Space Missions to Watch in 2023

2023 年值得关注的太空任务

2022 was a busy year for the United States National Aeronautic and Space Administration and 2023 promises more space progress. Today, we look forward to some of NASA's planned missions.

2022年对美国国家航空航天局来说是忙碌的一年，而 2023 年有望取得更多太空进展。今天，我们期待 NASA 的一些计划任务。

Lunar landings

登月

One of NASA's major missions last year resulted in a successful uncrewed test flight that sent the Orion spacecraft into orbit around the moon. The mission is part of the space agency's Artemis program, which aims to land American astronauts on the moon by the mid-2020s.

美国宇航局去年的一项主要任务是成功进行无人驾驶试飞，将猎户座宇宙飞船送入绕月轨道。该任务是航天局 Artemis 计划的一部分，该计划的目标是在 2020 年代中期将美国宇航员送上月球。

In preparation of that goal, NASA has contracted with private companies to build landers for the moon. Their design permits them to carry equipment and instruments for studying conditions on the lunar surface.

为实现这一目标，美国宇航局已与私营公司签订合同，为月球建造着陆器。他们的设计允许他们携带用于研究月球表面状况的设备和仪器。

Several landers are expected to arrive on the moon this year. One, developed by NASA partner Intuitive Machines, is set to launch in early to mid-2023. The IM-1 mission will land at an area called Schroter's Valley on the near side of the moon.

预计今年将有多个着陆器登陆月球。其中一个由 NASA 合作伙伴 Intuitive Machines 开发，将于 2023 年初至中期发射。IM-1 任务将降落在月球近侧称为施罗特谷的区域。

Another, built by NASA partner Astrobotic, is to launch sometime before April. The space agency said that spacecraft, called the Peregrine Lunar Lander, is expected to land near Lacus Mortis, an area near the equator of the moon.

另一个由 NASA 合作伙伴 Astrobotic 建造，将在 4 月之前的某个时间发射。该航天局表示，这艘名为游隼月球着陆器的航天器预计将在靠近月球赤道的 Lacus Mortis 附近着陆。

The landers' instruments will collect data on and examine many parts of the moon's atmosphere and surface. In addition, they will study things like how radio signals behave on the moon and will test landing technologies and communication systems.

着陆器的仪器将收集数据并检查月球大气层和表面的许多部分。此外，他们还将研究无线电信号在月球上的表现，并将测试着陆技术和通信系统。

ESA Jupiter mission

欧空局木星任务

The European Space Agency (ESA) plans to launch a spacecraft to explore Jupiter, the largest planet in our solar system. Jupiter is a giant gas planet, with an atmosphere made up mostly of hydrogen and helium.

欧洲航天局 (ESA) 计划发射航天器探索太阳系中最大的行星木星。木星是一颗巨大的气体行星，大气层主要由氢和氦组成。

ESA officials have said they plan to launch the Jupiter Icy Moons Explorer spacecraft, called JUICE, sometime in April. The mission will make detailed observations of Jupiter as well as its three large moons, Ganymede, Callisto and Europa.

欧空局官员表示，他们计划在 4 月的某个时候发射名为 JUICE 的木星冰月探测器航天器。该任务将对木星及其三颗大卫星 Ganymede、Callisto 和 Europa 进行详细观测。

ESA says it hopes the in-depth observations will help scientists learn more about Jupiter's complex environment as they use the planet as a model for other gas giants across the universe.

欧空局表示，希望深入的观察能够帮助科学家更多地了解木星的复杂环境，因为他们将木星作为宇宙中其他气态巨行星的模型。

Asteroid missions

小行星任务

NASA plans to launch its Psyche spacecraft in early October. It is expected to travel three-and-a-half years to an asteroid. The metal asteroid is orbiting the sun between Mars and Jupiter. NASA wants to study it. Scientists believe it may have separated in violent crashes during the creation of the solar system.

NASA 计划在 10 月初发射其 Psyche 宇宙飞船。预计它将经过三年半的时间到达一颗小行星。这颗金属小行星在火星和木星之间绕太阳公转。NASA 想研究它。科学家认为，它可能在太阳系形成过程中因剧烈碰撞而分离。

The other will be a return mission of NASA's OSIRIS-Rex spacecraft. It spent more than two years observing an asteroid named Bennu. In October 2020, the spacecraft successfully collected sample material from the asteroid.

另一个将是 NASA 的 OSIRIS-Rex 航天器的返回任务。它花了两年多的时间观察一颗名为 Bennu 的小行星。2020 年 10 月，航天器成功采集了小行星的样本材料。

OSIRIS-Rex is now on a trip back to Earth, with an expected arrival in September of 2023. Scientists say they hope the sample can help them better understand how planets formed, as well as how life might have developed on Earth.

OSIRIS-Rex 目前正在返回地球，预计将于 2023 年 9 月抵达。科学家表示，他们希望该样本能够帮助他们更好地了解行星是如何形成的，以及地球上的生命可能是如何发展的。

Boeing Starliner test flight

波音 Starliner 试飞

Boeing's Starliner spacecraft is set to attempt its first crewed test mission to the International Space Station (ISS) in April. The test is the last step in the process before NASA approves the spacecraft to carry out regular missions to the ISS. Private American company SpaceX, another NASA partner, has been transporting astronauts and materials to the ISS since 2020.

波音公司的 Starliner 宇宙飞船将于 4 月尝试首次载人测试任务前往国际空间站 (ISS)。该测试是 NASA 批准航天器执行国际空间站定期任务之前流程的最后一步。NASA 的另一合作伙伴美国私营公司 SpaceX 自 2020 年以来一直在向国际空间站运送宇航员和物资。

Starliner completed its first uncrewed flight test to the ISS in May. But Boeing experienced several technical difficulties with the spacecraft during the mission and has worked with NASA to fix the problems as it prepares for the planned crewed flight.

Starliner 于 5 月完成了首次无人驾驶的国际空间站飞行试验。但波音公司在任务期间遇到了航天器的一些技术困难，并在为计划中的载人飞行做准备时与美国宇航局合作解决了这些问题。

Experimental aircraft

实验飞机

NASA also plans to fly two experimental aircraft in 2023.

NASA 还计划在 2023 年试飞两架实验飞机。

The first mission is called Quesst. It involves a NASA research plane called X-59, a supersonic aircraft. Supersonic is a term for an object that travels faster than the speed of sound.

第一个任务称为Quesst。它涉及一架名为 X-59 的美国宇航局研究飞机，这是一种超音速飞机。超音速是指行进速度超过音速的物体的术语。

The goal of Quesst is to provide data that could change rules that ban supersonic flight over land. NASA says X-59 was developed with technology that reduces the loudness of a sonic boom to very low levels heard on the ground.

Quesst 的目标是提供可以改变禁止在陆地上超音速飞行的规则的数据。NASA 表示，X-59 的开发技术可以将音爆的响度降低到地面上可以听到的非常低的水平。

NASA's other experimental plane with plans to fly in 2023 is called X-57. The aircraft runs on electric power. It was built to demonstrate that all-electric technology could make flying cleaner, quieter and more sustainable.

NASA 的另一架计划于 2023 年飞行的实验飞机称为X-57。飞机依靠电力运行。它旨在证明全电动技术可以使飞行更清洁、更安静和更可持续。