



**Business challenge**  
 The painting service provider wanted to resolve issues with both time management and people management protocols at its sites. The company also sought to improve safety standards and address compliance and regulation problems.

**Transformation**  
 One of the largest commercial and industrial painting service providers in South Africa wanted to improve its value chain's processes and sought to digitize its onsite access management, medical filings and attendance record keeping. Working with IBM Business Partner DoshEx, the company launched a solution based on IBM® Blockchain and IBM Cloud® technologies to help it digitize site access and alleviate administrative headaches for project managers.

## Results

### Lowers safety risk and liability

with an onsite biometric fingerprint system

### Reduces administrative burdens

by addressing corruption, mismanagement and inefficiencies

### Cuts labor costs

after implementing a biometric clocking system

# DoshEx

## IBM Blockchain aids in dismantling exposed liabilities on construction sites

Based in South Africa and formed by a group of entrepreneurs, IBM Business Partner [DoshEx](#) (external link) is a digital exchange asset company. Its products and services include tokenized solutions for corporations, safekeeping of funds and the design and deployment of blockchains. The company's enterprise-ready smart contract, [Sherlock](#) (external link), brings together IoT, Distributed Document Management and Blockchain. The platform improves traditional contracts, making business processes more efficient, transparent, and proactive and ensures participants.

**"I believe how we use blockchain makes a more efficient and trusted system for construction businesses. We focused on making this service provider's business more efficient across all of its projects."**

—Alex de Bruyn, Chief Executive Officer, DoshEx

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## Addressing construction site inefficiencies

Construction is one of the largest industries in the world and continues to be a key driver of economic growth. Still, the industry is continuously challenged to improve its transparency and productivity. From small-scale projects to larger sites, project managers are trusted to act as gatekeepers between onsite workers and the top management team; nevertheless, critical information can still fall through the cracks.

A large, specialized commercial and industrial services provider in South Africa began to notice that the system it had in place to manage necessary paperwork for job sites was inefficient. Employee paperwork and medical records were either inaccurate, missing, out of date or even forged, leaving a large amount of risk on the table for the company.

The company's biggest concern on a daily basis is safety, and if something happens or almost happens with personnel onsite, the company would be responsible. From a risk perspective, if the training and safety paperwork is missing or a person's medical has expired, the company is exposed and to blame.

With labor making up nearly 50% of the company's project costs, it needed to find a more accurate

solution for recording workers' hours. There were gaping holes in the way manual timesheets were being handled, adding unnecessary project costs into the mix. It was paramount to ensure more efficient and auditable record keeping, immutable proof that onsite compliance processes were achieved, and that workers were following the appropriate procedures.

The company decided to embrace the opportunities presented by emerging technologies and teamed up with IBM Business Partner DoshEx, a South African technology company, to explore its options for a modern digitized working environment. The organization focuses on industry problems that could use distributed ledger technology to solve inefficiencies within a business. DoshEx CEO Alex de Bruyn and his team quickly saw the potential for blockchain technology to help this company fix onsite issues with both time and employee management and reduce human-error.

"I believe how we use blockchain makes a more efficient and trusted system for construction businesses. We focused on making this service provider's business more efficient across all of its projects," de Bruyn says.

## Removing labor discrepancies

Working alongside a strong team of developers from DoshEx, the company deployed Sherlock, a smart enterprise contract solution that digitizes and streamlines various processes. DoshEx's Sherlock offering runs on a suite of IBM Cloud solutions and IBM Blockchain, a flexible networking technology based on a shared, immutable and trusted ledger. Together, the solution suite creates a virtual private cloud (VPC) environment to run and support a new digitization project on devices handed out on job sites.

"We spent a lot of time with the client and their site foremen discussing and understanding their problems and company risks," says

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***"Blockchain solves the big problems on construction sites like trust and risk of compliance. Linking the biometric fingerprint of a user onto the blockchain reduces liability arguments and management costs."***

— Alex de Bruyn, Chief Executive Officer, DoshEx

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de Bruyn. "From there, we customized and configured Sherlock to apply to those issues."

With its new digitization project rolled out, the company can create a complete set of records with a single line of truth and ensures that users across the board are working from the most recent information. Sherlock has the ability to hold every worker accountable for completing critical tasks, keeping accurate timesheets, accessing site equipment and much more.

Sherlock's biometric clocking system scans fingerprints to capture real-time information about who enters a site and how much time they spend working there. The solution registers each worker's presence on a blockchain-enabled distributed ledger shared between the project manager and the company's upper-level management team, removing any form of discrepancy when it comes to labor costs, onsite equipment issues and various training requirements.

The company now finds value being able to manage sites from the head office by looking at Sherlock. Being able to see what's going on in real time, on all the sites, makes the company more flexible, scalable and competitive.

Another benefit of Sherlock is its ability to hold employees accountable for maintaining

up-to-date medical records. Safety officers previously needed a week to sift through mountains of paperwork to find information, but blockchain participants can now access it in real time. With the system picking up any expired medical records, the company is no longer exposed to that particular risk.

## Increased transparency with IoT

Through digitization, DoshEx was able to ensure a more efficient and auditable keeping of records for their client. The company was able to have real-time proof that onsite compliance steps were not only implemented but that workers were following the appropriate processes. Data inputs are now Internet of Things (IoT)-driven, significantly reducing the risk of human error and boosting confidence in data among its users.

The industrial services provider indicated that since introducing a biometric clocking system, it has

reduced a lot of labor costs. When a worker shows up an hour late, there's no slipping in past busy managers anymore.

DoshEx's implementation of a blockchain solution to automate the contractual processes and paperwork has saved the company money, freed up valuable resources, and increased employee trust and safety at its sites. The group now has clear transparency into relevant data, while still adequately protecting its sensitive data.

"We wanted to do two things for this client: reduce the administrative burden on project managers and foremen, as well as reduce the immediate risk of noncompliance of any medical paperwork," says de Bruyn. "We did that with Sherlock."

The client told Bruyn that you can't put a price on the ease of mind this system has given the company; that's the biggest benefit.

### Solution components

- IBM® Blockchain
- IBM Cloud®

#### Take the next step

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