

Video: ESTEC on the move

8 September 2015

A composite day at ESTEC, the European space research and technology centre, as depicted in time-lapse format.

Provided by European Space Agency

Located in Noordwijk, the Netherlands, ESTEC is Europe's largest place for space, the technical heart of the European Space Agency. For almost all European space missions, the path to space leads through ESTEC.

Around 2700 people arrive here for work every day, working on a broad range of space activities from scientific exploration to telecommunications, Earth observation to navigation, robotics to human spaceflight.

A suite of unique laboratories probe every aspect of the [space environment](#), applying decades of hard-won expertise. Seen here is preparation for testing materials in simulated space conditions as well as [atomic force microscopy](#), employing a nanometer-wide tip like a stylus across a record player to reveal surface topography down to the atomic scale.

Full-scale testing of satellites takes place in the ESTEC Test Centre, including the Maxwell Chamber, kept isolated from the external world for precision electromagnetic testing, and the Large Space Simulator, Europe's largest vacuum chamber used to reproduce the airlessness and temperature extremes encountered in space. The chamber uses large quantities of liquid nitrogen to mimic the chill of deep space.

Erasmus is ESTEC's [human spaceflight](#) facility, supporting researchers in the design and performance of experiments in microgravity conditions. Also based there is ESTEC's Telerobotics lab – developing methods of remotely controlling robots using force feedback, extending the human sense of touch to space. The lab team are putting the finishing touches to the Interact Centaur rover, a robot designed to be operated remotely by astronauts in orbit.

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