

ARCHIVED REPORT

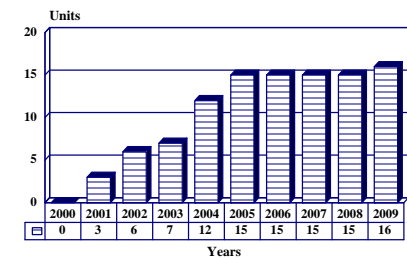
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Rafale FLIR - Archived 06/2001

Outlook

- Dassault Rafale lines begun in 1999
- First Rafale B and C models due in 2004
- Strong export potential

10 Year Unit Production Forecast
2000 - 2009



Orientation

Description. Airborne forward-looking infrared (FLIR) system

Sponsor

Ministry of Defense
14 rue St. Dominique
F-75997 Paris Armees
France
Tel: +33 1 45 55 95 20

Contractors

Thomson-TRT Defense
88 rue Brillat Svarin
Paris Cedex
France
Tel: +33 1 45 81 11 12
Fax: +33 1 45 80 71 07
(Codevelopment)

Intertechnique SA

61 rue Pierre Curie
PO Box 1
F-78374 Plaisir Cedex
France
Tel: +33 1 30 54 82 00
Fax: +33 1 30 55 71 61
Web site: <http://www.intertechnique.fr/>
(Codevelopment)

Status. In development.

Total Produced. None

Application. Dassault Aviation Rafale.

Price Range. Based on an estimate of similar systems, this system is valued at US\$1.8 million in US dollars.

Technical Data

Operational Characteristics. The FLIR system that is to be used aboard the Dassault Rafale aircraft is being developed specifically for that platform. While the system's design features and operational characteristics have not yet been publicized, they may become clearer when the FLIR system enters production, or if it is marketed for other platforms in the future. Its basic

requirements, however, are clear: it must provide passive infrared detection, high-definition CCD imagery, a very large field-of-regard, an eyesafe laser rangefinder and two optical heads. It will offer visual identification, firing under jamming, damage assessment and navigation/piloting assistance.

Variants/Upgrades

Due to the developmental nature of this program, no upgrades have yet been identified.

Program Review

Background. The Dassault Rafale is one of three advanced-technology fighter aircraft in advanced development in the West. The other two are the Eurofighter 2000 and US Air Force F-22 Advanced Tactical Fighter. In 1983, Dassault announced development of a Rafale A experimental prototype designed to study the technologies necessary for producing a multi-role, advanced-technology fighter aircraft for the 1990s and beyond. The driving force was the aging fleet of French Air Force and Navy aircraft. The end of the century will mark the retirement of French Air Force Jaguar and Mirage III ground-attack aircraft, and French Navy Crusaders and Super Etendard fighters.

The French defense ministry has ordered the Rafale in relatively small batches, and has thus drawn criticism from Dassault and other contractors claiming that this approach hinders the management of production and could ultimately result in higher unit costs. In early 1997, Dassault and the defense ministry tried to

alleviate this situation by agreeing on a 10 percent reduction in the Rafale's unit cost. While the manufacturer had been hoping for this to result in a multi-year buy of 48 aircraft, the subsequent purchase totaled only 13 units.

Thomson-TRT and Societe Anonyme de Telecommunications (SAT) were involved in a six-year predevelopmental phase to design and build the new FLIR for the Rafale. The developmental phase now under way is being carried out by Thomson-TRT and Intertechnique.

France's Rafale program remains on solid footing; however, due to budget cuts, initial deliveries to the country's Navy slipped from 1998 to late 1999. The Air Force should now be receiving its first production aircraft (Rafale B and C) in the year 2004. Although the Navy has a more urgent re-equipment need, the Rafale M to outfit that service is not expected to carry a FLIR system.

Funding

Funding information for this program is unavailable.

Recent Contracts

In June 1999, Dassault was awarded a US\$2.65 billion multiyear contract for 48 Rafales.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1983	Dassault decision to build Rafale
Mar	1984	Construction of Rafale A begun
Jul	1986	Rafale A first flight
Jan	1988	Full-scale development authorized
Mar	1991	Rafale C first flight
	1992	FLIR development believed to have begun
	1998	Rafale C and B deliveries reportedly delayed until 2004
Jun	1999	Contract for 48 Rafales
	2004	Deliveries of Rafale C and B to the French Air Force expected to begin

Worldwide Distribution

The system is specific to the Rafale, and will therefore be built for **France**. Export models of the aircraft may or may not include the FLIR system.

Forecast Rationale

As the title would imply, the Rafale FLIR is a forward-looking infrared system designed for use in the Dassault Rafale, particularly the B and C variants. With initial deliveries to the French Air Force scheduled to commence in 2004, Rafale FLIR is preparing for a steady production run.

The platform-specific nature of the Rafale FLIR that once plagued the system will soon pay high dividends. Delays in aircraft production held up the system lines, as initial delivery dates were continuously pushed back. It was not until mid-1999 that Dassault received the final go ahead from the French government to start up the Rafale lines. A guaranteed 48 fighters will be

produced over the forecast period, with additional French procurement expected. Though not accounted for in the forecast chart below, considerable export success is all but guaranteed.

One factor immediately affecting the Rafale FLIR will be its incorporation or omission from the Rafale M. Unconfirmed reports indicate that the naval version of the Dassault fighter will be fielded without FLIR systems. Though this will have no real long-term impact upon the success of the system, it may account for a large variation in forecast figures. The chart below was developed under the assumption that the Rafale FLIR will not be fielded on the M variant.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Designation	Application	Thru 99	High Confidence Level				Good Confidence Level				Speculative		Total 00-09
			00	01	02	03	04	05	06	07	08	09	
RAFALE FLIR	RAFALE (FRANCE)	0	0	3	6	7	12	15	15	15	15	16	104