XAIS-PTS
INFRASTRUCTURE ASSET AND PAVEMENT SOLUTIONS
A PHENNA GROUP COMPANY

ASSET MANAGEMENT SOFTWARE

Providing comprehensive and innovative solutions to meet your asset data management and decision support needs

www.xais-pts.co.uk

Contents:

In a sector that's under unprecedented pressure to do more with less, it's our mission to help clients manage assets more effectively. Our XA© system has been developed to support organisations who wish to manage their assets in a holistic way using best asset management practices - it delivers a step change in asset management.

XA© provides users with the capability to manage entire infrastructure networks from a single console – streamlining the way you record, view, analyse, and utilise your asset data. Allied with our asset and condition data survey technology, the system can be used to deliver comprehensive asset management programming and prioritisation.

Through comprehensive functionality for data visualisation, lifecycle analysis, and long-term planning, XA© also helps stakeholders deliver a more efficient and effective approach to infrastructure asset management.

Our XA© infrastructure asset management software provides the tools for managing data on key infrastructure assets, to maximise the benefit of decisions on all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.

It enables asset managers to drive improvements in the ongoing development and maintenance of highway infrastructure, meeting local needs, affordability, and priorities, and supporting the delivery of the Well Managed Highway Infrastructure: A Code of Practice recommentdations.

XA© CORE SYSTEM

Delivering Critical Carriageway and Footway Management Functions

The XA© asset management platform is built around a UKPMS accredited and PAS 2161 compliant system providing comprehensive functionality for managing infrastructure asset and condition data. Our core system focuses on 5 key areas:

- Network management services
- Asset data management
- Inspection & condition data management
- Decision support analysis
- Value management

XA© provides a royalty-free, fully integrated GIS and mapping system that enables easy visualisation of all asset and condition data within the client's infrastructure network. Not only does this include main carriageways, footways, and cycle routes, but also bridges, signs, lining, lighting, and many other infrastructure assets.

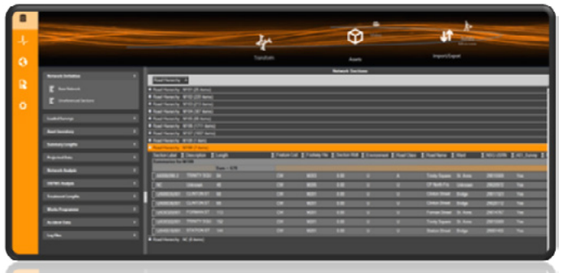
After a condition survey is completed, clients can use the core system to load, analyse, and report on all their asset condition data. It also assists in producing full Forward Works Programme (FWP) plans for each asset based on the maintenance hierarchy outlined in the Well Managed Highway Infrastructure: A Code of Practice.

Network Management Services

Network Management is critical to effective asset management. Within XA© management of infrastructure networks is delivered through several software features including:

- Network visualisations
- Network browsing & search
- Network & section updates
- Spatial importing
- Spatial editing
- Section dashboards
- Document storage

Our team comprises experienced GIS consultants and technicians with local authority network management backgrounds. This combination of skills brings an important understanding of the benefits of a well-managed 'fit for purpose' network.



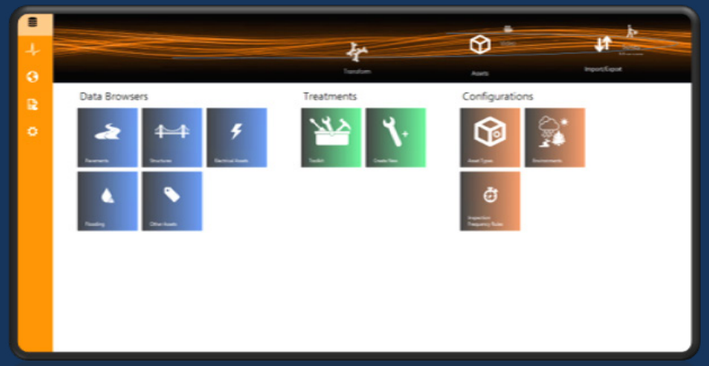
Our network management services range from full network management resource support, including the provision of PMS and Gazetteer software solutions, to specific network quality reviews, associated hierarchy reviews and other bespoke network reviews. Through the XA© Core System, a comprehensive approach to network management is provided.

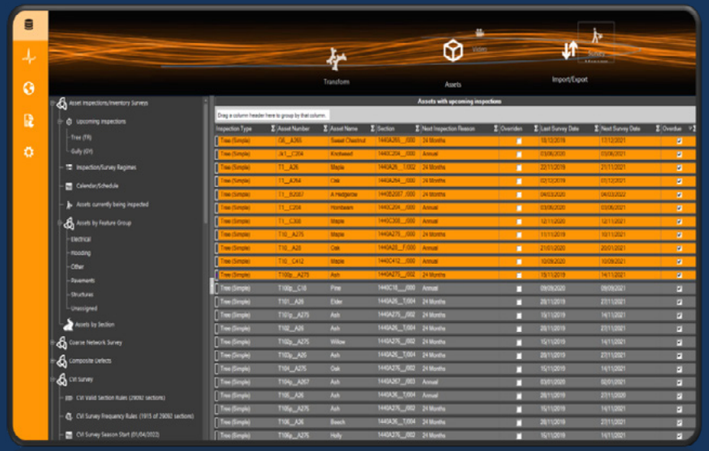
Asset Data Management

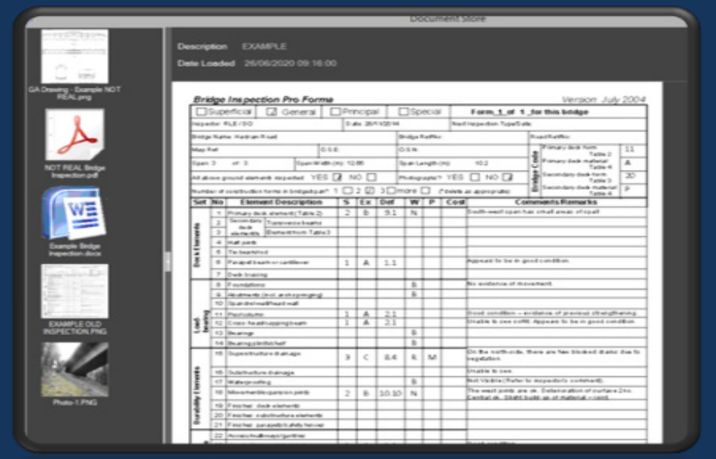
Our asset data management support team are highly experienced in the handling and utilisation of infrastructure asset data, and they hold extensive experience handling new and established data formats.

Within XA©, asset data is managed through several features:

- Asset data spatial importing & updating
- Asset CSV importing & updating
- Asset & attribute configuration
- Asset visualisation & browsing
- Asset dashboards
- Document management



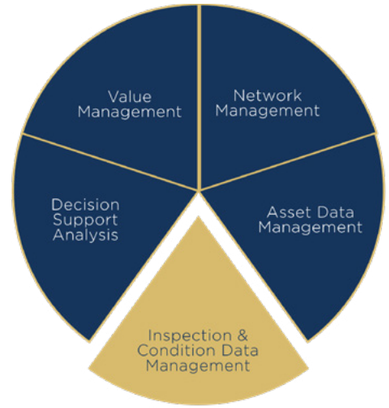




Inspection & Condition Data Management

XA© provides the tools to manage asset inspections and condition data through several features:

- User defined network surveys & defects
- User defined asset inspections & defects
- Treatment management
- Survey & inspections management & scheduling
- Inspection dashboards
- Inspection sign off processes
- Document management
- UKPMS accredition
- BCI calculations
- PAS 2161 compliance



Decision Support Analysis

We provide expert advice to support you in your application of XA© and the analytical stages that XA© provides, which include:

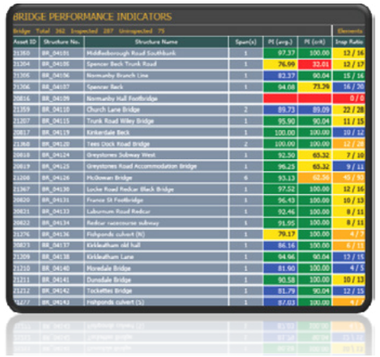
Problem Definition - Working collaboratively with you to define the problem and the decision that needs to be made, taking into account the real-world context

Data Integration - Multi-source survey data is seamlessly integrated and instantly actionable

Condition Projection Modelling - Using analytical models (like decision trees, simulations, optimization models, etc.) and tailored solutions, we model different scenarios across different time periods

Evaluation of Alternatives - XA© supports user defined analysis and we help you compare options based on criteria such as cost, treatment rules, risk, benefit, or time. Through scheme generation analysis and a lifecycle planning approach, we support long-term decisions

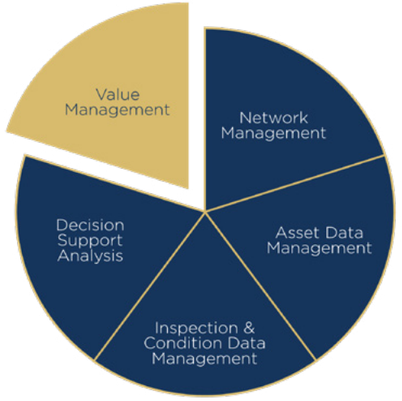
Recommendation and Support - We visualise and present best options to decision-makers

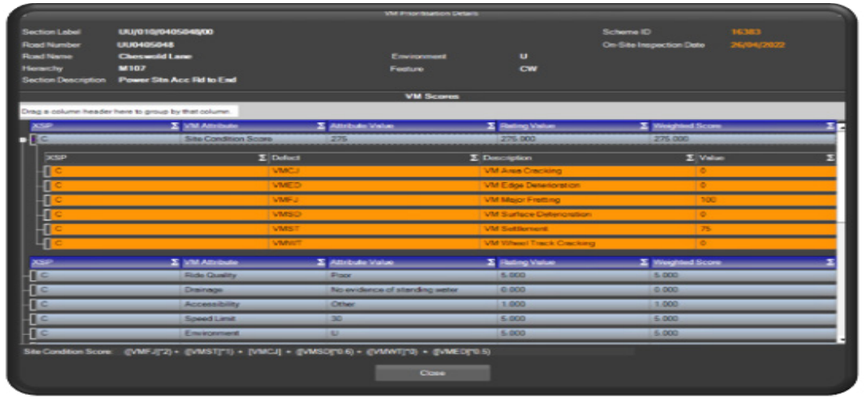


Value Management

Value Management or Value Engineering is a vital asset management process and one we support through our XA© system. We support value management through several core system functions:

- Scheme prioritisations
- Prioritisation scenarios
- User defined prioritisation calculations
- User defined data criteria (including section & asset attributes, condition and on-site data)





Key benefits of taking a value management approach include:

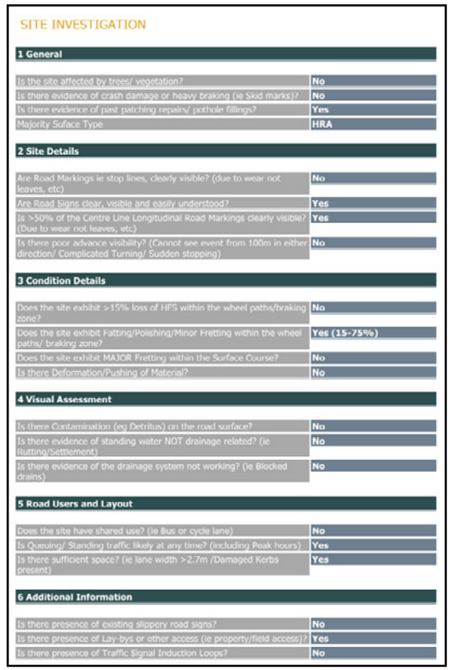
- Reduction of unnecessary costs
- Encourages innovation and creativity
- Leads to better decision-making
- Improved performance and quality
- Enhances stakeholder alignment
- Allows inclusion of non-defect data

XA© RISK MANAGEMENT

Managing Network Skid Risk

According to the Design Manual for Roads & Bridges (DMRB CS 228), skid resistance refers to the frictional properties of the road surface in wet conditions. A lack of grip or a “slippery” road surface can cause road traffic collisions meaning effective monitoring of skid resistance is vital.

Highway managers must demonstrate robust, auditable procedures for assessing and prioritising works based on the risk of skidding therefore and through our survey solutions and XA© Risk Management module, clients gain access to a comprehensive package for managing, monitoring, and reporting on skid risk.


SITE INVESTIGATION

1 General	
Is the site affected by trees/ vegetation?	No
Is there evidence of crash damage or heavy braking (ie Skid marks)?	No
Is there evidence of past patching repairs/ pothole fillings?	Yes
Majority Suface Type	HRA
2 Site Details	
Are Road Markings ie stop lines, clearly visible? (due to wear not leaves, etc)	No
Are Road Signs clear, visible and easily understood?	Yes
Is >50% of the Centre Line Longitudinal Road Markings clearly visible? (Due to wear not leaves, etc)	Yes
Is there poor advance visibility? (Cannot see event from 100m in either direction/ Complicated Turning/ Sudden stopping)	No
3 Condition Details	
Does the site exhibit >15% loss of HFS within the wheel paths/braking zone?	No
Does the site exhibit Fatting/Polishing/Minor Fretting within the wheel paths/ braking zone?	Yes (15-75%)
Does the site exhibit MAJOR Fretting within the Surface Course?	No
Is there Deformation/Pushing of Material?	No
4 Visual Assessment	
Is there Contamination (eg Detritus) on the road surface?	No
Is there evidence of standing water NOT drainage related? (ie Rutting/Settlement)	No
Is there evidence of the drainage system not working? (ie Blocked drains)	No
5 Road Users and Layout	
Does the site have shared use? (ie Bus or cycle lane)	No
Is Queuing/ Standing traffic likely at any time? (including Peak hours)	Yes
Is there sufficient space? (ie lane width >2.7m /Damaged Kerbs present)	Yes
6 Additional Information	
Is there presence of existing slippery road signs?	No
Is there presence of Lay-bys or other access (ie property/field access)?	Yes
Is there presence of Traffic Signal Induction Loops?	No

System benefits include:

- Condition data management (e.g. SCRIM, GripTester)
- Site category & investigatory level management
- Skid policy data management & prioritised actions
- Skid Assessment Lengths (SALs) investigations

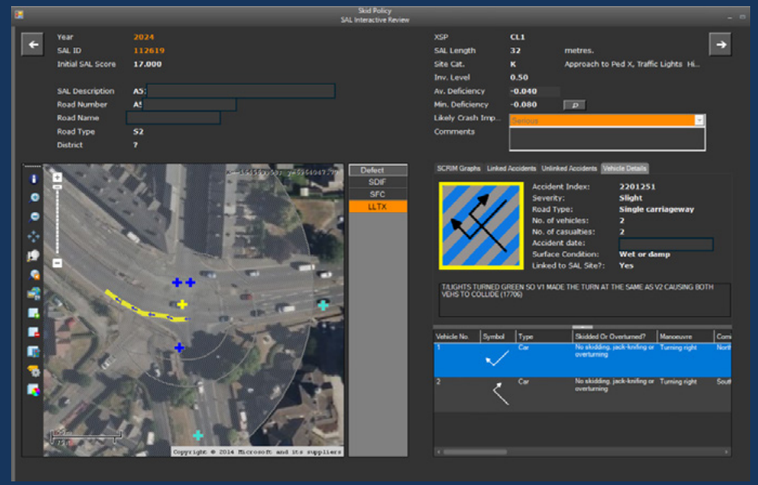
Local Authority Skid Resistance (LASR)

LASR is an award-winning joint research project representing 5 years of extensive research including a 3-year pilot study on 168 sites covering 13 Local Authority networks. The LASR approach supports local authorities in effective network risk management through:

- Focusing on the relationship between skid resistance & collision risk
- Justifying treatment and investment priorities through an evidence-based approach
- Delivery of comprehensive data analysis and detailed site investigations

Within the XA© Risk Management module, clients can access a number of features including:

- Detailed collision reviews to understand the route cause of recorded collisions, which in turn feed into maintenance prioritisation
- Processing of detailed investigations and Skid Assessment Lengths (SALs) to produce prioritised treatments / actions in line with client skid policies and procedures



International Road Assessment Programme (iRAP) Road Safety Analysis

iRAP is a system designed to evaluate and improve road infrastructure safety globally. The aim is to reduce road traffic fatalities and injuries by identifying and addressing high-risk areas, as well as improving road design and management. The iRAP safety assessment evaluates roads based on several factors including:

- **Road design and geometry -** Features such as curves, intersections, lane widths, and road surface conditions
- **Traffic volume and types -** Including vehicle types and pedestrian presence
- **Asset inventory -** Ensuring there are appropriate road signs, signals, protective barriers, line markings and more
- **Road user behaviour -** Analysing how the infrastructure interacts with traffic behaviours, like speeding or unsafe pedestrian crossings

Practical applications include:

- Inspect high-risk roads and develop iRAP Star Ratings and risk maps for motorists, motorcyclists, cyclists and pedestrians
- Track road safety performance and evaluate investment and maintenance decisions
- Integrate iRAP data with other established processes including SCRIM® / SKID analysis and LASR crash modelling, to deliver balanced network safety management outcomes
- Incorporate data within XA© Scheme Assembler to deliver safety focused maintenance. We utilise iRAP safety ratings in our scheme prioritisation as standard
- Minimise the need for engineer site visits
- Complete road safety improvement planning or active travel analysis

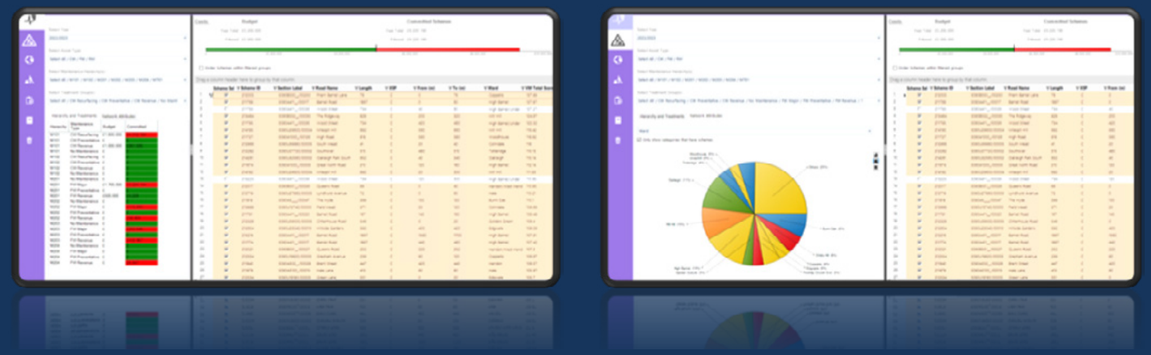
XA© SCHEME ASSEMBLER

Driving Real-World Delivery Through Effective Decision-Making

Our XA© asset management platform offers extensive functionality for the management and reporting of highway infrastructure asset and condition data, and through our XA© Scheme Assembler module, core functionality supports our clients in effective and efficient scheme identification, management and implementation.

XA© Scheme Assembler will assist in the management of all schemes, allowing users to progress a scheme from initial identification as a length requiring intervention, through the practical design phase, and into operational implementation. Scheme support within XA© includes:

- Carriageway
- Footway
- Structures
- Street Lighting
- Trees
- Section 106
- New Developments
- Statutory Undertakers



Within XA© Scheme Assembler, each defined scheme can be validated on-site and designed on a map within the XA© asset management platform as detailed polygon areas of treatment. At this stage of scheme management, users can take advantage of features such as building a bill of quantities, costs, dates, contractor details, and documents with image attachments.

Scheme Management

Having the most effective systems, strategy, and data now means that putting prioritised programmes of work together becomes much simpler and accurate against budgets.

All programme and scheme development is overseen by a qualified engineer. Services include:

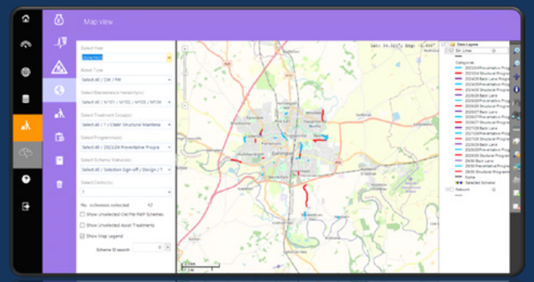
- Prioritised inspection-led programming
- Scheme selection & validation (including on-site validation support)
- Scheme merging
- Budget breakdowns & value management

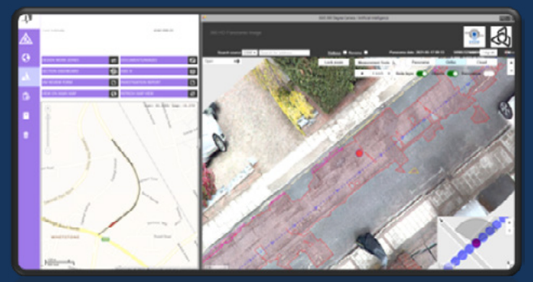
Scheme Building

XA© Scheme Assembler enables existing inventory to be visualised against each scheme. Each inventory item can be selected for renewal, replacement, or removal.

New inventory assets may also be included in the overall scheme design. Scheme building incorporates the following:

- Scheme design
- Bill of quantities / cost frameworks
- Scheme progress management & sign off
- Scheme Integration with asset data





After completion, users can set up their scheme management system to record and compare out-turn costs against estimated / budgeted costs. This information can be securely stored within XA© for future reference.

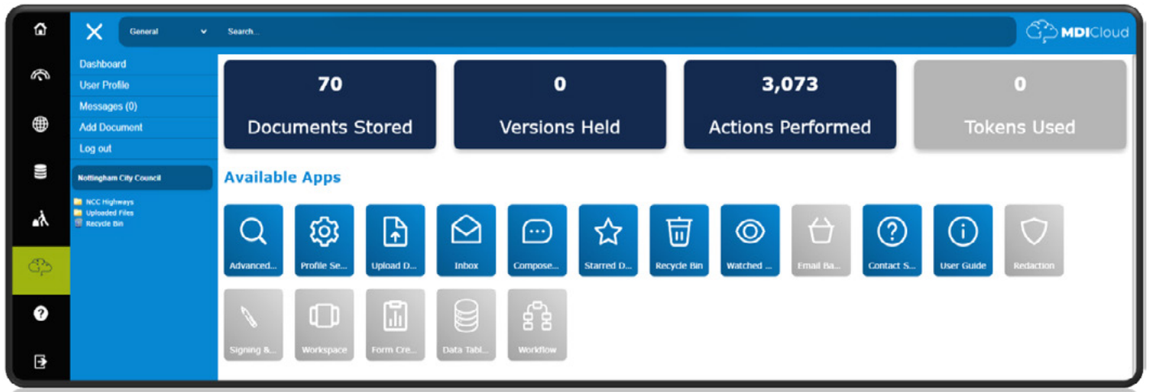
XA© Scheme Assembler delivers added value for clients by offering a comprehensive and fully configurable bill of quantities module. This is pre-loaded with all the items defined in the Design Manual for Roads & Bridges (DMRB).

XA© DOCUMENT MANAGEMENT

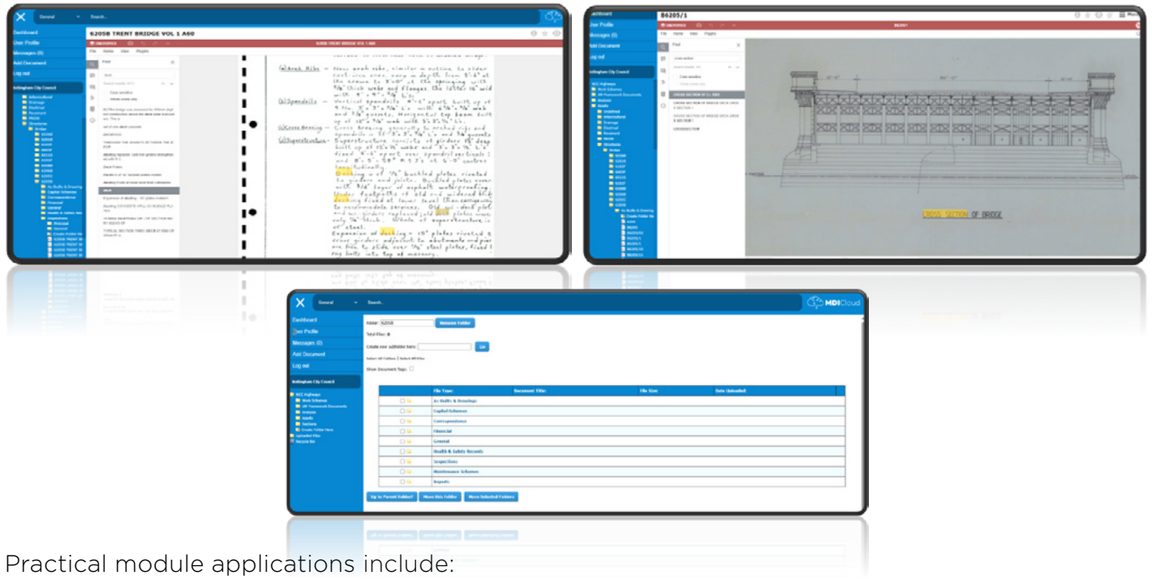
Helping Organisations Store, Interact, and Manage Documents in a Digital World

The XA© Document Management module has been specifically designed around the requirements of highways infrastructure asset managers. Key features include:

- **Seamless data integration -** Effortlessly connect and consolidate data across diverse systems and formats, accelerating digital transformation and operational efficiency
- **Real-time data access -** Enable timely insights with real-time data synchronisation, empowering smarter, faster decision-making across your organisation
- **Security-first design -** Robust encryption, access controls, and compliance frameworks ensure your data stays protected
- **Cost efficiency -** Reduce infrastructure overheads and minimise maintenance with a cloud-native solution that optimises resource usage and lowers total cost of ownership
- **Rapid deployment & flexibility -** Get up and running quickly with flexible deployment options and streamlined onboarding, tailored to fit any IT environment or business need
- **Future-ready -** Support for AI/ML integration, advanced analytics, and evolving data standards positions your organisation for long-term innovation and adaptability



Our XA© Document Management module is also pre-configured for managing all documentation required for both the Department for Transport's (DfT) National Reporting and the Well Managed Highway Infrastructure: A Code of Practice. By offering powerful, end-to-end document management functionality, our system delivers significant benefits to our clients.



Practical module applications include:

- Document storage & editing across all internal strategy and procedural documents
- Document planning, objective monitoring & reporting
- Cabinet member sign-off for policy documents
- Evidence management for all risk-based documentation
- Time-managed disclosure packs to evidence and defend claims

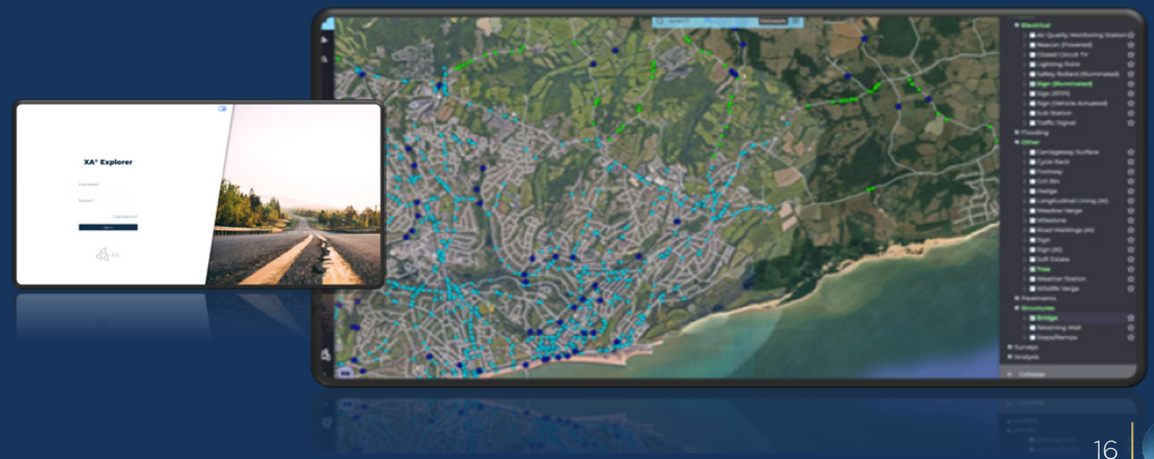
Through XA© Document Management, your organisation can access smart, scalable, and secure data integration, assisting you in managing a variety of government, industry, and local guidance documents, providing the essential link between business need, objectives, and working practices.

XA© EXPLORER

Delivering Data Visualisation for Decision-Support

XA© Explorer is the web-enabled front end of our UKPMS accredited XA© system, providing a user-friendly interface for accessing and interrogating a wide variety of geospatial datasets. Key features of XA© Explorer include:

- Cloud-hosted platform making data easy to access and share
- GIS / Google / interactive mapping interface and management dashboard allows for easy navigation
- Section-level and network-level data visualisations enable analysis at different scales dependent on the nature of your project
- Zoom in and interact with individual sections and associated data to ensure client oversight and assurance of data quality
- Customise data visualisations based on your rule sets and priorities
- Supports identification and prioritisation of specific maintenance schemes
- Provides a full data visualisation solution for benchmarking, network condition monitoring, scheme identification and asset management modelling
- System includes access to our RESTful API, providing clients with the ability to query and integrate our datasets directly into their own system.

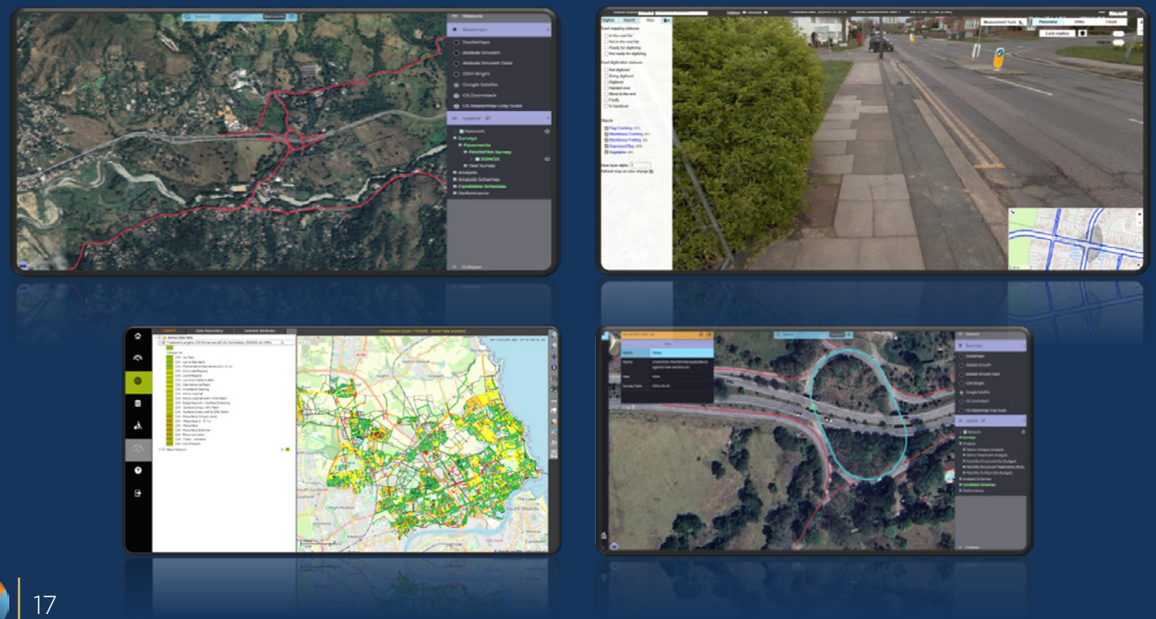


Practical Design for Practical Applications

With the introduction of XA© Explorer, we are making it as simple and engaging as possible for key stakeholders to visualise and understand critical data about the performance of their assets.

Practical geo-spatial data visualisations cover:

- Full asset register
- Asset inspections & recommendations
- Prioritised list of schemes
- Forward works programmes
- Skid & collision data
- Structures management data
- UKPMS data & reporting
- 360° imagery integration
- Document management
- Summary dashboards

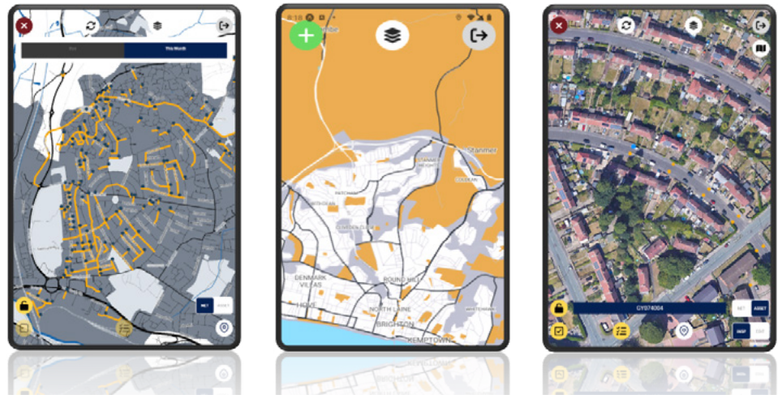


XA© INSPECTOR

Delivering On-Site Software Solutions

XA© Inspector has been specially designed to integrate with data-roaming features on mobile devices. The development of this intuitive digital tool means faster access to critical asset inspection data, be it inventory or condition. XA© Inspector is available for download via the Google Play store. It is a licenced mobile application that also requires the user to have an XA© or XA© Explorer licence. The app delivers a seamless two-way link to XA©, enabling optimised, real-time asset inspection data management. Key features include:

- **Enhanced speed & connectivity –** all asset inspection data can be uploaded to the XA© system in real time (with an active data connection)
- **Mapping functionality -** plot specific asset and defect locations, treatment / works recommendations, & costs, with attribute definition possible for all asset and defect types that have been configured within the XA© system
- **Precise GPS tracking -** obtain geo-referenced information across all inspection types configured within XA©
- **Document support -** attach written summaries & photographic images to inspection records to provide important contextual information



With access to XA© Inspector, the ability to record important information about your assets is in your pocket, whenever you need it.

"XA© has been developed by XAIS-PTS to help asset owners manage their entire infrastructure networks. Our sophisticated infrastructure asset management software is built around meeting the diverse needs of local government highway organisations and agencies, driving meaningful change in the way they manage their assets."

JAMES WALLIS
XAIS-PTS EXECUTIVE DIRECTOR

GET HELP FROM THE EXPERTS

Our XA© infrastructure asset management software is underpinned by the Well Managed Highway Infrastructure: Code of Practice and has been setup to use maintenance hierarchies as per the code of practice.

Through our software solutions, we encourage local government organisations to take a risk-based approach to their highway asset management.

Just starting your asset management journey or looking to upgrade your systems, contact our team today on **01772 792899** or send an email to: **sales@xais-pts.co.uk**

To learn more about our wider services, scan the QR codes below to see the following brochures:

MATERIALS TESTING & CERTIFICATION

ASSET MANAGEMENT SURVEYS

ASSET MANAGEMENT SERVICES

PROGRAMME DEVELOPMENT, FEASIBILITY & ASSURANCE, DESIGN & DELIVERY

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