



Developing Digital and Data Skills Training for Managers

NHI

Ran Kim

The Rise of AI Technology

1

Definition

AI technology enables computers to perform tasks typically requiring human intelligence.

2

Capabilities

AI can now handle complex goals and make intelligent decisions previously reserved for humans.

3

Impact

AI is transforming various industries, necessitating new skills for managers.



- World's first urban-style metaverse
- **'ALL IN ONE' integrated platform**
- Functions: administration, taxation, education, civil services, cultural tourism
- Services: filing complaints, tax consultations, participating in contests
- Experiences: Seoul landmarks, metaverse world



Seoul city invested a budget of **6 billion won (approximately 4.5 million USD)**, however the service is scheduled to **terminate** on October 16

Why did it failed?

- Minimal consultations: 2 per day
- Low user engagement: 425 daily users
- Poor app installation: ~20,000 in 150 days
- Inefficient complaint resolution: 2.39 cases/day
- Underperforming compared to traditional services

Objects



How should the rapid advancement of digital technologies be understood?



What does it mean to enhance **digital literacy competencies** among managers?



How should **educational objectives** be established?

The Rise Of Digital Twin Technology



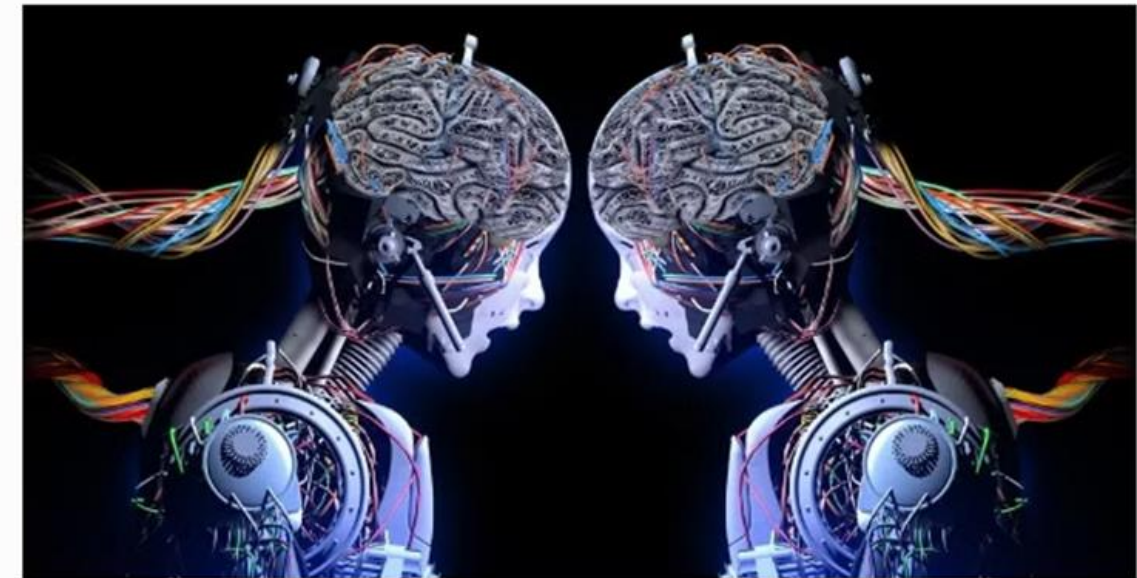
Kiran Palla Forbes Councils Member
Forbes Technology Council COUNCIL POST | Membership (Fee-Based)



Aug 3, 2022, 10:00am EDT



Senior advisor to the ACIO and executive leadership at the IRS.



GETTY

The ongoing global digital transformation is fueling innovation in all industries. One such innovation is called digital twin technology, which was originally invented 40 years ago. When the Apollo mission was developed, scientists at NASA created a digital twin of the mission Apollo and conducted experiments on the clone before the mission



Why Digital Twin?

Strategic Importance

Digital twin technology has been consistently recognized as a top strategic technology by groups like Gartner.

Real-World Application

Virtual Singapore exemplifies how digital twins can be used for urban planning and simulations.

Integration

Digital twins combine AI, virtual reality, and augmented reality technologies.



Digital Twin Models



Interrogation Models

Digital twins used for analyzing current states and diagnosing issues.



Prediction Models

Advanced digital twins capable of forecasting future scenarios and outcomes.

Public Sector Digital Twin Applications



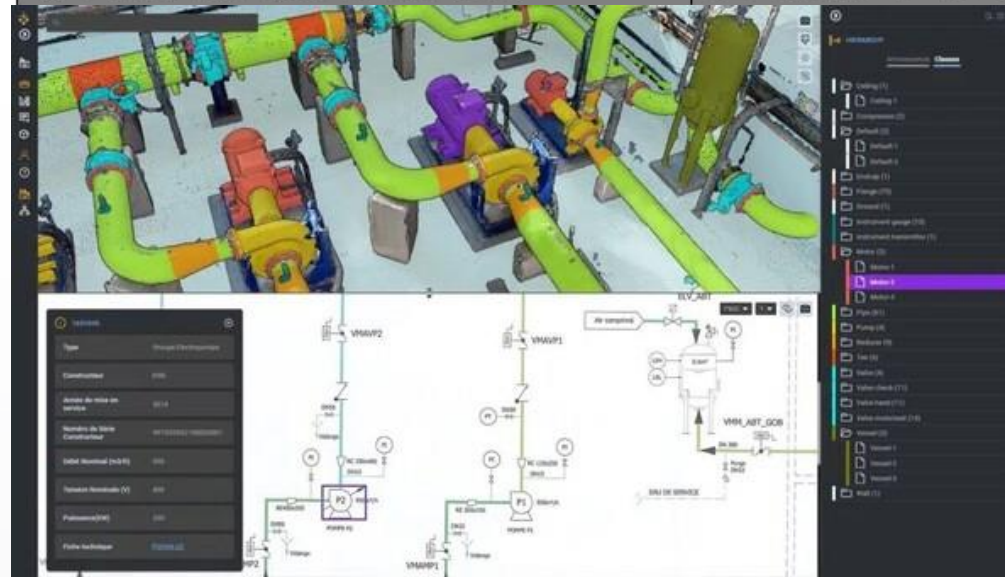
Urban Planning

Simulating city developments and testing urban solutions virtually.



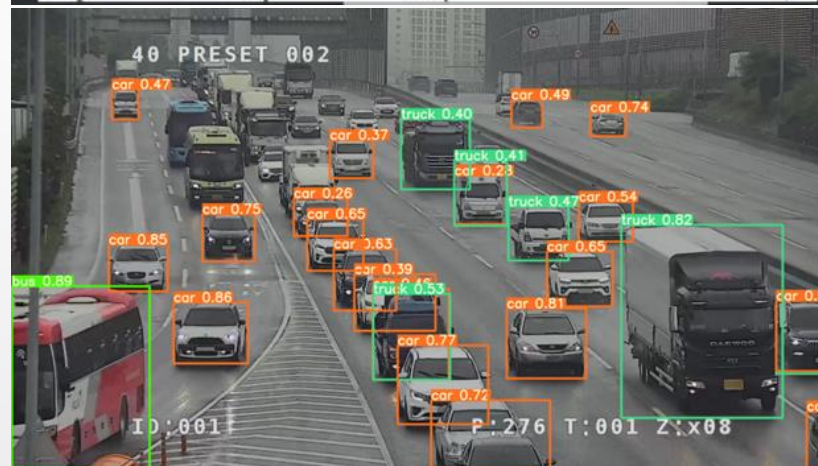
Underground Facility Management

Real-time monitoring of subterranean infrastructure using virtual replicas.



Traffic Management

Optimizing traffic flow through digital simulations of transportation networks.



Required Digital Skills for Managers



Basic Level

Understanding digital twin concepts and their potential applications in management.



Intermediate Level

Ability to analyze expected outcomes of AI models and perform basic programming tasks.



Advanced Level

Capability to develop and implement digital twin applications for policy or business purposes.

More about grasping the principles and potential of these technologies, in other words, digital literacy.

Importance of Digital Literacy for Managers

1 Decision Making

Digital literacy enhances rationality and accountability in policy and business decisions.

2 Technology Integration

Managers need to understand AI and digital twin technologies to effectively implement them.

3 Balanced Perspective

Digital literacy helps managers avoid over-reliance on tech experts in decision-making.

Key Elements of Digital Twin Technology

1

Physical Reality

The actual object or system being replicated digitally.

2

Virtual Reality

A digital representation of the physical object or system.

3

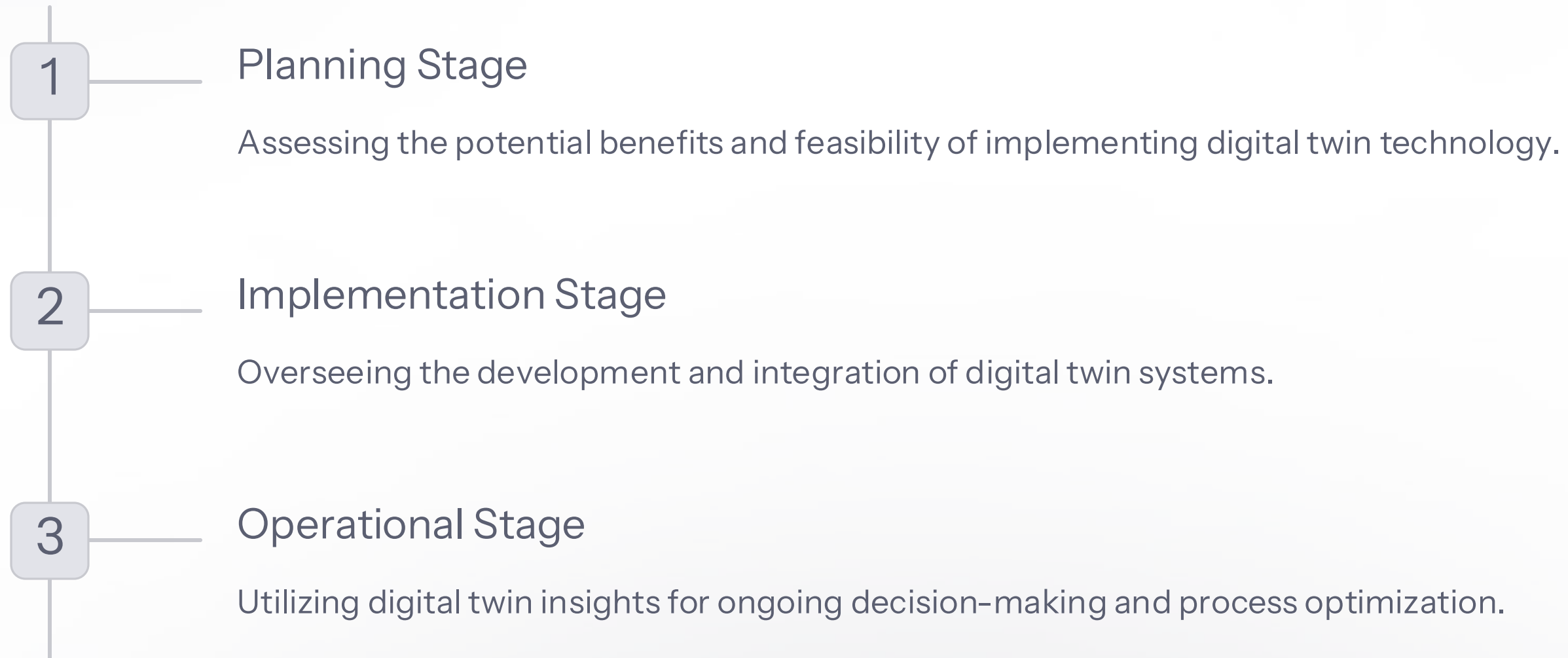
Data Interconnection

Real-time data exchange between physical and virtual entities.

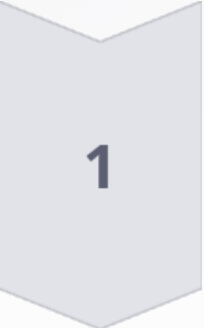
The three elements of a digital twin



Decision-Making with Digital Twins

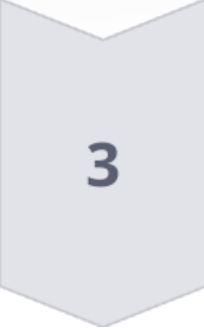


Program Development Scope



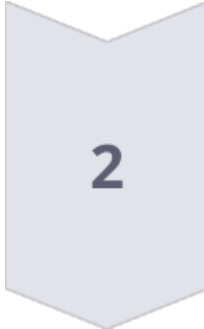
Theoretical Content

Develop educational materials on digital technology concepts and applications.



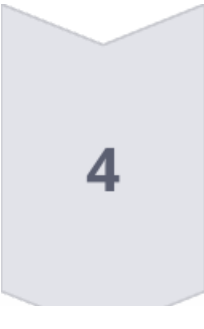
Scenario Analysis

Design content for interpreting and predicting outcomes in digital simulations.



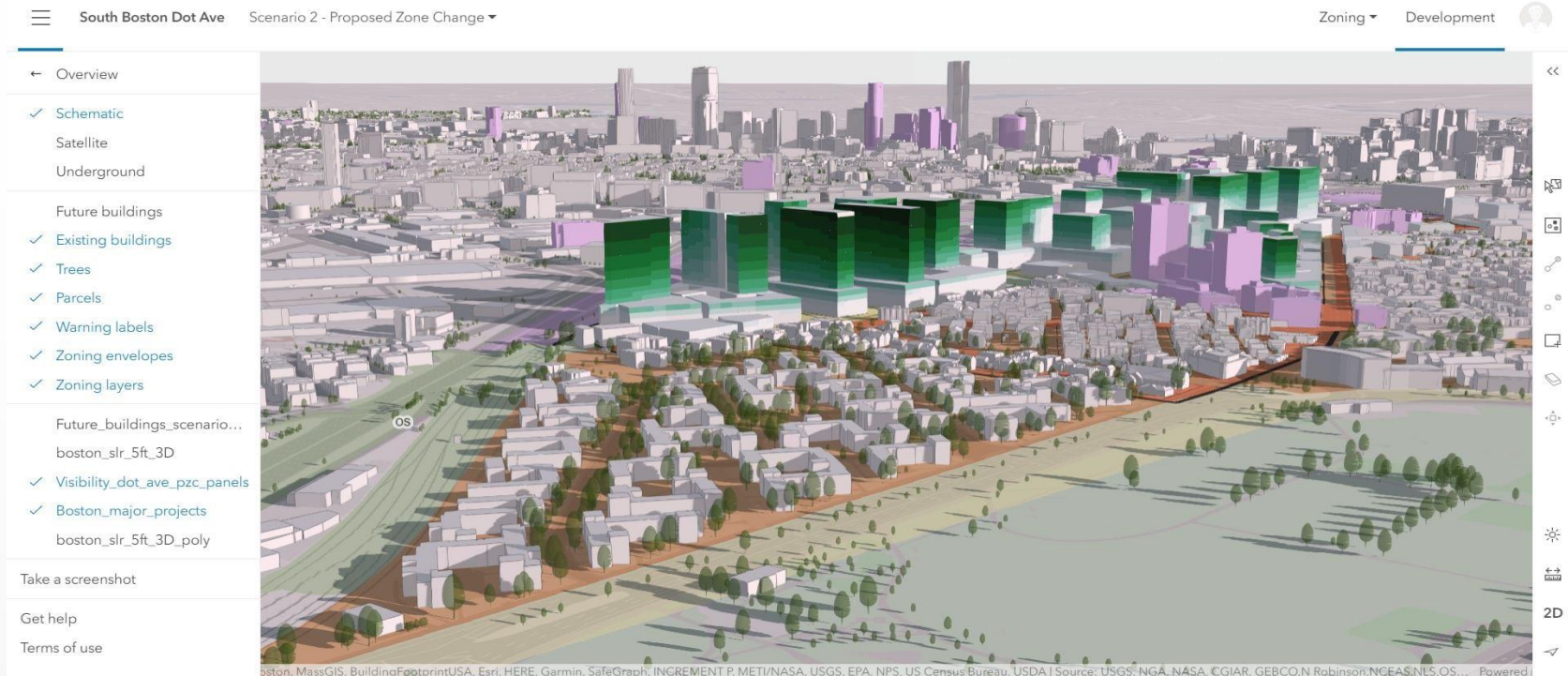
Practical Simulations

Create hands-on simulation exercises to apply digital skills.



Problem-Solving Guide

Develop a comprehensive guide for data-driven problem-solving processes.



<https://parametric-architecture.com/the-relevance-of-digital-twins-for-building-future-cities/>

1

Theoretical Education Content

Digital Twin Concepts

Comprehensive definitions and explanations of digital twin technology principles.

AI Fundamentals

Introduction to AI concepts, focusing on causality vs. correlation in modern tech.

Data Analysis

Overview of data analysis techniques relevant to managerial decision-making.

2 Practical Education Content

Hands-on Simulations

Interactive exercises using real-world digital twin platforms like V-world.

Case Studies

Analysis of successful digital twin implementations in various sectors.

Project-Based Learning

Guided projects where managers create simple digital twin models.



Simulation Scenario Development

1

Scenario Creation

Techniques for developing realistic and relevant simulation scenarios.

2

Avoiding Bias

Strategies to prevent personal biases from influencing scenario outcomes.

3

Balancing Automation

Finding the right mix of automated and manual scenario generation.

4

Data-Driven Problem-Solving Guide

1

Problem Identification

Techniques for accurately defining issues using data insights.

2

Data Collection

Methods for gathering relevant and high-quality data.

3

Analysis

Tools and techniques for interpreting complex datasets.

4

Solution Implementation

Strategies for applying data-driven insights to real-world problems.

Expected Outcomes



Enhanced Digital Literacy

Managers develop a deeper understanding of AI and digital twin technologies.



Improved Decision Making

More effective and data-driven choices in policy and project management.



Increased Innovation

Greater ability to identify and implement innovative digital solutions.



Organizational Performance

Overall improvement in organizational efficiency and effectiveness.

Challenges and Considerations

1 Technological Barriers

Addressing varying levels of tech proficiency among managers.

2 Rapid Tech Evolution

Keeping the program updated with fast-changing digital landscapes.

3 Ethical Considerations

Navigating privacy and ethical issues in digital twin and AI applications.



Thank you