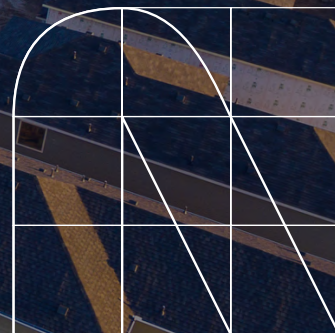# NTT DATA

United States | Residential real estate

Balfour Beatty Communities uses GenAI to transform its work order assurance process

Client profile

Balfour Beatty Communities is an owner and operator of residential real estate in the multifamily, student and military housing sectors across the United States.

It is a subsidiary of Balfour Beatty, a leading international infrastructure group with 26,000 employees across the UK, US and Hong Kong.

Balfour Beatty Communities

Balfour Beatty Communities partnered with NTT DATA to automate the review of more than 500,000 work orders they receive each year with 100% consistency and 98% accuracy when compared to a human expert.

The generative AI (GenAI)-powered solution flags errors, enhances risk management and includes value-focused dashboards and a feedback mechanism, all of which significantly boost the efficiency and reliability of work order reviews.

"

Performing assurance reviews on our work orders has always been critical to maintaining our high standards for compliance and resident safety and satisfaction. NTT DATA's GenAI-powered solution has significantly improved the quality, efficiency and reliability of this process."

A.J. Caputo, Senior Vice President, Balfour Beatty Investments (North America)

98%+
accuracy in the performance of the current pilot in production

500,000
work orders will be processed annually to 100% completion once fully deployed

Business need

Streamlining reviews of all company-wide work orders

Balfour Beatty Communities is one of the largest providers of military family housing in the US. As part of their operations to maintain these residences, the organization processes more than 500,000 work orders annually.

Timely and accurate work order handling is essential to providing a comfortable and well-maintained home for housing residents. Work orders must be processed according to company policies to ensure repairs are performed correctly and accurately documented according to project agreements. The challenge was how to establish an assurance process to perform timely reviews on a half a million work orders each year. Previously, the assurance process was done by approximately 70 service center coordinators and managers across the US.

Balfour Beatty Communities asked NTT DATA: Is there a better solution?

Solution

Building a GenAI-powered tool for compliance review

Balfour Beatty Communities partnered with NTT DATA to explore how GenAI could help them automate and improve the current review process. By combining Microsoft Azure infrastructure with OpenAI's latest large language models (LLMs), we rapidly developed a proof-of-concept (POC) for a GenAI tool to assist the Balfour Beatty Communities' Service Center team in improving the speed, quality and consistency of the work order review process.

The solution performs 17 checks on each work order using a combination of machine learning and generative AI to mirror the review of each work order with a 98%+ accuracy. Based on the success of this effort, our data and AI practice team moved the work order compliance POC into production.

The final solution includes the following:

- **Automated pipeline for work order review:** Leveraged GenAI capabilities to flag daily work orders for potential errors or noncompliance with company policies, ensuring highly accurate and consistent results
- **Microsoft Azure platform enablement:** Partnered with Microsoft to establish and build out the Azure tenant used to maintain the compute, storage and orchestration of the work order GenAI system
- **Value-focused dashboards:** Developed several dashboard capabilities using Microsoft PowerBI to review the daily results and trends for thousands of work orders across a team of managers and coordinators
- **Security and governance:** Prioritized commitment to security measures and governance frameworks to mitigate risks while ensuring responsible development with innovative technology
- **Feedback mechanism:** Created a control and feedback system to enable continuous improvement of GenAI results
- **Product backlog:** Centralized list of future features for prioritization and adaptability in continuous improvement of the initial work order GenAI solution

Outcomes

Improved compliance and risk management

Balfour Beatty Communities' GenAI-powered solution helps them review all of their work orders fast, consistently and reliably. This improves their overall efficiency and risk management.

Accuracy

The GenAI solution is 98%+ accurate when compared to a human expert.

Speed

The GenAI model can process thousands of work orders in a fraction of the time it takes the existing team of 70 individuals, ensuring that Balfour Beatty Communities will be able to complete reviews for 100% of the work orders it receives each year.

Consistency

All work orders are reviewed exactly the same way compared to human reviews that can change based on factors such as differences in knowledge and distractions.

Transparency

Microsoft's PowerBI platform is used to display the results daily to Balfour Beatty Communities' team across the United States by 8:00 am each morning, providing clear and complete transparency of performance.

Auditable process

The GenAI platform is fully auditable. Each response cites specific company policies and procedures to make clear compliance decisions.

> " We've been actively exploring the smart application of AI technology in several areas of our operations. Deploying it to help ensure our work order review process is as efficient and accurate as possible seemed to be a natural fit. GenAI has really changed the game for us in this space."
>
> **A.J. Caputo,** Senior Vice President, Balfour Beatty Investments (North America)

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