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How Digital Tools Bring New Levels of Productivity and Accuracy to Field Inspections

The field inspection process involves technicians and engineers who have deep experience in their field and are often dealing with highly technical equipment and machines. So it is somewhat ironic, and more than somewhat unfortunate, that the inspection process itself is decidedly low-tech.

A majority of companies (52%) still use manual methods for managing field service operations, including inspections. While that means 48% do use some kind of field service software, many of them use only on-premises solutions, which cannot be used by personnel in the field.

That leaves far too many organizations using processes that are largely paper-based and inefficient, for both inspectors in the field and their managers back in the office.

In this age of digital transformation, it's time to bring digital tools to the inspection process — tools that are mobile, so they can be used by those performing inspections in the field. Such tools can bring dramatic increases in productivity, with customers reporting tenfold inspection time reductions.

"Digital tools can help inspectors go through processes faster, do tasks better and more efficiently,"

Ivan Stano,
Resco

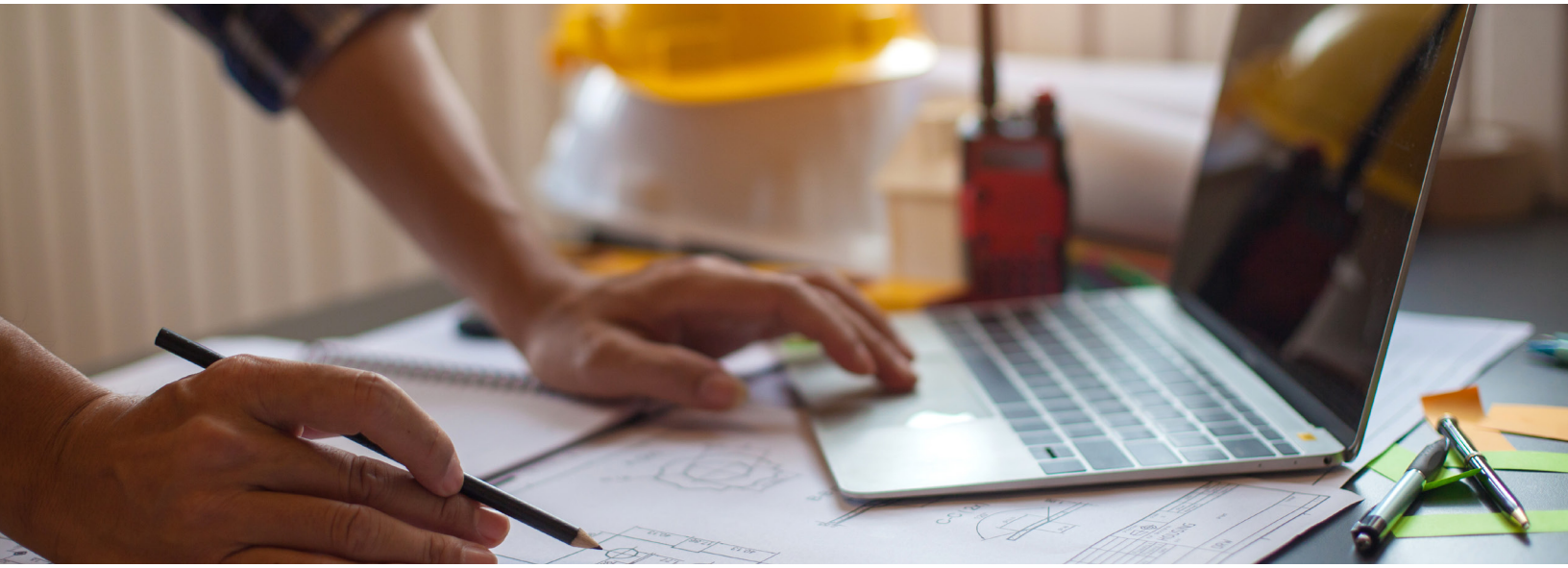
"They also enable the collection of data to help managers see how their teams are performing, provide history of assets at each location, help with scheduling, and generally more effectively manage their teams."

said Ivan Stano, the chief operating officer for Resco, a developer of mobile management solutions for field personnel.

The industry appears to be gradually getting the message, since the market for field service management software grew 11.4% per year on average between 2016 and 2021, according to researchers at IBISWorld. The company puts the current market size at $1.7 billion.

Current Inspection Challenges

Challenges in the inspection process exist both in the field and back in the office.



As they conduct their work, inspectors typically go through checklists on paper forms, which then have to be relayed back to the office, where the data is rekeyed into another system — a time-consuming, error-prone task. Often, inspections take place under less-than-ideal conditions, leading to illegible handwriting and incomplete checklists.

Inspectors are also generally on their own in the field, with little access to back-end data and tools that can help address any questions that crop up.

Those who do try to introduce technology may find they wind up with a multitude of devices and applications. Traditional approaches have inspectors carrying a laptop that runs a field service application, along with a phone, camera, memory stick, and GPS device. It's cumbersome to constantly juggle so many devices, not to mention a drag on productivity. What's more, when using multiple applications, users are forced to spend time on reporting and updating systems.

Back in the office, managers have limited visibility into their workforce during the day. They often struggle to effectively schedule their team of inspectors to minimize travel time and get more jobs done faster.

Managers may have limited data on customer sites — for example, which assets are installed and what their service history is. And they have limited results data, so they can't track asset trends over time to help improve their performance.

Elements of Effective Inspections Software

What inspectors need is a software solution built for the way they work. Such a solution should have a number of key attributes for both inspectors and managers.

For inspectors, it should be mobile-ready and available on familiar devices that inspectors likely already have, including a tablet, phone, and smartwatch, all fully integrated with one another. Such a solution would enable inspectors to use the tool of their choice at any given time. They could also take advantage of features such as a camera and video to provide visual evidence and help speed inspections.

Importantly, the mobile application should be able to work effectively in both online and offline modes, because inspections often occur in remote locations with no cellular service.

An effective tool will also have tight integration with back-end systems, including customer relationship management tools, calendar and scheduling applications, and e-signature software or services.

Inspection tools should also incorporate advanced technologies such as augmented reality, which can help walk inspectors through unfamiliar jobs. Similarly, artificial intelligence can be used to support features such as image recognition, to identify parts and objects.

For managers, an effective inspections tool starts with a calendar function for managing daily operations. It should also include a scheduling tool, with the ability to assign jobs to inspectors and send them alerts to new jobs, with an appropriate checklist. AI can also play a role here, by improving efficiency in scheduling and optimizing routes and personnel.

A location monitor should be included, to give managers visibility to quickly determine which inspectors are in the field, and at which sites.

The solution should include a database housing a history of assets at each location, so managers get the full picture of assets under management and their repair history. Such a database could also be used for reporting, enabling managers to see equipment performance trends over time, both for internal use and to share with customers.

Consistent data collection and review, backed by AI capabilities, would also let managers identify any trends in component failures, leading to predictive maintenance. It would also let managers easily review completed inspections, whether by individual, time frame, region or the like.

Resco.FieldService Fits the Bill

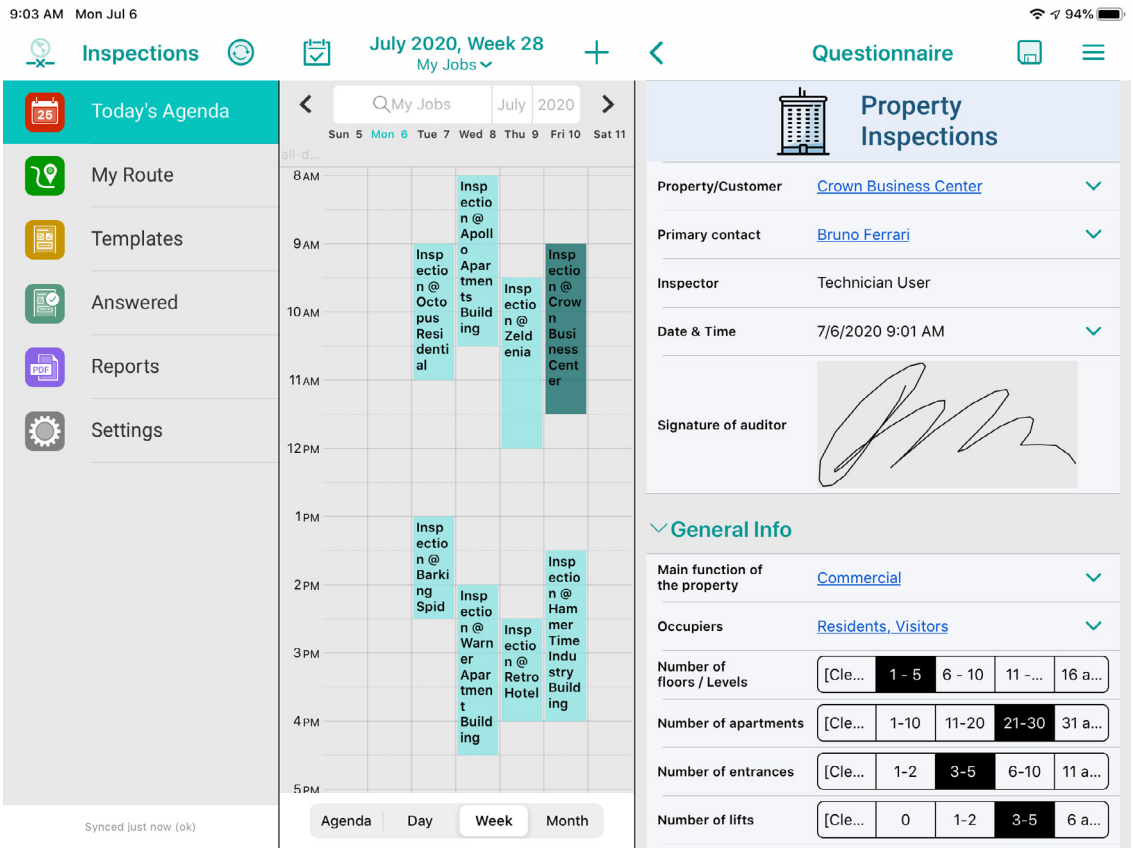
Resco.FieldService is one application that covers all the bases in terms of what inspectors and their managers need in a mobile, digital inspection tool.

An all-in-one tool that covers all required aspects of the inspection process, Resco.FieldService works on familiar tools: tablets, smartphones and smartwatches. It enables inspectors to use the tool that's the best fit for the job at hand.

The watch version, for example, integrates with the phone. So, if an inspection calls for the use of both hands, the watch could "read" the checklist to the inspector, who gives a voice response to each item while going through the list.

Resco.FieldService also takes advantage of the built-in capabilities of each device, including the camera, video, memory and GPS. There's no need to carry multiple devices, and it's a simple matter to add images, sound or photos to forms or append tags to denote problem areas.

On the back end, Resco.FieldService integrates with Microsoft Dynamics and Salesforce. An auto-sync feature means there's no more entering data twice or trying to make out scribbles on paper forms. Inspectors can also generate reports on site and send a PDF of it to the client or their supervisor in seconds.



The tool is also fully functional in offline mode, enabling inspectors to take complete records even if they have no cell service. It's easy to toggle between offline and online modes; if the internet connection is slow or sporadic, simply switch to offline mode. Resco.FieldService will auto-sync whenever a connection is available again, so inspectors don't have to worry about remembering to sync after they've been offline.

A built-in calendar enables users to see their assignments and their daily agenda.

Resco.FieldService also includes a number of tools for managers, including:

- Scheduling tools to help them maximize resources
- A route planner to optimize trips and reduce travel time
- Support for video calls to inspectors in the field, with an augmented reality feature to help walk inspectors through thorny issues

Impressive Results

Customers are seeing dramatic productivity improvements with Resco.FieldService.

Toyota Material Handling manufactures, rents and sells heavy machinery, such as forklifts, order pickers, pallet jacks and more. Part of the company's business involves buying used equipment from customers and selling it on the wholesale market.

The typical process involved a salesperson visiting the customer site and inspecting the equipment, including taking photos and making written notes. After five or more such visits in a day, the salesperson would go back to the office and type those notes into a spreadsheet, sort out the photos and copy/paste them into the spreadsheet. The salesperson would then email the spreadsheet to a wholesale manager, who would try to sell the equipment on the wholesale auction network.

Each inspection took 30 to 60 minutes. By adopting Resco.FieldService, the company reduced that time to about four minutes. What's more, inspection data and photos could be automatically synced with Microsoft Dynamics CRM, making it immediately available for wholesale managers.

By making both the salesperson and wholesale manager more efficient, use of Resco.FieldService has enabled Toyota to put equipment up for sale far more quickly, leading to a revenue increase of $350,000 per month.

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"We're able to meet the market with information in a speed that just wasn't even real for us before," said Jason Johnson, corporate marketing manager at Toyota Material Handling.

NAI Significa, a global consulting company, had similar productivity gains with Resco.FieldService for its real estate valuation services. Coming up with a value for a property involves an inspector touring the property, taking photos and notes regarding construction year, any renovations, type of heating and so on. On average,

"We save 10 minutes on every inspection since there is no need for communication between the field inspector and the analyst in the office — leading to a 40% increase in efficiency,"

Aljosa Nikolic,
Nai Significa

"Now the field inspector just sends the answered questionnaire to the analyst, which only takes a few seconds. It's a straightforward and quick process, and analysts can get on with evaluating the properties immediately."

Another benefit is data is now standardized because inspectors capture data the same way. "Data quality is much better, too," Nikolic said.

Digitize Your Inspections

Results such as those Toyota Material Handling and NAI Significa are enjoying make it clear: the status quo will no longer suffice for inspection teams.

In an era when we've got tools at hand to deliver both improved productivity and better quality, the days of pencil and paper should be over. It's time for digital transformation to come to the inspection process.

Find out what kind of productivity gains and cost savings you can achieve with Resco.FieldService: visit www.resco.net

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