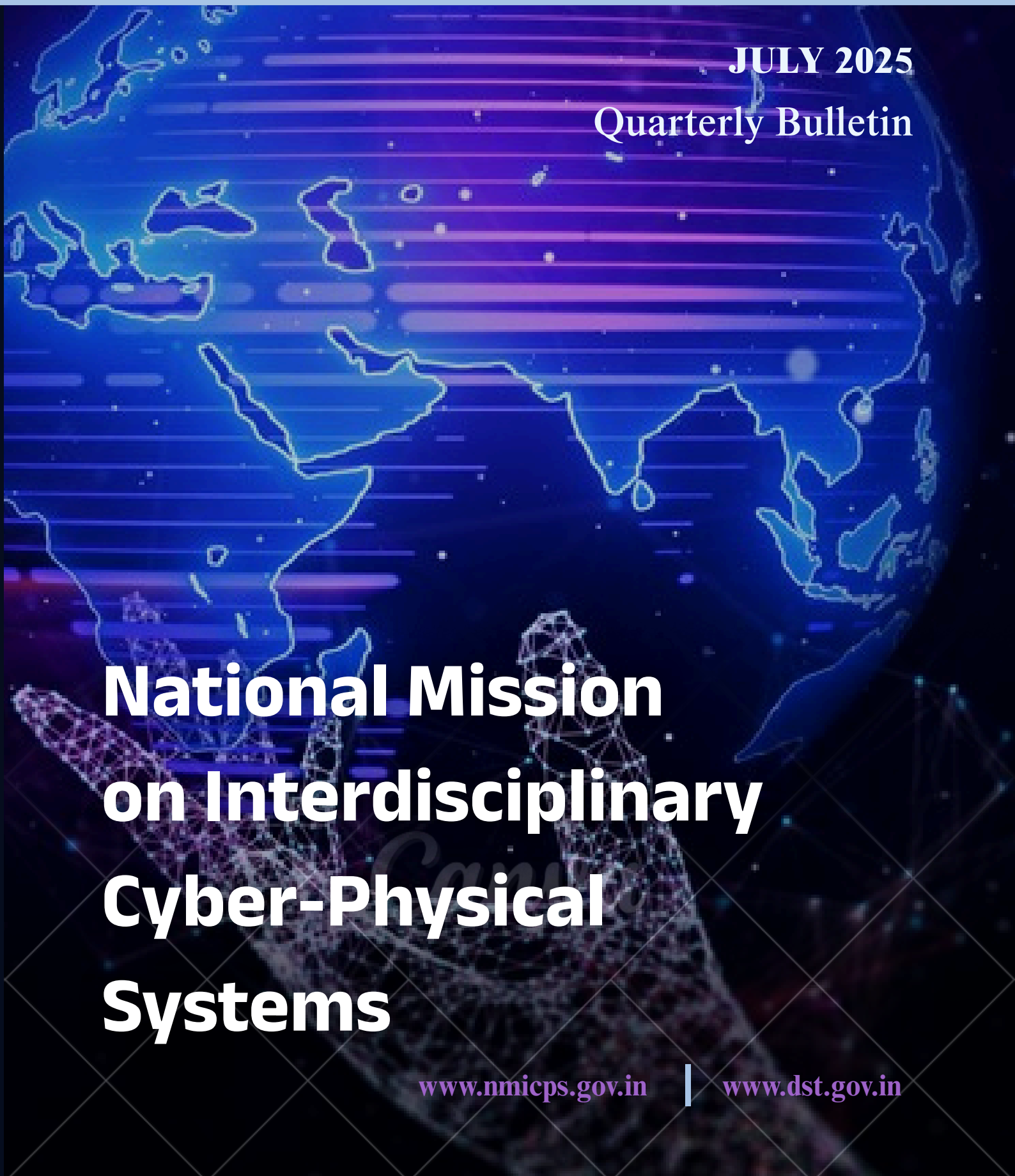
विज्ञान और प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

सत्यमेव जयते

NATIONAL MISSION ON
INTERDISCIPLINARY CYBER-PHYSICAL
SYSTEMS (NM-ICPS)



JULY 2025

Quarterly Bulletin

National Mission on Interdisciplinary Cyber-Physical Systems

www.nmicps.gov.in | www.dst.gov.in

IHUB Drishti Foundation, IIT Jodhpur

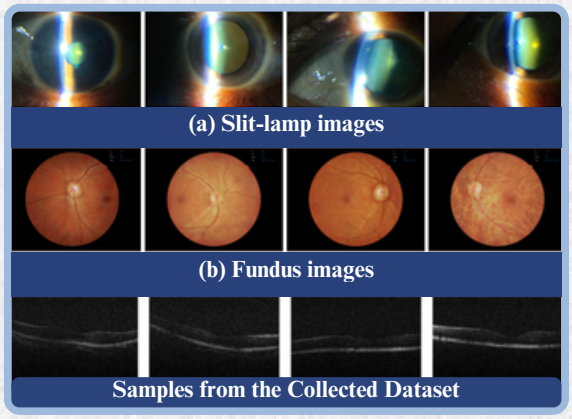
Computer Vision, Augmented and Virtual Reality (AR&VR)

Hub Overview

The TIH on Computer Vision, Augmented and Virtual Reality, named as iHub Drishti Foundation focuses on the core research areas of Seeing and Sensing, Dependability, Real-time Computer Vision Systems, and Data Collection, Curation, and Annotation. iHub Drishti has identified the following application areas for developing technologies: Computer Vision for Autonomous Systems; Computer Vision for Better Living: Healthcare and Biosphere; Imaging for Document Analysis; CV and VR for Industry 4.0; Dependable AR-VR for X (including games).

Project Updates

iHub Drishti is leading the development of an AI-based risk stratification tool using retinal images for early detection of cataract and diabetic retinopathy (DR). The project involves building a multimodal ocular image registry and AI models tailored for low-resource public health settings. Over 86,000 images from 2,355 participants have been collected using portable imaging devices, including slit-lamps, Optical Coherence Tomography (OCT), and fundus cameras, and AI model development is underway.



Samples from the Collected Dataset

Svar-AI-powered speech therapy platform

Svar, an AI-powered speech therapy platform, is transforming pediatric speech care in India. Designed to enhance accessibility and clinical efficiency, Svar comprises two components: a Smart Dashboard for Therapists to assign AI-driven, gamified exercises and monitor progress, and a Mobile App for Children and Parents to enable daily guided practice at home. Svar's core innovation lies in its proprietary Speech AI engine, which identifies articulation errors and provides real-time feedback, streamlining therapy planning and boosting outcomes.

Deployment

A state-of-the-art Virtual Reality Welding Simulator has been launched, which is engineered to transform the way welding skills are taught and practiced across industries. Designed for sectors like manufacturing, automotive, aerospace, and technical education, this immersive training platform provides realistic, hands-on experience in Arc Welding, Gas Welding, and Thermite Welding—all within a safe, controlled, and hyper-realistic virtual environment.

Collaborations

iHub Drishti Foundation has established impactful collaborations with academic, industry, and government partners to accelerate innovation and deployment. Key partnerships include DRDO-CAIR for autonomous systems, the Rajasthan Government for digitizing state museums, and NSF-USA for AI and robotics research. Projects with IGNCA and ASI focus on cultural preservation through digital technologies. Industry collaborations with Samsung and Kansara Modeller drive AR/VR and computer vision solutions for manufacturing and mobility.

Outreach Initiatives

Conducted Summer Internship Program 2025, offering 15 undergraduate students hands-on experience in emerging areas like Computer Vision, AR/VR, AI in Healthcare, and Human-Centered Design.

NATIONAL MISSION ON INTERDISCIPLINARY CYBER-PHYSICAL SYSTEMS (NM-ICPS)

Department of Science and Technology
Ministry of Science and Technology
Government of India

www.nmicps.gov.in. | ww.dst.gov.in