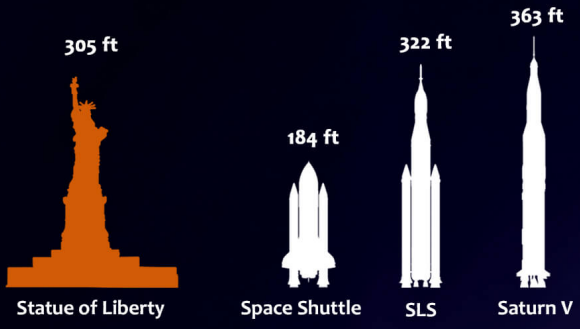
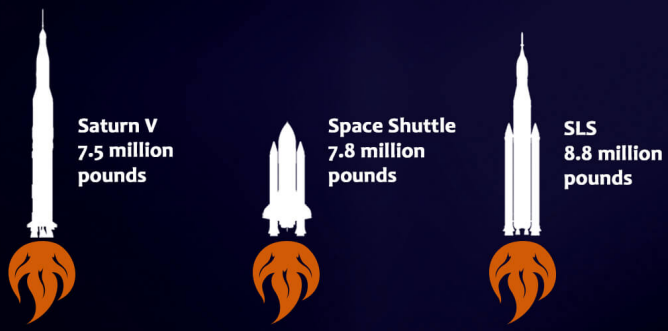
National Aeronautics and Space Administration

M E E T T H E R O C K E T

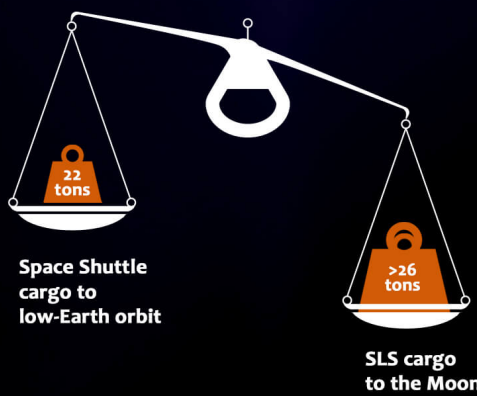
If you wonder how NASA's Space Launch System, or SLS, compares to earlier generations of NASA launch vehicles:

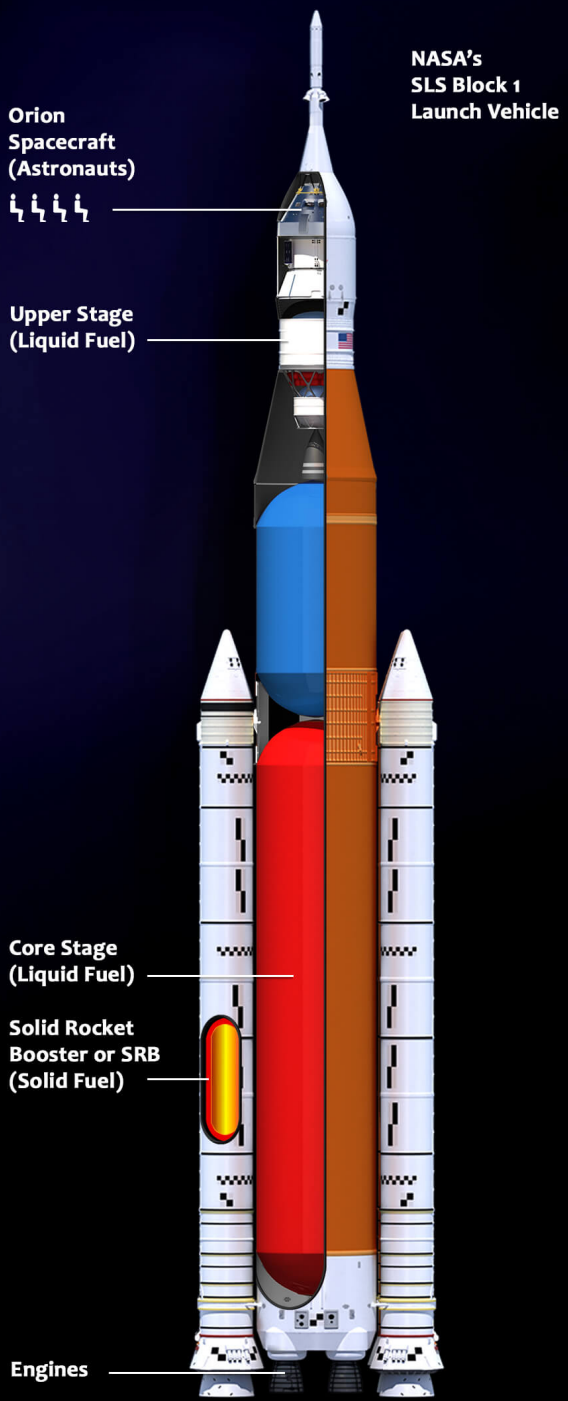


SLS will produce 13% more thrust at launch than the space shuttle and 15% more than Saturn V during liftoff and ascent.



SLS will launch more cargo to the Moon than the space shuttle could send to low-Earth orbit.





www.nasa.gov/sls

→ ASTEROID DETECTED! NOW WHAT?

1 DETECTION

Space agencies, spacecraft, professional surveys and even individual amateur observers – these are the worldwide eyes on the sky watching for risky space rocks, or 'near-Earth objects'.

ESA's upcoming **'Flyeye'** will be Europe's first survey telescope, while the **Test-Bed telescopes** will soon join the Agency's **Optical Ground Station** in confirming the orbits of newly discovered NEOs.

2 THE ASTEROID SORTING HAT

The International Astronomical Union (IAU)'s **Minor Planet Center (MPC)** collects observations from around the world, acting as a central clearing house for this crucial asteroid orbit data.

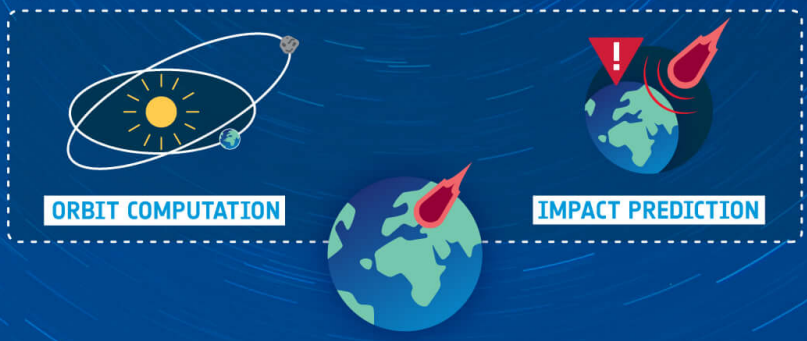
IAU
MPC

NASA
CNEOS

esa
NEOCC

3 RISK ANALYSIS

Using these data, ESA's **Near-Earth Object Coordination Centre (NEOCC)** and NASA's Center for Near-Earth Object Studies (CNEOS) compute the orbits of hazardous asteroids, evaluate the degree of risk and estimate impact effects.



CROSS-VALIDATE IMPACT RISKS

4 WARNING

If an asteroid is determined to be potentially dangerous, **national civil authorities, the UN and other bodies** are alerted to the impact risk, with support and guidance from ESA, NASA and other national agencies.

#Space19plus

Space19