

## Cover Story



## From Bench to Bedside: Role of the Ministry of Science and Technology in transforming health innovation in Sri Lanka

Chrishantha Abeyseena, Emeritus Professor, Faculty of Medicine, University of Kelaniya, Sri Lanka

Correspondence: abeyseenchrishantha@gmail.com

 <https://orcid.org/0000-0001-5456-8281>

DOI: <https://doi.org/10.4038/jccpsl.v32i1.8926>

Received: 23 Mar 2026

Accepted: 24 Mar 2026

**Concept** – MedTech Advisory Group, Ministry of Science and Technology, Sri Lanka

**Cover theme** - Translating discovery into delivery: strengthening Sri Lanka's Health Innovation Ecosystem through Ministry of Science and Technology.

**Photo credit** - Image generated using ChatGPT by Mr. T R Rangana, Ministry of Science and Technology

Sri Lanka stands at a critical juncture in its journey toward becoming a knowledge-driven, innovation led economy. In the health sector, this transition is particularly significant. The pathway from scientific discovery to clinical application often described as the “bench to bedside” continuum remains fragmented, underutilized, and slow-moving. Bridging this gap requires coordinated leadership, strategic investment, and institutional alignment. The Ministry of Science and Technology (MOST), with its vision of ‘*A developed nation through science, technology and innovation*’, is uniquely positioned to drive this transformation.

The MOST oversees a network of 14 institutions, many of which (12) play a pivotal role in advancing research, innovation and technological application relevant to health and healthcare delivery. With the exception of a few entities, most institutions contribute directly or indirectly to the health innovation ecosystem. Their mandates span funding research, facilitating laboratory services, developing standards and accreditation systems, supporting technology transfer and promoting scientific literacy among the public especially adolescents.



**Table 1: MOST Institutions contributing to the health innovation ecosystem**

| Institution                                                   | Website                                                             |
|---------------------------------------------------------------|---------------------------------------------------------------------|
| 1. Arthur C Clarke Institute for Modern Technologies (ACCIMT) | <a href="http://www.accimt.ac.lk/">http://www.accimt.ac.lk/</a>     |
| 2. National Institute of Fundamental Studies (NIFS)           | <a href="http://nifs.ac.lk/">http://nifs.ac.lk/</a>                 |
| 3. National Research Council (NRC)                            | <a href="http://www.nrc.gov.lk/">http://www.nrc.gov.lk/</a>         |
| 4. The National Science Foundation (NSF)                      | <a href="http://www.nsf.ac.lk/">http://www.nsf.ac.lk/</a>           |
| 5. The Sri Lanka Inventors Commission (SLIC)                  | <a href="http://slic.gov.lk/en/">http://slic.gov.lk/en/</a>         |
| 6. The National Innovation Agency (NIA)                       | <a href="https://nia.gov.lk/">https://nia.gov.lk/</a>               |
| 7. National Science and Technology Commission (NASTEC)        | <a href="https://www.nastec.gov.lk/">https://www.nastec.gov.lk/</a> |
| 8. Sri Lanka Institute of Nanotechnology (SLINTEC)            | <a href="https://www.slintec.lk/">https://www.slintec.lk/</a>       |
| 9. Sri Lanka Institute of Biotechnology (SLIBTEC)             | <a href="https://slibtec.gov.lk/">https://slibtec.gov.lk/</a>       |
| 10. Industrial Technology Institute (ITI)                     | <a href="https://www.iti.lk/">https://www.iti.lk/</a>               |
| 11. Sri Lanka Standards Institution (SLSI)                    | <a href="https://www.slsi.lk/">https://www.slsi.lk/</a>             |
| 12. The Sri Lanka Atomic Energy Board (SLAEB)                 | <a href="https://aeb.gov.lk/">https://aeb.gov.lk/</a>               |

**Source:** Ministry of Science and Technology

[https://most.gov.lk/web/index.php?option=com\\_content&view=article&id=9&Itemid=112&lang=en#sri-lanka-standards-institution-slsi](https://most.gov.lk/web/index.php?option=com_content&view=article&id=9&Itemid=112&lang=en#sri-lanka-standards-institution-slsi)

Despite this breadth of institutional capacity, Sri Lanka's scientific and health innovation landscape remains highly fragmented. Research activities are often conducted in silos, with limited coordination across institutions, universities and the health system. This lack of integration leads to duplication of efforts, inefficient use of public funds, and missed opportunities for scaling innovations.

Despite strengths in upstream research, Sri Lanka's medical research ecosystem faces critical midstream and downstream bottlenecks that hinder translation to practice. While laboratory-based discoveries and academic research remain strong, significant gaps exist beyond this stage. Midstream challenges include limited access to prototyping facilities, inadequate biomedical engineering support, weak regulatory guidance, and poor intellectual property (IP) protection. As a result, many innovations fail to progress beyond proof-of-concept. Downstream, underdeveloped technology transfer systems, unclear commercialization pathways, weak academia – industry linkages, and regulatory delays particularly for medical devices further impede translation into clinical use.

Recognizing these systemic constraints, the MOST is now positioning itself as a central coordinating body to strengthen the innovation pipeline in the health sector. One of the most significant proposed initiatives is the establishment of a National MedTech Hub, a centralized platform designed to integrate the various stages of health innovation into a cohesive ecosystem. This proposed Hub aims to address the full spectrum of challenges across the innovation continuum. It will provide infrastructure for innovation incubation, enabling researchers and entrepreneurs to develop and refine their ideas in a supportive environment. Dedicated prototyping and testing laboratories will allow for the development and validation of medical technologies, reducing reliance on external facilities and accelerating product development timelines.

A key feature of the Hub will be its regulatory facilitation services, designed to guide innovators through complex approval processes. This is particularly important in the context of medical devices and diagnostics, where

regulatory compliance is both essential and often difficult to navigate. By streamlining these processes, the Hub can significantly reduce time-to-market for locally developed technologies. In addition, the Hub will provide IP management and technology transfer support, ensuring that innovations are protected and effectively commercialized. This includes assistance with patent applications, licensing agreements and partnerships with industry. Importantly, the Hub will also establish clinical validation pathways in collaboration with the Ministry of Health, enabling innovations to be tested and implemented within real-world healthcare settings.

The Ministry of Health will play a critical complementary role as the implementation and validation arm of this ecosystem. Through partnerships with hospitals, public health programmes and clinical research units, it will ensure that innovations are aligned with national health priorities and are evaluated for safety, effectiveness and cost-efficiency. Furthermore, structured collaborations between universities, industry, and government agencies will be institutionalized, fostering a culture of interdisciplinary innovation. Central to this vision is the concept of clustering. Effective MedTech development requires a seamless ecosystem that connects multiple layers of innovation. This begins at the school level, where science education and creativity must be nurtured. Early exposure to Science, Technology, Engineering and Mathematics (STEM) disciplines and problem-solving approaches can inspire the next generation of innovators. At the community level, real-world health challenges can be identified, ensuring that innovations are grounded in local needs. These ideas can then be channelled into university-based incubators, where technical expertise, mentorship and entrepreneurial support are available. Therefore, the MedTech Hub serves as the apex of this ecosystem, providing the infrastructure, coordination and strategic direction needed to bring innovations to scale.

The MOST's objectives such as promoting standards and accreditation, expanding demand-driven research, facilitating technology transfer and popularizing science are all aligned with this integrated approach. However, the success of these initiatives depends on addressing key barriers that currently limit utilization. Many services offered by MOST institutions remain underutilized due to lack of awareness, bureaucratic hurdles and limited inter-institutional coordination.

To overcome these challenges, there is a need for enhanced communication and digital integration across institutions. A centralized digital platform could map available resources, including laboratory facilities, funding opportunities and technical expertise, making them accessible to researchers and innovators. Simplifying administrative processes and establishing clear guidelines for collaboration can further encourage engagement.

To create a supportive ecosystem, aligning research priorities with national health needs is essential. Demand driven research guided by epidemiological trends, health system gaps, and economic considerations can ensure that innovations are both relevant and impactful. In this context, integrating health economics and health technology assessment into the innovation process can support evidence-based decision-making and resource allocation. The potential impact of a well-coordinated innovation ecosystem is substantial. By strengthening the link between science and healthcare delivery, Sri Lanka can improve access to affordable, locally developed medical technologies, reduce dependence on imports and enhance the resilience of its health system.