



Midlands Highway Alliance Plus
MHA, MSIG, WMHA: Moving Forwards Together

Engineering Better Data: Custom Apps for Smarter Asset Management

The AECOM logo is displayed in a bold, black, sans-serif font. The background of the slide features a large, abstract graphic on the right side consisting of overlapping teal and blue geometric shapes. Two photographs are integrated into the design: a night city street with light trails and a church spire in the top right, and a long-exposure photograph of a highway with red light trails curving into the distance, overlaid with a large white arrow pointing right, positioned in the middle right.

AECOM

Requirements: What do you need to know about your assets?

Data Integrity: How accurate and complete is your asset data?

Whole Life Thinking: What value can you draw from your data

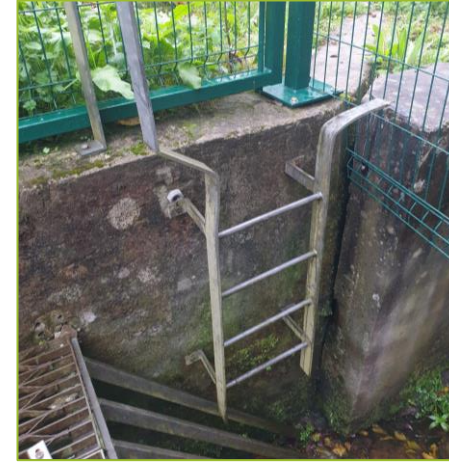
RAIN Inspection App

Objective

- Review & prioritise existing inventory
- Improve safety performance to protect the public & operatives
 - Public Safety & Risk Assessment (PSRA)
 - Operative Risk Assessment (OSRA)
 - CIRIA C786 Assessment
- Complete inspections efficiently, without compromising on quality.

Challenges

- Wide range of asset types / conditions
- Assets often located in remote locations
- No existing guidance on PSRA process



RAIN Inspection App



- **Improve speed, quality and consistency** of inspections and reporting
- Capture / label photographs on site, consistently
- Provide standard, customisable terminology for inspectors



- **Automate report generation** to reduce cost / time spent preparing reports
- Remove paper-based system & digitise



- Calculate PSRA score & identify / prioritise mitigations
- Improve information management & **data integrity**
- Update historic asset records



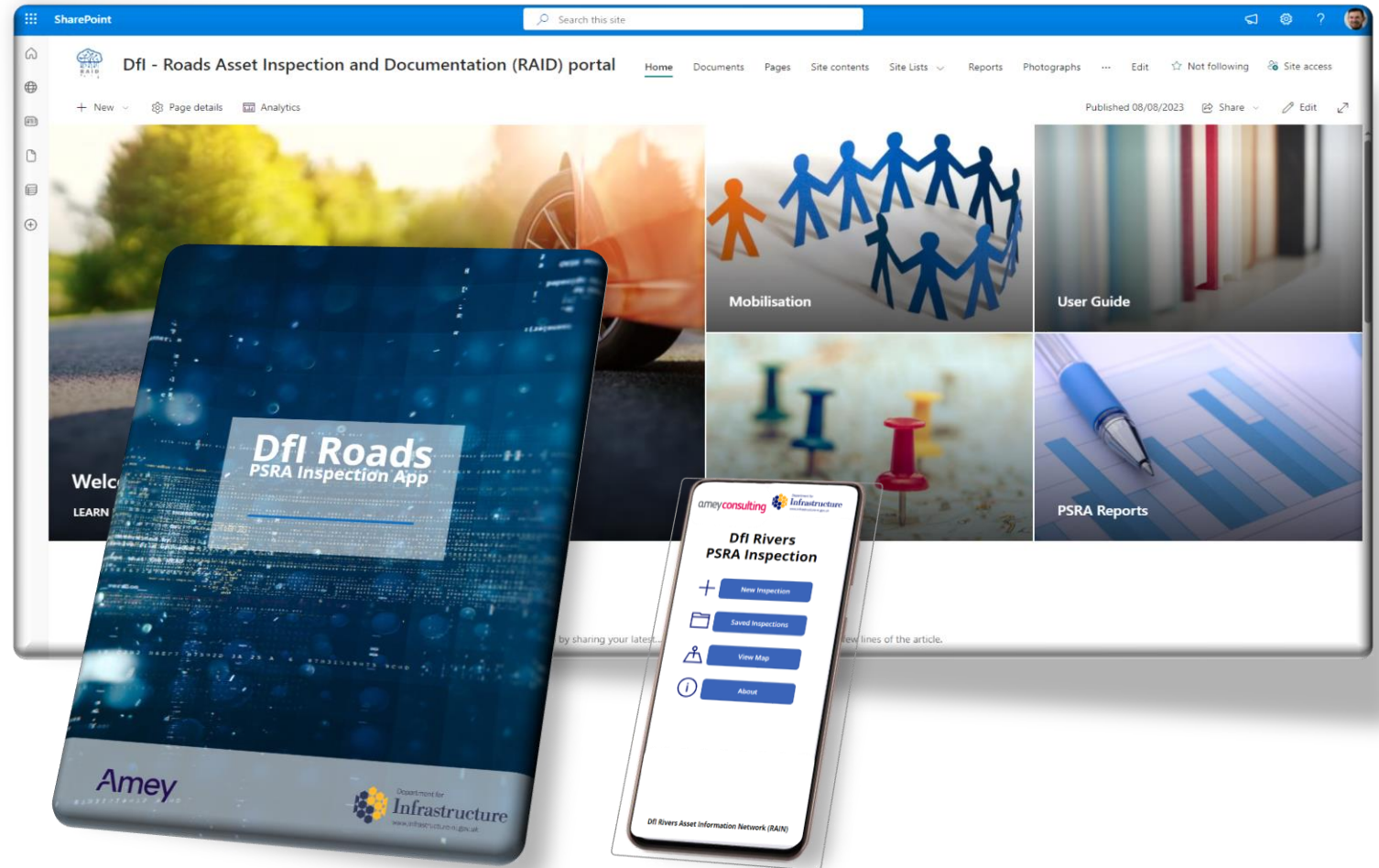
- Create **mobile app** for phone and tablets
- Compatible with Android & iOS
- Works **online and offline**

RAIN Inspection App

Cloud-based data capture and asset management system, developed using the **Microsoft Power Platform**.

SharePoint:

- Manage project, app & asset information
- Provide mobilization & training material
- Dashboards to monitor progress
- Reports automatically regenerated
- Workflow for QA check, review and approve process before final submission to client



RAIN Inspection App

Inspection App developed in **Power Apps**

- Efficiently and accurately capture site data to improve data quality / integrity
- Verify existing asset data
- Standardise inspector input
- Validate inspection data on-site to avoid re-work
- Capture, geolocate and tag images
- Work online & offline
- Secure user log-in
- Contextual support provided in-app



- Reports automatically generated when inspection submitted – ‘ready to review’
- Uses report template that can be easily customised
- Standardised data means reports can be quickly updated on mass, if necessary
- All images automatically added, arranged and tagged consistently
- Workflows for review, approval and sharing of reports with client

Outputs

RAIN Inspection App



Approx. 3500 assets inspected

Wide range of assets inspected, leveraging and supplementing existing asset libraries.



Over £1M work delivered

Inspection App and approval systems successfully used to manage workflows across 2 contracts



Over £100k savings achieved for clients

Significant savings realised through improved inspection process and automated report generation



Agile development of app allowed new functionality to be added during live production

Additional types of inspection added to app with no downtime.



Award winning project & solution, commended by clients and 3rd parties

App and project won several internal and external awards for innovation and safety.

Conclusion



Digital Engineering starts with understanding your information needs

- Don't over-engineer your data model, focus on what adds value



Protect the integrity of your data

- Look for opportunities to capture, standardise, and structure your data



Think whole life

- Use the data you have captured, look for insights, efficiencies and added value



Start small, build smart, and scale what works

- Automate everything, leverage AI e.g. validation

Questions