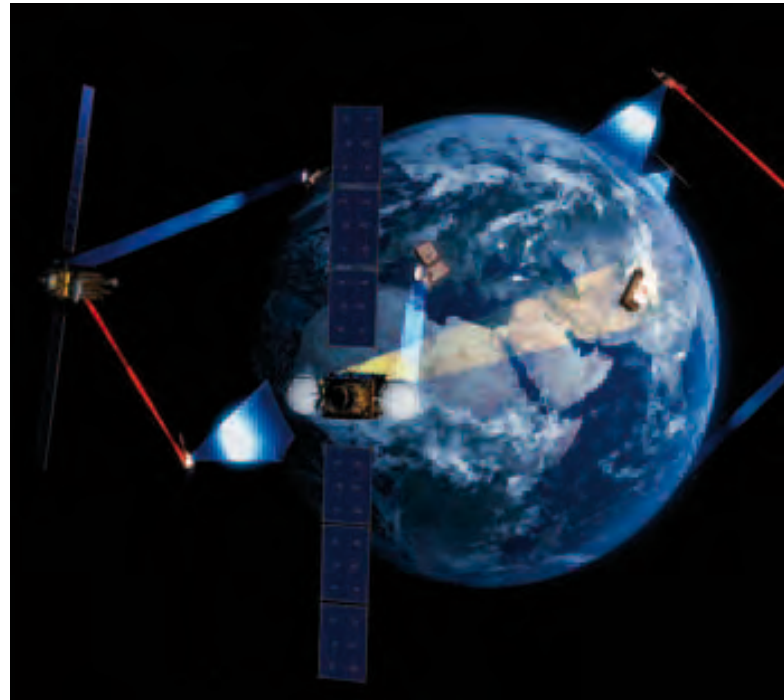
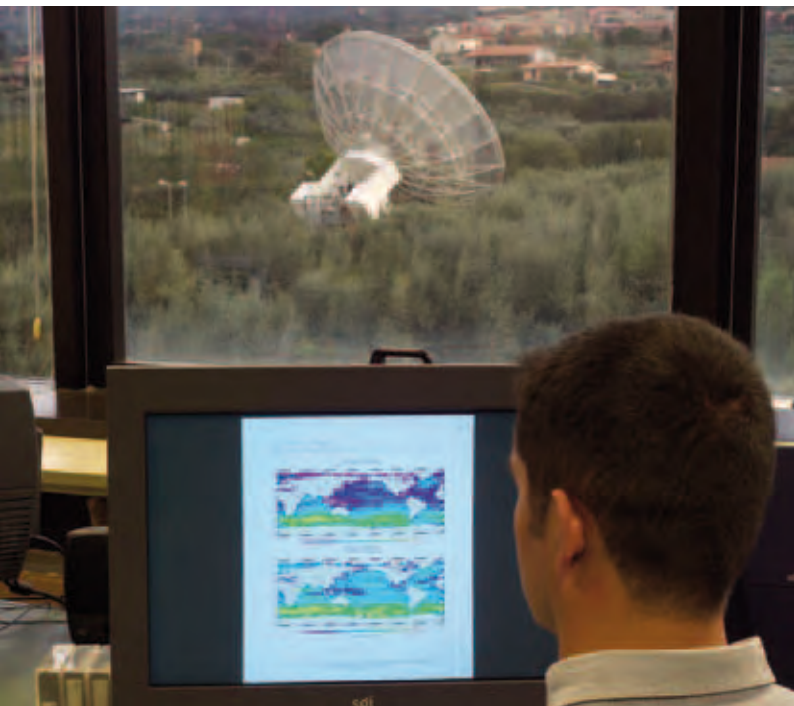


→ EUROPEAN DATA RELAY SATELLITE SYSTEM (EDRS)



Data-relay satellites are placed in geostationary orbit to relay information between non-geostationary satellites, spacecraft, other vehicles and fixed Earth stations, which otherwise are not able to communicate with each other because they do not have a direct line-of-sight.

What is proposed?

The European Data Relay Satellite (EDRS) system is an independent, European satellite system, comprising a new space segment in geostationary orbit and a ground segment, which reduces time delays in the transmission of large data quantities. To add to Europe's independence, EDRS will fill the gap for an independent European telecoms network that is fast, reliable and seamless. It will make on-demand data available at the right place at the right time, and will ultimately save lives in search and rescue operations.

Why is it needed now?

Despite today's telecommunications capabilities, there are still a number of limitations that delay the delivery of time-critical data to users.

With the implementation of the joint European Commission/ESA Global Monitoring for Environment and Security programme, it is estimated that European space telecommunications infrastructure will need to transmit 6 terabytes of data every day from space to ground. Our present telecoms infrastructure is challenged to deliver such large data quantities quickly, and conventional means of communication may not be sufficient to satisfy the quality of service required by users of Earth observation data.



How will it be done?

Who will implement it?

What are the benefits?

In addition, Europe currently relies on the availability of non-European ground station antennas to receive data from Earth observation satellites. This poses a potential threat to the strategic independence of Europe, as these crucial space assets effectively may not be under European control.

The European Data Relay Satellite System offers a solution to these challenges.

ESA is currently looking at the feasibility and foundations for EDRS. Definition of the system will take until 2009. Payload development and system and user segment developments will be ready in 2012, with implementation of the system and the mission itself planned for 2013.

ESA will select a suitable service provider to deliver services to ESA's own missions and its future customers. The project will take the scope of a 'partnership' between ESA and the service provider, who will then liaise with the satellite operator(s) and satellite Prime(s) to build the EDRS infrastructure.

There are a number of key services that will benefit from this systems infrastructure right from the start.

- Earth observation applications in support of a multitude of time-critical services, e.g. monitoring of land-surface motion risks, forest fires, floods and sea-ice zones.
- Government and security services that need images from key European space systems such as Global Monitoring for Environment and Security.
- Rescue teams that need Earth observation data within disaster areas.
- Security forces that transmit data to Earth observation satellites, aircraft and unmanned aerial observation vehicles, to reconfigure such systems in real time.