Transform access to architectural, engineering, and construction drawings from mobile devices using artificial intelligence.

Unleash the Power of Mobile to Provide Instant Access to Building Intelligence

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Introduction

Mobile solutions are driving efficiency across every business segment, especially the ones with workers who operate in the field. IDC research shows that 33% of C-level executives think mobile-first access to corporate resources is one of the work practices from the past two years that is most likely to endure within their organizations (source: IDC's *Future Enterprise Resiliency and Spending Survey, Wave 11,* December 2021).

Few groups need instant access more than the facility, maintenance, and building security professionals responsible for delivering outstanding occupant experiences. There are three main drivers of instant access to critical building information for field operations through mobile:

»   Building maintenance professionals are rarely at a desk, and technicians, both employed and contracted, perform most of their work in the field.

»   Facility management is responsible for a wide variety of workflows and every week the tasks are different, so it's difficult to know what documentation is required at the start of the day.

»   These teams oversee dynamic workloads with numerous changes throughout the day when work orders are reprioritized, new issues are reported, or unexpected events occur onsite.

Most of the applications and digital tools organizations use today in facilities center around managing resources, work orders, and assets. These are planning, reporting, and managerial tools to track work. However, companies have fewer technology resources to help the technicians access building information in the field to perform the work assigned. The trend is changing as planned investments across all industry sectors reflect the importance of mobile solutions. Compared with actual spending in 2021, 59% of organization globally plan to increase spending on mobile applications in 2022 (source: IDC's *Future Enterprise Resiliency and Spending Survey, Wave 1,* February 2022). This paper explores the

AT A GLANCE

KEY TAKEAWAYS

» 59% of companies plan to increase spending on mobile applications compared with last year.

» Few groups need instant access more than the facility, maintenance, and building security professionals responsible for delivering outstanding occupant experiences.

» Direct mobile access to facility and building information can improve efficiency, productivity, and maintenance outcomes.

» AI technology today can extract building information from drawings and deliver when and where it is needed, as opposed to maintenance engineers physically reading drawings.

advantages and important considerations of transforming access from paper-based architectural, engineering, and construction documents to digital mobile access by applying artificial intelligence and machine learning to interpret schematics.

Benefits of Mobile Access to Facility and Building Information

Direct mobile access to facility and building information, such as the precise location of shutoff valves, standard operating procedures, and emergency equipment, empowers teams to better perform their jobs. There are numerous benefits to disseminating mobile insights when and where they are needed:

» **Efficiency gains:** People waste far too much time traveling back and forth between the field and data storage rooms to access information. Accessing this information from the field through mobile devices will significantly increase wrench time.

» **Productivity improvements:** Technicians can complete more work orders because they can access the information they need within seconds. It's impossible to know what information technicians need to complete their assignments in the field in advance.

» **Better outcomes:** Companies achieve higher work quality because the technicians are relying on accurate and updated information as opposed to one-time scans or copies of old paper drawings.

» **Business continuity:** Emergencies still happen despite the best preventative and predictive maintenance programs. Mobile access to critical building information enables teams to act quickly with accurate information to contain the damage.

» **Communication:** When needed, mobile tools allow organizations to share plans and building data with colleagues, contractors, first responders, and other third-party vendors, without publicly exposing the information.

» **Risk mitigation:** When experienced teams members are off-site, security departments and others should be able to locate critical systems without having to understand complicated schematics, preventing simple incidents from escalating into full-scale emergencies.

» **Knowledge capture:** On top of the ongoing workforce retirements and skilled labor shortages in facility management, companies are now grappling with record resignations and talent wars. AI-enabled technologies can help capture institutional knowledge before retirements and departures cause critical information to, quite literally, walk out the door.

Considerations for Implementing AI-Infused Mobile Facility Insights to Access Facilities Information

Some organizations have taken steps to digitize facility and building documents. Typically, the engineering team scans paper documents to simply capture a static image. Technicians still need a way to search on a mobile device, zoom in to targeted areas, and read schematic drawings, which is difficult and time-consuming. Digitized documents present challenges, such as searching through various electronic folders and shared drives to find the right document, which may

not be well-organized or may not have descriptive file names. In short, scanning alone does not solve the true source of the problem, which is the need for instant or on-demand access to critical information throughout the day.

Alternatively, technology today can apply artificial intelligence (AI) so that the machine reads the document and extracts building intelligence. In particular, optical character recognition (OCR) methods and algorithms convert images into usable information. With AI, an organization can obtain the necessary information from the drawing without human intervention to read and interpret a drawing.

Before embarking on an AI-driven project, an organization should consider several steps to prepare for deployment, select a technology provider, and keep information relevant over time. Key considerations include:

» First, find, organize, and sort through the scattered documents. Think about how much effort is needed and who is best to do this – staff or a third party.

» Next, align the stakeholders to avoid duplication or contradictory behaviors. Plan for change management to get everyone using the same source of truth and not be dependent on the physical drawings or past digital image files.

» When assessing technology and vendor solutions, clarify how the offering will update information after initial deployment. Organizations need to ensure as-builts are incorporated into the master set.

» Make sure the technology provider can meet the security criteria for user-based information access. While in some instances it's valuable to share selected information with certain people, organizations must be wary of exposing built environment vulnerabilities to potential bad actors.

Conclusion

Companies that implement AI-enabled mobile facility access ultimately democratize information to support more resilient future operations. Disseminate and unleash data long held in the minds of a few seasoned professionals or locked in a document storage room. Delivering more mobile insights to facility managers, maintenance technicians, and external partners will enable better efficiency, productivity, and outcomes.

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About the Analyst

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Mickey North Rizza is Group Vice President for IDC's Enterprise Software. She leads the Enterprise Applications and Strategies research service along with a team of analysts responsible for IDC's coverage of the next generation of enterprise applications including digital commerce, employee experience, enterprise asset management and smart facilities, ERP, financial applications, HCM and payroll applications, procurement, professional services automation and related project-based solutions software, supply chain automation, and talent acquisition and strategies.

MESSAGE FROM THE SPONSOR

Thousands of engineers and technicians walk the floors of millions of square feet of facilities every day, working hard to keep building occupants safe and secure. But the information they need to accomplish their tasks, whether for routine maintenance or emergencies, is never available to them in the field. Instead, it is trapped in blueprints or desktop servers – a problem that has never been solved, until now. Solving this problem would bring significant benefits to Facilities owners and operators and save millions of dollars in operating costs. See how ARC Facilities is Transforming Access to Facilities Information.

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