

China's crewed Moon mission

China plans to land astronauts on the Moon before the end of the decade. The country is developing a next-generation rocket to launch an upgraded crew spacecraft while work is also underway on a lunar lander

CHN

LONG MARCH 10*

Height: 88.5 metres

Three-stage rocket:

Can transport spacecraft weighing 25 tonnes to lunar orbit

Boosters, first and second stages: Use RP-1 kerosene-liquid oxygen engines

Third stage: Uses liquid hydrogen and liquid oxygen engines

1 LUNAR LANDER

Descent and ascent vehicles carried to lunar orbit by Long March 10 launcher

2 CREW SPACECRAFT

Three-person crew lift off on second Long March

3

Crew spacecraft docks with lander in lunar orbit. Two crew transfer to lander

4 SEPARATION

Crew spacecraft remains in orbit – lander begins descent

5 STAGED DESCENT

Carried out in two stages. Propulsion stage reduces most of lander's velocity before touchdown

Propulsion stage

6 TOUCHDOWN

Lander separates from propulsion unit – uses its engines to make soft landing

7 ASCENT Lander transports crew back to lunar orbit and docks with crew spacecraft

Lunar lander

Fuel tanks

Airlock

Main engines

Ladder

*Also known as Chang Zheng 10 and Project 921