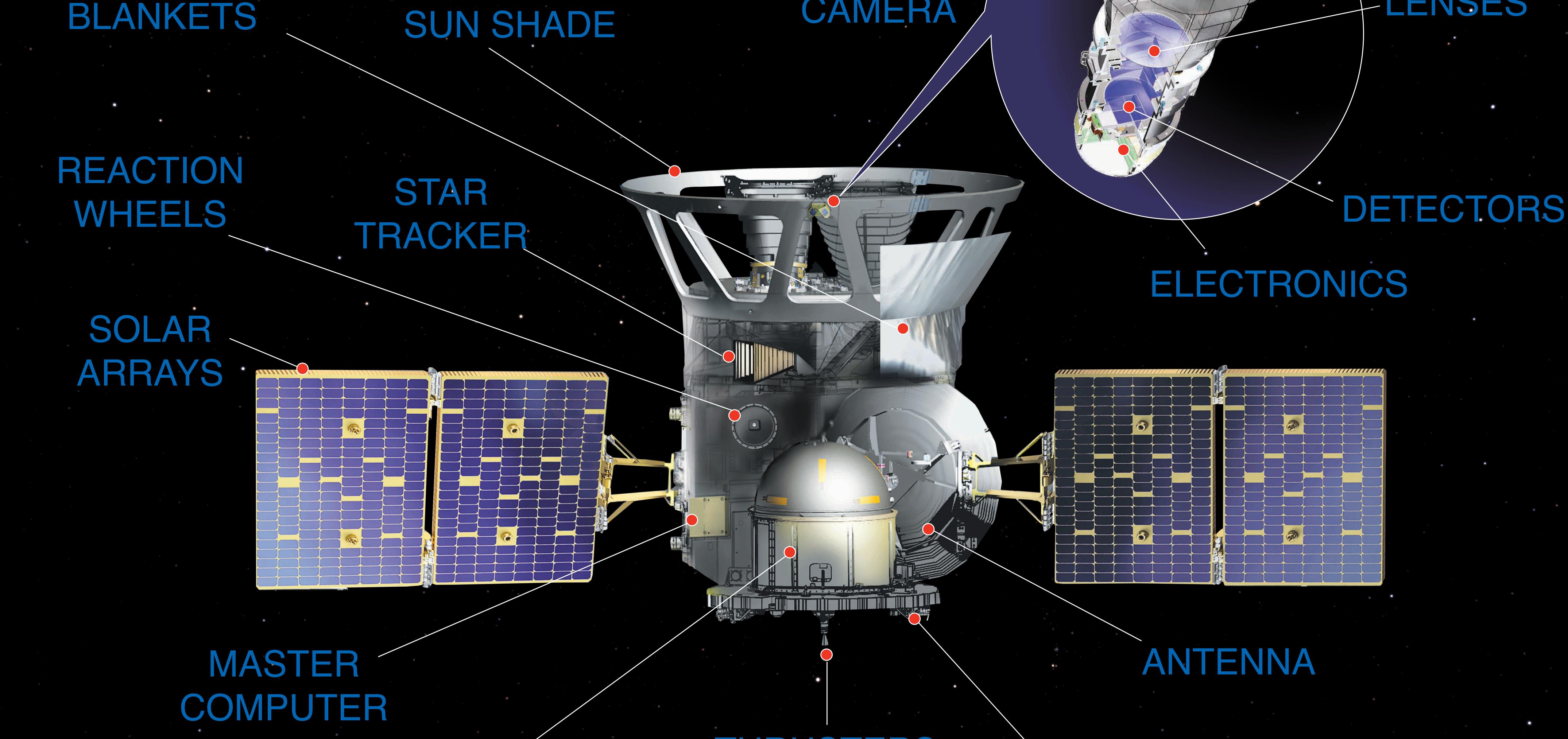
TRANSITING EXOPLANET SURVEY SATELLITE ANATOMY OF THE SPACECRAFT

ENS HOOD

CAMERA



THRUSIERS PROPULSION

STRUCTURE



IHEKMAL

Protects the cameras from the Sun's heat. Keeping the camera temperature stable is critical for finding exoplanets.

L MASTER COMPUTER

Controls operation of all spacecraft components, and stores data that needs to be transmitted to the ground.

CAMERA

Four cameras will study 200,000 stars over a two year period – looking for drops in light levels that indicate planetary transits.



Wrap the exterior of the spacecraft to keep out the Sun's heat. Heaters and thermostats control the temperature inside the spacecraft.

AK

A camera that takes pictures of the stars to help the spacecraft understand where it is pointed.

Holds the fuel (called hydrazine) for the spacecraft to use over the lifetime of the mission to achieve and maintain its orbit.

THRUSTERS

Five small thrusters on the bottom deck propel the spacecraft to orbit.

Prevents stray light that enters the camera from reaching the detectors and making transits harder to find.

Seven stacked lenses in each camera bring the light from distant stars into focus on the detectors.

REACTION WHEELS

Four spinning gyroscopes allow the spacecraft to be turned to point at

Skeleton around which the spacecraft is built. It is strong

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Four charge-coupled devices (CCDs) – totaling 64 megapixels –

specific stars.

F S N A R A R A Y S

Use the Sun's energy to generate 390 watts of electricity to power the spacecraft.

enough to ensure the spacecraft survives the stresses of launch.

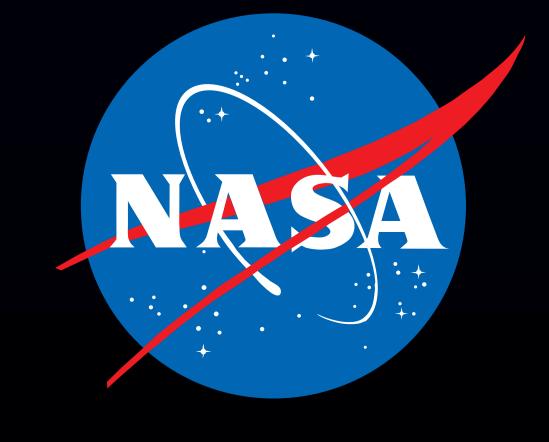
ANTENNA

Transmits data collected by the cameras to Earth once every two weeks at 100 mbps.

turn photons from stars into electrons that we can measure.

ELECTRONCS

Collect data from the detectors and send it to a computer on the spacecraft for storage and transmission to Earth.



TESS partners include: Massachusetts Institute of Technology Kavli Institute for Astrophysics and Space Research NASA Goddard Space Flight Center • Orbital ATK MIT Lincoln Laboratory • NASA Ames Research Center