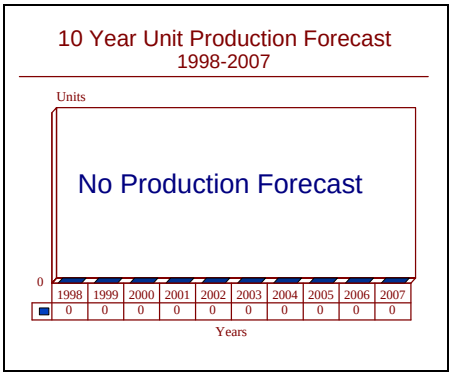
Horus - Archived 10/99

Outlook

- Program canceled in April 1998
- System would have provided France and Germany with indigenous all-weather, day/night surveillance system
- **THIS REPORT WILL BE DROPPED NEXT YEAR, 1999**



Orientation

Description. A joint French/German program for a proposed military reconnaissance satellite.

Sponsor

Ministry of Defense
Direction des Missiles et de l'Espace
26 Boulevard Victor
Tour DGA
F-00460 Armees
France

Contractors

Daimler-Benz Aerospace
D-81663 Munich
Germany
Tel: +49 89 60 70
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(Prime contractor; system engineering and SAR)

Status. Canceled in the development phase.

Total Produced. None.

Application. The Horus satellite would have carried a synthetic aperture radar (SAR) to be used for all-weather, 24-hour-a-day remote sensing applications.

Price Range. Horus was estimated to cost about US$1.3 billion when the satellite was first proposed in 1992. At the time of its abandonment, the cost had risen to approximately US$2.5 billion.

Technical Data

Design Features. Because of its classified military nature, few technical details of the Horus satellite were available. France has extensive experience with the civilian Spot remote sensing satellite, on which the Helios military reconnaissance spacecraft is based, and this satellite bus presumably would have been used to carry the Horus SAR antenna. The antenna would operate in the X-band, providing a ground resolution of 3-5 meters. Solar panels would provide some 4-5 kilowatts of power to the one-tonne payload. Overall weight of the spacecraft would be about 2,500 kilograms.

Variants/Upgrades

None were announced.

Program Review

Background. The Horus satellite program (previously called Osiris) first surfaced in the early 1990s at a time when France was involved in the development of several major military space projects. In addition to Horus, the French Ministry of Defence was developing the Helios optical military reconnaissance satellite; and Ceris, the experimental electronic intelligence satellite, a forerunner to the Zenon and Euracom electronic intelligence (elint) spacecraft.

France's strong support for military programs is reflected in its military space budget, which in past years has increased considerably while civilian space spending has remained mostly flat. Although France has generally walked an independent path as far as most military programs are concerned, the situation in space is a different story, with the country often looking to outsiders for support. Horus is no exception.

French defense officials hoped Horus' development would follow that of the Helios optical reconnaissance program, in which Spain and Italy are contributors. France alone could not bear Horus' high cost, and consequently government officials sought outside help in its development. With none arriving, France delayed the program's development. In early 1994, with multinational support for the Horus satellite nonexistent, France announced a six-year military space spending plan that would shelve, at least temporarily, several projects, including Horus and Zenon.

In December 1995, however, Aerospatiale and Daimler-Benz Aerospace signed an agreement to merge their respective missile and satellite businesses. The agreement called for creation of European Satellite Industries (ESI) and European Missile Systems (EMS). European Space Industries' creation was sparked by Germany's decision in December 1995 to join France in building military spy satellites. The French government insisted that Germany participate in a military reconnaissance satellite program as a condition to the merger of the state-owned Aerospatiale and Daimler-Benz Aerospace space units.

Under the partnership plan worked out between the two countries, Germany would get a lesser share of Helios 2 work since French companies have already done some development. In return, Germany will receive a larger portion of Horus development responsibility – with the net effect that both countries will split the overall work on the two programs approximately 50/50.

A Franco-German summit held in December 1996 left the Helios issue unresolved, however, with German Chancellor Helmut Kohl saying his country would eventually join France in developing Helios 2, but could not pay for it until 1998 at the earliest. Simultaneously, the German parliament had yet to decide on Germany's involvement in a military satellite surveillance program.

In addition, the merger of Aerospatiale and DASA has been postponed. France is insisting that both the companies' space and missile systems divisions be merged, but DASA reportedly is leery of merging its missile division with Aerospatiale's.

In April 1998, French Defense Minister Alain Richard announced that France was abandoning Horus, citing Germany's reluctance to commit to that type of space-based reconnaissance program. The two countries' defense priorities are simply divergent in this field. The move was also intended to aid broad military cutbacks that would save France 20 billion francs over a two-year period.

Funding

Funding information has not been identified.

Timetable

Month	Year	Major Development
	1992	Initial proposal
Apr	1998	Horus efforts canceled

2005 Originally proposed launch date

Worldwide Distribution

No systems were ever produced.

Forecast Rationale

The termination of the Horus program was unsurprising. Germany said it would not have the money to contribute to France's Helios 2 optical satellite surveillance program; if the country could not afford Helios 2's relatively small financial contribution, it did not seem possible that it would be able to shoulder, primarily by itself, the Horus program's US$2.5 billion cost.

Equally difficult to comprehend was the justification for such a sophisticated system. The Warsaw Pact's collapse brought an end to a requirement to track troop movements across Europe in darkness and cloudy weather. With that requirement gone it makes little sense for Germany – which, like some of its European allies, is facing a shrinking defense budget in the coming years – to spend so much to develop independent access to space-based imagery. French Defense Minister Alain Richard admitted that although the primary reason for Horus' termination was Germany's lack of support, it would also result in substantial cost savings to the French government.

With Horus abandoned, this report is no longer sustainable. Barring the program's resurrection – which is highly unlikely – this report will be dropped from Forecast International's books next year (1999).