PRODUCT DATA SHEET

Bentley
Advancing Infrastructure

CONNECT Edition

AssetWise® Asset Reliability – Strategy Development

Develop Proactive Inspection and Maintenance Programs for New or Existing Assets in a Digital Twin Environment

The roadmap to operational excellence starts with strategy development – determining the proactive actions needed for the sustainable, reliable, and safe operation of production assets. Strategy development uses formal methods to determine the activities required to meet asset performance goals within the asset's current operating context and mitigate intolerable risk.

The CONNECT Edition

The SELECT® CONNECT Edition includes SELECT CONNECT*services*, new Azure-based services that provide comprehensive learning, mobility, and collaboration benefits to every Bentley application subscriber. Adaptive Learning Services helps users master use of Bentley applications through CONNECT Advisor, a new in-application service that provides contextual and personalized learning. Personal Mobility Services provides unlimited access to Bentley apps, ensuring users have access to the right project information when and where they need it. ProjectWise® Connection Services allow users to securely share application and project information, to manage and resolve issues, and to create, send, and receive transmittals, submittals, and RFIs.

The Foundation of an Asset Performance Management Process

Strategy development is the ideal starting point for launching a digital roadmap to operational excellence. It is the foundation of Bentley's renowned process for managing asset performance, integrity, safety, and reliability. Use strategy development to build a technically validated reliability and maintenance body of knowledge, then execute the program on a daily basis using AssetWise Asset Health Monitoring. Get immersive visibility of the asset failure modes and current performance within the digital twin. Benefits include:

- Reduction in maintenance costs of 10% – 20%
- Increase in availability of 2% – 10%
- Reduce spare parts inventory by 10% – 30%
- Reduce insurance costs up to 10%

Risk mitigation strategies and multiple risk matrices.

Asset Risk Prioritization

Ensure your reliability improvement is focused on the right assets. Rank them by failure consequence and probability of failure, and calculate relative risk at the system level.

Reliability-Centered Maintenance

Determine what must be done to ensure that assets continue to meet performance requirements in their present operating context.

Maintenance Task Analysis

Identify failure modes and reliability action plans based on existing operations and maintenance knowledge.

Current Practices Review (CPR)

Quickly automate existing inspection programs forming the basis for consistent, qualitative, and quantitative mobile inspection routes for immediate gains.

Risk-based Inspections (RBI)

Maintain mechanical integrity of pressurized equipment and minimize the risk of containment loss due to deterioration.

Safety Analysis and Management

Safety instrumented systems and functions (SIS.SIF) identify and assess risks and support processes to ensure assets are safely inspected and maintained.

Asset Condition Assessment

Set up an evaluation matrix of categories and scores to assess the overall condition of your assets for refurbishment, upgrade or replacement planning.

Asset Restoration Plans

Determine expenditure plans investigation, design, procurement, commissioning of asset refurbishment, upgrade or replacement.

System Requirements

Deployment Options
- Hosted by Bentley
- On-premises or self/third-party hosting

Databases Supported
- Microsoft SQL Server and Oracle

Technical Architecture
- Microsoft.NET
- Winforms user interface components
- Load balancing, application server management, hosted under IIS
- Unified deployment and migration capabilities
- Encrypted secure https communication between client, application servers
- OpenID authentication, Active Directory federation, multifactor authentication - Or Windows authentication

Find out about Bentley at: www.bentley.com

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AssetWise Strategy Development At-A-Glance

Asset Hierarchy
- Manage high volumes of assets from multiple sites
- Unlimited sites and hierarchy levels
- Track-to-level required to monitor condition
- Basis for consistent strategy to be applied across the enterprise or fleet
- Track equipment/component installation in functional locations
- Easily remove/move to other functional locations retaining accurate historical information
- Quickly identify poor performers out of very large asset populations
- Analyze and report on data by hierarchy

Smart Copy/Asset Templating
- Copy components and assemblies, systems, and entire site hierarchies, including condition indicators and maintenance plans
- Reduce implementation time and effort
- Ensure consistency across multiple sites in your enterprise

Asset Risk Prioritization and Criticality Assessment
- Assess the potential impact of asset failure based on safety, environmental integrity, output, quality, costs, customer service, or other factors
- Considers likelihood and consequence of failure
- Objective determination of the relative risk (to identify reliability improvement projects) and criticality (to prioritize maintenance)

Reliability Strategy Selector
- Deliver the fastest results with the right mix of reliability strategy development practices
- Objectively and systematically determine which of your assets require RCM2 and which are suitable for MTA or CPR
- Tailorable, risk-based approach
- Auditable reference for regulators

Strategy Development Analysis (SDA) study
- Formally track the document/record and approval status for MTA, RCM, RBI, and SIF analyses
- Studies act as an envelope for an analysis to version control, draft, current, and archive records

Safety Analysis and Management
- Analysis of loss of containment scenarios
- Identify and assess risks at system level as well as for related assets
- Support process to meet safety requirements and compliance
- Ensure assets are safely inspected and maintained to reduce or eliminate risk
- Includes safety instrumented systems (SIS) and functions (SIF), safety integrity level (SIL), HAZOP, risk matrix, and layer of protection analysis
- Supports multiple safety standards including ISA 84, IEC 61511, IEC 61508, IEC 61882, etc.

Feasibility Evaluation for MTA, RCM, and RBI Failure Modes
- Determine the cost of maintenance strategies as well as the cost of asset failure
- Balance the cost of performing preventive maintenance against the cost of actual repairs

Risk-based Inspections (RBI)
- Specialized practice to identify best inspection and maintenance strategy for pressure systems, tanks, and other containers based on risk tolerance and criticality
- Documents the threats, failure mechanisms, failure modes, and barriers to maintain asset integrity
- Guides you through evaluation of the risk and development of the risk mitigation strategy

Reliability-centered Maintenance
- Process used to determine what must be done to ensure that any physical asset continues to do what its users want it to do in its present operating context
- Comprehensive practice, most effective strategy for high-risk assets (where relative risk exceeds the tolerance level set by management)
- Use in design stage and for new assets
- Use for assets with highly developed maintenance programs that still deliver poor performance
- Addresses hidden failures
- JA1011/1012 compliant

Maintenance Task Analysis (FMEA)
- Intermediate practice to rapidly identify reliability programs based on existing operations and maintenance knowledge (capture knowledge of retiring workforce)
- Supported by templates and online content
- Includes standard jobs and tasks for scheduled restoration or discard, condition monitoring activities, asset health indicators, and corrective actions
- Use of FMEA templates and smart copy results faster to implement and realize benefits

Cloud-based Asset Reliability Program Templates
- Online expert library and content community
- Templates jump-start your reliability program
- Review for operating context

Current Practices Review (CPR)
- Baseline review practice that automates existing valid paper-based inspections and rounds, preventive maintenance (PM) tasks, condition-based maintenance routes, and operating and setup procedures
- Use when quick results are required to initiate change from a highly reactive environment to a more proactive culture
- Validates existing practices
- Implements a mobile approach to inspection and work management

Condition Assessment
- Evaluation matrix by asset class
- Score assets for refurbishment, upgrade, or replacement

Asset Restoration Planning
- Evaluation matrix by asset class
- Review and document financial plans for expenditures for investigation, design, procurement, commissioning of asset refurbishment, upgrade or replacement