

Editor's Corner

A Public-Private Medical Technology Model – India Case Study

The medical device development landscape has changed significantly post COVID. The pandemic has put the medical technology sector in top gear, pushing industries to innovate, develop, and manufacture products quickly. Countries like India have witnessed tremendous growth in the health technology sector, fueled by an exponential rise in government health allocation each year. One of the most significant efforts towards furthering medical device development has been the establishment of the Andhra Pradesh Medical Technology Zone (AMTZ).

AMTZ is India's first and one of the world's largest medical technology manufacturing cluster with over 100 companies working on research, development, and production of life-saving medical devices. It is India's premier medical technology park with Common Manufacturing Facilities & Common Scientific Facilities, including specialized laboratories, warehousing, and testing centers. The Center for Electromagnetic Compatibility and Safety Testing, Center for Biomaterial Testing, Center for 3-D Printing, Centers for Lasers, MRI Super Conducting Magnets, Gamma Irradiation Centre, Mold & Machining Centre, among many others, have played a key role in accelerating product development. This cluster of scientific facilities, access to raw materials, critical component supply chain within the zone, trained human resources, and ready-to-use infrastructure makes AMTZ the engine of growth for medical technology globally.

In the nation's battle against the pandemic, AMTZ contributed by producing over 100 ventilators, 500 oxygen concentrators, and 1 million RT PCR kits every day. In addition, many innovations from AMTZ, such as mobile container hospitals, mobile RTPCR vehicles, and mobile oxygen plants, were sent to even the most remote parts of the country. Built-in a record time of 342 days, AMTZ

showcases modern India as a leader in the global medical technology stage.

AMTZ works to reduce the cost of manufacturing up to 40%, simplify the end-to-end operations, and reduce import dependency, which is presently around 75%. Furthermore, it believes in creating and operating an ecosystem that boosts innovations and supports affordable manufacturing scale-up, allowing technology accessible to every citizen globally.

The Kalam Institute of Health Technology (KIHT) at AMTZ has recently been designated as India's first WHO collaborating Centre (WHO-CC) for innovations. The WHO-CC will work directly with WHO headquarters to further health innovations and innovative technologies towards rapid development and global deployment.

Another essential element to success is the availability of a workforce that can be readily integrated into industrial design, development, and manufacturing. AMTZ understands that as India's medical sector experiences unprecedented growth, there is a strong demand for a dynamic, skilled, and capable workforce and a need for a new paradigm in training and development. Fortunately, the interdisciplinary nature of medical technology allows engineering professionals from the conventional domains of mechanical, electrical & electronics, instrumentation, and computer science, to specialize as biomedical engineers and fill the enormous vacuum domestically and globally.

Currently, the demand for a master's level program in India for Medical Technology far outweighs the limited options available. Recognizing this shortage, AMTZ is partnering with Skill-Lync to launch the country's first "Executive PG Program in Medical Technology." This will be a one-of-a-kind program that will offer students a flexible pedagogy, integrating online and offline learning through solid industry collaboration.

During the first 6 months, students will be offered 9 fundamental courses in a self-paced online environment in the Skill-Lync platform. Then, for the next 6 months, students will be engaged in taking coursework related to a specialization of their choice while undergoing hands-on training at the various medical device manufacturing facilities in AMTZ. This will provide the students with first-hand exposure to product design, development, and manufacturing while studying.

During the final lap of the program, the students will take a certification exam and get skill-certified by Indian Biomedical Skill Council (IBSC). The IBSC is yet another notable initiative of AMTZ established jointly with the Association of Indian Medical Manufacturers of Medical Devices (AiMeD), under the support of the Quality Council of India (QCI), to provide a certification system for biomedical engineers in the country who serve as the backbone of the healthcare services. Furthermore, it aims at strengthening the Biomedical Skill Sector in the country and, with this objective, develop job roles supported by the National Skill Development Agency (NSDA) under the Ministry of Skill Development & Entrepreneurship (MSDE).

The current VUCA environment requires continuous adaptation and assessment of learning paradigms to cater to industry requirements. Therefore, AMTZ strongly feels that this new foray into online learning combined with practical industry exposure will help create the ideal workforce.

We all know too well how much loss of life, suffering, ending family's livelihood and disrupted bread earnings routine this Pandemic caused. However, this necessitated forward-thinking, innovation, and capturing of unique new public-private collaborations that were not achievable previously. I focused on this India case study, but other initiatives hopefully are taking place around the world. I am looking forward to hearing from you about your local situation and will be happy to respond to comments and questions relating to our successful model.

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Together we are making it better!

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