**Pragyan (rover)**

Pragyan was a rover that was supposed to explore the Moon as part of a mission called Chandrayaan-2. The Indian Space Research Organisation (ISRO) made this mission, and it launched on July 22, 2019. Unfortunately, when the rover and its lander, called Vikram, tried to land on the Moon on September 6, 2019, they crashed and got destroyed. This means that Pragyan never got to do its job on the Moon.

The rover weighed about 27 kilograms (60 pounds) and used energy from the Sun. It had six wheels and could travel up to 500 meters (or 0.3 miles) on the Moon, moving at a speed of 1 centimeter (or 0.4 inches) per second. While on the Moon, it would study things nearby and send its findings to the lander called Vikram. The lander would then send this information back to Earth for scientists to study.

For navigation, the rover was equipped with:

**Stereoscopic camera-based 3D vision:**

There were two special cameras on the rover called NAVCAMs. Each camera could take pictures with 1 million tiny dots, or pixels. These pictures would be black and white, and they helped the team on Earth to see what was around the rover in 3D. The pictures also helped plan the rover's route by creating a digital map of the terrain.

**Control and motor dynamics:**

The rover had a special way of moving around called the rocker-bogie suspension system. It had six wheels that moved separately because they were powered by small, special electric motors. The wheels could turn at different speeds, which helped the rover steer in the right direction.

**Working time:**

The Pragyan rover was built to work for about 14 Earth days, which is the same as one day on the Moon. This was because its electronics were not strong enough to work in the very cold lunar night. The rover could sleep and wake up using its solar power, which might have helped it to work for longer than 14 days. The rover was quite small, about as big as a small table, and it could move around slowly, at about 1 centimeter per second.

**Crash landing:**

On September 7, 2019, the Vikram lander, which had the Pragyan rover inside, separated from the Chandrayaan-2 orbiter. It was supposed to land on the Moon at 1:50 a.m. IST. The initial descent went as planned, and the brakes were applied correctly. The on-board computers on Vikram were in charge of the descent and landing, and the mission control team could not make any changes.

The spacecraft that was sent to land on the moon did not land properly. It started to go in the wrong direction when it was 2.1 kilometers above the moon. It was going too fast when it got close to the moon and crashed into it. The people who made the spacecraft thought it might have crashed, and later they confirmed that it did. The place where it crashed has been found, and pictures show that the spacecraft and a small vehicle inside it were destroyed. There is a lot of debris around the crash site.