **Prospects**

The preliminary work on the programme accomplished during these early years has been of prime importance. On the basis of national methods and after consideration of previous efforts, it has been possible to lay the foundations for a new and original organization for the management of a collaborative defence programme which is without precedent in the naval sphere. The resultant major rules for the management of a collaborative programme should make it possible to derive the greatest financial benefit from the sum of the requirements of the participating countries.

The few rules which have been described here would come to nought unless they were accompanied by a firm intention to rationalize the three nations' industrial resources around this project. The industrial side concerned has grasped this and is seeking, in liaison with the JPO, the best ways of meeting the common challenge.

The task does not end there. The JPO is now the only body responsible for the HORIZON programme on behalf of the three nations. It now remains for it to put these principles into practical effect, and to find a solution to the innumerable problems which are sure to arise, from now until the entry into service of the first ships.

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