At CSIR-IICT Hyderabad, Dr. Jitendra Singh Lays Foundation Stone for ₹44.46 Crore Hostel, Inaugurates Four Advanced R&D Facilities

Agri Research–Industry Partnership to Drive India's Next Phase of Economic Growth: Dr. Jitendra Singh

Agri Research, Waste-to-Wealth Technologies and Research Translation are Creating New Opportunities for Farmers, MSMEs and Startups: Dr. Jitendra Singh

प्रविष्टि तिथि: 30 JUN 2026 5:41PM by PIB Delhi

Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences and Minister of State for PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, today said that stronger partnerships between agricultural research and industry will drive India's next phase of economic growth by creating greater value from scientific innovation. He said India's agriculture sector continues to offer enormous untapped potential and that, under the leadership of Prime Minister Shri Narendra Modi, the country's scientific priorities have expanded beyond crop improvement to developing technologies that convert agricultural waste and residues into valuable products.

The Minister said scientific interventions are now moving beyond crop improvement to developing technologies that convert agricultural waste and residues into reusable value-added products, creating new opportunities for farmers, industry and the economy.

Dr. Jitendra Singh was addressing scientists after inaugurating four Advanced Research and Development facilities and laying the foundation stone for a modern 200-student hostel complex at CSIR–Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad. During the programme, he inaugurated the Advanced R&D Facility for Fluorochemicals and virtually dedicated to the nation the 500 KLD Decentralized Effluent Treatment Plant for the Siripuram Handloom Cluster, the Continuous Processing Platform for Industrial Chemicals and the Sustainable Engineering Complex (SustEC).

The Minister also laid the foundation stone for a ₹44.46 crore hostel complex that will strengthen residential infrastructure for young researchers. The programme brought together scientists, industry representatives, technology partners, startups, research scholars and students, reflecting the growing emphasis on translating scientific excellence into industrial innovation and economic value. Among those present were Director, CSIR-IICT, Dr. D. Srinivasa Reddy; Director, CSIR-CCMB, Dr. Vinay K. Nandicoori; Director, CSIR-NGRI, Dr. Prakash Kumar; Director, CSIR-NEERI, Dr. S. Venkata Mohan; and Director, CDFD, Prof. Ullas Kolthur-Seetharam.

Dr. Jitendra Singh said the convergence of scientific institutions with industry has become essential for transforming research into economic value. He said laboratories can no longer function in isolation and must increasingly work alongside industry, MSMEs, startups and technology partners to accelerate innovation and commercialization. Referring particularly to agriculture, he said scientific research across the entire value chain, from improved technologies to the productive utilization of agricultural residues, can unlock new opportunities for value addition, rural entrepreneurship and sustainable industrial growth.

The Minister said India is witnessing a remarkable scientific transformation where innovation is increasingly becoming a key driver of national development. Referring to the country's recent achievements in defence manufacturing, aviation, space and technology, he said India is steadily progressing from being a technology adopter to becoming a technology developer, with science emerging as a powerful force behind economic growth, strategic self-reliance and global competitiveness.

Dr. Jitendra Singh said CSIR has consistently demonstrated how scientific research can address national priorities while delivering practical solutions for industry and society. Referring to recent CSIR technologies for producing compressed biogas from food and agricultural waste and converting captured carbon dioxide into Dimethyl Ether, he said these innovations exemplify India's growing commitment to clean energy, circular economy and the conversion of waste into valuable national resources. He said such technologies strengthen energy security while creating new avenues for industrial development and environmental sustainability.

Calling the newly inaugurated Advanced R&D Facility for Fluorochemicals a strategic national asset, the Minister said it will significantly strengthen India's indigenous capabilities in fluorination technologies and support the development of pharmaceuticals, agrochemicals, specialty chemicals, refrigerants, electronic chemicals and advanced materials. He said the facility will reduce dependence on imports while supporting critical sectors such as defence, electronics and space, reinforcing the country's vision of technological self-reliance.

Referring to the 500 KLD Decentralized Effluent Treatment Plant developed for the Siripuram handloom cluster with support from the Department of Science and Technology, Dr. Jitendra Singh said the project demonstrates how scientific innovation can directly strengthen traditional industries and local economies. He said the indigenous low-energy treatment technology will reduce pollution, protect groundwater, enable water reuse and promote environmentally sustainable textile production, proving that industrial growth and environmental responsibility can advance together.

Speaking about the Continuous Processing Platform, the Minister said continuous manufacturing technologies represent the future of the chemical and pharmaceutical industries by improving safety, enhancing productivity, ensuring product consistency and reducing environmental impact. He said the facility will help Indian industry adopt globally competitive manufacturing systems while enabling faster translation of laboratory innovations into commercially viable technologies.

Describing the Sustainable Engineering Complex (SustEC) as one of the most future-oriented initiatives inaugurated today, Dr. Jitendra Singh said the facility reflects India's transition towards a circular economy. By converting waste plastics, biomass, agricultural residues and industrial by-products into fuels, hydrogen, advanced materials and other value-added products, the complex demonstrates how scientific innovation can simultaneously promote sustainability, industrial competitiveness and economic value creation. He said such technologies reinforce the Government's commitment towards achieving Net Zero through indigenous scientific solutions.

Dr. Jitendra Singh said the common thread linking all four facilities is their ability to bridge laboratory research with industrial application. Whether in fluorochemicals, clean manufacturing, environmental technologies or sustainable engineering, each initiative has been designed to support startups, MSMEs,

entrepreneurs and established industries in scaling indigenous technologies. He said the true measure of scientific excellence lies not merely in research publications but in technologies that generate employment, strengthen Indian industry and improve the lives of ordinary citizens.

The Minister welcomed the recent recruitment of nearly 90 permanent personnel, including around 70 scientists and technical professionals, at CSIR-IICT and said investment in scientific talent must be matched by world-class research infrastructure. Referring to the new hostel complex, he said quality residential facilities are equally important for nurturing future scientific leaders, encouraging collaboration and creating an environment where young researchers can innovate freely.

Dr. Jitendra Singh said that through initiatives such as the Anusandhan National Research Foundation and enhanced support for deep technologies, the Government is creating an ecosystem where research institutions, academia, startups and industry work together to develop globally competitive technologies. He said the objective is to ensure that Indian laboratories lead global scientific research, Indian industries manufacture high-value technologies and Indian innovations provide solutions to global challenges.

Congratulating the scientists, researchers and staff of CSIR-IICT, Dr. Jitendra Singh urged them to deepen engagement with industry, mentor young entrepreneurs and ensure that every promising laboratory innovation reaches the marketplace. He expressed confidence that CSIR-IICT will continue to play a leading role in transforming research into enterprise, enterprise into economic growth and innovation into improved quality of life, contributing meaningfully to India's journey towards becoming a global scientific leader.

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