

## **ALPHABUS PHASE C/D EQUIPMENTS SELECTION**

### **Information Day for Alhabus Solar Array Structures and Release Units**

#### **Introduction**

Alhabus is the industrial programme for the development of a generic line of large platforms. Alcatel Space and EADS Astrium are cooperating to develop and market Alhabus with the objective to compete successfully on the global commercial sitcom market. The objective of the phase C/D programme is to establish the Alhabus product line and to procure its first flight model.

The Alcatel/Astrium Alhabus Joined Project Team (JPT) are issuing a number of equipment Invitations to Tender (ITTs) to select equipment providers for the build-up of the industrial consortium for the phase C/D programme.

Generic information on the conditions related to Alhabus equipment bids can be found in the general EMITS announcement for the Alhabus Phase C/D Equipments Selection.

EADS Astrium in Ottobrunn (Munich) is responsible within the JPT for the Alhabus solar array sub-system design. The company is earmarked for the solar array sub-system procurement for the Alhabus Phase C/D and is presently preparing ITT for the solar array structures (panel sandwich substrates and yoke structures) and for the high load, low shock release units (HL LSRU).

Before releasing the ITT EADS Astrium will organise Information Days at the Munich premises to inform companies of the intent of the ITT and to provide interested bidders an opportunity to present their company interests and capabilities.

#### **Scope of the Information Day**

The ITT for the solar array components is being carried out as part of the current Alhabus Phase B activities. The selected solar array component providers will become part of the industrial consortium bidding for the Alhabus Phase C/D proposal, which is expected by September 2004 in response to an ESA/CNES RFQ for the Alhabus Phase C/D.

The ESA/CNES RFQ will cover the Alhabus product line development and the procurement of the Alhabus protoflight model.

In this framework the information day organized by EADS Astrium will address the scope of work and deliveries required from bidders for the subject solar array components.

The Alhabus solar array builds on existing EADS Astrium heritage and consequently the design and development (incl. qualification) activities on component level will be limited. Production and acceptance testing (on a build-to-print basis) are subject to open competition.

Bid-packages for the solar array components will include significant detail and know-how considered proprietary industrial information. Therefore EADS Astrium Ottobrunn in consultation with ESA will limit the distribution of bid-packages to those companies who have expressed a strong interest in bidding on the basis of the company dossiers presented at the Information Day.

Interested companies are invited to a presentation and discussion meeting on the two subjects at EADS Astrium in Ottobrunn.

The meetings will take place on

**Thursday, 03.June 2004 for the solar array structures**

and on

**Friday, 04.June 2004 for the solar array HL LSRU**

Both meetings will start at 9:00 h @ EADS Astrium Ottobrunn premises.

The Agenda of the Plenary Session in the morning will cover:

- Status and planning of Alphabus
- Solar array conceptual design
- Solar array structure design, manufacturing, processes and testing
- Respectively HL LSRU design, manufacturing and testing
- Presentation of hardware of similar design
- Scope of Work for suppliers
- Transfer verification and qualification approach
- Industrial and commercial environment and investments
- Competition
- ITT-Planning
- Questions and discussion

Bilateral meetings will be held in the afternoon with individual companies following the plenary session to allow each company to present their dossier and detailed question/answer session related to their potential interests and involvement.

Parties planning to participate to any of the two meetings have to inform EADS Astrium one week before the meeting at the latest. Points of contact at EADS Astrium are:

Reinhard Doffin,  
tel. 0049 / 89 / 607-20051, fax. 0049 / 89 / 607-24202,  
e-mail reinhard.doffin@astrium.eads.net,  
or

René Meurer,  
tel. 0049 / 89 / 607-23994, fax. 0049 / 89 / 607-24202,  
e-mail rene.meurer@astrium.eads.net.

Parties participating to the meetings are invited to bring with them their company portfolio including a special focus on the companies experience, heritage, capacities and resources, etc. with respect to the components they are interested in bidding.

The panel sandwich substrate with an area of  $10\text{m}^2$  will be composed of an aluminium honeycomb core with ultra-high modulus carbon fiber face sheets in filament winding technology and separately bonded Kapton insulation film. It will include all load introductions at holddowns and hinges and inserts for mechanisms attachment etc. Filament winding machine incl. mandrel and all other tooling will have to be invested by the selected company.; the scope of the verification program depends on the companies heritage.

The yoke structure will have a size of  $2,5\text{m} \times 2,7\text{m}$ . It will be composed of rectangular filament wound beams of ultra high modulus carbon fiber which will be connected by bonded titanium fittings. It will include all load introductions at holddowns and hinges and inserts for mechanisms attachment etc. For machines, tooling and transfer verification, the same rules than for the panel sandwich substrates will apply.

The HL LSRU, which is planned to be used for the Alphasolar solar array is presently under development and qualification under an ESA contract. The design principle is based on a roller screw drive with a magnetic release. It has to carry preloads of up to 35kN. The same units are planned for other solar arrays as well and might also be used for other space applications in future.