

Combining AI and IoT can make structures safer

South Africa's infrastructure safety has seen a new development with the introduction of an Internet of Things (IoT) platform. Structural health monitoring (SHM) specialists like Move Solutions are adding IoT platforms to their range of structural monitoring solutions to help improve industry safety at scale.



AI is proving useful in construction when tied to IoT systems.

Platforms like [MyMove](#) use artificial intelligence (AI) to simplify complex data, aiming to predict potential structural issues before they become critical. It also employs machine learning to detect minor changes or irregularities in structures.

“This technology will enhance the safety and durability of structures, as well as reduce maintenance costs by addressing problems in the first stages,” says Ambra Scotolati, marketing strategist for Move Solutions.

“It also allows for an understanding of the reasons behind certain issues and the immediate detection of anomalies for timely decision-making.”



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However, it's important to note that current technologies may not be as accurate in identifying these anomalies that could become critical.

“Real-time insights and anomaly detection have been a challenge that the broader building and construction industry in South Africa has faced,” says Elton Murison, director at Tandm, the local distributor for Move Solutions.

“The integration of AI in structural health monitoring is a paradigm shift in how we approach the longevity and safety of infrastructure.”

Real-time data monitoring

Real-time function could potentially replace the time-consuming, costly, and sometimes inadequate manual and periodic inspections that the industry currently relies on.

Scotolati points out that traditional structural monitoring methods, which involve on-site inspections without high-quality technology, often fail to provide timely insights crucial for preventive action.

“ *The advent of AI and IoT technologies could offer a level of precision previously unattainable.* ”

With the information gleaned from historical data, AI algorithms can distinguish between normal fluctuations and genuine structural anomalies.

“Reducing the rate of false positives ensures that alerts are meaningful and actionable. This level of accuracy will enable industries where structural integrity is key to prevent catastrophic failures and enhance public safety,” says Scotolati.

These include but are not limited to structures such as bridges, railways and high-rise buildings.

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