Second Ariane 5 test is delayed to July

TIM FURNISS/**LONDON**

THE SECOND TEST flight of the European Space Agency's (ESA) Ariane 5 booster has been delayed from April to July 1997. ESA and French space agency CNES made the decision to ensure that "each individual operation" can be closely analysed.

The third qualification flight, Ariane 503, to be managed by Arianespace, the European commercial-launcher organisation, will be delayed from September to November. Arianespace plans to operate the Ariane 5 commercially from flight 504 in 1998 (*Flight International*, 9-15 October, 1996).

The 501 maiden flight failed on 4 June, 1996, after an untested Ariane 4-class inertial-reference unit used on the Ariane 5 caused the vehicle to pitch down and break apart 31s after lift-off, with the loss of four Cluster science satellites, costing about $500 million.

The 502 flight will carry dummy payloads representing two commercial-communications satellites, and possibly an amateur-radio satellite. Flight 503 will carry ESA's Atmospheric Re-entry Demonstrator spacecraft and a commercial satellite to be agreed between Arianespace and the customer.

Arianespace hopes to launch four Ariane 5s in 1998, with eight Ariane 4s, but has made provisional plans to order more Ariane 4s if there are further delays.

The cost of the Ariane 5 failure is put at about $360 million and is being paid for partly by the vehicle's contractors. Arianespace, which was originally to have flown the 503 as a fully commercial flight, will sell it back to ESA at a reduced price, making some additional revenue from the 503's commercial-customer charge.

ESA and its Ariane 5 participating member states will have to contribute additional funds and these may be raised by delaying work on potential upgrades to the booster and diverting funds from other programmes, including that of Earth observation.

The agency's problems have been made worse by the reluctance of some member states — led by France — to agree to fund new programmes until the Ariane 5 launcher has been proven. A decision as to whether to fly a new Cluster mission, costing $300 million, is adding to the dilemma. ❑

NEWS IN BRIEF

■ INMARSAT LAUNCH

An ILS International Launch Services Atlas 2A booster lofted the Lockheed Martin Astro Space/Matra Marconi Space-built Inmarsat 3F3 mobile communications satellite into geostationary-transfer orbit from Cape Canaveral, Florida, on 17 December. The new satellite will serve the Pacific Ocean region, complementing the first two satellites over the Indian and Atlantic Oceans, launched in 1996. The Inmarsat 3s have enabled the introduction of satellite telephones smaller than an A4-size lap-top computer.

■ IMAGE INVESTMENT

Van der Horst of Singapore will invest $25 million in the Space Imaging company, which will market 1m-resolution remote-sensing-satellite images, joining Lockheed Martin, Raytheon E-Systems and Mitsubishi.

■ TV SWITCH ON

MCI's 1997 domestic US satellite-television service has been approved by the Federal Communications Commission, but MCI will have to request transfer of the licence to new owner British Telecom, for 1998.

Indonesian orders boost Space Systems/Loral

INDONESIA'S PT Pasifik Satelit Nusantara, of Jakarta has ordered one M2A satellite from Space Systems/Loral for its Multi Media Satellite System, plus long-lead parts for a second craft, and options for a further five satellites in a deal worth $350 million (*Flight International*, 2-8 October, 1996).

Loral will also receive a contract from international communications-satellite organisation Intelsat to build two Follow-On Satellites (FOS) to replace ageing Intelsat 6s.

The M2A — based on an original FS-1300 bus designed by the former Ford Aerospace — will be the most powerful C-band transponder craft so far launched, with 11kW of electrical power. It will be the first C-band craft to be used for direct-broadcast purposes, with a payload (built by France's Alcatel Espace) the equivalent of 84 transponders. X-band transponders will also be carried to provide gateway services.

The M2A will be able to support 4 million telephone circuits, carrying 200,000 simultaneous calls, and will have 100 television channels. The satellite will be located at either 134°E or 118°E in geostationary orbit and has been allocated a Proton launch in 1999.

While ordering the two Loral FOS spacecraft, Intelsat also formally awarded the contract to Matra Marconi Space (MMS) to build the Intelsat K-TV satellite to be launched in 1998 (*Flight International*, 18-31 December, 1996).

This will be positioned at 95°E to provide direct-to-home video/TV services to the Asia Pacific region with the use of 30 Ku-band transponders. It is Intelsat's first entry into the DBS market and the first contract for a satellite to go to a non-US supplier. MMS lost the Intelsat 8 series prime contract to Lockheed Martin. The Intelsat K-TV will be MMS' 24th Eurostar spacecraft bus (*Flight International*, 14-20 August, 1996).

■ Lockheed Martin has been selected to build the third Koreasat communications satellite, having beaten Aerospatiale and Hughes to the deal. Lockheed Martin also built the existing Koreasats 1 and 2. South Korean companies will manufacture substantial portions of the LMA2100 spacecraft.

■ Hughes Space and Communications will build the second communications satellite for Orion Network Systems. This will be placed over the Pacific Ocean, while a planned third satellite will complement the MMS-built Orion 1 over the Atlantic later. The Orion 2 will carry ten C-band and 33 Ku-band transponders. It will

View from the bridge

THE VIEW FROM THE FLIGHTDECK of the Space Shuttle *Columbia* during the STS80 mission shows the payload bay and the Remote Manipulator System robot arm with the Wake Shield free-flying manufacturing spacecraft attached (*Flight International*, 18-31 December, 1996). The STS81/*Atlantis* is due for a 12 January launch on the fifth Shuttle *Mir* Mission. The Aerospace Safety Advisory Panel says that NASA's efforts to streamline Shuttle operations, including the privatisation of operations under the Rockwell/Lockheed Martin United Space Alliance, have not raised risks, but it still warns of potential dangers, including reducing the workforce during Space Station assembly, and unrealistic funding levels.