

Japan's asteroid raider nears its prey

The feature-packed *Hayabusa2* explorer spacecraft is preparing to touch down on the *Ryugu* asteroid and land four rovers onto its surface

High gain antennas

Star trackers

Re-entry capsule

Carries sample ore back to Earth

MINERVA-II-1

Rovers 1A and 1B

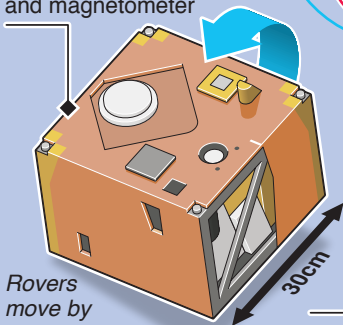
Sampler horn

► Sep 2018/Feb 2019:

Two touchdowns.
Horn takes samples from surface

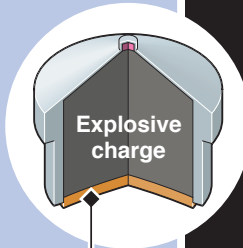
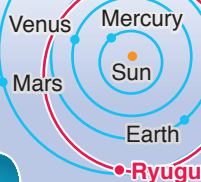
MINERVA-II: Three rovers carry small cameras and thermometers

MASCOT: Fitted with camera, radiometer, infrared spectrometer and magnetometer



Rovers move by flipping over using internal pendulum

► Nov 2019: Craft departs Ryugu, landing at **Woomera Test Range**, Australia, in Dec 2020



Copper liner fired at 2km/s into surface

Solar arrays
1.4-2.6kW of electricity

Ion engine

MASCOT lander

MINERVA-II-2 rover

Small Carry-on Impactor



► Mar-May 2019: Third touchdown. Impactor fired into comet, creating crater to allow collection of subsurface material

