

## Space Research and Higher Education in a Strategic Alliance: Important Steps in Indian-Hungarian Relations

**Budapest, 11 March, 2026 — As a compelling demonstration of international space cooperation, India and Hungary have recently taken significant steps forward in strengthening their bilateral ties within the global arenas of space exploration and higher education. Space activity in the 21st century is no longer defined solely by great-power rivalry; rather, it has evolved into a complex, multipolar framework of cooperation in which emerging and mid-sized nations are assuming increasingly strategic roles. Within this transforming global landscape, India has, over the past decade, established itself as one of the most dynamically advancing spacefaring nations. Hungary, for its part, has re-entered the domain of crewed spaceflight and high value-added space technology development through a deliberate and forward-looking national programme. A new dimension in the relationship between the two countries lies in the fact that Indian and Hungarian space activities are now interconnected not only at the diplomatic or industrial level but also through personal, scientific, and institutional linkages.**

At the centre of India's space ambitions stands the Indian Space Research Organisation (ISRO), which in recent years has achieved remarkable scientific and technological milestones — from lunar exploration and solar observation to interplanetary missions. Among its current strategic priorities, the Gaganyaan programme represents a defining objective: the establishment of India's independent capability for crewed spaceflight. Far more than a symbolic endeavour, Gaganyaan mobilises advanced competencies in systems integration, human space physiology, materials science, and spacecraft engineering, while serving as a powerful catalyst for India's broader high-technology ecosystem.

Less widely known, but strategically significant, is the fact that Hungarian-manufactured equipment was already utilised during India's early lunar and Mars missions. This long-standing technological cooperation underpins the decades-long industrial presence in India of BHE Bonn Hungary, Hungary's largest space industry enterprise. The company's high-reliability microwave and communication systems have proven themselves across multiple international space projects and have contributed to establishing Hungarian technology within ISRO's supplier and partner network.

“Our objective in India has always been to help provide solutions to emerging technological challenges,” says János Solymosi, Space and Aviation Technology Director of BHE Bonn Hungary and former researcher at Budapest University of Technology and Economics (BME). “We delivered key equipment for all three Chandrayaan lunar missions, as well as for the Mars mission. In the case of the Mars programme, several critical ground-based telecommunications systems were developed by our team, including two specially equipped ocean-going vessels that ensured uninterrupted communication between the spacecraft and Earth. When the probe was launched, I received a satellite phone call saying, ‘Hi János, congratulations — everything is fine.’ It was one of the most important calls of my life.”

He adds that numerous Indian engineers have worked at the company's facilities in Hungary, and upon returning home have advanced rapidly in their careers. “Their European exposure, the knowledge base and professional networks they build there significantly accelerate their professional growth. In India, they often become local champions of Hungarian technological cooperation.”



Bilateral cooperation reached a new level in 2025 with the Axiom Mission 4, during which Indian and Hungarian astronauts worked side by side aboard the International Space Station. The Indian pilot, Shubhanshu Shukla of ISRO, gained operational experience directly relevant to the preparation of the Gaganyaan programme. At the same time, Hungary's Tibor Kapu — the nation's second astronaut — marked Hungary's return to crewed space missions after more than four decades. Their joint scientific work in orbit symbolised not only technical collaboration but also a deepening relationship of trust between the two countries' space ecosystems.

Parallel to these missions, broader space-technology and industrial cooperation opportunities have emerged between Hungarian and Indian enterprises. Memoranda of understanding and strategic partnerships increasingly focus on academic exchange, joint research initiatives, collaboration with start-ups, and commercial innovation in sectors such as satellite communications and emerging space technologies.

A cornerstone of Hungary's national HUNOR Programme is the institutionalisation of knowledge gained through spaceflight. Tibor Kapu and reserve astronaut Gyula Cserényi — both alumni of BME — are returning to the university to pursue doctoral studies in research fields directly linked to space technology. In doing so, operational spaceflight experience is being systematically integrated into academic research and industrial development.

BME, one of Central Europe's leading technical universities with more than two centuries of history, combines rigorous mathematical and engineering foundations with extensive industrial partnerships and active participation in European space research programmes. Its integration into European Union research networks offers international students — including those from India — direct access to collaborative scientific frameworks and funding mechanisms. English-language engineering and information-technology programmes at BME are built on strong theoretical foundations and project-based methodologies that resonate closely with India's own engineering-education traditions.

In a country like India, where ISRO's successes — from lunar and solar missions to the preparation of Gaganyaan — are inspiring a new generation of engineers and scientists, such academic and industrial bridges carry particular significance. The fact that active astronauts choose to pursue doctoral research at BME signals that the institution is not merely an educational establishment, but a regional centre of excellence capable of integrating frontier-level space experience into advanced scientific training.

Taken together, the collaboration between ISRO and Hungarian industry, the joint presence of Indian and Hungarian astronauts in orbit, and the deepening academic ties anchored by BME illustrate a partnership that extends well beyond symbolism. It reflects a mature and forward-looking model of international cooperation — one in which technology, education, and human capital development converge to shape the next chapter of global space exploration.

Further information about BME's English-language programmes and admissions for international applicants is available at [xplore.bme.hu](https://xplore.bme.hu).