

## SCTIMST and ITPL ink pact for technology transfer of TiN-coated coronary stent



Coronary artery disease is a growing concern in India. Plaque build-up reduces blood flow through the arteries, which can lead to heart attacks and other heart problems. The Coronary Stent Project at the Sri Chitra Tirunal Institute for Medical Sciences and Technology has successfully completed the Proof of Concept stage. After conducting computer simulations, lab tests, animal studies, and histopathological examinations, SCTIMST signed a Memorandum of Understanding with Invasive Technologies Pvt Ltd on September 23, 2024. The industry partner will now work on scaling up and commercializing the coronary stent, which is expected to take 3 to 5 years, including the completion of preclinical studies, clinical trials, and obtaining regulatory approvals.

The key feature of the Chitra Coronary Stent is its unique metal stent design coated with titanium nitride. This design features aim to provide potential benefits, such as preventing direct metal contact with blood and tissue, which can help reduce complications like restenosis and late-stage thrombosis.

This coronary stent project at SCTIMST is part of the Indian Government's Make in India initiative. It was conducted by SCTIMST's Biomedical Technology Wing, which has been designated as the Technical Research Center for Biomedical Devices, Department of Science and Technology, Govt. of India - a key center for medical device development in the country. The research was led by a team from the Division of Artificial Internal Organs, Department of Cardiology, including Subhash N. N., Muraleedharan C. V., and Dr. Harikrishnan S. Other team members involved in the project were Dr Sanjay G., Dr Umashankar P. R., Dr Sachin Shenoy, Dr Sabareeswaran A., Dr Sujesh S., Ramesh Babu, Rajeev A., Subhash Kumar M. S., Aneesh S., Polson Benny, and Binu M.

Following this, "Titanium Nitride Coated Coronary Stent" was chosen as one of the top three healthcare innovations at the Aegis Graham Bell Awards held in New Delhi on February 21, 2024. This award is supported by the Ministry of Electronics and Information Technology, Government of India, and honors innovative achievements. Additionally, the "Coronary Stent" project was selected for the 2023 regional cohort of the Boeing University Innovation Leadership Development program, organized by the IIT Madras Incubation Cell and Boeing India in December 2023 at the IIT Madras Research Park.