



Confederation of Indian Industry



CII - Suresh Neotia Centre
of Excellence for Leadership

CERTIFIED PROGRAMME ON **CURRENT AND EMERGING TECHNOLOGIES**

JUNE 2024



Programme Partner



The
**Strategy
Academy**

The Power of Strategy Applied
www.thestrategyacademy.org

The image shows the exterior of a modern, multi-story building with a light-colored facade and large glass windows. The building is illuminated from within, and the sky is a clear, pale blue. In the foreground, there is a paved plaza with a few small trees and a black lamppost with a glowing light. The overall atmosphere is professional and well-maintained.

CII-Suresh Neotia Centre of Excellence for Leadership

The CII Suresh Neotia Centre of Excellence for leadership (CII-SNCEL) is part of CII's Integrated agenda of building competitiveness through Centres of Excellence. CII-SNCEL is one of the 10 COEs set up for enhancing development and progress through a diverse range of services. The Centre was set up on the basis of CII's core belief that the quality of leadership will play a key role in enabling India to succeed in its mission for inclusive growth and competitiveness and claim its rightful position in the global arena.

Established in 2009 at Kolkata, the Centre was initiated with the purpose of serving as a key facilitator of leadership development across various segments of business and sociocultural demographics through a range of interventions especially focusing on "people" and "process" transformations.

BACKGROUND

Growing a business mandates the need to keep up with the latest industry trends, including technology. As such, executives and managers need to be on the lookout for new tech that will improve their results and workflow. The current professional and business landscape is also poised for radical transformations driven by new and exciting technological advancements that promise to revolutionize established ways of operation. To succeed, there is therefore a need to better understand current technologies that are driving an array of new products, services and processes, influencing business and market structures. Being well versed with these megatrends will be non-negotiable for managers going forward.

Against this background, and based on Industry research, critical and high impact emerging technologies have been identified and grouped as the “Essential Six”.

These include:

- 1] Artificial Intelligence (AI) and Machine Learning (ML)
- 2] Internet of Things (IoT) and the Metaverse
- 3] Cloud Services

- 4] Robotic Process Automation (RPA)
- 5] Augmented and Virtual Reality
- 6] Block Chain Technology

Managers need to learn to think differently by applying technology solutions to solve business challenges through an optimal working understanding of these six technologies to deliver tangible improvements in business outcomes. These emerging technologies will also help organizations scale on demand, improve resiliency, minimize infrastructure investments, and deliver both better customer experiences and business results.

Given this background, the CII- Suresh Neotia Centre of Excellence for Leadership in partnership with The Strategy Academy Centre for Advanced Studies (TSACAS) is launching the CII Certified Programme on Current & Emerging Technologies for Managers (CII-CETM) which will commence in June 2024.

OBJECTIVES

- Understand the basics of technology and application platforms for “Essential Six”
- Set a foundational understanding about how work areas will transform and how it will get there.
- Optimize performance by assessing current technology implementations and leveraging new data sources, technology and talent.
- Help managers become change agents to enable a forward-looking business culture.
- Learn areas where these “Essential Six” can make significant contribution in creating and capturing value.
- Develop a critical analysis of these technologies with regard to the opportunities, challenges, and implications for individual managers and teams.
- Enable transformational leadership required to effect shifts in mind set and organizational paradigm to facilitate adoption of the “Essential Six”.



WHO SHOULD ATTEND

- Managers and team-leads from diverse functional areas including Product/Marketing/ Finance/ Branding/ Purchases.
- Profit Centre Heads and Branch and Regional Managers.
- Managers working in strategic planning groups.
- Line managers aiming to create competitive advantage in their respective business.
- Executives interested in understanding and appreciating applications of “Essential Six” to innovate and better perform in their respective roles.

DELIVERY & DURATION

- The course will comprise Six Modules covering each aspect of the “Essential Six” technologies in-depth.
- Course Duration 140 Hours comprising:
 - 70 Hours of LIVE faculty-led sessions
 - 70 Hours of Scheduled and Guided Learning that will comprise individual case assignments, virtual syndicate room discussions, presentations, and modulewise examinations.
- The program will be delivered using the Smart Learning & Transformation Solution [SLTS], a platform that enables 100% LIVE and INTERACTIVE faculty-led sessions.
- SLTS also incorporates an integrated LMS, syndicate room discussions, inter-participant learning and conducted examinations.



SESSION TIMINGS

- Twice a week
- Weekdays (8PM – 10PM IST)

ACCESS REQUIREMENTS

- A PC or a Laptop
- A standard headphone
- A broadband fixed line or a data connection capable of delivering a minimum 256kbps of broadband during each 2 hour session; this is a must for smooth audio and video live streaming

SESSION RECORDINGS

Session recordings will be available for 4 weeks after the conclusion of last LIVE session

PROGRAMME STRUCTURE

MODULE	TOPICS	DURATION
MODULE-I ARTIFICIAL INTELLIGENCE & MACHINE LEARNING (AI & ML)	<ol style="list-style-type: none">1. What is Artificial Intelligence?<ul style="list-style-type: none">• Introduction to AI• Historical overview of AI• Types of AI: Narrow vs. General AI• AI vs. Human Intelligence• Ethical and societal implications of AI• Current state of AI research2. What is Machine Learning?<ul style="list-style-type: none">• Basics of Machine Learning• Supervised, Unsupervised, and Reinforcement Learning• Training, testing, and validation in ML• Algorithms in Machine Learning• Real-world applications of Machine Learning• ML vs. Traditional Programming3. Applications of AI & ML<ul style="list-style-type: none">• AI and ML in Healthcare• AI in Finance and Trading• AI in Natural Language Processing (NLP)• ML in Image and Video Analysis• AI in Autonomous Vehicles• AI in Customer Service and Chatbots4. Infrastructure needed to introduce AI/ ML and Business Case<ul style="list-style-type: none">• Hardware and software requirements for AI/ML• Cloud-based vs. On-premises AI/ML infrastructure• Data preparation and cleaning• Building a business case for AI/ML adoption• ROI calculations and risk assessment• Case studies of successful AI/ML implementations5. Organizational preparedness needed<ul style="list-style-type: none">• Assessing readiness for AI/ML adoption• Building an AI/ML team and talent acquisition• Data governance and security• Change management and cultural shift• Legal and ethical considerations• Long-term sustainability and growth strategies	20 Hours (10 Sessions)

PROGRAMME STRUCTURE

MODULE	TOPICS	DURATION
MODULE-II INTERNET OF THINGS (IoT) & METAVERSE	<ol style="list-style-type: none"> 1. IoT Foundations: Standards and Ecosystems <ul style="list-style-type: none"> • What is IoT and what is the future impact on Business? • IoT Conceptual Overview • IoT architecture models and components • IoT ecosystem 2. IoT Technology, Markets, and Standards and Privacy Issues <ul style="list-style-type: none"> • IoT technology, markets, and standards • IoT technology overview • Security, privacy, and legal issues 3. IoT Device Management <ul style="list-style-type: none"> • IoT device management • IoT protocols for device management • IoT device management challenges and applications 4. Creating Value with IoT <ul style="list-style-type: none"> • Monetizing value with IoT i.e. Using IoT to become closer to the customer. • IoT Case Studies in Supply Chain, Medical, HR, B2B, B2C etc 5. Metaverse – Concept, Technology and Possibilities in the Future 	10 Hours (5 Sessions)
MODULE-III CLOUD SERVICES	<ol style="list-style-type: none"> 1. Cloud Computing Concepts <ul style="list-style-type: none"> • What is virtualization? • What is Service Oriented Architecture? • Fundamentals of Cloud Computing and types of cloud like private, public, hybrid. • Cloud Computing - Benefits, Issues, Providers • Considerations for moving application from traditional IT to Cloud. 2. Different Types of Cloud <ul style="list-style-type: none"> • Private cloud - Usage, Advantages and disadvantages • Public cloud - Usage, Advantages and disadvantages • Hybrid cloud - Usage, Advantages and disadvantages • Various models of Cloud Computing [like SaaS, PaaS, IaaS] • IAAS - Characteristics, Usage, Advantages & Disadvantages • PAAS - Characteristics, Usage, Advantages & Disadvantages • SAAS - Characteristics, Usage, Advantages & Disadvantages 	8 Hours (4 Sessions)

PROGRAMME STRUCTURE

MODULE	TOPICS	DURATION
	<ul style="list-style-type: none"> • Overview of important cloud platforms like AWS, Azure and Google Cloud. • Challenges of Cloud Computing <p>3. Cloud Computing</p> <ul style="list-style-type: none"> • Cloud Applications in Supply Chain, Medical, HR, B2B, B2C etc 	
<p>MODULE-IV ROBOTICS PROCESS AUTOMATION (RPA)</p>	<ol style="list-style-type: none"> 1. Understanding and Classical Definitions of BOTS (Software Robots) and Automation of Repetitive Business Processes <ul style="list-style-type: none"> • Definition and concept of RPA • Historical context and evolution of RPA. • Exploring the key components of RPA systems • Overview of RPA tools and platforms • Understanding the functioning of software robots • Discussion on how BOTS interact with applications. • Exploring the advantages of implementing RPA • Real-world examples of successful RPA deployments 2. Technology Background and Use Cases <ul style="list-style-type: none"> • Detailed explanation of the technologies behind RPA • Discussion on AI and Machine Learning integration • Exploring various industry-specific and cross-industry RPA applications • Case studies showcasing successful RPA use cases • Identifying common challenges in RPA implementations • Strategies to overcome RPA limitations 3. Business Applications in Banking, Healthcare, and Brick-and-Mortar Industry <ul style="list-style-type: none"> • Overview of RPA applications in banking and finance • Regulatory considerations and compliance in the banking sector. • Use cases of RPA in healthcare for administrative tasks and patient care • Data security and privacy concerns in healthcare RPA. • How RPA can be utilized in manufacturing and retail • Supply chain optimization through RPA 	<p>12 Hours (6 Sessions)</p>

PROGRAMME STRUCTURE

MODULE	TOPICS	DURATION
	<ol style="list-style-type: none"> 4. Techno-economic Investment and Building a Business Case <ul style="list-style-type: none"> • Steps to create a compelling business case for an RPA program • ROI analysis and cost-benefit considerations • Detailed discussion on the financial aspects of RPA projects • Budgeting, resource allocation, and funding strategies • Identifying and mitigating risks associated with RPA implementations • Compliance and security considerations 5. Organizational Preparedness and Roadmap for Implementation <ul style="list-style-type: none"> • Assessing an organization's readiness for RPA adoption • Skill development and talent acquisition • Creating a step-by-step plan for RPA deployment • Change management strategies and stakeholder engagement • Exploring emerging trends and advancements in RPA • Preparing for the future of automation 	
<p>MODULE-V AUGMENTED REALITY & VIRTUAL REALITY (AR & VR)</p>	<ol style="list-style-type: none"> 1. Overview of Cutting-edge Tools in Perceiving and Simulating an Experience <ul style="list-style-type: none"> • Introduction to AR/VR Domains • Sensory Perception in AR/VR • Spatial Understanding and Mapping • Future Trends and Innovations • Challenges and Ethical Considerations • Future Trends and Innovations 2. Underlying Technology Issues <ul style="list-style-type: none"> • Camera Tracking and Positioning Algorithms • Sensor Technologies in AR/VR • Spatial Mapping and Environment Recognition • Superimposing 3D Graphics/Objects • Hardware Components and Integration 	<p>10 Hours (5 Sessions)</p>

PROGRAMME STRUCTURE

MODULE	TOPICS	DURATION
	<ol style="list-style-type: none"> 3. Immersive Patterns <ul style="list-style-type: none"> • Degrees of Immersion • Spatial Interaction and Presence • Narrative and Storytelling in AR/VR • User Interface Design for Immersion • Psychological and Emotional Aspects of Immersion 4. Business Applications <ul style="list-style-type: none"> • AR/VR in Retail: Virtual try-on, virtual showrooms, and customer engagement • AR/VR in Oil and Gas: Training simulations, remote maintenance, and data visualization • AR/VR in Emergency Response Systems: Training, situational awareness, and disaster planning • AR/VR in Gaming: Game mechanics, storytelling, and esports • Case studies of successful AR/VR implementations in each sector 5. Techno-economic Investment Issues (including Scale of Investment), Organizational Preparedness and Roadmap for Implementation. <ul style="list-style-type: none"> • Cost factors in AR/VR development and deployment • ROI analysis for AR/VR projects • Scalability challenges and solutions • Organizational preparedness for AR/VR adoption • Organizational preparedness for AR/VR adoption 	
<p>MODULE-VI BLOCKCHAIN</p>	<ol style="list-style-type: none"> 1. Introduction and History <ul style="list-style-type: none"> • Overview of Blockchain Technology • Historical Context and Evolution of Blockchain • Key Concepts: Decentralization, Transparency, Immutability • Early Attempts and Failures in Digital Currency • Underlying Technology: Cryptography and Consensus Mechanisms • How Blockchain Disrupts Traditional Systems 	<p>10 Hours (5 Sessions)</p>

PROGRAMME STRUCTURE

MODULE	TOPICS	DURATION
	<p>2. Technology Background, Regulatory Challenges and Organizational Preparedness</p> <ul style="list-style-type: none"> • Smart Contracts: Automating Transactions • Public vs. Private Blockchains • Regulatory Challenges and Legal Implications • Organizational preparedness • Building Organizational Preparedness for Blockchain Adoption • Developing a General Roadmap for Implementing Blockchain <p>3. Blockchain Applications in Industry: Retail, Supply Chain, and Transportation</p> <ul style="list-style-type: none"> • Supply Chain Challenges and Solutions • Transparency and Traceability in the Supply Chain • Counterfeit Prevention and Product Authentication <p>4. Blockchain Applications in Industry: Retail, Supply Chain, and Transportation</p> <ul style="list-style-type: none"> • Smart Contracts in Shipping and Logistics • Case Studies: Retailers Adopting Blockchain <p>5. Blockchain Applications in Industry: Healthcare</p> <ul style="list-style-type: none"> • Healthcare Data Management Challenges • Electronic Health Records (EHRs) on the Blockchain • Supply Chain Tracking in Pharmaceuticals • Patient Consent and Privacy 	

PROGRAMME FEES

CATEGORY	MEMBER (per participant)	NON – MEMBER (per participant)
Individual	INR 70000	INR 75000
Group of 3 - 6 Participants (10% Discount)	INR 63000	INR 67500
Group of 6 + Participants (15% Discount)	INR 59500	INR 63750

- Payable by Cheque or online bank transfer in favour of CII-Suresh Neotia Centre of Excellence for Leadership
- The fee includes the cost of soft copy of reading materials and faculty presentations

PROGRAM DIRECTOR

This course has been designed by an expert team of academics led by Prof Ranjan Das. Prof Das has been associated with several academic Institutions of repute: IIM Calcutta [Full time: 1994-2014; Visiting: 2014 onwards], The Strategy Academy [2008 onwards], IIM Jammu [2020-23], XIM, Bhubaneswar [Visiting:2020-23], IIM Ranchi [Visiting: 2014-15], IIM Trichy [Visiting: 2015-17], UPH University, Jakarta [Visiting 2015-17] Indian School of Business, Hyderabad [Visiting: 2008-09], Hong Kong University of Science and Technology, Hong Kong [Visiting: 2005-06]. He served as an independent director of several companies in India and currently advises many companies in India and overseas in the areas of Strategy, Entrepreneurship and Leadership

PROGRAM MENTOR

Prof Subhashis Ghosh, BE, MBA [IIM Calcutta], has 34 years of industry experience [including 4 years in Germany and 16 years in Gulf countries]. Prof Ghosh specializes in Artificial Intelligence and Machine Learning, Robotics Process Automation, and AR/ VR.

FACULTY

Faculty from reputed B-Schools and Practioners representing leading Domestic and Multinational Corporations

PROGRAMME PARTNER



The Strategy Academy Centre For Advanced Studies (TSACAS) was set up 16 years ago to act as a catalyst for transforming individuals and organizations to exploit their full potential and assisting them to achieve

SUCCESS. The Academy was conceived as a part of an Action Research done by

Prof Ranjan Das, Professor of Strategic Management at IIM Calcutta. Prof Das is the current Chairman and Chief Mentor of the Academy. TSACAS is India's FIRST Academy that delivers on One-2-One basis faculty-led LIVE classes over a 2-Way Interactive Video Conferencing Platform to ANYWHERE in India and the World.

EVALUATION AND GRADING

Multi-element Evaluation and Grading based on several parameters viz. [a] Attendance, [b] Number and quality of questions asked/ engagement during faculty conducted 100% LIVE Digital sessions, [c] online quiz and/ or miscellaneous online submissions and [d] performance at the examination to be conducted online at the end of the program.

CERTIFICATION

To be issued by CII-SNCEL and The Strategy Academy Centre for Advanced Studies

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Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9,000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 286 national and regional sectoral industry bodies.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

As India strategizes for the next 25 years to India@100, Indian industry must scale the competitiveness ladder to drive growth. It must also internalize the tenets of sustainability and climate action and accelerate its globalisation journey for leadership in a changing world. The role played by Indian industry will be central to the country's progress and success as a nation. CII, with the Theme for 2023-24 as 'Towards a Competitive and Sustainable India@100: Growth, Inclusiveness, Globalisation, Building Trust' has prioritized 6 action themes that will catalyze the journey of the country towards the vision of India@100.

With 65 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 350 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.

CII-Suresh Neotia Centre of Excellence for Leadership
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