P2D
TECHNOLOGY SERVICES

GENERATIVE AI FOR ASSURING & REPORTING ON LOCAL BUILDING CONTROL STANDARDS

At P2D Technology Services, we have developed an innovative solution leveraging generative AI to ensure compliance with local building control standards using design information from Building Information Modeling (BIM) models and engineering teams.

This case study highlights how our AI-driven approach automates compliance reporting, defect detection, and clash detection, transforming the building assurance process.

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P2D Technology Services implemented a generative AI solution integrated with the firm's BIM models and engineering workflows.

The AI system was designed to:

AUTOMATE COMPLIANCE REPORTING

The AI continuously analysed design information from BIM models to ensure adherence to local building control standards. It generated detailed compliance reports, highlighting areas of non-compliance and suggesting corrective actions.

DETECT DESIGN DEFECTS

By leveraging advanced machine learning algorithms, the AI system identified potential defects in the design phase. This proactive approach allowed the engineering team to address issues early, reducing the risk of costly rework during construction.

CLASH DETECTION

The AI system performed automated clash detection by analysing the BIM models and identifying conflicts between different building systems (e.g., structural, electrical, plumbing). This ensured that all components fit together seamlessly, preventing construction delays and additional costs.

01 DATA INTEGRATION

The AI system was integrated with the firm's existing BIM models and engineering databases. This enabled seamless data flow and real-time analysis.

02 MODEL TRAINING

The AI was trained using historical project data, local building control standards, and defect patterns. This training enhanced the system's accuracy in detecting non-compliance, defects, and clashes.

03 DEPLOYMENT & TESTING

The solution was deployed in a pilot project to test its functionality and accuracy. The pilot phase allowed for fine-tuning based on real-world scenarios and feedback from the engineering team.

04 FULL-SCALE IMPLEMENTATION

After successful pilot testing, the solution was rolled out across all projects, providing consistent and automated assurance of building control standards.

ENHANCED COMPLIANCE

The automated compliance reporting ensured that all projects adhere to local building control standards, reducing the risk of regulatory fines and project delays.

IMPROVED EFFICIENCY

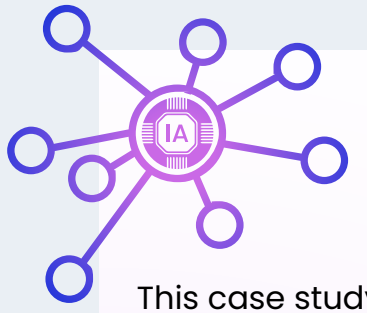
The AI-driven defect and clash detection significantly reduced the time and resources required for manual inspections. The engineering team could focus on high-value tasks, improving overall productivity.

COST SAVINGS

Early detection of design defects and clashes prevented costly rework and construction delays, leading to substantial cost savings for the firm.

ACCURATE REPORTING

The generative AI provided precise and detailed reports, enabling better decision-making and project management.



This case study demonstrates the transformative potential of generative AI in the construction industry. By automating compliance assurance, defect detection, and clash detection, P2D Technology Services helped the construction firm streamline operations, enhance accuracy, and achieve significant cost savings. Our innovative AI-driven approach ensures that building projects not only meet but exceed local building control standards, fostering a culture of excellence and reliability in construction.

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