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(An Institute of National Importance under DST; Government of India) (***एक राष्ट्रीय महत्व का संस्थान, विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार)***

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**Press Release**

**SCTIMST and GECBH join forces towards translation of a patented concept into a portable X-Ray protection cum examination box prototype**

Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) and Government Engineering College Barton Hill (GECBH) have successfully designed and developed a prototype of the portable X-Ray Protection barrier and examination Box towards translation stage. This product will be used for gross examination of small pathology tissue specimens using X-ray technology. The prototype, now fully realized, highlights the combined efforts and synergy of Academia, Research Institution and Industry. Involvement of young students and startups are noteworthy to be mentioned here.

The patented idea, originating from SCTIMST and GECBH, first had to be meticulously transformed into a virtual design which was carried out by engaging the B.Tech graduate students of GECBH. This design then underwent a rigorous development process, leading to the creation of a manufacturing model by the GECBH M.Tech students. The final and most critical step was the actual fabrication of the product/prototype, a task that Hesper Tech Pvt Ltd, a startup and incubate at GECBH took on with the support from Precision Fabrication Facility of BMT wing and completed successfully by a finished prototype.

A test to measure radiation levels outside the X-ray shield equipment at a specified distance was successfully conducted on 05.09.2024 at the Government Medical College Trivandrum. The testing, performed at various exposure settings using the Fluke 451P Ion Chamber Survey Meter, demonstrated that the X-ray shield effectively reduced milli-hertz level radiation from the source to the lowest range of micro-hertz levels. Fluke 451P Ion Chamber Survey Meter was the device used to monitor the radiation leakage

The project’s success is attributed to the invaluable coordination provided by Dr. Arun Anirudhan, Engineer ‘F’, Network Service Cell and guidance provided by Dr. Sabareeswaran A, Scientist ‘G’, Histopathology, Shri. Ramesh Babu. V, Engineer, Senior Grade, Division of Precision Fabrication of SCTIMST and Assistant Prof. Anish K John and students of GECBH. The prototype was developed by Hesper Tech Pvt Ltd led by its founders Mr. Vimal George and Mr. Viswanath demonstrated remarkable expertise and innovation even though being a new startup.

The portable X-Ray Protection barrier and examination Box is more than just a prototype. It is a cost effective and safer solution for examination of specimens with implants received as part of histopathological evaluation in medical device biological evaluation and also finds potential usage in other domain. The teams at SCTIMST, GECBH, and Hesper Tech Pvt Ltd have set a high bar for future projects, paving the way for further breakthroughs in medical technology and engineering.