



Business challenge

With lengthy elevator inspection cycle times and siloed information, the New Jersey Department of Community Affairs (DCA) needed to digitize and centralize processes to expedite elevator safety inspection services.

Transformation

After working with a primarily paper-based elevator safety inspection system, the New Jersey DCA migrated to the Microsoft Dynamics™ 365 platform on Azure™ Cloud, assisted by IBM Services® for Microsoft. The transformation enabled DCA to equip inspectors with tablets, launch an online service portal and reduce elevator inspection cycle times by 90%.

Results

90% reduction in elevator inspection cycle time

required for scheduling, inspection, recording and notification

Improved revenue flow

through faster billing and faster payment processing of inspection fees

Improved user satisfaction

with mobile tablets for inspectors and online service portal for public use

New Jersey Department of Community Affairs

Going up—higher performance with a cloud-based elevator inspection solution

The [New Jersey DCA](#) (external link) is the state agency created to provide administrative guidance, financial support and technical assistance to local governments, community development organizations, businesses and individuals to improve the quality of life in New Jersey. DCA offers programs and services that respond to issues of public concern, including fire and building safety, housing production, community planning and development, and local government management and finance.

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Higher expectations

Ever since the first passenger lift was installed in New York City in 1856, elevators have risen to become essential and ubiquitous modes of urban transportation, making it possible to live and work in skyscrapers and other high-rise buildings. Over 900,000 elevators operate in the US alone, with each elevator carrying, on average, over 20,000 people a year.

In the State of New Jersey, the elevator safety unit of DCA registers, inspects and certifies elevators, escalators, moving walks and other types of lift devices. The public safety mission is to assure that all elevator devices comply with safety standards to prevent users from incurring injuries due to equipment or maintenance issues.

The system DCA employed to support elevator inspections involved paper inspection reports entered into and processed by a mainframe computing system. The unwieldy combination of paper processes backed by an outdated and fragmented IT system resulted in slower than desired customer service for DCA. Building owners—responsible for elevator maintenance—had to work with multiple teams to coordinate inspections and verify payments.

Checking paper records for reference or dispute resolution was also a lengthy process. Overall, the time

required to process a typical elevator inspection ranged from 21 to 28 days, and this completion schedule was too long for both inspectors and building owners.

Upgrading that system was a priority for DCA. One possibility was putting Elevator Safety on a slightly more modern inspection solution suite used for other DCA inspection areas. But that system was “expensive to maintain and proprietary to the vendor that developed it and we wanted to get off that system,” says John Harrison, Director of IT for DCA.

Further complicating system maintenance were structural changes to how the State of New Jersey supported IT across departments. “DCA used to rely on the development resources of the New Jersey Office of Information Technology (NJOIT). They both developed and hosted systems used by DCA,” says Harrison. “But then an Executive Order disbanded NJOIT development and we had to support ourselves.”

DCA started looking for options to modernize its systems. It was ready to harness the full power of its core business applications and invest in innovation to create actionable insights and empower faster decision-making. Modern platforms were evaluated, and [Microsoft Dynamics 365](#) was selected. Elevator Safety would be the first of a new suite of solutions on the platform.

At the same time, an opportunity arose to develop a solution on an unexpectedly tight schedule. The governor of New Jersey signed ambitious mortgage forbearance legislation to help 30,000 homeowners that had not recovered from the Hurricane Sandy disaster in 2012.

Designated as the lead agency to determine citizen eligibility for the new program, DCA was tasked with developing a new digital process to manage the expected flood of online applications. From the day the new law was signed, DCA had only six weeks to deploy a brand-new system.

Concurrently, the DCA IT team was interviewing several potential IT vendors for the new inspection solution suite, including [IBM Services for Microsoft](#). “IBM was asking the right questions during the sales cycle,” says Harrison. “This gave me a clue that they understood and were concentrating on the right things, so I picked the IBM team for the Sandy solution.”

By providing expert system integration, IBM helped DCA accelerate time to value by developing a new online citizen eligibility tool, based on the Microsoft Dynamics 365 customer data platform on [Azure Cloud](#). “We went live on the date and it was a huge success,” says Harrison. “In effect, it was a proof of concept and it made IBM an easy choice for the much

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larger inspection solution suite project—beginning with the Elevator Safety solution.”

Top-flight teamwork

At the outset of its digital transformation project, DCA set up an Agile Methodology Project Management (AMPM) development process. “We needed a tool to manage the requirements and monitor progress and IBM—as the lead developer—put together this solution for the project,” says Harrison. “Now, we use AMPM for all of our solutions as well as IBM Blueworks Live to perform business process modeling.”

[IBM Blueworks Live](#) is cloud-based software that provides a dedicated, collaborative environment to build and improve business processes through process mapping. By using agile methods for all of its

development projects, DCA can accelerate project completion and regularly update platforms through continuous iteration.

After launching the project on the Microsoft Dynamics 365 platform, DCA made another important strategic decision. “We decided to go with cloud by default,” says Harrison. “We do everything cloud-first, if possible.”

Using the Microsoft Dynamics 365 platform, DCA and IBM created a new application for Elevator Safety (ELSA). The public-facing service portal is used by building and property owners, agents and others to:

- Register new buildings and newly installed elevator devices
- Transfer ownership and amend registration information
- Manage accounts and look up and print bills and inspection reports
- Print certificates of passing inspections
- Pay annual inspection bills, registration and penalty fees

By moving its elevator safety inspection process to the cloud, DCA provided the digital infrastructure to enable inspectors to dispense with paper forms and conduct inspections and related tasks using mobile tablet devices.

The Microsoft Dynamics 365 platform solution also gives DCA managers a clear view of the



inspection process for each case, such as the number of inspections of each type per inspector, violation counts per inspector, the most cited violations, registrations of each type per day, and payments.

One of the strengths of the ELSA application is its configurability. “The whole system has been built to marry the mindset and processes together,” says Harrison. “Everybody has the same understanding of how the information flows throughout the process, and it is deeply intuitive for our internal users.”

For deep industry and technical expertise during ELSA implementation, DCA consulted with [IBM® GBS Client Innovation Centers](#).

“We leveraged a large number of staff from the Baton Rouge CIC, and they’ve been a great team,” says Harrison. “We had them cycle through New Jersey periodically, but in general, we worked with them on a remote basis.”

Throughout project implementation, DCA and IBM collaborated on a regular basis to package releases, schedule deployments and track development progress. “Everything we do is about communication,” says Harrison. “As far as IBM’s responsiveness to us, IBM acted as a small company. We didn’t get hit with that big consulting house attitude where you start to get distance after the sales cycle. I knew I had the right team.”

Higher performance for the future

By automating digital workflows on the Microsoft Dynamics 365 platform, DCA achieved performance improvements that transformed the elevator safety unit. Compressing elevator inspection cycle time from 21 to 28 days to two or three days reduced turnaround time by 90%.

Speeding up the inspection cycle time also improved revenue flow by way of faster billing and faster payment of inspection-related fees. Due to better visibility on past-due invoices, DCA was able to re-send invoices and generate USD 800,000 in additional revenue on invoices that were older than 18 months.



Currently, 45 field inspectors and five office staffers use the platform to support a high volume of inspections. In 2019, 14,900 total cycle inspections were made, along with an additional 2,221 re-inspections.

“Actually, we look at the functionality gains more than the cost savings,” says Harrison. “Before, our staff typically performed tasks related to getting the orders in. Now, they can concentrate on other work. It frees people up to look for delinquent accounts. For example, if someone is having trouble paying bills and they

are cutting corners, that could end up being a safety issue, and we can look into that.”

By sharing common platforms and dashboards, help desk and network services staffers manage the same issues, while building expertise on the toolset. The graphical charts and dashboards provided by the new platform also gave DCA supervisors and back office staff better visibility and control over data.

“As our people use it more and more, they realize how easy it is to navigate and to work with—how everything is

connected,” says Harrison. “It is super helpful to keep us organized and keep everybody, literally, on the same page. When we are all looking at the same dashboard, it promotes communication.”

With the ELSA portal up and running for one year, DCA continues to use the Microsoft Dynamics 365 platform to build out new solutions for inspection services. In December 2020, a new portal is scheduled to go live for the Bureau of Housing Inspection, with a follow-on portal for the Bureau of Fire Code Enforcement scheduled for 2021. DCA expects similar performance improvements as the new portals streamline workflows through digital processes.

Harrison often receives inquiries about his digital transformation and how it was implemented at DCA. “People ask me, ‘Why are you working with IBM on a Microsoft platform?’ That doesn’t make sense,” Harrison says. “However, that’s not how the IT consulting world works. The expertise of the Microsoft Dynamics 365 team within the IBM practice is world-class and can’t be beat. Their communication is top-level, too.”

Solution components

- IBM® Blueworks Live
- IBM GBS Client Innovation Centers
- IBM Services® for Enterprise Applications
- IBM Services for Microsoft
- Microsoft Azure™ Cloud
- Microsoft Dynamics™ 365

Take the next step

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