

THE CONTINUING PROFESSIONAL DEVELOPMENT CPD-003/2024

DIGITAL TWIN TECHNOLOGY IN THE CONSTRUCTION SECTOR

The Institution of Engineers Sri Lanka Qatar Chapter (IESL-QC) is pleased to announce the successful conclusion of its third Continuing Professional Development (CPD-03-2024) session of 2024, titled "Digital Twin Technology for the Construction Sector". The event, held on August 30th, attracted a wide audience of engineers and industry professionals eager to gain insights and the transformative potential of Digital Twin technology in construction.

The session commenced at 16:00 hrs (Qatar Time) with a warm welcome address by the new Chairman of the IESL Qatar Chapter, CEng. Chandimal Jayakody, who highlighted the importance of Digital Twin Technology in the contemporary world.

Following the welcome address, the resource person of the session, the esteemed CEng. Prasanna Narangoda, a prominent MEP Consultant and Visiting Lecturer with a wealth of experience in Building Services Engineering. CEng. Narangoda's presentation offered participants an in-depth look into Digital Twin technology, covering essential aspects that are reshaping the construction landscape. His presentation included the following key topics:

- ✓ **Understanding Digital Twin Technology and Its Impact on the Construction Industry**
- ✓ **How Digital Twins Work and Key Components Involved**
- ✓ **Real-World Use Cases of Digital Twins in Construction Projects**
- ✓ **Merging Data from Various Sources to Create Accurate Digital Replicas**
- ✓ **Enhancing Project Planning, Monitoring, and Control with Digital Twins**
- ✓ **Q&A Session**

An interactive Q&A session followed the presentation, allowing attendees to engage directly with CEng. Narangoda. The lively exchange of questions and answers further deepened the participants' understanding of Digital Twin technology and its potential to transform the construction sector.

The session concluded with a warm vote of thanks from Eng. Vellaiyapillai Manoj, Secretary of the IESL Qatar Chapter, extending the sincere gratitude to CEng. Prasanna Narangoda for his insightful and engaging presentation, and to the CPD organizing team for their exceptional effort in making this event a success, and also thank all the participants whose enthusiasm and active involvement contributed significantly to the success of the session.

At the end, the participants were asked to fill out the attendance registration form, ensuring their active involvement and certification. The session received positive feedback.

As part of our ongoing commitment to professional development, the IESL Qatar Chapter will continue to offer CPD sessions that address innovative and cutting-edge topics relevant to the engineering community. We look forward to your continued participation in our future events.

The recorded session has uploaded in the chapter Facebook Page. Follow the attached link for the recording; [IESLQC-CPD-03-2024-Recording](#)

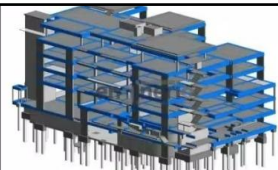

Please note that due to unforeseen technical issues, the first five minutes of the session's video recording were not captured. We apologize for any inconvenience caused.

Event Photographs



Advantageous of Digital Twin in Building Design Phase

- Enhanced Data Transparency and Availability
- Real-time Monitoring and Analysis
- Improved Collaboration
- Ability to Test What-If Scenarios
- Enabled Preventive Measures
- Increased Accuracy
- Reduce Repetitive Works

Challenges & Limitations of Implementing Digital Twin

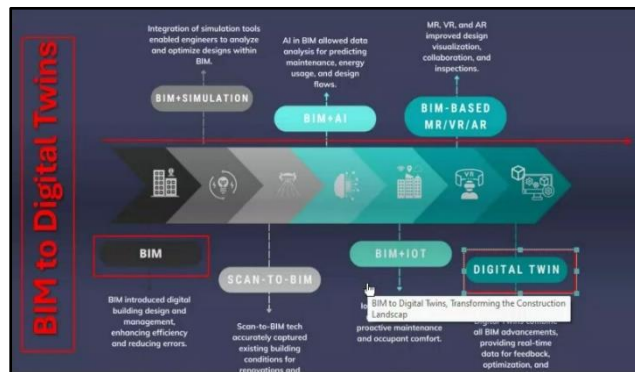
- Data management** - Data analytics, data accessibility, data capturing, data ownership, data security, etc.
- Cost uncertainties** - Without previous experience with digital transformation projects in the industry and relevant tech knowledge, people might struggle to comprehend the full cost of the initiative and understand the value that a digital twin solution
- Lack of standardization** - Difficult to standardize the use of Digital Twin Technology for construction projects

How to generate accurate Digital Twins, software engineers, and construction professionals leverage the following advanced technologies:

- BIM**: Generating a 3D model
- IoT**: Sensors and IoT devices systematically gather real-world data from the physical objects and environments, providing the basis for the digital representation.
- AI and ML**: These technologies involve the processing and analysis of the collected data to derive meaningful insights, facilitating informed decision-making.
- XR**: With extended reality technologies (AR/VR/MR), engineers create virtual replicas of physical entities, allowing for simulations to enhance project planning.
- Cloud**: The digital twin relies on cloud computing for secure data storage. Cloud services enable the seamless access and management of


Digital Twins – Benefits explained...

Shop Drawings & As-built Drawings

Digital Twins – Benefits explained

Architectural Model AEC



- Space planning & best utilization
- Material planning & scheduling
- Fast decision making and stakeholder satisfaction
- Visualization

Digital Twins – Benefits explained...

Digital model for Efficient Facilities Management



Session flyer



THE INSTITUTION OF ENGINEERS,
SRI LANKA
QATAR CHAPTER.

CPD 003 - 2024



DIGITAL TWIN TECHNOLOGY FOR
CONSTRUCTION SECTOR

What Will Cover:

- ✓ Understanding Digital Twin technology and its impact on the construction industry.
- ✓ How Digital Twins work and the key components involved.
- ✓ Real-world use cases of Digital Twin in construction projects.
- ✓ Merging data from various sources to create an accurate digital replica.
- ✓ Enhancing project planning, monitoring, and control with Digital Twins.
- ✓ Your questions answered!

CONDUCTED BY:
CENG. PRASANNA NARANGODA



Why Attend?

- Learn the basics and how it's revolutionizing construction
- Discover how to integrate Digital Twins into your construction projects.
- See how Digital Twins can enhance decision-making and reduce project risks.



Friday, August 30, 2024
Qatar time - 4:00 PM to 5:30 PM
SL time - 6:30 PM to 8:00 PM

CEng. Prasanna Narangoda is MEP Consultant & Visiting Lecturer, who holds an MSc in Building Services Engineering (2013) and a BSc (Eng) Hons in Electrical Engineering (2004), both from the University of Moratuwa. A Chartered Member of the Institute of Engineers, Sri Lanka (MIESL) and the Engineering Council of Sri Lanka (ECSL), he is also an Associated Professional of the Green Building Council of Sri Lanka (APGBCSL). He is a member of the Lanka Association of Building Services Engineers (MLABSE), ASHRAE, and the Building Services Engineering Sectional Committee at IESL.

Register Now
Certificate of participation provided.

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