

Image: Testing MTG's FCI instrument

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A test model of the main imager for Europe's forthcoming Meteosat Third Generation weather satellite being lifted towards Europe's largest vacuum chamber for simulated space testing.

Developed by Thales Alenia Space, this is a 'structural and thermal

model' test version of the mammoth Flexible Combined Instrument, which will provide state of the art measurements of Earth's atmosphere across 16 visible and infrared channels.

The flight version of this instrument will serve aboard the Meteosat Third Generation-series of imaging satellites, dubbed MTG-I. Developed in conjunction with Eumetsat, Europe's weather [satellite](#) organization, these satellites will be accompanied by additional MTG 'sounding' satellites in geostationary orbit to provide simultaneous vertical profiles of the atmosphere.

Some 15 m high and 10 m in diameter, the Large Space Simulator – located at ESA's ESTEC technical centre in the Netherlands – is cavernous enough to accommodate an upended double decker bus. Once the top and side hatches are sealed, high-performance pumps create a vacuum a billion times less dense than standard sea-level atmosphere, and this is held for weeks at a time during test runs. A Sun simulator shines intense light on the [test](#) item at the same time that liquid nitrogen is pumped through the walls to recreate the cold of [space](#) in the shade.

Provided by European Space Agency

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