

PRABHA IAS IPS COACHING ACADEMY



Moonlight Programme

Recently, the European Space Agency (ESA) at the International Astronautical Congress, launched its Moonlight Lunar Communications and Navigation Services (LCNS) programme.

The programme will have a constellation of about five lunar satellites (one for high data rate communications and four for navigation) that will allow accurate autonomous landings, high-speed communication, and surface mobility.

It is Europe's first-ever dedicated satellite constellation for telecommunication and navigation services for the Moon.

These satellites will reportedly enable data transfer over 2,50,000 miles or 4,00,000 kilometres between the Earth and the Moon.

The prime focus of the Moonlight programme will be to offer coverage at the Moon's South Pole.

The South Pole of the moon is a key area for many missions owing to lighting conditions and the potential presence of water ice within craters that perpetually remain in the shadows.

As part of the programme, the first step will be the launch of Lunar Pathfinder, a communications relay satellite built by Surrey Satellite Technology LTD, in 2026.

The initial services of the programme will reportedly begin by the end of 2028, and the system is said to be fully operational by 2030.

The ESA is working with NASA and the Japanese space Agency JAXA on LunaNet, which is essentially a framework to standardise communication and navigation for the Moon.