

THE ARIANE 6 UPPER COMPOSITE TRAILER (UCT)

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Abstract:

The Ariane 6 Upper Composite Trailer (UCT) is transferring the Upper Composite (the satellite and payload fairing) from the Final Assembly Building (BAF) to the Launch Pad (ZL) while maintaining the environmental conditions required by the satellites.

Under the fairing, the atmosphere shall be controlled in terms of cleanliness, temperature, and hygrometry.

The system shall provide the Upper Composite (UC) with a compatible environment with respect to interface fluxes, quasi-static acceleration, shocks and vibrations.

In order to fulfil the above specification, the UCT is composed of 5 main subsystems:

- the self-propelled motorized vehicles,
- the support platform,
- the Energy production system,
- the Air-conditioning system,
- and the measures and instrumentation

The operational mission of the UCT starts inside the BAF when the UC is installed on a dedicated interface ring at the center of the support platform. It ends at the ZL when the UC is hoisted at the top of the launcher core

The UCT is also allowing the Upper Composite to be in a safety mode in case of a degradation of the weather conditions during the transfer.

This development benefitted from lessons learned on previous equipment and from the user's experience at the Centre Spatial Guyanais (CSG).

The different sub-assemblies developed under APCO Technologies responsibility have been produced all over Europe and were integrated and tested first in Aigle in Switzerland. After delivery to site and re-assembly, the UCT was further tested at the CSG in order to have the proper atmospheric and road conditions for the final acceptance of the equipment.

Today, the UCT is operational and is looking forward to carry the first Ariane 6 payload.