



# Transforming Urban Utilities with IoT, AI, and Digital Twins



startupindia




TRAINING | CONSULTING | IMPLEMENTATION



# AGENDA


- ✓ About GKC Consultants
- ✓ Urban Utility Challenges & Digital Imperative
- ✓ Role of IoT, AI & Digital Twins
- ✓ Introduction to 4D & 5D BIM
- ✓ Usage of 4D/5D BIM in Utilities
- ✓ Benefits & Value Realization
- ✓ Future Outlook for Smart Utilities
- ✓ Q&A



GKC Consultants, India is a professionally managed firm made up of young and dynamic technical and business consultants with deep experience in providing enterprise-wide custom solutions for Construction Engineering Design & Project Management, World-Class Training & Enablement, Technical Consulting & Implementation services to our clients in Real Estate, Civil Infrastructure, Power, Oil & Gas and Utilities.

We offer complete enterprise solutions & services using multiple software technologies, including Integration of project management processes with other business processes like ERP, CRM & BI wherever required.

**GKC Consultants is an ISO 9001:2015  
Certified Quality Management System  
Company**



# ABOUT GKC

CONSULTANTS

13+  
Years of Experience

20+  
Countries

250+  
Clients

75000+  
Professionals Trained

# BUSINESS FOCUS

To be an end-to-end Project Management & Building Information Modelling (BIM) (2D to 6D) Service provider.

Understand Client requirement & design customer specific solution. GKC Consultants is a dynamic & vibrant organization run by best-in-class professionals from various domains. We engage with our customers as their trusted partners & provide services on various PM/BIM solutions.



UNDERSTAND CLIENT  
REQUIREMENTS & DESIGN



CUSTOMER-SPECIFIC  
SOLUTION



IMPLEMENTATION  
SERVICES



TRAINING &  
HANDHOLDING



CREATING CENTRE OF  
EXCELLENCE



STAFF AUGMENTATION  
(RESOURCE ON DEMAND)

# Dr. GAURAV KUMAR CHAWLA



## FOUNDER AND CEO

More than 23 years of experience in Digital Transformation Consulting and Project Management Enablement across diverse verticals including Industrial Construction, Real Estate, IT, Oil & Gas, Heavy Civil Infrastructure, Utilities and Public Sector.

Expert Facilitator & Implementation Consultant – Project Management, PMIS, CDE, 4D/5D/6D BIM, Oracle® Primavera P6, Microsoft® Project, Bentley® ProjectWise, Bentley® Synchro4D, Autodesk® and Ai for Construction,

### AWARDS & ACHIEVEMENTS

- 🏆 Adjunct Professor – Building Information Modelling with RICS (Amity University)
- 🏆 Lead Mentor – Building Information Modelling (2d to 6D BIM) with NovaTr
- 🏆 Digital Transformation Excellence Award 2024 – Project Management & BIM at Indo Global Business Excellence Summit
- 🏆 Guest Speaker for Project Management with Primavera & 4D BIM with Synchro4D at IIT, Delhi
- 🏆 Distinguished Speaker for Leveraging Integrated Reality Capture and Earth Observation Technologies at AEC FORUM
- 🏆 Distinguished Speaker – Digitalization of Construction Projects at BIM Coordinators Summit: Dublin
- 🏆 Distinguished Speaker – Leveraging BIM for Airport Infrastructure Project Planning & Execution with GEO SMART Infrastructure
- 🏆 Emerging Digital Transformation Consultant of the Year 2023 Award
- 🏆 Excellent & Dedicated Professional Achievement Award (Corporate Training & Consulting)
- 🏆 Indian Achievers' Award for Excellence in Training in Recognition of Outstanding Professional Achievement & Contribution in Nation Building by Indian Achievers' Forum
- 🏆 Outstanding Corporate Trainer of the Year Award at ASIAN Training & Development Leadership Awards: Dubai
- 🏆 Educational Entrepreneur Award at Golden Globe Tigers Awards for Education Leadership: Malaysia
- 🏆 Distinguished Speaker for Educational Entrepreneurship at StartUp Mela: Nepal
- 🏆 Distinguished Speaker for Project Management at Dhaka International University: Bangladesh
- 🏆 Outstanding Corporate Trainer Award at MTC Global Award for Excellence
- 🏆 Accredited Trainer for Synchro4D (Bentley Systems), Primavera P6 (Oracle University) and BIM

### CERTIFICATIONS

- HON. DOCTORATE  
CPM & BIM
- PMP  
PMI USA
- GEN-AI and AI for  
Construction Projects  
PMI USA
- GOOGLE CERTIFIED  
PROJECT MANAGEMENT  
PROFESSIONAL
- CONSTRUCTION MANAGEMENT  
SPECIALIZATION  
COLUMBIA UNIVERSITY
- ORACLE PRIMAVERA  
P6 EPPM Implementation  
Specialist
- MSPROJECT SPECIALIST  
Microsoft
- SYNCHRO4D CERTIFIED  
Bentley Systems

Engaged deeply with more than 75,000 Project Management & BIM Professionals in 20+ countries across the globe

# SOLUTIONS & SERVICES



## CONSTRUCT TECH SOLUTIONS

SOFTWARE SOLUTIONS & IMPLEMENTATION SUPPORT

- BENTLEY 3D Design Tools and CDE
- BENTLEY SYNCHRO4D
- ORACLE PRIMAVERA P6
- AUTODESK Design Tools & AUTODESK CONSTRUCTION CLOUD
- CUBE (Connected Unified Built Environment)
- TOUCHPLAN
- ASANA
- SCHEDULE READER & SCHEDULE CLEANER

## ADVISORY/CONSULTANCY

ENABLEMENT, IMPLEMENTATION & CONSULTANCY

- DIGITAL FRAMEWORK for Infrastructure Projects
- CAD to BIM and 4D/5D/6D BIM
- BIM/ VDC
- CDE IMPLEMENTATION
- PRIMAVERA P6 & MSP IMPLEMENTATION
- STAFF AUGMENTATION
- TRAINING, ENABLEMENT & KNOWLEDGE TRANSFER

# SOLUTIONS & SERVICES



## TRAINING

CORPORATE TRAINING SERVICES

PROJECT MANAGEMENT

CONSTRUCTION PROJECT MANAGEMENT

BUILDING INFORMATION MODELING

PROGRAM/PORTFOLIO MANAGEMENT

SCHEDULE MANAGEMENT

QUALITY MANAGEMENT

RISK MANAGEMENT

COST MANAGEMENT

CAD/CAM/CAE

AGILE & SCRUM

LEAN SIX SIGMA

PRIMAVERA P6 EPPM

PRIMAVERA P6 PROFESSIONAL

PRIMAVERA P6 ANALYTICS

PRIMAVERA P6 UNIFIER

PRIMAVERA RISK ANALYSIS

MSPROJECT

BENTLEY SYNCHRO4D

BENTLEY PROJECTWISE

BENTLEY STAADPRO

AUTODESK AUTOCAD

AUTODESK REVIT

AUTODESK NAVISWORKS

# TECHNOLOGY PARTNERS

**Bentley**<sup>®</sup>  
Channel Partner



**ProjectWise**  
CONNECT Edition



**SYNCHRO**<sup>™</sup>



**STAAD.Pro**  
CONNECT Edition



**PLAXIS**<sup>®</sup>



**CUBE**



**OpenRoads**  
CONNECT Edition



**ScheduleReader**<sup>™</sup>



**ScheduleCleaner**



Authorized Training Partner

**asana**



**Touchplan**  
Certified Partner



Authorized Training Partner

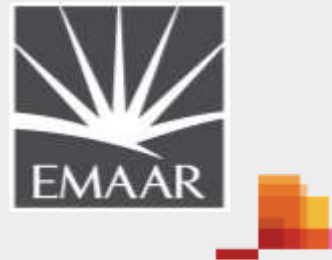


**ACQUIROS**



**ITpreneurs**<sup>™</sup>  
PARTNER

# CLIENTELE





# Transforming Urban Utilities with IoT, AI, and Digital Twins

# Urban Utility Challenges Today

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- Ageing networks, rising demand & service reliability issues
- Limited visibility of buried utilities
- Reactive maintenance increasing lifecycle cost
- Need for integrated, predictive digital ecosystems



# IoT: Real-Time Visibility for Utilities

- Smart sensors for water, power, gas & wastewater networks
- Live tracking of flow, pressure, leakages & outages
- Foundation layer for Digital Twins & predictive insights



# AI: Intelligence for Predictive Operations

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- Forecasting demand & network load
- Predictive maintenance & anomaly detection
- Automated decision support for outage & leak management
- Data-driven planning for urban utility resilience



# Digital Twins: The Virtual Replica of Utility Networks

- Real-time synchronized model of utility assets
- Simulation-based scenario planning & risk mitigation
- Supports O&M, emergency response & lifecycle optimization
- Integrates IoT, AI & BIM for unified digital management



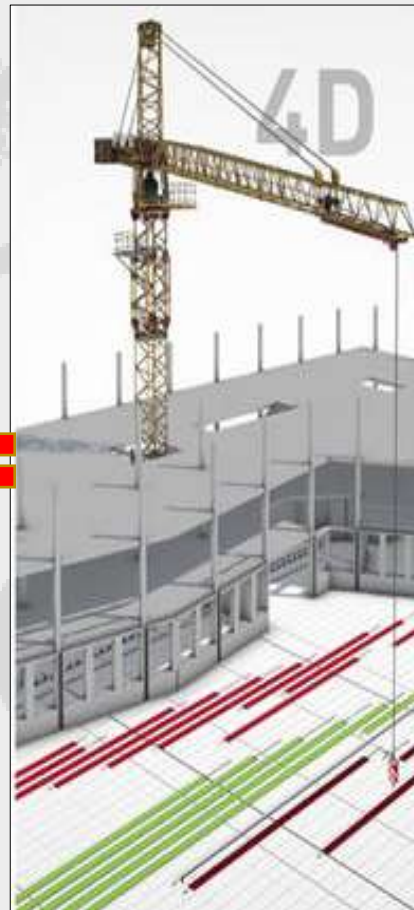
# 4D & 5D BIM



**Project Schedule**



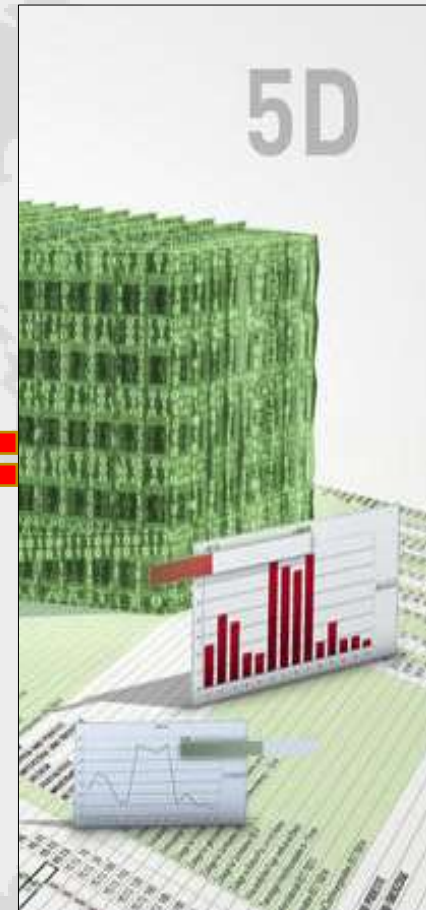
**3D BIM Model**



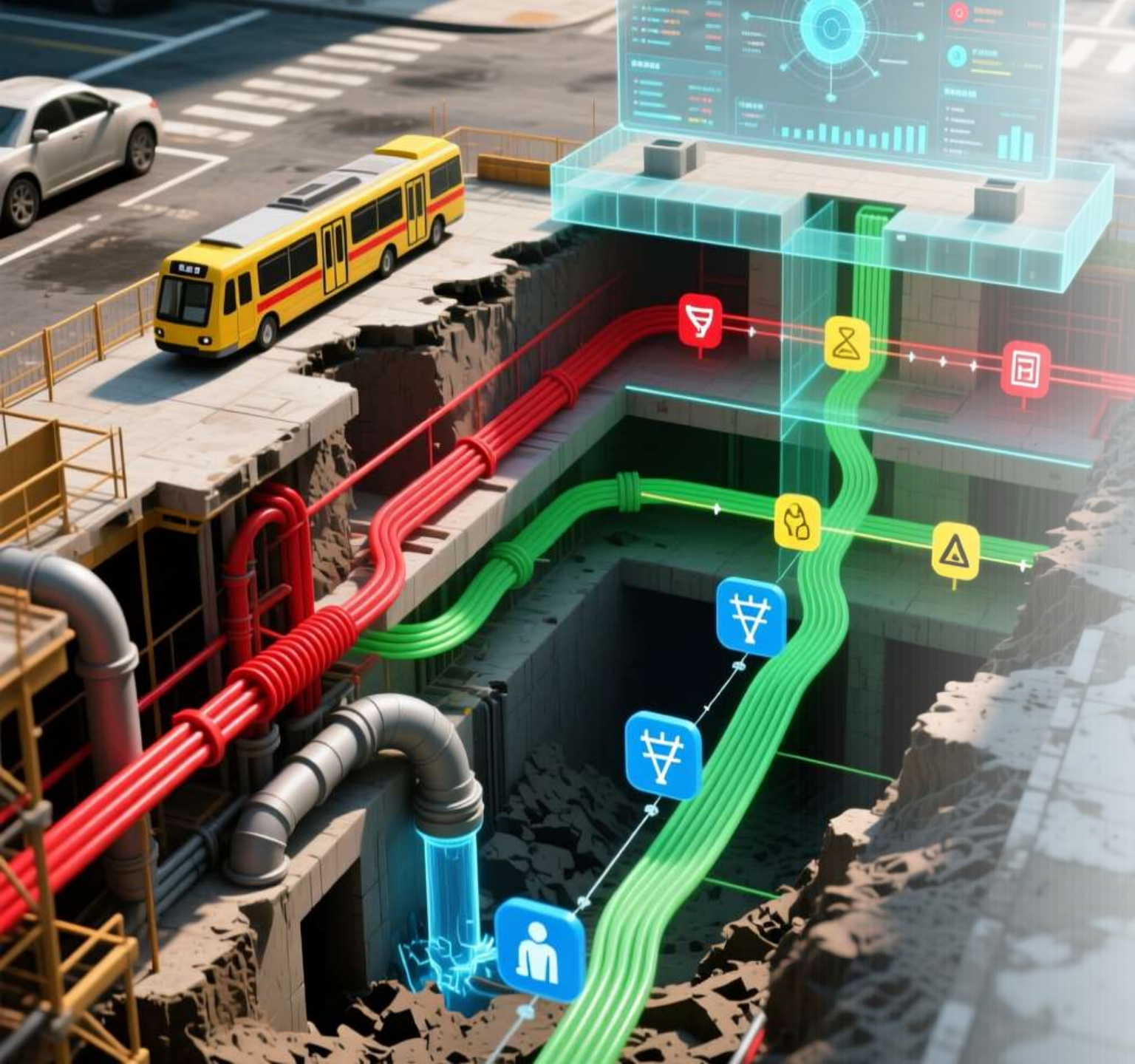
**4D BIM**



**Project Costing**



**5D BIM**



# 4D BIM: Time-Integrated Utility Planning

- Visual construction sequencing for underground utilities
- Identifies spatial-temporal clashes before execution
- Reduces public disruption through optimized sequencing
- Improves multi-agency coordination in urban corridors



# 5D BIM: Cost Intelligence for Utilities

- Automated BOQs & cost-linked BIM elements
- Real-time cost updates with design or schedule changes
- Improved budgeting, forecasting & value engineering
- Minimizes variations, delays & claim disputes



# Usage & Benefits: 4D/5D BIM for Urban Utilities

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- Reduced excavation time & optimized traffic diversions
- Better planning of pipeline routing & trenchless methods
- Enhanced transparency across contractors & authorities
- Strengthens Digital Twin readiness & lifecycle decisions

# The Future of Smart, Autonomous Utilities

- Fully integrated IoT–AI–Digital Twin ecosystems
- Autonomous network balancing & predictive O&M
- Data-driven governance for resilient urban infrastructure
- 4D/5D BIM as the foundation for next-gen utility management

## GKC Consultants OPC Private Limited

Office No 605, 6th Floor, Aggarwal Millennium Tower-1, Metro Station, I, near Netaji Subhash Place, Netaji Subhash Place, Pitampura, Delhi, 110034, India

4.9 ★★★★★ 1,127 reviews ⓘ



C O N S U L T A N T S

**Training | Consulting | Implementation**

## LET'S CONNECT



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