



Patents filed since 2023

This portfolio showcases cutting-edge IISc's robotics innovations, spanning human-robot collaboration, brain-computer interfaces, assistive construction devices, and autonomous inspection systems for confined environments. From AI-driven task programming and prosthetic mechanisms to drone-mounted continuum arms and pharma machine vision, these patented technologies address real-world industrial challenges. Designed for licensing and collaboration, they offer cost-effective, multi-modal solutions for manufacturing, healthcare, infrastructure maintenance, and beyond. Explore how these adaptable, intelligent systems can accelerate your next-generation automation and operational efficiency.

IP Reference Number	IP Title	Faculty Inventor @ IISc
MS-CPDM-2025-203	Artificial intelligence-based system and method for safe and productive human-robot collaboration	Abhra Roy Chowdhury
MS-CPDM-2025-190	Bi-modal visual and sound stimuli-driven BCI-based adaptive robotic arm	
MS-CPDM-2025-042	Control for industrial human-robot collaboration"	
MS-CPDM-2024-089	Robotic joint apparatus with multiple degrees of freedom and method thereof	
MS-CPDM-2024-088	A system for inspection and maintenance of complex environments using multiple-modal operations and method thereof	
MS-CPDM-2023-114	Brain computer interface based sound source localization for attending tasks in an industrial environment via human robot interaction	
MS-CPDM-2023-113	Artificial intelligence based multimodal human-robot collaboration	
MS-CPDM-2023-112	A pipeline integrity management robotic system for inspection and coating of a pipeline	
MS-CPDM-2023-111	Pipeline maintenance robotic system for inspection and cleaning of a pipeline	
MS-AE-2025-082	A retractable hyper-redundant robotic arm on platform for tasks requiring adaptable extension and method thereof	
MS-CPDM-2025-091	Dual-axis rotation wrist mechanism for prosthetic arm	Dibakar Sen
IDR-RBCCPS-2025-069	Contact sensing assembly for a legged robot	Shishir Nadubetta Yadukumar
ES-DESE-2025-105	System for inspecting pharma product and method thereof	T Venkata Prabhakar
MS-AE-2023-151	Controlling thermal runaways in energy storage devices	Vivekanand Dabade