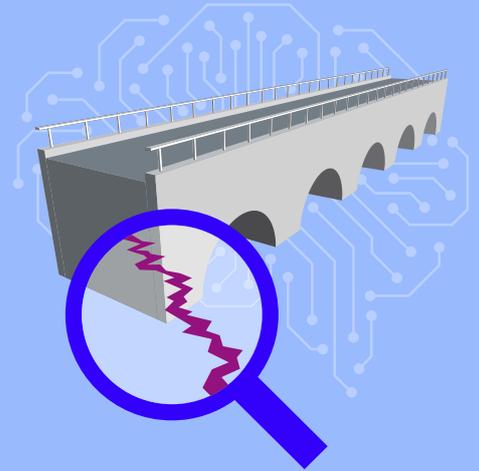


Case Study: Dynamic Infrastructure

Automated risk mitigation with a guarantee



The case

Local governments and Public-Private Partnership (PPP) projects face the challenge of efficiently inspecting and maintaining aging infrastructure to keep transportation networks safe. Dynamic Infrastructure uses AI-driven predictive technology to analyse and track deterioration and damage to civil infrastructure. With automated image analysis from existing and new engineering inspection reports, Dynamic Infrastructure's solution helps set priorities for urgent repair and ongoing maintenance. This transforms manual, laborious, error-prone work to an automated and reliable technology creating a cost-effective alternative – with higher accuracy and safety levels.

The challenge

Immediate repairs and maintenance of civil infrastructure assets are a life-and-death responsibility with tremendous financial consequences. Countries worldwide face infrastructure maintenance challenges in some of their most heavily travelled transportation networks and utilities, such as bridges, tunnels, retaining walls, and dams. According to ASCE (American Society of Civil Engineers), 30% of America's bridges face maintenance deficits, and according to NCE (New Civil Engineer), up to 50% of Europe's bridges are in substandard conditions.

Tracking gradual deterioration, prioritising thousands of defects, and building a "holistic safety and risk mitigation picture" is almost an impossible mission for operators due to the large amount of collected data, their complexity, and the resources required for processing.

The solution

With the power of AI, Dynamic Infrastructure's solution automatically extracts and catalogues priceless historical and current data from existing photos and inspection reports. It accurately detects and prioritises the need for repair based on defect severity and deterioration rates, while simultaneously considering regulations and warranties for hundreds of assets.

By automatically analysing image data and reports, Dynamic Infrastructure helps identify pain points and critical defects such as cracks, spalling, and erosion – even in early stages. It then highlights and prioritises areas that may need attention, potentially saving the lives of citizens. At the same time the solution saves millions of dollars in infrastructure maintenance by detecting problems early on before they become major issues.

Munich Re Group's assessment process of Dynamic Infrastructure's solution involved top AI experts who confirmed its exceptional effectiveness. This favourable third-party endorsement increases trust in Dynamic Infrastructure's solution and its ability to support asset managers worldwide.

More specifically, Dynamic Infrastructure now offers its solution bundled with a performance guarantee, which a Munich Re Group company insures. If the AI solution misses a critical defect on a client's infrastructure asset that results in substantial damage, Dynamic Infrastructure will provide financial compensation. In other words, the company provides not only state-of-the-art solutions but also an economic guarantee for its clients.

Dynamic's performance guarantee, backed by Munich Re, plays a crucial role in supporting its efforts to continue delivering innovative and practical tools to help mitigate risks and shape a more digitised civil infrastructure.

Profile Munich Re

Munich Re is one of the world's leading providers of reinsurance, primary insurance and insurance-related risk solutions. Since it was founded in 1880, Munich Re has been known for its unrivalled risk-related expertise and its sound financial position. It offers customers financial protection when faced with exceptional levels of damage. Munich Re possesses outstanding innovative strength. The company is playing a key role in driving forward the digital transformation of the insurance industry, and in doing so has further expanded its ability to assess risks and the range of services that it offers. The insurance for Dynamic Infrastructure is underwritten by a primary insurance carrier of the Munich Re Group, which is an S&P AA- rated international insurance company. The Policy is subject to exclusions, deductibles, and a policy limit.

Profile Dynamic Infrastructure

Founded by industry professionals with decades of operation and maintenance experience with Public-Private Partnerships, BOTs and Departments of Transportation (DoTs), Dynamic Infrastructure has become an industry leader and key driver for digitising civil infrastructure inventories and creating 3D digital twins. With offices in the US, Germany, Italy and an R&D centre in Israel, Dynamic Infrastructure has analysed over 1,500 assets in the US, Europe and Australia to support civil-infrastructure engineers and managers, transportation authorities, and asset owners to bolster their decision-making processes and day-to-day maintenance and repair work.

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