

LOT 3: CLOUD SUPPORT

Service Definition Document

Service: EAM Consulting and Advisory

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1 Arcadis

Arcadis is the world's leading company delivering sustainable design, engineering, asset management, technology and consultancy solutions for natural and built assets. With more than 36,000 people across 30 countries, we work with transport, infrastructure, and utilities clients globally to help them manage their assets more intelligently, sustainably, and efficiently.

We are a Patron of the Institute of Asset Management, ensuring our approach is fully aligned to the ISO 55000 standard and is continually informed by global best practice taken from different asset intensive industries.

Arcadis has a proven track record supporting major rail operators through EAM enabled transformation. We have helped Transport for London improve asset lifecycle planning and system integration across one of the world's busiest metro networks, following a migration journey from Ellipse to Maximo that is potentially similar to Network Rail's. We've also partnered with IBM to lead a transformational Maximo EAM solution at Amtrak, replacing their legacy EAM systems, improving resilience, compliance, and operational decision-making.

As part of the Asset Management journey, Arcadis has developed market-leading AIP software, EDA, extending the value of the EAM system and implementation to allow rail and infrastructure clients to use sophisticated solvers to apply predictive analytics to the data held within the EAM system. Our clients can model their assets and optimize their capital planning to unlock funding and ensure optimal return on investment of key infrastructure projects.

Founded in 1888, Arcadis has over 135 years of experience delivering integrated solutions for the natural and built environment. Today, we are recognized globally for leading on sustainability, digital transformation, and infrastructure resilience, ranking number one in our sector for ESG performance (Sustainalytics) and in the top 1% of companies globally for sustainable business practices (EcoVadis).

Through every project we deliver, we are committed to our mission: Improving Quality of Life.

2. Service Description

We provide specialist Enterprise Asset Management consulting services for organizations seeking to improve their asset management practices, system implementations, and data structures. Our services support public sector organizations in maximizing the value of their physical assets through expert advice and assessment.

Our consulting portfolio includes five core services:

Service	Description
Digital Asset Management Maturity Assessment (DAMMA)	Comprehensive assessment of current business performance with Asset Management Software, comparing against industry best practices and providing recommendations
GIS Interfacing	Technical configuration and implementation of IBM Maximo Spatial interfaces to ArcGIS services for streamlined asset creation and geographic analysis
Data Structure Consulting	Expert review of existing asset data structures, hierarchies, and data quantities with recommendations for improvements based on industry best practices
MAS Upgrade Readiness	Technical assessment of existing Maximo installations to identify customizations, integrations, and risks for upgrading to Maximo Application Suite
License Assessment & Monitoring	Analysis of Maximo license usage and app points to ensure appropriate access levels and identify optimization opportunities

2.1 Digital Asset Management Maturity Assessment (DAMMA)

Service Overview

This consultancy initiative assesses your organization's current business performance with Asset Management Software and compares it against our process library, which is aligned with industry best practices including ISO 55001 standards.

Assessment Coverage

The assessment includes:

- Business Process Assessment
- Technical Architecture Assessment
- Data Model Assessment (optional)
- High-Level Organizational Change Assessment (optional)

Deliverables

You will receive:

- Workshop outputs with visual process diagrams
- Output reports including recommendations per process
- Simplified system architecture diagrams
- Data layouts to visualize complex data models
- Final presentation with findings and recommendations

Delivery Approach

Phase	Activity
Planning	Arrange workshop schedules and locations
Workshops	Deliver functional workshops with key stakeholders
Documentation	Provide workshop outputs and summary report
Presentation	Final presentation with findings from all reports

Resource Requirements

Role	Duration
Asset Management Consultant	4 weeks (full time)
Technical Architect	2 weeks (full time)
Project Manager	4 weeks (2 days per week)
Data Specialist (optional)	1 week (full time)
Organizational Change Management Specialist (optional)	1 week (full time)

2.2 GIS Interfacing

Service Overview

GIS and EAM are partner technologies in the asset lifecycle. For geographic assets, a GIS link provides deeper analysis and decision-making support beyond standard list or report outputs from an EAM. IBM Maximo Spatial has capability for a standard interface to ArcGIS services for asset, work order, and fault data exchanges.

Benefits

- Streamlined asset creation from GIS data
- GIS analysis of EAM data (work order heatmapping, site planning)
- Geographic analysis of faults and work orders
- Enhanced decision-making through geographic visualization
- Integration with construction data for new assets

Delivery Approach

Phase	Activity
Discovery	Discovery of both EAM and GIS systems and data structures
Configuration	Configurations to EAM and GIS to enable interface
Testing	Testing of interface functionality

Resource Requirements

Role	Duration
EAM GIS Specialist	15 days
GIS Operator	12 days
Project Manager	5 days

2.3 Data Structure Consulting

Service Overview

We provide expert consulting on your existing data sets, with focus on structure and hierarchies. Using our experience in developing, correcting, and enhancing asset data for EAM systems, we identify transformation and enhancement opportunities for your asset data.

Asset Areas of Expertise

Fleet Assets:

- Diesel Locomotives
- Electric Passenger Units
- High-Speed Fixed Compositions
- Wagons
- Buses, Trucks, and Lorries
- Light Rail

Infrastructure Assets:

- Rail LANDS Model
- Highways Model
- Buildings and Facilities
- Rail Depots and Yards
- Water Pump and Treatment Networks
- Nuclear facilities

Deliverables

The data assessment includes:

- Data hierarchy analysis and recommendations
- Data quantity calculations
- Data source identification
- Report on data quality and recommended improvement steps
- Example hierarchies for key assets

Delivery Approach

Phase	Activity
Planning	Planning of data workshops
Workshop 1	Executing data workshop on hierarchies
Workshop 2	Executing data workshop on quantities and location
Reporting	Providing report and example hierarchies

Resource Requirements (per Asset Area)

Role	Duration
Asset Management Consultant	2 weeks
Data Specialist	1 week
Project Manager	2 weeks (2 days per week)

2.4 MAS Upgrade Readiness

Service Overview

Maximo Asset Management is one of the most widely used EAM software solutions for physical asset management. The latest version, MAS 9, was released in 2024. Prior versions like 7.6 are still widely used due to upgrade complexity. We assess your Maximo installation (including integrations, configurations, and customizations) to define the steps and risks for upgrading to MAS infrastructure.

Benefits

- Expert assessment of upgrade complexity and risks
- Comprehensive listing of all customizations
- Identification of customizations to retain or remove
- Risk register for upgrade process
- Increased system portability and maintainability

Delivery Approach

Phase	Activity
Kick-off	Kick-off meeting with administration access granted
Discovery	Technical consultant discovery of custom features
Analysis	Develop risk register for upgrade
Reporting	Prepare and present report on customizations and risks

Resource Requirements

Role	Duration
Technical Consultant	2 weeks
Project Manager	2 weeks (2 days per week)

2.5 License Assessment & Monitoring

Service Overview

Maximo licenses (now calculated through App Points) grant your organization access to Maximo Application Suite. This includes Manage (classic Maximo Asset Management) and various addons, alongside other products available in the suite: Health, Monitor, Visual Inspection. We provide assessment of your license usage to ensure appropriate access levels.

Benefits

- Assurance your access to Maximo is appropriate for usage
- Identification of headroom for expanding App Points into addons
- Potential reduction in total licenses required and operating expenses
- Early detection of oversubscription issues
- PowerBI dashboard for ongoing monitoring

Deliverables

- Report on current licensing outlay
- Analysis of user access and app points
- PowerBI dashboard for ongoing license monitoring
- Recommendations for optimization

Delivery Approach

Phase	Activity
Kick-off	Kick-off meeting with database access granted
Analysis	Licensing specialist analysis of usage statistics
Dashboard	Creation and configuration of PowerBI dashboard
Reporting	Present report on current licensing and recommendations

Resource Requirements

Role	Duration
Licensing Specialist	1 week
Project Manager	2 weeks (2 days per week)

2.6 APM Programme (Predictive to Prescriptive) Design and Launch

Service Overview

We design and launch Asset Performance Management (APM) programs that progress from predictive to prescriptive maintenance. This includes use-case selection, sensor strategy, data pipelines, and machine learning operations.

What We Deliver

- Use-case triage and prioritization
- Sensor and instrumentation strategy
- Data pipeline design (edge to cloud)
- Model selection and validation
- MLOps framework for model lifecycle
- Prescriptive policies that auto-generate work orders with risk-cost trade-offs

Delivery Approach

Phase	Activity
Discovery	Identification and prioritisation of APM use cases; assessment of sensors, data availability, and operational readiness
Design	Development of sensor strategy, data pipeline architecture, and model approach
Build	Configuration of data flows, model development, and MLOps framework
Testing	Validation of models, data quality, and prescriptive workflow automation

Resource Requirements

Role	Duration
Data Specialist	15 days
Asset Management Consultant	10 days
Project Manager	5 days

2.7 AI-Assisted Maintenance and Work Intelligence

Service Overview

We deploy and tune AI assistants embedded in EAM platforms (IBM Maximo Assistant) to improve work order management, failure analysis, and technician productivity.

What We Deliver

- Embedded AI assistant deployment and tuning
- Work order classification
- Knowledge base optimisation for AI supported troubleshooting

- Failure pattern mining from historical data
- Technician copilot configuration
- Benefits tracking dashboard (MTBF, first-time fix rate, backlog reduction, mean time to repair)
- Configuration documentation and operational handover guide

Delivery Approach

Phase	Activity
Discovery	Review of work order quality, data readiness, historical failure records, and EAM workflows
Configuration	Deployment and tuning of AI assistant, work order classification, and copilot features
Model Tuning	Mining of historical data, optimisation of classification and recommendation accuracy
Testing	Validation of model outputs, assistant responses, and technician workflow integration

Resource Requirements

Role	Duration
EAM Specialist	10 days
Data Analyst	8 days
Project Manager	4 days

2.8 BIM-to-Ops Handover Acceleration

Service Overview

We accelerate the handover of information from project delivery to operations by defining Exchange Information Requirements (EIR) and automating structured handover into EAM/APM systems.

What We Deliver

- Exchange Information Requirements (EIR) definition
- COBie file review, assurance, and validation reports
- Delivery team output assurance process
- Automated structured handover workflows
- Acceptance test criteria, validation checklists, and approval workflows
- Operational handover playbook and documentation
- Training for project and operations teams on information handover standards

Delivery Approach

Phase	Activity
Discovery	Review of current handover processes, BIM standards, and required operational data for EAM/APM
Definition	EIR development, COBie requirements definition, and handover process mapping
Automation	Configuration of automated handover workflows and data validation routines
Testing	Validation of structured handover data, COBie files, KPIs, and acceptance criteria

Resource Requirements

Role	Duration
BIM Specialist	12 days
Asset Management Consultant	10 days
Project Manager	4 days

3. Service Constraints

Resource Availability

Senior consultants require advance booking. We recommend providing 2-4 weeks notice for engagement start dates after contract award.

Technology Scope

Our services focus on:

- EAM information systems
  - ArcGIS for GIS interfacing services
  - BIM
  - Asset-intensive industries (rail, transportation, infrastructure, water, nuclear)

Client Responsibilities

To deliver our services, you must provide:

- Availability of key stakeholders for workshops and meetings
- Executive-level buy-in for process adoption (DAMMA)
- Administrative access to systems where required
- Test environments for technical configuration work
- Facilities for hosting consultants or access to collaborative workspace

Service Scope Boundaries

Our services are scoped as assessment and consulting. The following activities require separate engagements:

- Implementing recommended changes (separate implementation project)
- Executing system upgrades (separate upgrade project)
- Fixing data quality issues (separate data remediation project)
- End-user training on EAM or GIS systems
- Ongoing system support or maintenance

4. Service Levels

Response Times

Type	Response Time
Initial inquiry response	Within 2 business days
Project communication during engagement	Within 1 business day
Urgent issues during active engagement	Within 4 hours during business hours

Availability

Our consultants are available during your local business hours (Monday to Friday, 09:00 to 17:00). For projects spanning multiple time zones, we arrange coverage appropriate to your needs.

Deliverable Quality

All deliverables undergo internal review before delivery. If deliverables do not meet agreed specifications, we revise them at no additional cost.

Project Timelines

Service	Duration	Calendar Weeks
DAMMA	4-6 weeks	8-10 weeks
GIS Interfacing	3-4 weeks	6-8 weeks
Data Structure Consulting	2-3 weeks	4-6 weeks
MAS Upgrade Readiness	2-3 weeks	4-6 weeks
License Assessment	1-2 weeks	3-4 weeks

5. After Sales Support

Following completion of consulting engagements, we provide:

Clarification Period

We offer a 30-day clarification period after final deliverable submission. During this time, we respond to questions about our findings and recommendations at no additional cost.

Extended Support Options

Beyond the clarification period, you may purchase:

- Additional consulting days for follow-up questions
- Workshops to present findings to additional stakeholders
- Implementation support for recommended changes
- Ongoing advisory services through retainer arrangements

Related Services

Organizations often engage us for related services following consulting engagements:

- EAM implementation projects
- System upgrade execution
- Data remediation projects
- Training and change management
- Managed services and system hosting

6. Technical Requirements

To deliver our services, the following technical requirements apply:

For All Services

- Secure communication channels (email, video conferencing)
- Document sharing capability (cloud storage or file transfer)
- Meeting facilities (physical or virtual)

For DAMMA

- Access to current business process documentation
- Access to system architecture documentation
- Read-only access to your EAM system (if applicable)

For GIS Interfacing

- Administrative access to test Maximo environment
- Administrative access to test ArcGIS environment
- Network connectivity between EAM and GIS systems
- Test data for interface validation

For Data Structure Consulting

- Access to data exports from your EAM system
- Examples of asset information (digital or paper)
- Engineering drawings or technical documentation

For MAS Upgrade Readiness

- Administrative access to Maximo environment
- Access to application server and database server
- Documentation of customizations (if available)
- Information about integrations with other systems

For License Assessment

- Read access to production Maximo database
- PowerBI infrastructure (for dashboard delivery)
- Current license agreement documentation