Bentley®
Advancing Infrastructure

PRODUCT DATA SHEET

OpenTower® iQ

The Solution for Telecom Tower Lifecycle Maintenance

OpenTower iQ combines the power of digital twins, structural analysis, and advanced artificial intelligence (AI) to revolutionize telecom tower maintenance. It provides a single, accessible view of truth that increases interdepartmental collaboration and supports critical decision-making.

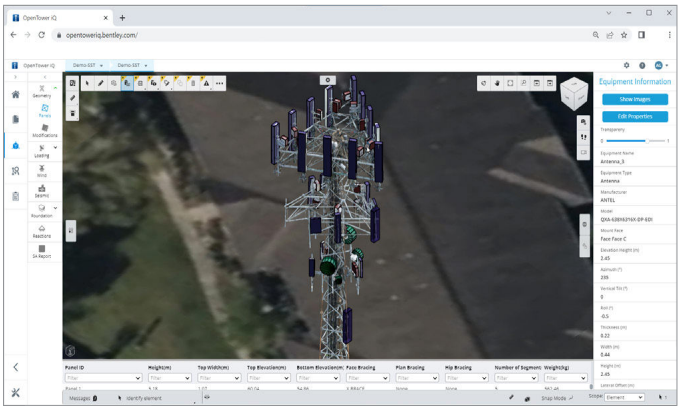
From data acquisition to site maintenance and approvals, OpenTower iQ supports automated workflows throughout all tower lifecycle stages, making telecom infrastructure management efficient and reliable.

SIMPLIFYING INFRASTRUCTURE OPERATIONS

Tower owners, mobile network operators, and service providers experience challenges with tower infrastructure that often lacks as-built data and accurate representations of the tower, its inventory, and lease space. OpenTower iQ's digital twin technology revolutionizes the operational efficiency of existing telecom towers by addressing data limitations, speeding up tower lifecycle processes, and reducing costs.

ACCESSING ACCURATE TOWER DATA

OpenTower iQ provides reliable data accessibility and comprehension in tower management. The software utilizes advanced AI algorithms to process and classify all available data, enabling rapid analysis and informed decision-making. By creating accurate digital twins, the software provides a comprehensive view of each tower, acting as a single source of truth for all tower-related information. This visualization allows tower managers to quickly identify issues, predict future problems, and make proactive decisions to mitigate risks.



OpenTower iQ's automated asset detection highlights equipment on the tower and provides information including manufacturer, model number, and general measurements.

CREATING EFFICENCY AND REDUCING OPERATIONS COSTS

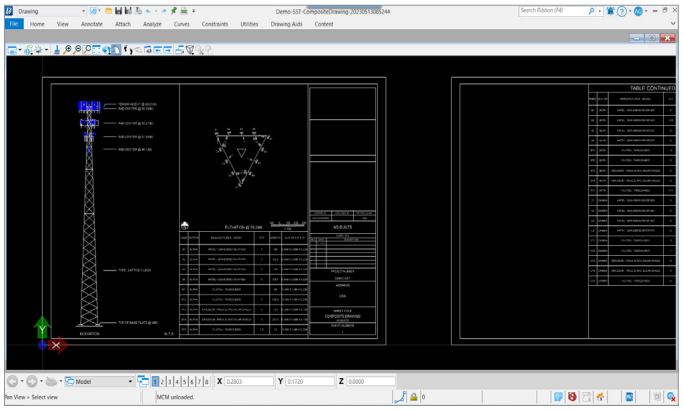
OpenTower iQ detects and classifies tower type, tower mounted equipment (TME), ground equipment, and critical measurements. It automates the entire process of detection and identification by utilizing OpenTower iQ's extensive library of OEM equipment and its capability of ingesting data from multiple sources, including reality meshes and point clouds, DWG drawings, PDF drawings, Excel tables, and legacy design models such as OpenTower Designer, MStower, RISA-3D, and tnxTower.

OpenTower iQ's multitenanted database can then be used for recollection and analysis, automating common business practices throughout the tower lifecycle such as:

- Tower and mount mapping and structural analysis
- Tower and mount space availability reports
- Tower inspections through the visualizer
- Tower mounted equipment inventory
- Rad center square inch calculations
- Drawing generation

Users can integrate OpenTower iQ with their internal systems through a comprehensive set of public APIs.

With these automations, OpenTower iQ creates efficiencies in operating processes, saving time and reducing costs.



A generated composite drawing of a self-supported tower shows elevation drawing, mount plan drawing, and equipment table.

SYSTEM REQUIREMENTS

MINIMUM: Computers and mobile devices with 8 GB memory or higher, graphics card supporting WebGL, screen resolution of 1024 x 768 or higher, high-speed internet connection, and chromium-based browser (such as Microsoft Edge or Google Chrome).

RECOMMENDED: Intel® or AMD® 64-bit processor 2.8 GHz or greater, 8 GB memory or more, dedicated graphics card with a minimum of 2 GB VRAM or more.

OpenTower iQ At-A-Glance

DIGITAL TWIN TECHNOLOGY WITH IMMERSIVE 3D VISUALIZATION

- Provides a single source of truth for all tower-related information
- Enables accurate and informed decision-making
- Immersive 3D visualization for comprehensive tower inspections
- Fly through models for a detailed understanding of the tower's conditions
- Tagging and annotation features available

AUTOMATED DETECTION AND CLASSIFICATION

- Auto-detects tower type, equipment, mounts, feedline, anomaly, bracing, and general measurements
- Detects and classifies tower inventory by referencing catalogs to identify the manufacturer and model number/type

ADVANCED STRUCTURAL ANALYSIS

- Generates mount mapping reports
- Automates mount structural analysis
- Calculates positional parameters like horizontal offset, vertical offset, azimuths, and standoff distances
- Fully automated mount capacity analysis for tower maintenance and equipment updates, as well as space availability, variance, and inventory reporting
- Rad center square inch calculations

DRAWING GENERATION

- Supports automatic drawing generation in DXF and DWG formats
- Simplified logo uploads and configures the drawing setup
- Generates composite drawings for pre- and post-construction assessment
- Automatically generates and accesses instantaneous tower elevation drawings and plan view drawings with the pre-construction and post-construction reporting add-on
- Construction reporting add-on edits discrete appurtenances, including adding, removing, or modifying antennas, remote radio units (RRUs), microwave dishes, and other equipment

REPORTING

- Space-availability reports – automatically reports the horizontal and vertical space on a tower that can be used for new rad centers or addition of equipment to an existing rad center
- Variance reports – compares as-designed to as-built post construction to identify the position and orientation of antennas
- Inventory reports – list of tower mounted equipment including radios and antennas
- Leasing area usage reports – calculates critical parameters such as square inch and cubic inch utilization that can be compared to lease exhibits to determine under and over utilization of tenant space

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