



Industry 4.0 & Digital Pathways in Management Education



Dr. Emandi Sankara Rao

Chairman, Vizag Profiles Pvt Ltd

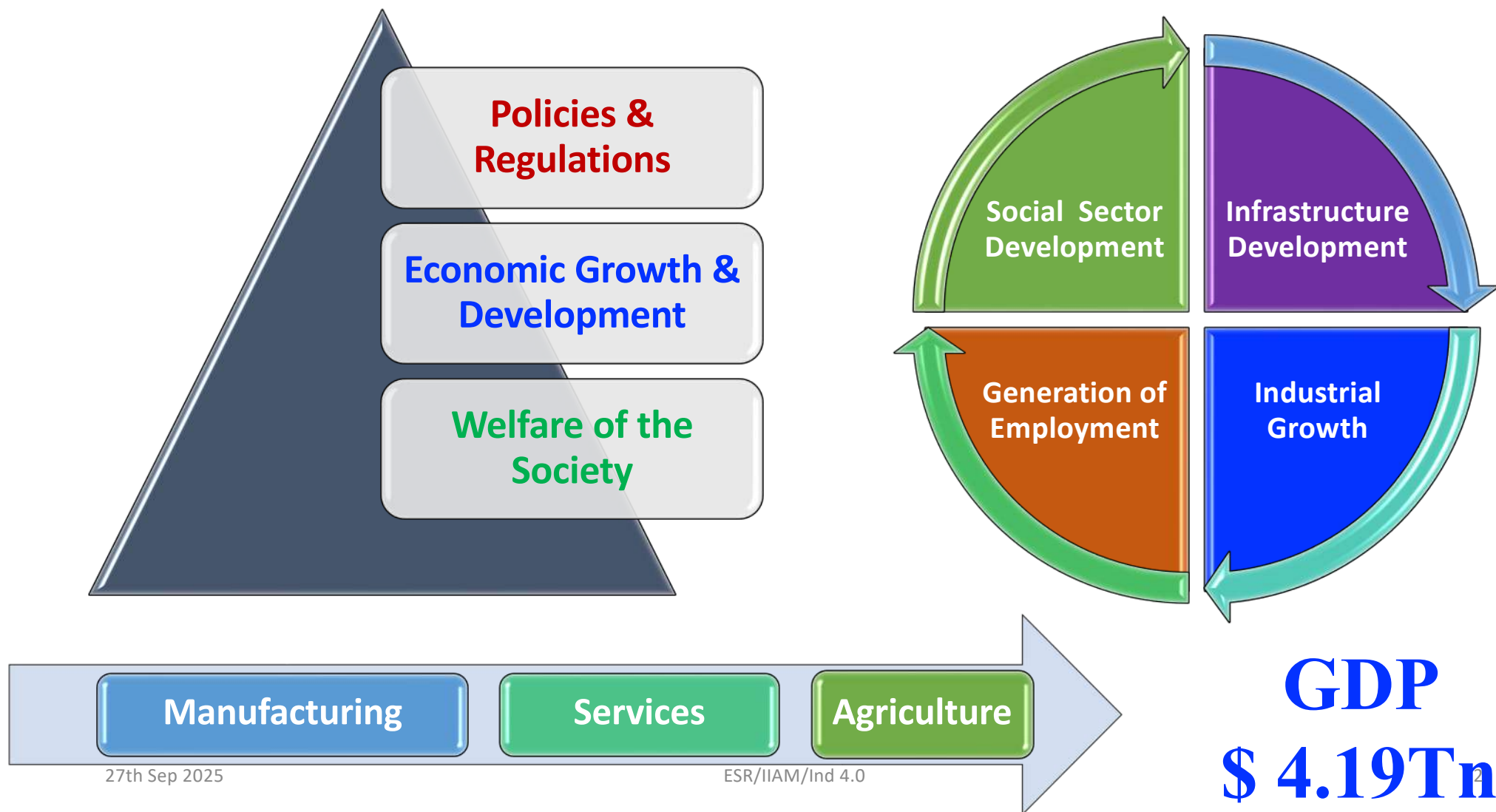
Former Chairman & MD IFCI Group, Min. of Finance, Govt of India, New Delhi

Former Chairman Board of Governors - MDI Gurgaon & MDI Mushidabad and ILD (Skill Development Institute) Jaipur

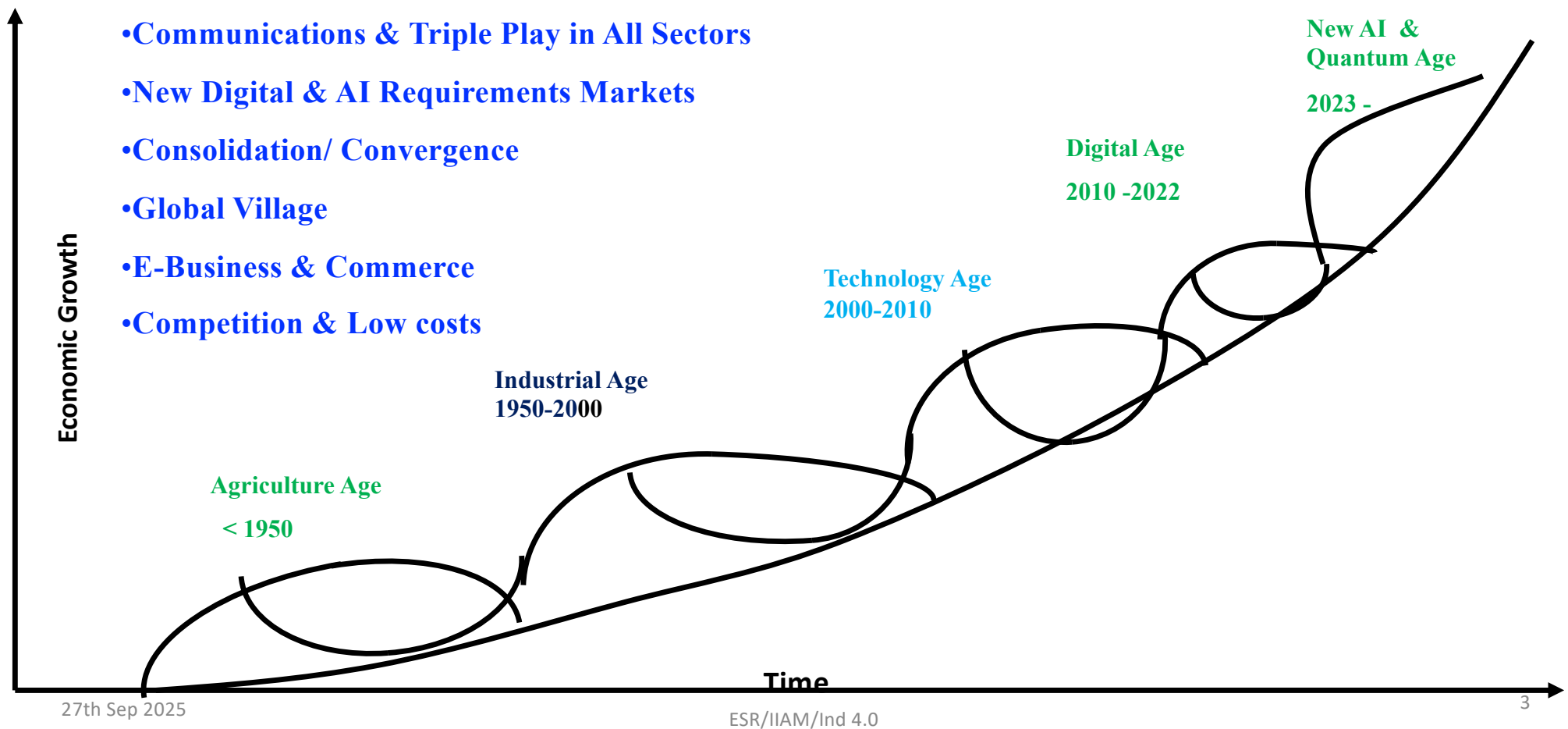
Director : Delhi International Airport Ltd, GMR Group Airports & Power Ltd, Visakha Pharma City Ltd, Coastal Corp Ltd, Patel Engg Ltd

27th
Sep
2025
ESR/IIAM/Ind 4.0

BHARAT – THE LEADING & EMERGING ECONOMY



INDIAN INDUSTRY & INFRASTRUCTURE MARCHING TOWARDS DIGITAL TRANSFORMATION AGE AND NEW AI ECONOMY & GREEN SUSTAINABILITY



LEADERS ON DIGITAL INDIA



Shri Narendra Modi
Hon'ble Prime Minister of India

“Digital India is an enterprise for India’s transformation on a scale that is perhaps unmatched in human history.”



Sundar Pichai
CEO, Google

*“We’ve learned that that when we solve for a place like India, we solve for everyone around the world.
#Digital Unlocked”*



Satya Nadella
CEO, Microsoft

“Everything that’s happening in marketing is digitised. Everything that’s happening in finance is digitised. So Pretty much every function in every industry, has a huge element that’s driven by information technology. Its no longer discreet.”



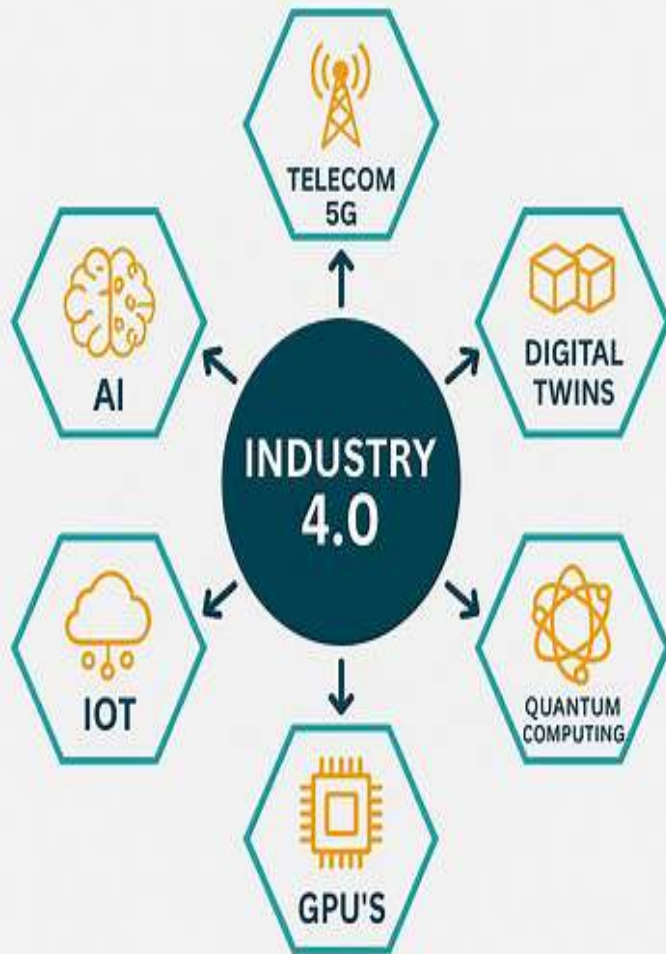
Nandan Nilekani
*Co-founder of Infosys &
First Chairman of UIDAI*

“The new trifecta of a bank account, digital identity and smartphone for everyone will drive economic change.”

NAYA BHARAT OUTLOOK - THE VISION OF \$ 5 TRILLION ECONOMY (Around \$ 1.5 Trillion is going to come from Technology)



Industry 4.0 Eco-system



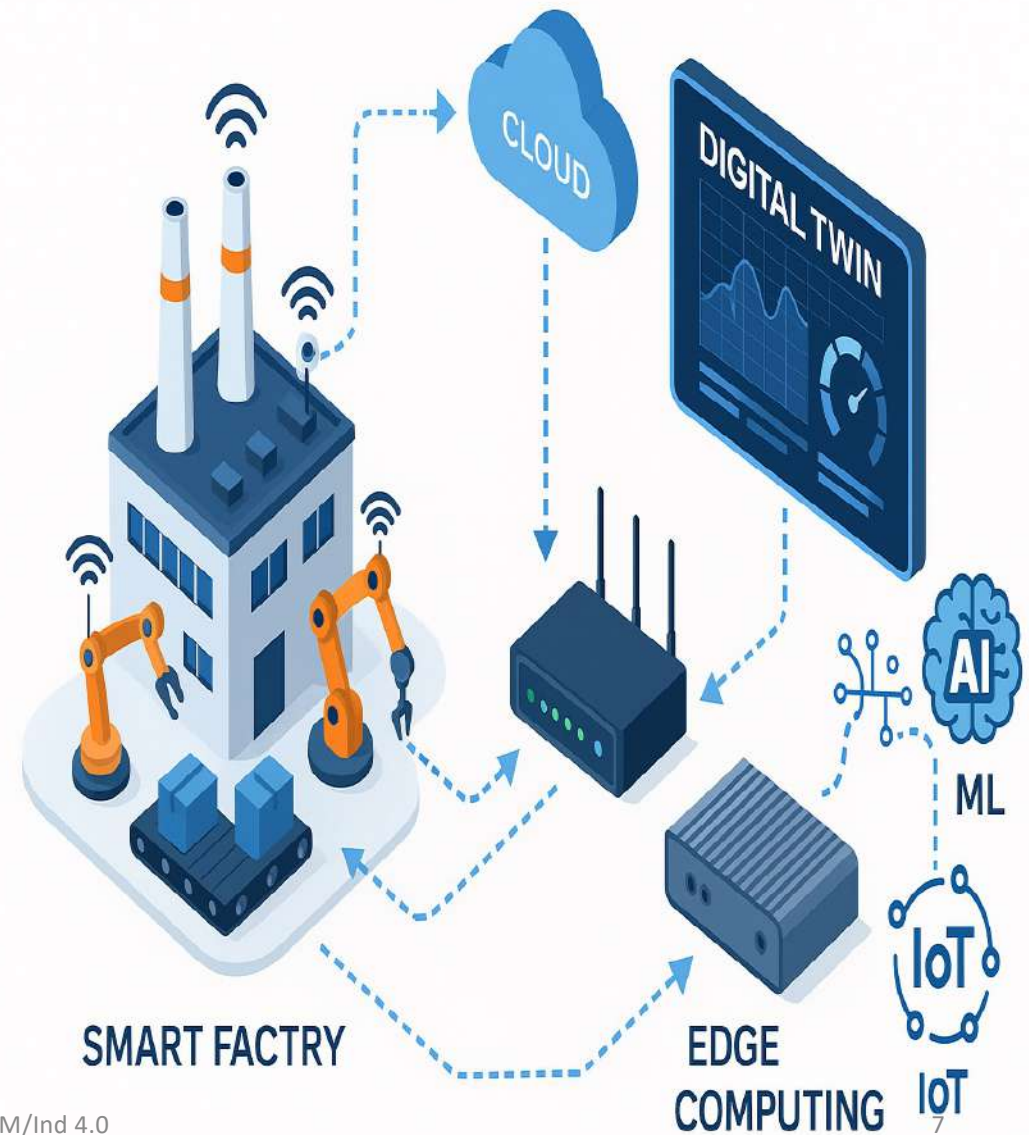
- Industry 4.0 = Fourth Industrial Revolution
- Fusion of physical, digital, and biological systems
- **Management education must adapt to equip professionals with digital-first skills**
- Focus: AI, 5G, IoT, Digital Twins, Quantum Computing, GPUs

INDUSTRY 4.0 AND DIGITAL PATHWAYS IN MANAGEMENT EDUCATION



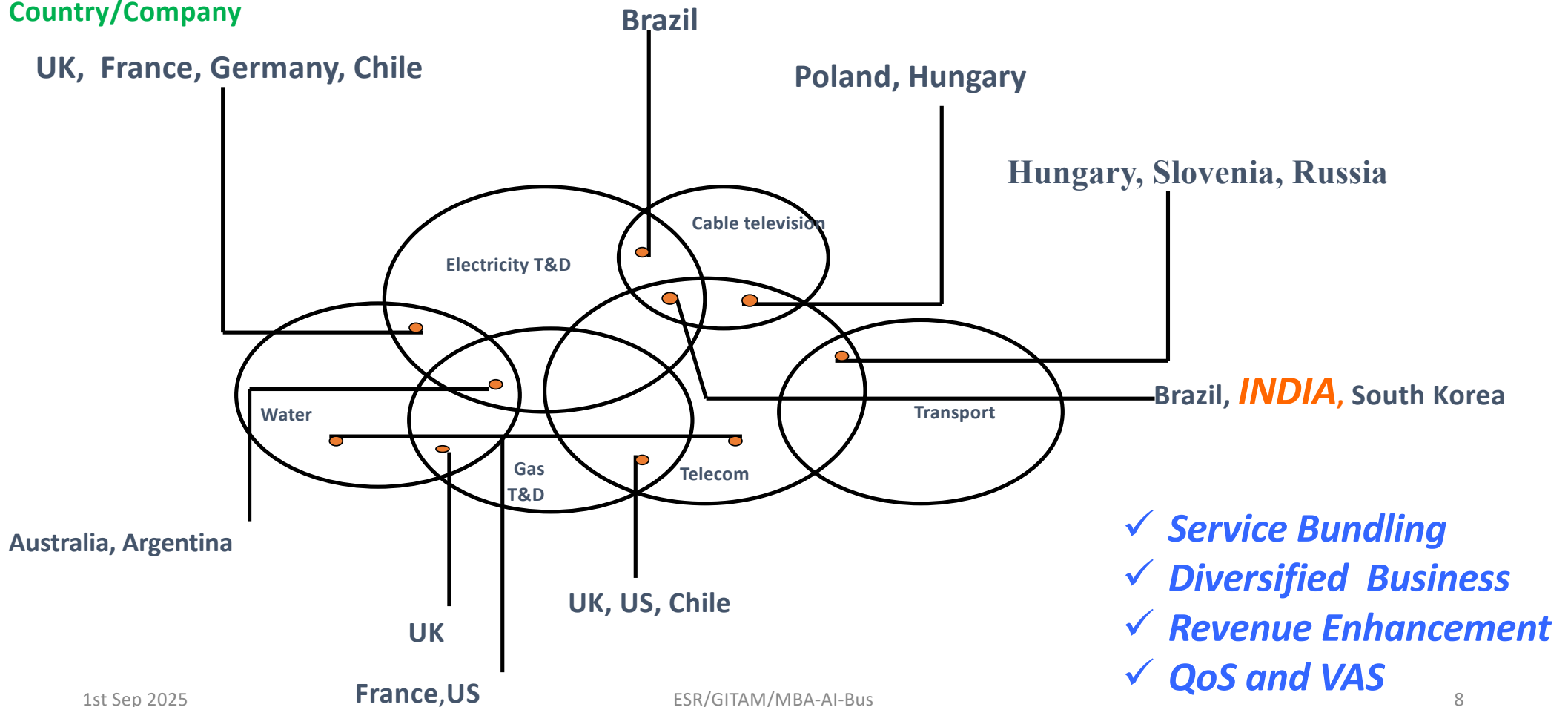
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DIGITAL LEADING TO HOMOGENEOUS & HETEROGENEOUS BUSINESS CONVERGENCE

Country/Company



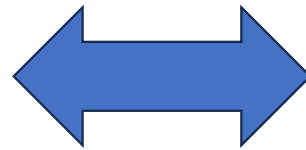
Industry 4.0 And Digital Pathways in Management

➤ Smart factories & connected enterprises

➤ Data-driven decision-making

➤ Human-machine collaboration

➤ New business models



❖ Curriculum integration of Emerging Technologies

❖ Experiential Learning through Simulations & Digital Labs

❖ Cross-disciplinary approach (Tech + Strategy + Leadership)

❖ Lifelong learning & Executive Education

Management Education with Evolving Technologies

Artificial Intelligence (AI)

- Predictive analytics for decision-making
- AI-driven customer insights & personalization
- Automation of routine business processes
- Ethical AI & governance in management education

Digital Twins

- Virtual replicas of physical systems
- Scenario planning & risk management
- Applications in manufacturing, healthcare, and urban planning
- Management education: training with digital twin simulations

Quantum Computing

- Next-gen computing power for optimization & simulations
- Potential in finance (portfolio optimization), logistics, and pharma
- Still emerging but critical for future leaders to understand
- Business schools: introducing quantum literacy modules

Above Technologies Ride on the IoT, 5G and GPU's

Industry Sectors Applications

Sector	Use Case	Technology
Manufacturing	Smart factories, predictive maintenance	IoT, Digital Twins
Healthcare	Personalized medicine, hospital twins	AI, Quantum
Finance	Fraud detection, portfolio optimization	AI, Quantum
Retail	Customer analytics, AR/VR shopping	AI, 5G
Education	Virtual classrooms, adaptive learning	5G, AI

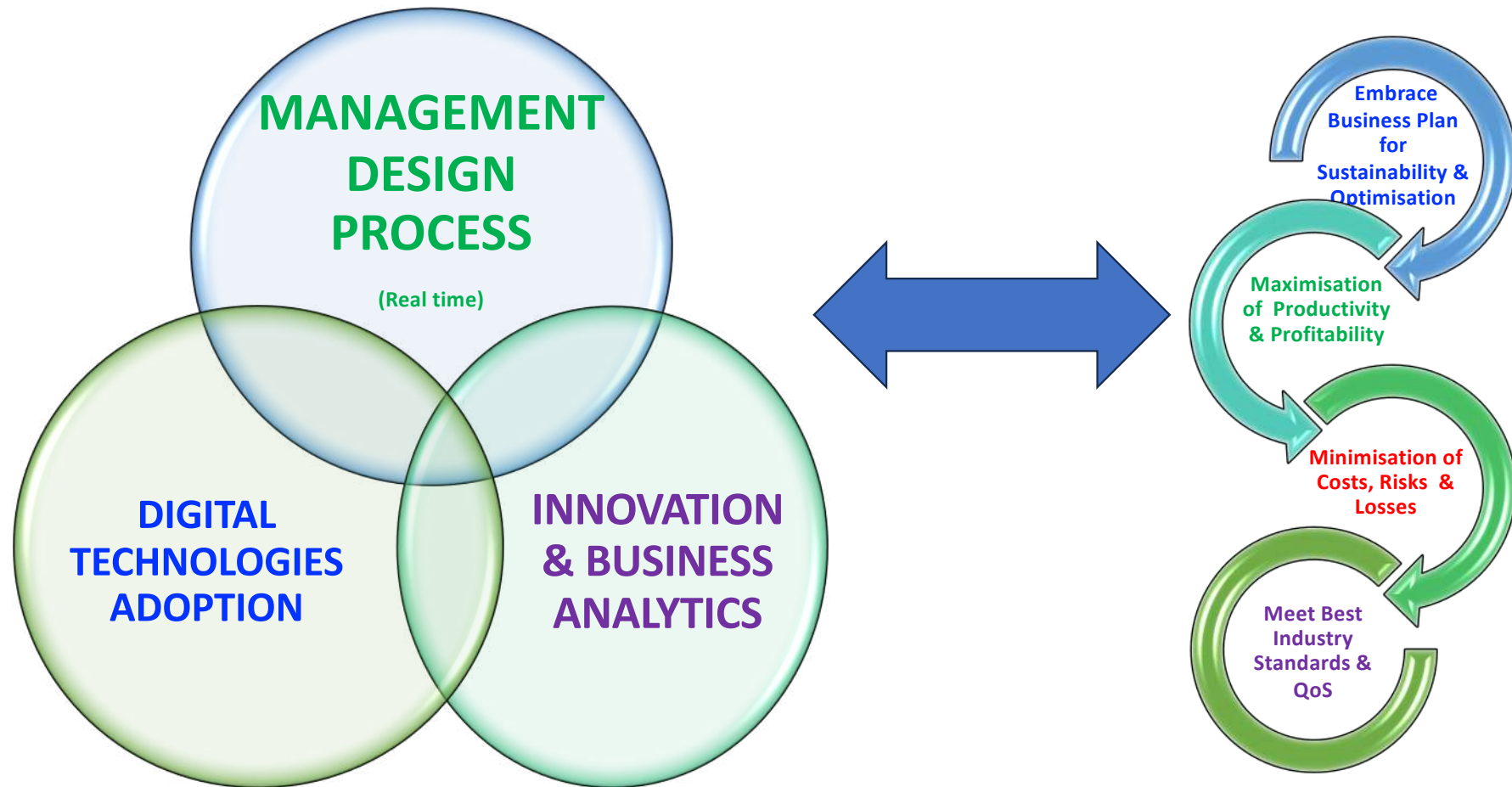
Challenges & Considerations

- ❖ **Data Privacy & Cybersecurity** (now Quantum Cybersecurity, HSBC Qauntum Bond Yield Algo)
- ❖ **Ethical implications of AI & Automation**
- ❖ **Talent gap in Digital Skills**
- ❖ **Need for continuous upskilling**

The Future of Management Education

- **Hybrid learning models with immersive digital technologies**
- **Partnerships with tech corporates for real-time & real-world exposure**
- **Focus on Digital Leadership, Critical Thinking and Change Management**
- **Preparing managers for “Techno-Strategic Decision Making”**

DIGITAL PATHWAYS ECO-SYSTEM FOR MANAGEMENT EDUCATION & BUSINESSES



Conclusion & Way Forward

- **Industry 4.0 Re-shaping business models & landscapes**
- **Management education must evolve to stay relevant**
- **Digital Pathways = Bridge between Technology & Leadership**
- **Call to action: Equip today's Managers for tomorrow's Digital Economy**



Thank You

**For Your Kind Listening & Interaction
Best Wishes**

Dr. Emandi Sankara Rao
Chairman Vizag Profiles Pvt Ltd

WWW.SANKARARAO.COM

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