

Improving infrastructure project performance

An integrated approach for minimising waste, eliminating rework and reducing defects



The state of the industry



The implications of infrastructure rework, waste and project risk

Rework accounts for an average of **9%** of construction costs and causes project delays of approximately **18%** on average

Source: Construction Industry Institute (CII), Report - Construction Rework: The Expensive Do-Over that Drains Time and Money, 2022

Rework can diminish labor productivity by up to **20%**, leading to longer project durations and increased costs

Source: Construction Industry Institute (CII), Report - Construction Rework: The Expensive Do-Over that Drains Time and Money, 2022

Rework is estimated to account for over **USD \$65 billion** annually

Source: FMI, Report - The High Cost of Low Trust, 2022

The implications of infrastructure rework, waste and project risk

Technology is reshaping infrastructure project risk, from data driven decisions to automated problem solving

There is renewed focus on linking decisions to the data that supports them, resulting in understanding which data is used across multiple decisions, and treating data as an asset while also evaluating its true cost

Source: KPMG, Report - Accelerating digital transformation in the infrastructure sector, 2023



Minimising waste, eliminating rework, and reducing defects for infrastructure project risk management



How do we define project waste?

 Time Waste

 Material Waste

 Labour Waste

 Financial Waste

 Defects and Rework Waste

 Environmental Waste

Why reducing project waste is key

- **Minimizing Waste:** Reduce non-value adding activities and resource wastage, lower project costs, shorten project durations
- **Eliminating Rework:** Implement strategies to prevent defects, enhance project performance by avoiding rework and delays
- **Reducing Environmental Impact:** Address waste generation, minimise environmental damage and efficient resource use

Best practices for waste prevention



Lean Construction Principles



Just-in-Time Delivery



Standardized Processes



Effective Resource Management



The importance of reducing rework

- **Minimizing Rework:** Implement planning, quality assurance, and stakeholder communication
- **Cost and Time Savings:** Reduce delays, costs, and productivity losses associated with rework
- **Thorough Planning:** Ensure initial project stages are error-free and aligned with project goals

Identifying, connecting and solving defects early

- Defects can compromise the functionality, safety, and durability of infrastructure assets
- Adopting defect prevention measures, such as quality control systems, training programs, and robust project supervision
- Proactive approaches that focus on preventing defects from occurring in the first place

The importance of evidence collection, transparent records, and documentation for project risk management



The essentials of effective project risk management

- Robust evidence collection, transparent records, and comprehensive documentation
- Identifying, assessing, and mitigating risks throughout the project lifecycle
- Successful adoption of digitisation can contribute to enhancing the efficiency and effectiveness of risk management practices



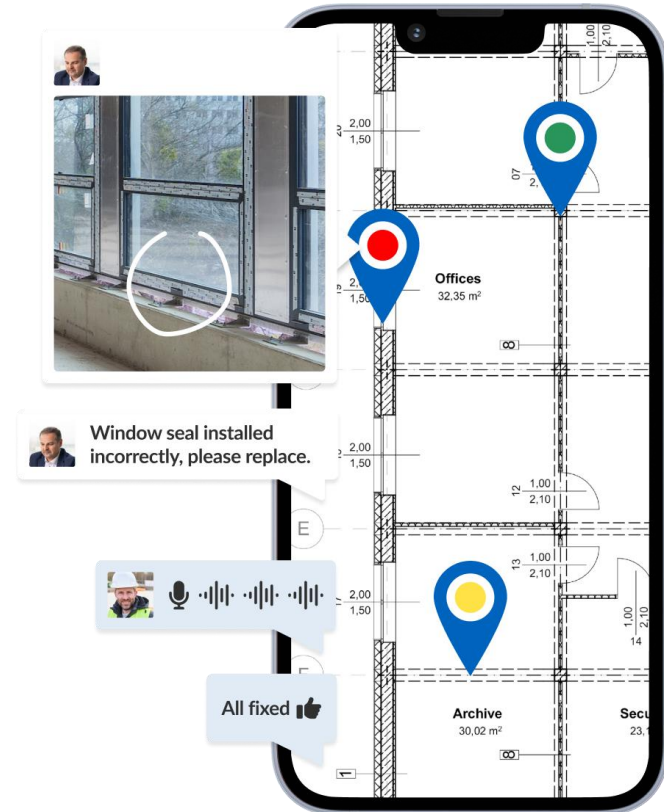
Key strategies for optimal risk management

- Robust Documentation for Risk Management
- Digital Transformation in Evidence Collection
- Streamlining Risk Management



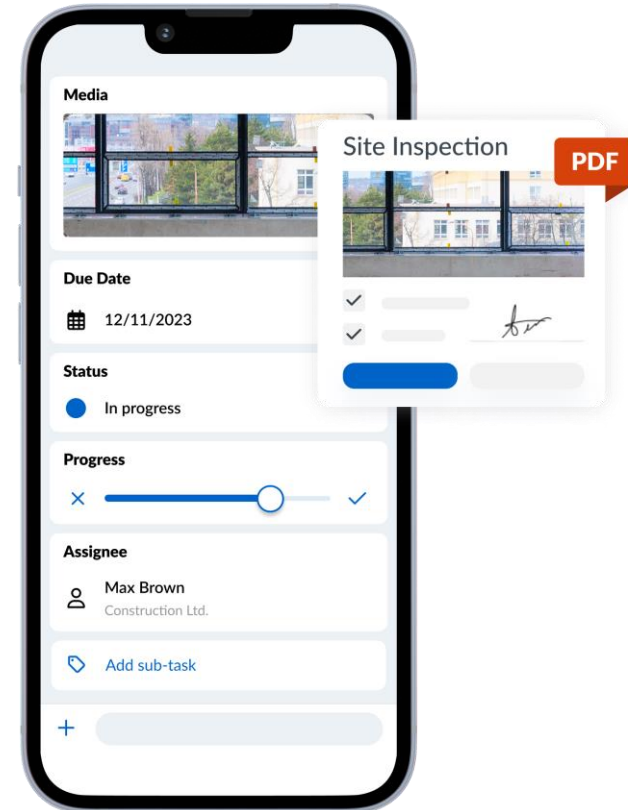
Streamlining evidence collection

- Importance of Evidence Collection for Risk Identification
- Diverse Sources for Comprehensive Insight
- Informed Decision-Making through Real-time Data



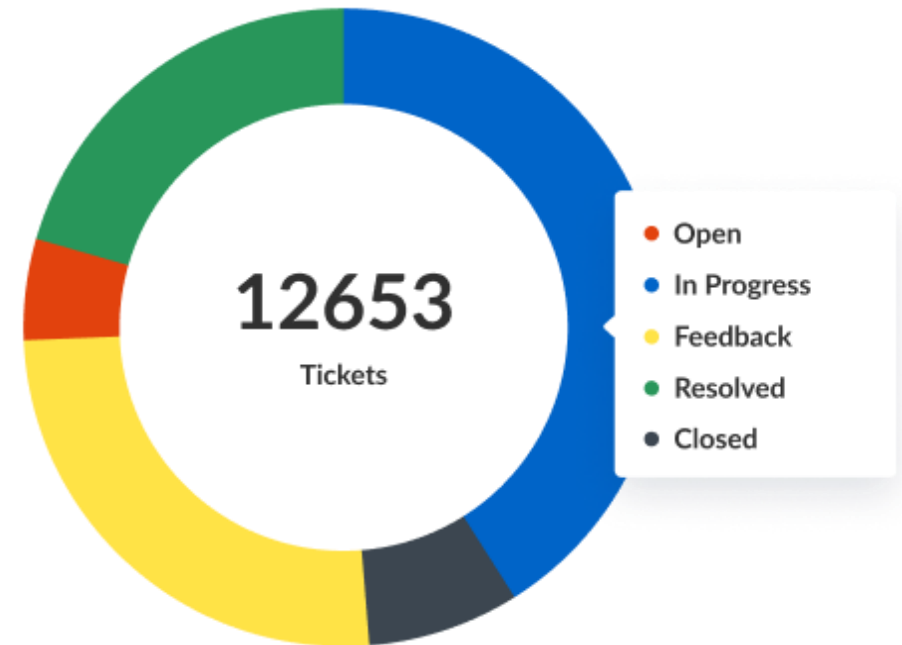
Transparent records and documentation

- Importance of Transparent Records
- Historical Context for Risk Assessment
- Enhancing Accountability and Communication



Capturing and analysing project data

- Digital tools streamline data entry and reduce risk of errors
- Cloud-based platforms provide centralized and accessible repositories for project documentation
- BIM allows for virtual simulations aiding in risk identification, visualization, and evaluation
- BIM supports data interoperability, enhancing collaboration and coordination



Smarter approaches to the “basics” of infrastructure construction



Embracing digital and developing smarter ways of working

- To enhance infrastructure project performance, the construction industry is embracing smarter approaches
- Smarter construction contributes to improved efficiency, productivity, and decision-making



Instant data collection, reporting and integration for proactive quality control

- Traditional methods of evidence collection often involves slower, manual data entry
- Real-time digital data capture enables instant evidence collection and reporting from a range of input sources
- Instant data collection for preventative quality control checks
- Seamless exchange of quality control information
- Valuable insights for project control and decision-making

Improved project data visibility - enhancing collaboration + team quality management



Instant Issue Identification



Timely Quality Reporting



Cross-Team Visibility



Documented Progress



Efficient Resource Allocation



Enhanced Accountability

Leveraging technology to assess and identify early quality control trends

- Data Analytics and Automated Monitoring Systems
- Integration with Building Information Modeling (BIM)
- Benchmarking and Continuous Improvement



Key takeaways



An integrated approach to waste, rework, and defect reduction

- Holistic Process Optimization
- Leveraging Digital Technology
- Measuring Success and Sustainability



Key takeaways for improved stakeholder collaboration

- Prioritize the adoption of digital tools that enable real-time data capture, analysis, and reporting
- Facilitate evidence collection, transparent records, and documentation
- Invest in training and upskilling your workforce when utilizing digital tools and implementing smart construction
- Building a culture of innovation and continuous improvement

The focus on sustainability and environmentally conscious projects

- Strong emphasis on carbon efficiency throughout all project stages
- Continuous measurement and management of carbon emissions, along with other factors such as health, safety, cost, and build quality
- Stakeholders should explore sustainable materials and construction methods
- Implementing effective risk management practices and embracing innovation

About PlanRadar

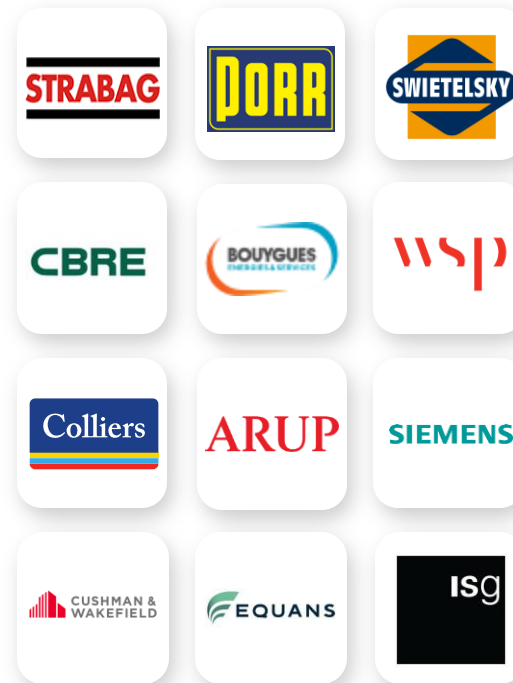
75+

Countries worldwide



25,000+

Weekly projects



120,000+

Users





THANK YOU