



# INDIAN INSTITUTE OF MANAGEMENT CALCUTTA

## INDUSTRY 4.0 AND INTERNET OF THINGS (IOT) - WHAT EVERY MANAGER NEEDS TO KNOW ABOUT THEM

 Programme Director: Prof. Debashis Saha

 Programme Dates: February 13 -16, 2023

 Programme Venue: MDC, IIM Calcutta



# INTRODUCTION

When remote monitoring, digital operations, digital manufacturing, cloud-based control and IT/OT integration will be the new normal in Industry 4.0, operational technology (OT) has to leverage smart connected objects, fitted with network-connected context-aware sensors/actuators, which will enable mass-scale digitalization. Digital disruption will reach a new height during the fourth industrial revolution with digital twins enabled by IoT – the most transformative technology of recent times. Hence, IoT to every contemporary business should not be ignored merely as a technology; it's a leadership opportunity to shift the ways companies do business, thereby achieving valuable, inimitable differentiation. Touted as IT + OT, IOT is going to blur the boundary between IT and OT completely. It will rewire cyber-physical-systems (CPS) by interconnecting machines, facilities, goods, robots, and even people into a smart ecosystem; feeding the generated big data into analytics applications; and improving actions taken by humans/machines via artificial intelligence. From demystifying the operational concepts of Industry 4.0 and IoT to creating a roadmap for its real-world applications, this MDP explores (a) how to best achieve IT/OT integration, (b) how to blend IT and OT disruptively for reimagining business in various industries, (c) how to link IoT to the company's core business processes, operational models and managerial roles, (d) how to adopt flexibility that enable companies to adjust to rapidly changing digital environment in Industry 4.0, and (e) how IoT brings in business agility toward achieving competitive edge.

## OBJECTIVES

The program aims to help leaders envision and execute IoT-driven business transformations in Industry 4.0, not just understand the technical elements. The goal is to demystify IT/OT integration and Industry 4.0 so that leaders can plan to achieve the strategic advantage that IoT makes possible in tandem with other disruptive technologies. The content provides many examples where IoT is already transforming customer experience, value creation, operations automation, and business models. The program's teachings are transferable across a multitude of industries. For instance, if you're involved in the field of manufacturing and operations, this program will help you have a direct impact on production strategy using IoT. This program is also aimed at those who would like to take on a leadership role in implementing a unique and effective IoT-enabled business strategy for their organizations in Industry 4.0. Whether you're a manager, senior leader, entrepreneur, or a new business owner, this program will help you identify as well as better understand - how IoT is transforming your business environment in Industry 4.0, how it will affect your organization outside-in and inside-out, and how to capitalize on the opportunities IoT provides.



## PEDAGOGY

Delivery would be through a balanced mix of case studies on success stories of companies, experience sharing, classroom lectures, discussions, and reflections on real-life corporate examples. Lecture inputs are primarily drawn from contemporary studies and survey findings on the topic. Discussions will be experiential and interactive through individual and/or group presentations, and/or in-class assignments to guide participants, as they construct a personal roadmap to gain strategic advantage from IoT.



## WHO MAY ATTEND

This program is designed for those who want to plan/understand/carry out the transformation IoT will bring, by leading a competitive operational strategy within their organization and capitalizing on the skills necessary for the change Industry 4.0 brings. The content especially helps the managers ensure that their business stays relevant by exploring the opportunities for potential application of IoT. Moreover, if you realize that IoT is a strategic concern that needs to be prioritized by leaders, and that it is not exclusive to IT experts, you must attend this programme.



## KEY TOPICS

IoT is growing rapidly, and digitalization is pushing us fast toward Industry 4.0 that is unfolding a significant impact on business operations and strategy with every passing year. The following modules contribute to the holistic approach this programme takes:

- Smart digital manufacturing – IT/OT integration, smart factory, digital operations, mass customization, edge analytics, complex event processing, etc. are turning manufacturing smarter every day. For instance, IoT-enabled smart bots are transforming warehouse operations, self-driving autonomous vehicles upending transportation industry, smart buildings aim to add value for real estate companies, and so on. As the systems increasingly value efficiency and outcomes, IoT applications continue changing strategy, business models, and operations. While some changes will be incremental, others will be transformative.
- Digital Twin in Industry 4.0 – To explore the inner workings of IoT and some of the key technologies that make it possible so as to understand how these can improve organizational productivity and add value. Does the software industry offer a possible model for finding revenue from IoT-based products and services in Industry 4.0?
- Selling Product as a Service (PRaaS) - aka servitization of products in Industry 4.0; how companies are transforming products into service and then packaging the services under a comprehensive solution that customers are looking for. Customers want seamless experience, but can companies do it using IoT and make any money out of it?
- Unique Value Creation and Capture in Industry 4.0 – In the IoT ecosystem, companies share space with players from adjacent industries; some will be competitors, others collaborators. Yet the need to capture value remains as acute as ever. The established principles of strategic differentiation, process flow, and network economics will go a long way toward revealing a path to long-term success. And there is the derivative effect: How connected value-chain can make IoT technology pay off.
- Embracing IoT to make your company Industry 4.0 ready – This module demonstrates the role of leadership and technological capabilities in implementing IoT for strategic advantage in business. Also, it tells you how to recommend strategies for developing the necessary skills and foundational capabilities to support the implementation of IoT technologies within an organization.
- Relevant technologies in Industry 4.0 – Cloud, Analytics, AI/ML, AR/VR etc. should help guide corporate players through minefields of opportunity opened up by IoT. It's a lot of disruptions, especially when it comes to ever-evolving IoT technology that holds great promise.



## PROGRAMME DIRECTOR

**Dr. Debashis Saha**, a Full Professor in the MIS area, has been teaching IT for more than 25 years now. In the full-time executive programmes in IIMC, he has designed and delivered IoT-related courses for Managers, Team Leaders, and Senior Executives. He has delivered several thought-leadership lectures on IoT-related topics in leading organizations/universities in USA, Japan, Singapore, Korea, China, Australia, Sweden, Singapore and Taiwan, on their invitation. He also has the experience of providing consultancy to several Indian firms on their transformational IT projects. His research interests include IT strategy and governance, Emerging IoT paradigms, Digital Disruption, Business Transformation, and IoT Ecosystem. He has authored several research papers, books/monographs, book chapters, case studies, and published in both national and international journals. He has visited USA, UK, Australia, Brazil, China, South Africa, Japan, South Korea, Hong Kong, Switzerland, Sweden, Portugal, Taiwan, Singapore, and Dubai, in connection with Industry Interactions, International Programmes and Conferences. He holds BE (Jadavpur University), MTech (IIT-KGP) and PhD (IIT-KGP) in Electronics & Communication Engg. Prof. Saha can be contacted by email at: [ds@iimcal.ac.in](mailto:ds@iimcal.ac.in).

## PROGRAMME DETAILS

- **Duration:** February 13 -16, 2023
- **Programme Commencement:** 9:00 AM on February 13, 2023
- **Programme Conclusion:** 2:00 PM on February 16, 2023
- **Venue:** Management Development Centre (MDC), IIM C Campus
- **Accommodation:** For Residential participants
  - **Check in:** February 12, 2023 (6:00 pm onward)
  - **Check out:** February 16, 2023 (2:00 pm)



## PROGRAMME FEES

- **Residential (R):** ₹ 88,000/- plus taxes and surcharges as applicable.
- **Non-Residential (NR):** ₹ 78,000/- plus taxes and surcharges as applicable.

We would strongly encourage candidates to enroll as Residential participants, as the experience of an MDP is optimized in a full-immersion mode.

### Discount on Programme fees:

A discount of 10% on the Programme fees can be availed by an organization if it nominates at least 4 participants for a particular MDP.

## TERMS & CONDITIONS

- Participants would have to make their own travel arrangements.
- Accommodation at IIM C will be provided till 2.00 p.m. on the last day of the Programme. Participants staying beyond this time will have to bear additional stay and food charges, which they have to settle directly with the hospitality service provider, conditional upon room availability.
- Cancellation Policy: In case you/your nominated candidate(s) does(do) not attend the programme, 40% of the programme fees will be retained, as per policy.
- Executive Education Alumni: With effect from April 1, 2017, participants of IIM Calcutta's 'Open' MDPs who attend 20 days of learning through two or more Open MDPs will be eligible to apply for 'Executive Education Alumni of IIM Calcutta' status.



## HOW TO APPLY

- You can apply/nominate your personnel by clicking on the “Apply Now” link corresponding to the particular MDP, as appearing on our online calendar available at: <https://iimcal.ac.in/mdp/mdp-calendar>
- Once the candidature(s) is (are) approved, the sponsoring authority or participant (in case of self-nomination) will be intimated over email along with the Payment Advice seeking programme fees in advance.
- Programme fees can be remitted online through Electronic Fund Transfer (NEFT/RTGS).
- Upon remitting the fees online, kindly intimate CMDP office with the UTRNo./relevant transaction details through email, so that we can connect your remittance to your nomination(s). Please note that confirmation of participation is subject to receipt of Programme fees by CMDP Office before commencement of the MDP.

## IIM CALCUTTA’S RANKINGS AND ACCREDITATIONS

- Triple accreditations by AACSB (Association to Advance Collegiate Schools of Business), AMBA (Association of MBAs) and EQUIS.
- IIM Calcutta is the only B-school in India to be a part of the prestigious CEMS. (The Global Alliance in Management Education or CEMS (formerly the Community of European Management Schools and International Companies) is an international cooperation of leading business schools and universities with multinational companies and NGOs).
- IIM Calcutta has been ranked at No. 2 in India and 59 Globally in the Financial Times Executive Education Ranking 2022. IIM Calcutta had secured 2nd rank amongst all B-schools in India and 21st Globally, in Financial Times: Masters in Management Rankings 2020.



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For all other details on administrative matters please refer to the ‘Guidelines for Participants’ on our website or e-mail to [program\\_mdp@iimcal.ac.in](mailto:program_mdp@iimcal.ac.in)