



APCTT
Asian and Pacific Centre
for Transfer of Technology



वैज्ञानिक और औद्योगिक अनुसंधान विभाग
Department of
Scientific and Industrial Research

Inaugural Lecture

Launch of **SANKALP** (Synergy for Advanced Networks,
Knowledge, and Academia-Industry Learning Progress) **Lecture Series**

FROM KNOWLEDGE TO NATIONAL PROSPERITY:

BUILDING INDIA'S INNOVATION AND TECHNOLOGY ECOSYSTEM

July 16, 2026

Keynote Speaker

Dr. S. Somanath

*Former Secretary, Department of Space & Chairman,
Indian Space Research Organisation (ISRO);
Vikram Sarabhai Distinguished Professor, ISRO*

Event Report

think **tech transfer**. think **APCTT**.



SANKALP LECTURE SERIES - INAUGURAL LECTURE

From Knowledge to National Prosperity

Building India's Innovation and Technology Ecosystem

16 July 2026: We the Peoples Hall, UN House, New Delhi, and Online

A joint initiative of DSIR, Ministry of Science & Technology, Government of India and Asian and Pacific Centre for Transfer of Technology (APCTT) of the United Nations ESCAP

Introduction

How does a nation transform scientific knowledge into technological capability and, ultimately, into lasting economic and social prosperity?

The inaugural SANKALP Lecture, held on 16 July 2026, brought together the experience of one of India's significant technology journeys with APCTT's wider regional mandate of promoting technology cooperation and transfer. Dr. S. Somanath, former Secretary, Department of Space and Chairman of ISRO, reflected on the evolution of India's space programme and on the institutional, human and technological capabilities that enabled India to move from limited early capacity to complex missions such as Chandrayaan-3. He emphasised that scientific knowledge creates lasting prosperity when it is translated into technology, products, industries and solutions that improve lives.

For APCTT, the significance of the lecture lies not only in the achievements described, but in the processes behind them. The discussion highlighted sustained institution building, investment in people, academia–industry linkages, problem-oriented research, learning from failure, technology applications, private-sector participation and the transfer of capability from one institution to another. These are central to the wider challenge of moving technologies from knowledge and research environments into practical use and scale.

The event also reinforced the regional value of SANKALP. With participants from 30 countries, the inaugural event demonstrated the potential of the series to connect technology practitioners, policymakers, researchers, entrepreneurs and young innovators across borders.



About the SANKALP Lecture Series

SANKALP - Synergy for Advanced Networks, Knowledge, and Academia–Industry Learning Progress — is a new lecture series jointly launched by the Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India and the Asian and Pacific Centre for Transfer of Technology (APCTT) of UN ESCAP. It brings together leading practitioners, scientists and innovators to share the human stories behind major technology journeys across Asia and the Pacific, for an audience of policymakers, researchers, technology-transfer professionals, entrepreneurs and the next generation of scientists and engineers.

Event at a glance

Date & venue	16 July 2026, 11:00 - 13:00 IST · We the Peoples Hall, UN House, New Delhi, and online
Keynote speaker	Dr. S. Somanath - former Secretary, Department of Space & Chairman, ISRO (2022–2025); Vikram Sarabhai Distinguished Professor, ISRO
Moderator	Dr. Dinesh C. Sharma, journalist and author of Space: The India Story
Organisers	APCTT, UN ESCAP, and DSIR, Ministry of Science & Technology, Government of India
Format & audience	Special remarks, fireside chat and open Q&A, for policymakers, researchers, entrepreneurs and students across Asia-Pacific

APCTT Perspective: Ms. Preeti Soni, Head, APCTT



Ms. Soni placed SANKALP explicitly within the Centre’s regional technology-transfer mission. She described APCTT’s role as supporting member States to build capacities to develop, adapt, adopt and transfer technologies and to foster regional technology cooperation. Providing an important interpretive frame for the entire event, Ms. Soni observed that technological breakthroughs are preceded by long periods of effort, determination, difficult choices, new ideas and people who refuse to give up. In this sense, SANKALP is intended to focus not only on the achievement but also on the journey that made the achievement possible. She described the series as a platform for learning from experience and as a storytelling initiative in which exceptional leaders can speak candidly about their motivations, challenges and lessons learned.

She further emphasised that the lessons from India's space programme have relevance beyond India. The programme demonstrates what sustained investment in people, institutions, science and innovation can achieve, while applications such as communication, disaster management, climate monitoring and environmental monitoring illustrate how technology developed in one domain can generate benefits across development sectors. She encouraged participants to listen for two themes in Dr. Somanath's story—belief and determination, and institutional building—which she identified as central to innovation and closely resonant with APCTT's work.

“A lesson learned in one corner of the region should not have to be relearned in another.”

— Ms. Preeti Soni, Head, APCTT

The regional dimension was particularly clear in this message. SANKALP can help convert individual technology journeys into shared regional knowledge: identifying what worked, why it worked, what institutional conditions enabled it, and which elements may be adaptable in other countries.

The series launch also carried institutional significance for APCTT. Ms. Soni noted that 16 July 2026 marked the Centre's 49th anniversary and the beginning of a year-long journey towards its 50th anniversary. She positioned SANKALP as part of that journey, with the ambition to bring partners across Asia and the Pacific closer through conversations, learning and collaboration, and to inspire young people interested in STEM to contribute to solutions that benefit communities, nations and the wider world.

Dr. N. Kalaiselvi Secretary, DSIR and Director General, CSIR – CSIR-DSIR Perspective



Dr. Kalaiselvi in her special address emphasised the need to build platforms where stakeholders could meet and have a dialogue on emerging technologies, innovations and technology transfer. According to her vision, SANKALP would provide an opportunity to share experience of technological journeys and learn from technological advancements, while exploring ways in which such knowledge can be leveraged for impact.

Her vision goes beyond the borders of the nation. SANKALP would serve the objective of contributing to the process of technology cooperation and knowledge sharing, which would further help in technology transfer not only in India, but also internationally. This perfectly corresponds to the mandate of APCTT which aims at supporting the process of development, adoption, diffusion and transfer of technologies in Asia and the Pacific.

Video Message by the UN Resident Coordinator for India – Mr. Stefan Priesner

Mr. Stefan Priesner, UN Resident Coordinator for India, in his video message, brought out the rising significance of space technology for sustainable development. He said that space technologies are playing an increasing role in making life possible on earth through disaster prediction, climate observation, agriculture, water, connectivity, and resilience. He made it clear that science finds its highest purpose when it better serves humanity.

He reiterated the dedication of the United Nations to the peaceful use of outer space and international cooperation to assist nations in benefiting from space science and technology for sustainable development. In this regard, he said that the launch of SANKALP is an example of collaboration between DSIR and APCTT. He also said that the success story of India's journey in space is proof of how consistent investments in people, institutions, and innovation pay off.



From Dr. Somanath's Formal Presentation: Turning Knowledge into Prosperity

Dr. Somanath began from a fundamental challenge in India's innovation ecosystem: strong research and scientific capability do not automatically translate into economic or social impact. He observed that though India produces large numbers of STEM PhDs, research publications and patents and has a large startup ecosystem, yet only a fraction of laboratory research converts into globally competitive products. His argument was therefore not simply about increasing scientific output, but about strengthening the pathway from knowledge to technology, from technology to products, and from products to industries that improve lives.

This translation challenge is highly relevant to technology-transfer institutions. It requires more than a strong research base. It requires mechanisms through which research is connected to industry, users and real-world problems; enterprises need the capacity to absorb and adapt technology; researchers need opportunities to work with industry; and institutions need the patience to develop capabilities over time.



Building Technological Capability: The ISRO Experience

The development of ISRO was presented as a long institutional journey rather than a sequence of isolated technological successes. Dr. Somanath recalled how Vikram Sarabhai persuaded scientists to return from abroad and contribute to building India's early space capability. The subsequent decades involved experimentation, setbacks and learning, including launch failures that became important sources of technical knowledge.

The lesson for technology ecosystems is that capability cannot be created through infrastructure alone. It depends on people, institutional culture, leadership, mentorship and the freedom to experiment and learn. An equally important part of the story was the role of long-term vision. India pursued applications such as communication, weather warning and resource mapping alongside the development of launch capabilities. In the fireside discussion, Dr. Somanath explained that applications helped build political and public support for the space programme. This is a useful reminder that technology development is more sustainable when it is connected to visible development needs and when users can see the value created by the technology.

Technology Transfer as Capability Transfer

A strong connection between Dr. Somanath's remarks and APCTT's mandate came in his discussion of technology transfer. He argued that technology transfer is often misunderstood as licensing or the handing over of documents and specifications. In his experience, successful transfer requires the recipient industry to have the capacity to absorb, develop and improve the technology. That requires knowledge and skills, but also management capability, quality culture, procedures and the confidence and motivation to take the technology forward.

This perspective closely aligns with APCTT's work on technology-transfer in the region. It suggests that technology transfer should be viewed as a process of capability development rather than a one-time transaction. A technology that is technically available but cannot be operated, maintained, adapted, financed, commercialised or improved locally will have limited development impact. Regional cooperation can help address this gap by enabling countries and institutions to share not only technologies but also expertise, implementation experience, training approaches, institutional models and lessons from practice.

Public Research to Industry: Creating Space for the Next Frontier

Another important example was ISRO's transfer of established launch-vehicle capabilities to private industry. Dr. Somanath described the transfer of PSLV, SSLV and LVM3 production capabilities as a way to broaden the national industrial base while enabling ISRO to focus on more advanced missions. The significance from a technology-transfer perspective is that the transfer was not presented as a simple handover of a single

technology. A launch vehicle represents a complex system comprising propulsion, navigation, software, manufacturing and multiple specialised capabilities.

The example illustrates how technology transfer can become an instrument for ecosystem development. When mature capabilities move into industry, the originating institution can concentrate resources on frontier technologies while enterprises build production, commercial and managerial capabilities. Dr. Somanath also emphasised that technologies must become economically viable at scale and that business models are important for creating conditions in which industry can invest.

Universities, Researchers and Real-World Problems

The lecture also addressed the role of universities in the innovation ecosystem. Dr. Somanath described universities as increasingly important innovation hubs and noted the growing interest among students and faculty in creating technologies, rebuilding laboratories and working with private companies. He argued that the conversion of knowledge into technology and revenue can strengthen the wider innovation ecosystem.

At the same time, he cautioned that technology development should begin with real problems. In discussing student projects, he observed that many fail because they attempt to solve problems that do not genuinely exist. Engineers and researchers therefore need to understand society and users before designing technical solutions. This is directly relevant to technology adoption: technologies are more likely to be adopted when they respond to clearly identified needs and when users are involved in shaping and validating solutions.

The Fireside Chat with Dr. Dinesh C. Sharma



Dr. Dinesh C. Sharma

Journalist, author, and science communicator

A reputed journalist based in New Delhi with close to four decades covering science and technology for outlets including The Lancet and Wired. He is the author of Space: The India Story and the bestseller Indian Innovation, Not Jugaad.

Dr. S. Somanath

Former Secretary, Department of Space & Chairman, ISRO (2022–2025)

With nearly 40 years in space technology and launch vehicle engineering, Dr. Somanath played a key role in India's modern space programme, leading missions including Chandrayaan-3, Aditya-L1 and Gaganyaan. He holds degrees from TKM College of Engineering, IISc Bengaluru and IIT Madras.

The People, Institutions and Experience Behind the Technology Journey

The fireside chat complemented the formal presentation by exploring the personal, institutional and practical dimensions of India's technology journey. While the presentation focused on the development of technological capability, the fireside brought out the people, organisational culture, applications and institutional mechanisms behind that achievement.

From Engineer to Technology Leader

Dr. Somanath reflected on his early interest in science and engineering and the role of curiosity, opportunity and mentorship in shaping his career. The discussion highlighted an important dimension of technology transfer: technologies ultimately move through people. Skilled professionals are required to operate, maintain, adapt and improve them. This reinforces the importance of expert exchanges, training, mentorship, researcher mobility and professional networks in regional technology cooperation.

Institutional Culture and Leadership

The fireside discussion explored the organisational culture at ISRO. Dr. Somanath described an environment where young engineers could question senior colleagues and where mentorship and leadership development were strongly valued. This offers an important institutional lesson for technology-transfer organisations. Effective innovation requires cultures that encourage experimentation, questioning, knowledge sharing, learning from failure and development of future technical leaders.

Technology for Development: Beyond the Space Sector

The fireside also highlighted the wider applications of space technology, including disaster warning, environmental monitoring and resource management. This illustrates how technologies developed in one sector can generate value across multiple development priorities.

For APCTT, this cross-sector perspective is important. Technology transfer can involve adapting technologies to different sectors and development contexts, particularly in areas such as climate resilience, agriculture, disaster risk reduction and environmental management.

Emerging Private Space Ecosystem

The fireside explored India's growing private space ecosystem and the roles of ISRO, Indian National Space Promotion and Authorisation Centre (IN-SPACe) and NewSpace India Limited (NSIL) in enabling private-sector participation, technology access and commercialisation.

The discussion demonstrated that transferring public-sector technologies to industry requires an enabling institutional architecture connecting **technology providers, regulators, enterprises and markets**.

This offers a potentially useful reference for countries across the region seeking to strengthen the commercialisation of publicly funded technologies.

Talent, Patience and the Human Foundations of Technology

The fireside discussion repeatedly returned to the importance of people. Dr. Somanath emphasised the need for patience in developing talent and institutions, and his reflections underscored that technological progress depends ultimately on people and organisational culture.

For APCTT, this reinforces the importance of **capacity building as an integral component of technology transfer**. The long-term success of technology cooperation depends on whether people in recipient institutions and enterprises can operate, maintain, adapt and improve the technology.

End of Session

The meeting ended with a Vote of Thanks by Dr. Vipin Shukla, Dr. Vipin C. Shukla, Scientist - G & Head - CRTDH, PACE, A2K+ & APCTT Matters, Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India.

In his vote of thanks, Dr. Shukla congratulated APCTT on its 49th anniversary and expressed gratitude to Dr. S. Somanath for sharing his insights into India's space journey, technological innovation, leadership and emerging technologies. He noted that the combination of a substantive presentation and an interactive fireside chat had made the inaugural SANKALP event both informative and motivational. He highlighted the value of such an engaging format for the Lecture Series and expressed confidence that SANKALP could continue to provide a platform for insightful discussions and knowledge exchange in the years ahead.



Key Regional Lessons

1. Technology transfer is more than licensing

Successful transfer requires knowledge, skills and the ability to absorb and adapt technology.

2. Build absorptive capacity

Recipient enterprises and institutions need skills, infrastructure, management systems and technical confidence to successfully adopt technologies.

3. Connect research with real demand

The experience of India's space programme demonstrates the value of linking technology development to clearly identified societal and economic needs.

4. Strengthen public research–industry linkages

Mature technologies can be transferred from public research institutions to industry, enabling commercialisation while allowing public institutions to pursue frontier research.

5. Transfer tacit knowledge as well as formal knowledge

Expert exchanges, training, mentorship and direct interaction complement formal technology-transfer arrangements.

6. Build institutions that enable technology cooperation

Technology transfer requires enabling policies, intermediaries and networks connecting technology providers with enterprises, financiers and users.

7. Invest in people over the long term

Technological capability depends on people and institutions. Regional cooperation should therefore include sustained capacity development.

8. Use regional cooperation to accelerate learning

The central message of SANKALP is that lessons generated in one part of the region should be available to others facing similar challenges.

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