Optimized Utility O&M Routines Enabled by Geospatial Technology

Richard Zambuni
Global Marketing Director – Geospatial and Utilities
About Bentley

Bentley’s mission is to provide innovative software and services for the enterprises and professionals who design, build and operate the world’s infrastructure—sustaining the global economy and environment, for improved quality of life.
Bentley Solution Offerings

A solution includes:

- Intra-operable software product portfolio
- Professional services and learning
- Professional communities networking

Bentley Solution Offerings:

- Process Manufacturing
- Mining and Metals
- Power Generation
- Communications
- Construction

- Government
- Buildings
- Campuses
- Rail and Transit
- Environmental

- Roads
- Bridges
- Utilities
- Water and Wastewater
- Asset Management
Bentley’s Utilities Solution

- Intelligent substation design
- Transmission corridor planning and tower design
- Design of power generation infrastructure
- Asset lifecycle information management
- Utilities GIS
- Engineering information management
- Distribution network design and analysis
Industry Proven
What is Bentley sisNET?

- **Bentley sisNET** is a multi-utility GIS for operations decision support, designed to improve operations and maintenance workflows at energy and water/wastewater utilities.

- **Bentley sisNET** offers a comprehensive product portfolio, offering secure, multi-user access to utility network assets:
  - Desktop clients for editing, analysis and review
  - A field client for disconnected workflows
  - Web publishing server and clients
TenneT – Transmission Utility, Netherlands
The Organization

- Europe’s first cross-border grid operator for electricity
  - Among top five operators in Europe
- Transmission lines (NL)
  - 290km of 450 kv
  - 2032 km of 380 kv
  - 653 km of 220 kv
  - 532 km of 150 kv
- 52 substations (NL)
TenneT – Transmission Utility, Netherlands

Project Objectives

• Implement up-to-date GIS-based asset register to support reporting and O&M routines

• Overcome current challenges of unstructured workflows, inconsistent data capture, insufficient attribute capture, poor graphics, no business rules, single system for all users (no differentiation between expert and view-only seats)

• Improve compliance and reports to regulatory authorities

• No data loss
TenneT – Transmission Utility, Netherlands

Project Outcomes

- Customized data model to support high and very high voltage infrastructure both above and below ground (compliant with DIN EN 50341 and 50423)

- Migration of data from legacy GISs

- Publishing of the new GIS over the Web

- Integration with TenneT’s SCADA, network analysis, and ERP systems

- Spatially-enabled access to engineering information

- Improved data quality, accurate reporting
Essent – District Heating Utility, Netherlands

The Organization

- Essent Local Energy Solutions
- Sustainable district heating solutions
  - Waste heat from power, biogas, biomass, and waste incineration plants
- Major provider in Breda and Tilburg
  - Several smaller networks in country
- 300 employees
- 80,000 customers
Essent – District Heating Utility, Netherlands

Project Objectives

• New cost-effective GIS system
  – Design, management, operation of district heating networks

• Integration with existing software
  – Network analysis
  – Thermal-hydraulic calculation

• Implement in just six months
  – No data loss
Essent – District Heating Utility, Netherlands

Project Outcomes

- Bentley sisNET selected
- Differentiators
  - Utility-specific GIS functionality
  - Five-year total cost of ownership
  - Ability to meet six month schedule
  - Interoperability with sisHYD
- Delivered on time and within budget
Essent – District Heating Utility, Netherlands

Project Outcomes

• Comprehensive GIS solution
• Enhanced design workflows
  – Data instantly available for hydraulic and thermal calculations
• Improved operations
  – Field workers can access map and attribute data and make redlines
  – More efficient automated “call before you dig” service
The Software Ecosystem Leveraging GIS Data for O&M Routines

AssetWise is an operations information modeling platform for delivering asset lifecycle information management to owner-operators of infrastructure assets…

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a suite of interoperable applications and on-line services to improve the management and operational performance, safety, compliance of infrastructure assets.
eB Insight Capabilities for Utilities

Controls information throughout the lifecycle of change

- Document Control
- Records Management
- Requirements Management
- Configuration Management
- Knowledge Management
- Incident Management/Corrective Action
- Transmittals
- Industry-specific Applications
Engineering Information Management

ProjectWise

Continuous Handover

AssetWise

WIP - Work in Progress Collaboration

Asset Information - Management of Change
For more information…

• Please visit www.bentley.com/utilities

• To find out more about Bentley sisNET, eB, ProjectWise and more, please visit Bentley’s booth # 5 in the exhibition hall

• To contact me: richard.zambuni@bentley.com

THANK YOU