PRESS RELEASE

"High Volume Semiconductor Chip Manufacturing is inevitable for strengthening India's position as a leading stakeholder in the international arena": Dr. V.K. Saraswat at ICTFAB-2021 hosted by IIT Mandi

Dr. V.K. Saraswat, Hon'ble Member, NITI Aayog, GOI, graced the International Colloquium on Technology Readiness for High Volume Semiconductor Chip Manufacturing (FAB) 2021 hosted by IIT Mandi

MANDI, 15th November 2021: Indian Institute of Technology (IIT) Mandi, in conjunction with Centre for Design and Fabrication of Electronic Devices (C4DFED), is hosting the International Colloquium on Technology Readiness for High Volume Chip Manufacturing (FAB) 2021 (ICTFAB-2021) on 15th and 16th November 2021. ***Dr. V K Saraswat, Hon'ble Member Niti Aayog, GOI, graced the event by his virtual presence as the Chief Guest. Prof. Kenneth Gonsalves, formerly Distinguished Professor, IIT Mandi, and International expert in Semicon fab technology chaired ICTFAB-2021.***

The International event is facilitating the setting up of Advanced Semiconductor FAB facilities in India, and to develop its ecosystem to enable the Indian semiconductor industry to meet in-country demands and to participate as a globally competitive entity for comprehensive Electronics System Design and Manufacturing.

Speaking during the event, Dr. V.K. Saraswat, Hon'ble Member, NITI Aayog, GOI, and Chief guest, International Colloquium on Technology Readiness for High Volume Semiconductor Chip Manufacturing (FAB) 2021, said, *"The current pandemic has underscored the importance of internet connectivity and broadband services for performing daily activities and leading life in a near normal way. However, it is difficult to provide connectivity to each and every corner of the country, through terrestrial networks. Hence, satellite connectivity becomes essential for catering to citizens and businesses operating in remote regions, and for supplementing the gristing terrestrial networks."*

"There is an immediate need to develop local supply chain networks, and efforts in this direction can adequately support the indigenous electronics manufacturing, The 'Atma-nirbhar Bharat' scheme of the Government of India is giving the much-needed fillip to the country's disrupted business operations by promoting 'Make in India' manufacturing, encouraging substitution of imports of low-technology goods and encouraging local produce at lower prices. I am sure ICTFAB- 2021 hosted by IIT Mandi will make concerted efforts in skill development and enhancing the number of researchers to address this challenge. I truly believe that High Volume Semiconductor Chip Manufacturing is not only inevitable for economic development but is also equally important to strategically strengthen India's position as a leading stakeholder in the international arena", **added Dr. Saraswat while addressing national and international participants in the colloquium.**

Designed specially for Industry, Public Sector Units, Central/State, Government Policymakers, Academic Engineers, Scientists, Postdoctoral Research Fellows, Advanced level Science and Engineering students and Faculty members, this colloquium will provide a forum for presenting methodologies, approaches, and technology required for readiness of a blueprint in preparation for getting fab units in the country and achieving a world-class semiconductor manufacturing platform.

Speaking about ICTFAB-2021, Prof. Ajit K. Chaturvedi, Director, IIT Mandi said, *"IIT Mandi is honored to host ICTFAB-2021 in the presence of Hon'ble Chief Guest, Dr. V.K. Saraswat, and all the participants to this international event. I am confident ICTFAB-2021 will pave the path for developing an ecosystem to enable the Indian semiconductor industry to fulfill country demands and participate as a globally competitive entity for comprehensive Electronics System Design and Manufacturing."*

The Indian electronics industry is highly dependent on the import of economically significant 65/45/32/28 nm technology node chips and this import demand is expected to rise manifold by 2025. India has one of the best chip designers as well as excellent academic Institutions but the collective wisdom to convert this knowledge into a vibrant fab ecosystem is still lacking. To address this, keynote talks from internationally renowned subject experts are part of this event. It include -

Key topics to be covered in ICTFAB-2021 include:

- FAB in India: Present and Future
- MUV (365 nm) & DUV (248 nm) Technology
- 193 nm/193i Technology/SADP/SAQP
- Extreme Ultraviolet 13.5 nm Technology
- Device Fabrication 28 nm and Lower Nodes
- 65/45/32 nm Patterning and Device Fab Technology

One key aspect of this colloquium is to highlight semiconductor fabrication in India at the 28 nm and lower technology nodes, considering immediate and future needs of India. Higher technology nodes 65/45/32 will also be considered as being technology appropriate in the Indian scenario. Existing fabs in India have the expertise to evolve into these nodes and will be involved in the colloquium.

Keynote & Plenary speakers from the colloquium include:

- Prof. Burn Lin, National Taiwan University, Taiwan
- Dr. Ralph Dammel, Chief Technologist, EMD/MERCK, USA
- Prof. Jinho Ahn, Director, EUV-IUCC Korea
- Dr. Patrick Naulleau, Director CXRO LBNL, Berkeley USA
- Dr. Indira P Seshadri, IBM, New York

ICTFAB-2021 will promote interaction among well-known semiconductor professionals across the globe and develop a strategic relationship to establish semiconductor fab-line(s) in India to achieve manufacturing excellence and improve global competitiveness.

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About IIT Mandi

IIT Mandi has four Academic Schools and three major Research Centers. The Schools are: School of Computing and Electrical Engineering, School of Basic Sciences, School of Engineering, and School of Humanities and Social Sciences. The Centers are: Advanced Materials Research Centre (AMRC; set up with an investment of Rs. 60 crores), Centre for Design and Fabrication of Electrical Devices (C4DFED; has Rs. 50 crores worth of fabrication tools), and BioX Centre (has acquired research equipment worth Rs. 15 crores).

The unique, project-oriented B.Tech. curriculum is centred around its 4-year long Design and Innovation stream. From August 2019, IIT Mandi started 3 new and unique B. Tech. programmes in Data Science and Engineering, Engineering Physics, and Dual Degree in Bioengineering. Since the inception of the Institute, IIT Mandi faculty have been involved in over 275 Research and Development (R&D) projects worth more than Rs. 120 crore.

IIT Mandi set up the IIT Mandi iHub and HCI Foundation (iHub; a section-8 company) on its campus at Kamand with significant funding of INR 110 crores from the Department of Science and Technology (DST), Government of India. The iHub is planned to fuel research and technology development, skill development, startup and innovation, and collaborations in the HCI and allied AI/ML areas in India. IIT Mandi is the only second-generation IIT to be featured at rank no. 7 in the Atal Ranking of Institutions on Innovation Achievements of the Innovation Cell, Ministry of Education, Govt. of India.

Twitter: @iit_mandi
Facebook: IIT Mandi
Website: https://www.iitmandi.ac.in

Media contact for IIT Mandi:
IIT Mandi Media Cell: mediacell@iitmandi.ac.in / ***Landline:*** 01905267832
Bhavani Giddu - Footprint Global Communications
Cell: 9999500262 / Email: bhavani.giddu@footprintglobal.com
Akhil Vaidya – Footprint Global Communications
Cell: 9882102818 / Email ID: akhil.vaidya@footprintglobal.com
Kajal Yadav - Footprint Global Communications
Cell: 88059 66194 / Email ID: kajal.yadav@footprintglobal.com