

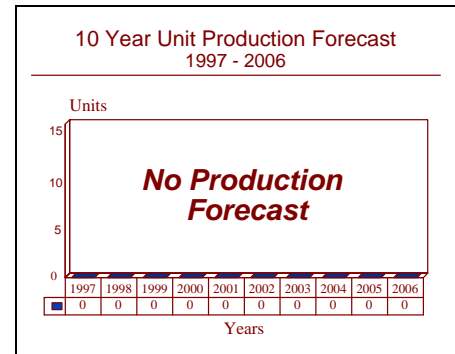
ARCHIVED REPORT

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Aries - Archived 9/98

Outlook

- At least 60 are believed to have been produced
- No current orders have been identified
- In service with Italian Army and other European forces



Orientation

Description. Integrated communications electronic intelligence system designed to provide continuous automatic surveillance of VHF/UHF communications bands and to provide jamming capability against radar and communications systems.

Sponsor

Ministero Della Difesa
Office for Military Production
Via XX Settembre 123
Pal Eserceto
I-00100 Rome
Italy

Contractors

Elettronica SpA
Via Tiburtina Valeria Km 13,700
I-00131 Rome
Italy
Tel: +396 43641
Telex: 611024

Licensee. No known production licenses granted.

Status. Believed to still be in service.

Total Produced. At least 60 systems have been produced since 1997.

Application. Aries is an integrated electronic surveillance and countermeasures system tasked with monitoring all the main military VHF and UHF frequency ranges and with supplying jamming capability against selected detected systems. It can also be used for EW training. Suitable platforms include helicopters and executive aircraft such as the Falcon-20.

Price Range. The price of the Aries system is not known due to the secrecy of the program.

Technical Data

Design Features. Aries integrates two communications surveillance and jamming systems, Fast Jam and Smart Guard, with a dedicated radar surveillance system. Jamming capability is expanded to cover the C- to J-

bands in addition to HF, VHF and UHF communications frequencies. If desired, an additional self-protection jammer, the ELT-558, can also be included.

Smart Guard conducts automatic surveillance, interception analysis and direction finding on all types of modulated signals. Signals are automatically compared by the system with previous intercepts, allowing a continuous update of emitter location. Data processing systems, coupled to microprocessor controlled power management systems, permit rapid frequency scanning and multiple threat engagement across predetermined channel ranges.

Fast Jam consists of an analysis and monitoring receiver with associated IFF displays, a systems management computer, plasma displays and jamming emitters. The system normally operates in an automatic mode under manual surveillance, but can also be partially or wholly under manual control.

Variants/Upgrades

Aries A - A version of the Aries system optimized for training purposes.

The Aries system is likely to be the subject of continuing upgrades as a result of the incorporation of new processing and memory storage technology.

Program Review

Background. Fast Jam and Smart Guard were developed by Elettronica to provide battlefield coverage of the main communications bands. The use of a helicopter platform was selected in order to provide increased flexibility of deployment. Although Elettronica maintains strict client confidentiality, the available evidence seems to suggest that Smart Guard and Fast Jam had only modest sales success until they were integrated into the Aries package.

In 1987, Elettronica introduced the Aries integrated communications EW system. This incorporated Smart Guard with Fast Jam to provide a complete surveillance and countermeasures capability across the entire communications and radar spectrum. Between then and the end of 1989, a number of Aries systems had been sold. Aries is known to have been configured for installation on the Agusta A-109EOA, 24 of which started entering service with the Italian Army during 1988 and which

completed delivery in 1989. It is likely that these are fitted on a for but not with basis for Aries, forming one component of the Catrin C³I system. The balance of the ordered systems were for export.

In 1991, a detailed examination of maritime reconnaissance and related fits revealed some indication of the extent of Aries deployment. Spain, Sweden, Switzerland and Norway all are believed to operate Aries systems for their coastal surveillance and also to provide electronic warfare training facilities.

The system has been procured by several army aviation and air forces. No details of these sales have been released to the public and it is possible that the Aries integrated battlefield airborne ESM system has garnered a number of export orders beyond those listed here.

Funding

Aries, Fast Jam and Smart Guard were developed as private ventures using corporate funding.

Recent Contracts

No contractual information has been made publicly available.

Timetable

1982	Fast Jam and Smart Guard introduced
1987	Aries system introduced
1988	Deliveries to Italian Army commenced
1989	Deliveries to Italian Army completed
1991	Germany identified as user

1992 Norway, Spain and Sweden identified as users

Worldwide Distribution

Aries is deployed on tactical helicopters and small aircraft of the **Italian Army**, plus undisclosed export clients. In addition, the following clients have been identified:

Germany	Three systems on HFB.320
Norway	Four systems on Falcon 20
Spain	Six systems on C-212
Sweden	Six systems on Metro-III
Switzerland	Two systems on Learjets

Forecast Rationale

An interesting application for the basic Aries system is its use for training EW operators. In this role, it acts both as a training system in its own right for electronic intelligence/communications intelligence (ELINT/COMINT) operators, and as a range supervision and surveillance system, to coordinate other EW training activities.

The Aries COMINT system offers an option for military forces supporting UN initiatives to keep some check on the circumstances in their immediate vicinity. The capability of Aries to be deployed from helicopters and light aircraft adds further weight to this concept. This is particularly the case where the rules of engagement (ROE) applied by the UN are onerous.

The operations in Bosnia are a notorious case where the ROE are so severe that they preclude any realistic military response. In that case, it is required that the UN forces identify not just the force that has fired on them, but the specific gun or tank used and they must restrict their response to that individual weapon.

In such an environment, competent COMINT is about the only battlefield surveillance tool suitable for the job. This suggests that systems like Aries could be a useful tool for paramilitary and police forces – arguably at least the type of force best suited to situations like Somalia.

Aries is an extremely difficult program to assess. A company policy of strict confidentiality has meant that little or no official information on sales or deliveries is available. For several years, no concrete information has been released on the status of the Aries program, owing, perhaps, to the secrecy of the program or merely to a lack of recent orders. While it is likely that Aries has gone out of production or has been superseded by another system, Forecast will maintain this report in the event that some new information may surface pertaining to new production, new orders, spares, maintenance, or retrofits. If no new information is found, this report will be dropped next year.

Ten-Year Outlook

No production anticipated.

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