

fact sheet



company

Orbital Recovery Limited is a British company that provides satellite life extension services to the industry. ORL, along with its European partners, has developed technologies that can extend the life of a large, three axis stabilized satellite for up to ten additional years. ORL is a wholly European initiative and is the European on orbit servicing development program. ORL is currently industrializing its technologies and is now accepting mission reservations starting Q2 2007

industrial team

The ORL development program is conducted under the European Space Agency ARTES 4 public-private-partnership initiative and conforms to ESA and insurance industry technology specifications. The industrial team consists of some of Europe's most respected and experienced space industries, including Dutch Space, DLR (German Space Agency), Swedish Space Corporation, SENER, Kayser-Threde, Arianespace, GMV, CASA, Snecma and Contraves Space.

ORL and ESA successfully completed their ESA Mid Term Review for the B1 phase of the project in July 2004.

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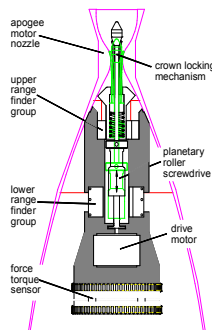


technology

Orbital Recovery has created the CX-OLEV™ (ConeXpress Orbital Life Extension Vehicle), an integration of predominantly mature, flight heritage proven technologies from its industrial partners. The platform is derived from the Dutch Space ConeXpress, an ESA



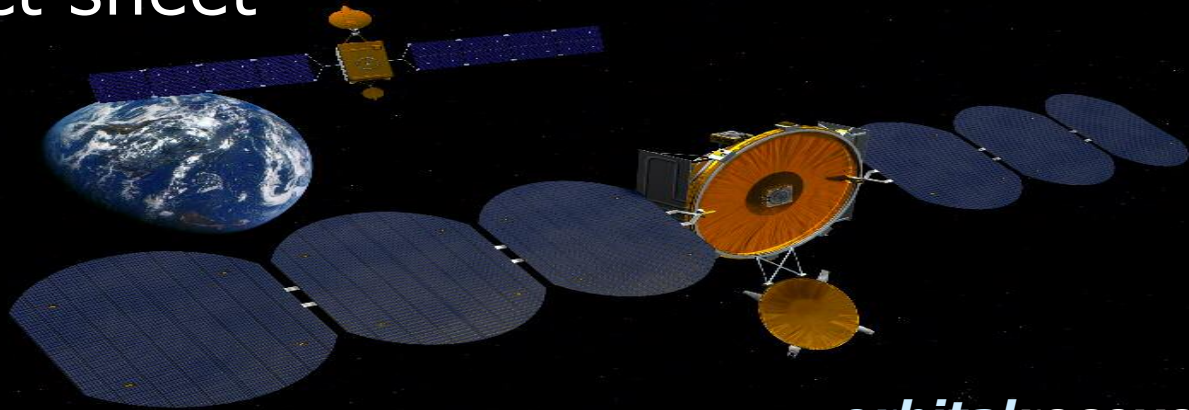
funded program that modifies the existing Ariane 5 payload adapter to become a free-flying spacecraft after separation of the Ariane 5 primary payloads. The CX-OLEV™ uses hall effect thrusters exclusively for orbit raising and station keeping when docked, and a mixture of electric propulsion and cold gas for the docking maneuvers. It is the utilization of electric propulsion that allows CX-OLEV™ to be compact enough in terms of volume and mass to utilize the Ariane 5 available performance efficiently and provide a powerful and economic tool for satellite life extension.



The critical docking technology is provided by the German Space Agency (DLR) and Kayser-Threde. DLR developed a capture tool and sophisticated telepresence software for anticipated on-orbit servicing missions. The capture tool hard docks with the customer satellite at its apogee motor nozzle, and then retracts the satellite

onto a latching mechanism that secures onto the satellite's launcher spacecraft interface ring to create a rigid mechanical interface. Once docked, the CX-OLEV™'s AOCS takes over all attitude control and station keeping. There is no electrical connection or transfer of propellant between the vehicles.

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launch services

Orbital Recovery has executed an exclusive, multi-launch services contract with Arianespace, the world's largest and most successful commercial launch provider. The CX-OLEV™ will fly on any Ariane 5 manifest that has sufficient performance (estimated to be at least four per year) providing ultimate flexibility and confidence for the customer. Arianespace is backed by shareholders that represent the best technical, financial and political resources of the 12 European countries participating and holds more than 50% of the world's commercial launch market.



risk management

Orbital Recovery has teamed with the world's leading space insurance broker, Aon Space, to provide risk management solutions for its services. All aspects of the ORL missions will be insured, protecting the customer at all times. Orbital Recovery has been working with the Space Underwriting community from its inception. The CX-OLEV™ uses predominantly flight proven components, drawing from the in flight heritage of missions including Smart-1, ESS-7, ETS-VII, ROKVISS, TECSAS and the European ATV. One of the founders of ORL, Mr. Kirby Ikin, was previously a space underwriter and Managing Director of GIO Space providing deep experience in risk management for ORL's customers.



prime contractors

ORL has selected **Dutch Space**, formerly Fokker Space, as its prime contractor for the CX-OLEV™ development. Dutch Space has a 35 year track record in providing hardware to the global space industry. They lead the multinational team in the CX-OLEV™ development program and provides the leadership in systems engineering and concept development.

Dutch Space

The payload of the CX-OLEV™ is comprised of the capture tool, latching mechanisms and associated sub systems and is the heart of the spacecraft. ORL has chosen **Kayser-Threde** as its payload prime contractor. Kayser-Threde will be responsible for industrializing the DLR technology and the further development and integration of the docking sub-systems



corporate information

Orbital Recovery is a privately-held British company. Our headquarters are in London, England. Additional offices are located in Leiden, Sydney and Washington DC.

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