India: GaganYan, a Space Lab & Moon Landing

June 29, 2025

Editorial Comments: www.DiGiNews360.com wants to draw the attention of its Readers, from all over the world, to an interesting **competition** between the Gods Murugan and Ganesha, the sons of Goddess Parvati and God Shiv.

The Photograph of the Vigraha[1] of the family of Goddess Parvati and God Shiv

In the **competition**, Murugan and Ganesha are required **to go around the earth** in their vehicles called **the Peacock** and **the Mouse** respectively. The competition is described in Hindu and Buddhist scriptures of **India**, **Nepal** and **many countries of Central and East Asia** in their own languages.

June 29, 2025: Delhi, भारत ("Bharat" i.e. India): **'Aspirations of 1.4 billion': India celebrates as the first Indian Astronaut is launched, aboard a Space X rocket, towards the International Space Station:**

June 24, 2025: ***Shubhanshu Shukla*** *waves before departing for a launch to the* ***International Space Station*** *at the Kennedy Space Centre in Cape Canaveral, Fla*.

June 26, Florida **India** has celebrated another step on its mission to become a space power, after **Shubhanshu Shukla** became the first astronaut from the country to blast off to the **International Space Station** (ISS) on Wednesday, June 25th 2025 CE.

Group Captain Shubhanshu Shukla, a distinguished pilot in the **Indian Air Force** (IAF), has been handpicked by **India** as one of the four astronauts. The other three are from **Poland**, **Hungary** and **USA**. The US astronaut leads the group.

Shubhanshu Shukla is associated with **Indian Space Research Organization**'s (ISRO) **Gaganyaan** mission—**India's inaugural human space flight endeavor**.

गगनयान (Gaganyaan) is a Sanskrit word, which means a vehicle for the skies.

ISRO plans to follow up the **Gaganyaan** with an **Indian Space Lab**, titled as **Bharatiya Antariksha Station**.

भारतीय ("Bharatiya") is a Sanskrit word, which means "Indian".

अन्तरिक्ष ("Antariksha") is a Sanskrit word, which means "Space".

A **Space Lab** requires that satellites should be able to dock in space. (This technology has been developed by **USA**, **Russia** and **China**.)

A Note on Docking Technology: DOCKING TECHNOLOGY: **India**'s first successful space docking of two satellites was achieved on January 16, 2025. Two satellites, named "**Target**" and "**Chaser**", were launched together in December 2024 and then maneuvered to dock in space. ISRO named its project for development of Docking Technology as ***SpaDeX***.

During the ***SpaDeX*** mission's post-launch briefing on 30 December 2024, **S. Somanath**, the Director of ISRO, declared that additional SpaDeX missions with greater size and complexity would be launched, in 2025–2028, pending **Government of India** approval.

The goal of ***SpaDeX*** -2 is to dock two satellites in an elliptical orbit rather than a circular one. The reason for this is that in a circular orbit, the satellites' trajectory and velocity stay constant, whereas in an elliptical orbit, they continuously change. (Reference: https://en.wikipedia.org/wiki/SpaDeX)

(It may be of interest to the readers of www.DiGiNews360.com to recollect that during ***the 96-hour Indo-Pakistan war*** of May 7-10, 2025 (after the terrorist attack of April 22nd , 2025 CE on the non-Muslim male tourists in an Indian resort), it was found that Pakistan had deployed advanced **satellite guided** weaponry precision

missiles and modern fighter jets, made by **China**, whereas **India** had used its indigenous weapons. China had claimed to be a Super-power with weaponry, as good as that of USA. In addition, China's weapons were less costly and the Chinese Banks came forward to lend money to any country, which wanted to purchase these weapons. China also pointed out that Pakistan, which had the 4th largest army of the world, had purchased China's arms for its Army.

> China had lent $62 Bn to Pakistan, a larger part of which had been used by Pakistan to purchase Chinese weaponry.

It was found that Indian weapons proved to be effective, and, China's arms, which in Pakistan's well-trained Army failed to perform. It is said that 22 ***countries*** put their orders for China's weaponry on hold. India had not been a major exporter of arms, since these had not been tested in any war.

China not only supplies ammunition for the weapons, it had supplied to the ***countries***, its Banks had lent hundreds of millions of US$ and in every such ***country***, People Liberation Army (PLA) of the Communist Party of China (CPC) has its personnel for training and maintenance of the weaponry in the ***country***, for which the ***country*** has to pay to China regularly. So, it is said that in ***the 96-hour Indo-Pakistan war***, the loser has been China, rather than Pakistan.

A Note on **Shubhanshu Shukla:** Born on October 10, 1985, in the City of Lucknow, the State of Uttar Pradesh, India, **Shukla** possesses fluency in both English and his native Hindi. His journey began when he was commissioned into the **Indian Air Force** (IAF) fighter wing in June 2006. As a combat leader and seasoned test pilot, he boasts an impressive 2,000 hours of flight experience across various aircrafts, including the Su-30 MKI, MiG-21, MiG-29, Jaguar, Hawk, Dornier, and An-32. His ascent to the rank of **Group Captain** in March 2024 reflects his exceptional competence.

In 2019, **Shukla** was selected by ISRO for the mission. He embarked on rigorous year-long training at the **Yuri Gagarin Cosmonaut Training Center in Star City, Moscow**, Russia. On February 27, 2024, **Indian Prime Minister Narendra Modi** accorded his approval for **Shukla** as one of the astronauts for undergoing intensive training for **India's maiden human spaceflight mission, Gaganyaan**, scheduled for launch in 2025.

Shukla is honored and excited as he prepares to participate in the **Axiom Mission 4** (Ax-4) to the **International Space Station** (ISS). Ax-4 provides to **Shukla** an opportunity to be the only astronaut, out of the group, which are to pilot India's **Gaganyaan**, to be launched during the later part of this year.

> A Note on the **Axiom Mission 4**: A **SpaceX** (**Elon Musk**'s company) **Dragon spacecraft** carrying the **Axiom Mission 4** crew in its **Harmony module** was launched on June 26th, 2025 CE. The **Harmony module** is required to dock to the space-facing port of the **International Space Station**. Axiom Mission 4 is the all-private astronaut mission to the orbiting laboratory, welcoming commander Peggy Whitson, former NASA astronaut and director of human spaceflight at Axiom Space, ISRO (**Indian Space Research Organisation**) astronaut and pilot **Shubhanshu Shukla**, and mission specialists ESA (**European Space Agency**) project astronaut **Sławosz Uznański-Wiśniewski** of Poland and HUNOR (**Hungarian to Orbit**) astronaut **Tibor Kapu of Hungary**.

Shukla was aboard the private Ax-4, which lifted off from **NASA's Kennedy Space Centre** in Florida in the latest mission organized by **SpaceX**, the Texas-based startup of **Elon Musk**.

The **Harmony module** is expected to dock in the space-facing port of ISS.

Shukla, who is the mission's pilot, and the others are expected to spend about two weeks aboard the ISS, helping to carry out roughly 60 experiments before returning home.

NASA and ISRO are collaborating in conducting many scientific experiments in space on the mission, according to a statement from the US Space Agency.

Shukla is only the second Indian citizen to travel into space after **Rakesh Sharma**, who flew aboard a Soviet rocket in 1984.

Rakesh Sharma wished the Ax-4 crew well.

"Wishing you all the very best. To the crew, godspeed," **Rakesh Sharma** said in a video message posted online by the Press Trust of India.

"Spend as much time as possible looking out of the window."

Shukla's parents were seen getting emotional as they watched a livestream of the blast-off in the northern city of Lucknow.

He's the first person, the first Indian in the ISS. It is really an inspiration for the young in India.

India's Prime Minister Narendra Modi said **Shukl**a "carries with him the wishes, hopes and aspirations of 1.4 billion Indians" in a post on X.

"Wish him and other astronauts all the success!" he wrote.

He reminded him that in India, in every temple, there is a corridor for orbiting around the deity. The earth is considered as a Goddess in India.

> The International Space Station (ISS) orbits the Earth approximately 16 times per day. It completes one orbit in about 90 minutes.

India's space ambitions have accelerated under **Modi**, who was elected to a third term in June 2025 CE and has tried to assert India's place on the global stage.

In January 2025 CE , it became only the fourth country to successfully achieve an unmanned docking in space.

In 2023 CE, India had joined an elite space club becoming the fourth country to land a spacecraft on the moon. The historic Chandrayaan-3 mission, the first to make a soft landing close to the moon's unexplored South Pole, has collected samples that are helping scientists understand how the moon was formed and evolved over time.

By Dr K N Mistry, June 28,

...On pages 7-8, please see A Brief Note on the practice of Indic Religions of orbiting around the deity. The Note juxtaposes it with orbiting of moons & 'man-made satellites' around planets. Please 8 also has two References.

-- A Note on Orbiting of deity, and, of Earth by Indic Religions and Satellites --

In **Indic religions** like Hinduism, Buddhism, and Jainism, circumambulating the deity's inner sanctum, in a clockwise direction, in a temple, symbolizes a journey from the material world to spiritual enlightenment. Hindus consider “Mother Earth” as a Goddess. Circumambulation or rotation, known as Pradakshina or Parikrama, is a significant ritual. This practice, performed clockwise, is believed to cleanse the mind, absorb positive energy, and connect the devotee with the deity's celestial aura. It symbolizes a journey from the material world to spiritual enlightenment, moving from the periphery towards the deity's inner sanctum.

(When seen from above the North pole, the Earth rotates in a counter-clockwise direction, whereas when seen from above the South pole, it rotates in a clockwise sense.)

SATELLITES & PLANETS: The terms **prograde**, is used for objects that orbit in the same direction as the natural rotation of Earth, and **retrograde**, for objects that orbit in the opposite sense. Most artificial satellites are placed into prograde orbits, though a few are placed in retrograde orbits (at the cost of much higher fuel requirements on the launch) for various reasons.

The same is true for natural satellites: most known objects around planets orbit in prograde orbits; this is the natural orbit for satellites that were born with the planet, and it's also much easier to get captured into. However, again, there are

some irregular moons out there with retrograde orbits, usually captured from some weirdo solar orbit at some point in the past.

REFERENCES:

[1]Shiva is one of the principal deities of Hinduism, often depicted as a yogi, ascetic, and 'God of destruction and transformation'. Parvati is his consort, revered as the 'Goddess of love, fertility, and devotion'.

A विग्रह (Vigraha) of a God is a statute, in which the God has infused life, after accepting the prayer of the devotees. So, one can pray before a Vigraha.

The vigrahas of Parvati and Shiv often show their children Ganesha and Kartikeya, along with Nandi, a white bull. Nandi is often depicted in front of Shiva temples, and is considered the gatekeeper of Shiva's abode, Kailash. (The mountain of Kailash is located in Tibet.) A photograph of a vigraha from an ancient temple is shown in the Editorial Comment.

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