

Mentum Ellipse

Superior Planning, Management and Optimization
of Next-Generation Backhaul Networks

The pressure on mobile operators to upgrade and expand legacy transmission infrastructure for LTE and LTE-Advanced backhaul is here to stay. The deployment of new X1 and X2 interfaces and connectivity for 3G and 4G small cells means that engineers have to plan larger and more complex networks. And, they must do so in the most time- and cost-efficient way possible. Mentum Ellipse® is a software application for the dimensioning, planning and optimization of microwave and optical backhaul networks. Relying on trusted engineering methods, it incorporates all the latest ITU specifications required for accurate network design. More than just an engineering tool, Mentum Ellipse is a carrier-grade platform that supports the entire backhaul lifecycle, from design to management and optimization.

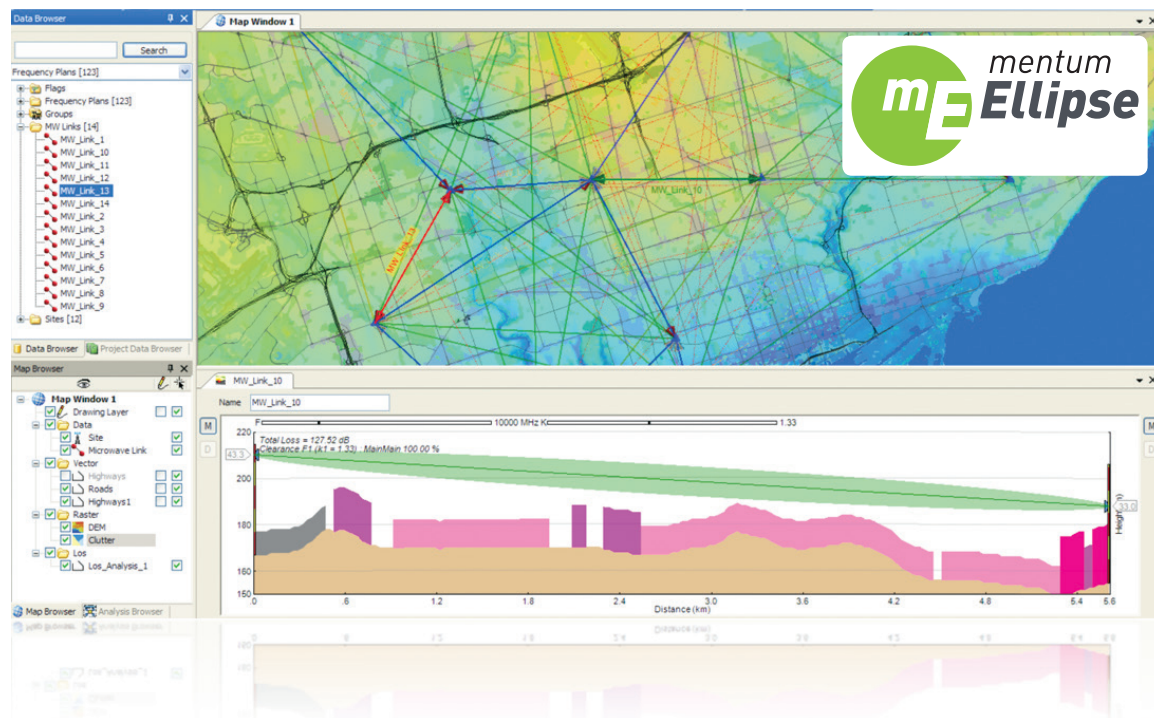


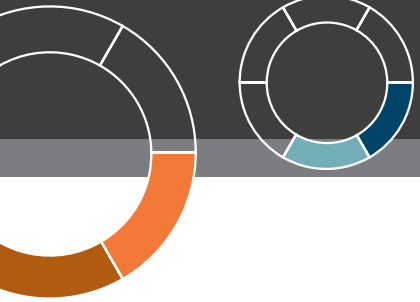
Figure 1. Mentum Ellipse Graphical User Interface

State-of-the-Art Planning and Management of Hybrid Microwave and Optical Transport Networks

Operators adding new coverage, increasing capacity or upgrading transmission networks need accurate planning and optimization software. Mentum Ellipse enables operators to accurately predict and address the dimensioning and management challenges brought on by LTE, small cell and WiFi-offload services. Its carrier-grade software architecture also enables reliable multi-user collaboration via a powerful data manager that ensures resilient and consistent national transmission network designs.

Engineers using Mentum Ellipse are able to proactively plan and manage microwave networks by:

- Designing reliable microwave and NLOS links
- Designing optical links for managing combined wireless and fixed backhaul networks
- Reducing backhaul CAPEX via accurate dimensioning
- Reducing backhaul OPEX via efficient network management and optimized frequency spectrum



Innovation Leads the Way

Mentum Ellipse is a leading software product for transmission design and optimization. It provides support for planning, operation and optimization of wireless backhaul networks. Mentum Ellipse leads the market with its ability to support the largest Tier-1 carrier environments for which customers require reliable and flexible deployment options and workflows that support real operational efficiencies. It drives innovation across the board with cutting-edge software that boasts efficient bulk reporting (HTML style sheets and Excel) and a new, patent-pending, off-path analysis tool. Mentum Ellipse takes full advantage of the latest software technologies in its future-proof platform. More than ever, it is the leader when it comes to

hybrid-grade products capable of supporting both microwave and optical link designs and management. Mentum Ellipse – it's a product that will stand the test of time.

Innovative

- .NET based architecture
- Use of standard file formats
- Customizable bulk reporting
- Patent-pending off-path analysis tool
- Leading NLOS capabilities
- Transmission and RAN integration through Mentum Planet

Real-World Planning Solutions

The true value of any engineering simulation tool is its ability to replicate real-world environments. Mentum Ellipse features a full path-profile analysis that includes Fresnel zone clearance, multiple k-factors, terrain/clutter/building visualization, reflection analysis and antenna height optimization. It takes into account several resolutions for terrain altitude as well as obstacle heights associated with clutter type, buildings and the digital elevation model layer. All of this is available with an intuitive and highly interactive GIS, which offers the ease of use required to quickly master the application.

Mentum Ellipse also includes the most comprehensive equipment database to ensure real configurations of stations, antennas and other critical equipment required for consideration in the link analysis. Templates chosen in configuration wizards help engineers to achieve quick and robust link designs by filtering according to distance, antenna diameters and availability objectives. Additionally, by leveraging a powerful line-of-sight (LOS) engine, Mentum Ellipse automatically detects all possible

candidates from a particular site and finds LOS path solutions between any two sites without direct visibility. As a result, engineers can plan short, medium and long microwave links, confident that their designs will deliver and perform highly in the real network environment.

Mentum Ellipse offers the unique functionality to manage the complete transport layer of a network. It does so by supporting legacy and next-generation fixed and optical technologies to provide network capacity and connectivity between backhaul network domains.

Accurate

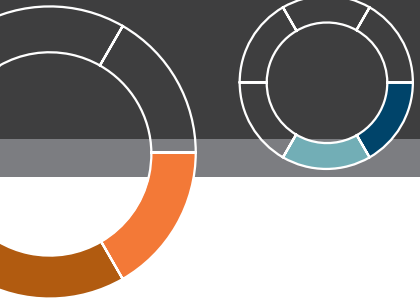
- Highly interactive GIS
- Line-of-sight analysis
- Detailed path analysis
- Advanced automatic channel allocation
- Unique Transport module
- Detailed antenna modeling, including 3D patterns

Scalable Solution

Designed specifically with transmission engineers in mind, Mentum Ellipse provides its users with all the information needed, where and when they need it. With a modern look and feel, an intuitive navigation flow and an easy online knowledge base, microwave engineers can quickly get started and leverage the full potential of Mentum Ellipse's capabilities. Through built-in wizards and a centralized database manager that promotes multi-user collaboration, Mentum Ellipse ensures the operational gains and efficiencies required to plan, manage and optimize today's and tomorrow's complex backhaul infrastructures.

Easy and Future-proof

- Contextual online help (F1)
- Large-scale backhaul network management
- Online equipment database
- Inclusion of the Geodata Explorer
- Multi-user capabilities



Mentum Ellipse Benefits

Increased Efficiency, Consistency and Collaboration.

Centralized data management allows for efficient collaboration and reliable designs.

Cost Effective

Detailed link design and assessment features allow engineers to cost-effectively define optimal backhaul architecture.

Unmatched Accuracy

Increases accuracy and saves time, allowing engineers to aggressively push more data through the existing spectrum.

Complete End-to-end Solution

Delivers a complete wireless access and backhaul planning and optimization solution with Mentum Planet integration.

Ease of Use

By using open, industry-standard formats, Mentum Ellipse enables simple installation and quick project configuration.

Superior Microwave Link and Optical Planning

Full path-profile analysis, including Fresnel zone clearance, multiple K-factors, terrain/clutter/ building visualization, reflection analysis, off-path obstruction analysis and more.

Mentum Ellipse Software Editions

	Basic	Professional	Enterprise	Ultimate
Microwave Link Design	Yes	Yes	Yes	All Inclusive
Network Design and Management	No	Yes	Yes	All Inclusive
Multi-User Collaboration	No	No	Yes	All Inclusive
Add-Ons	No	Optional	Optional	All Inclusive
Integrated with Mentum Planet	Yes	Yes	Yes	All Inclusive
Licensing	Stand-alone	Stand-alone or shared	Stand-alone or shared	Stand-alone or shared
Support	Silver	Gold	Gold	Platinum

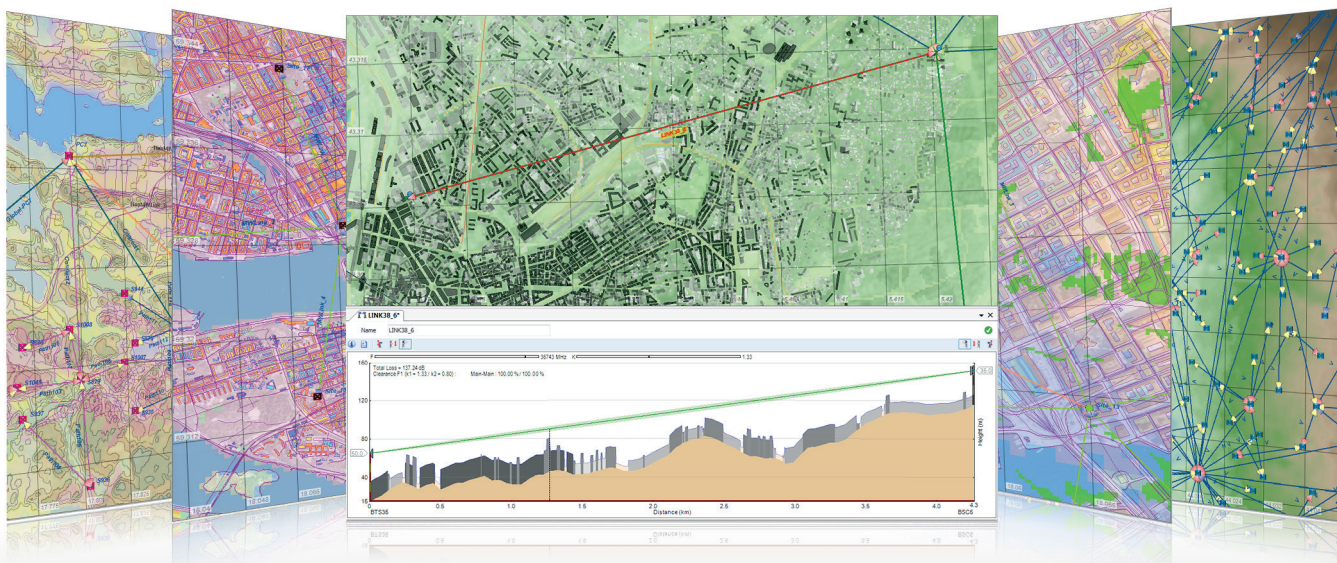


Figure 4. Mentum Ellipse Graphical User Interface.

Mentum Ellipse Software Editions

Mentum Ellipse is offered in four distinct editions in order to meet both your requirements and your budget. The support levels, from Silver to Platinum, follow the edition levels.

- **Mentum Ellipse Basic Edition:** microwave link design including project management and advanced geodata handling.
- **Mentum Ellipse Professional Edition:** a professional grade solution for microwave network design and wireless backhaul management.
- **Mentum Ellipse Enterprise Edition:** a centralized multi-user solution capable of managing large wireless backhauls with several engineers collaborating on the network design.
- **Mentum Ellipse Ultimate Edition:** a high-end solution for enterprises, including all Mentum Ellipse modules.



About InfoVista

InfoVista is the leading provider of IP and RF planning, assurance and optimization software solutions and services that enable efficient network and IT transformations. Our award-winning solutions empower communications service providers and IT-intensive enterprises to deliver high-performing and differentiated services while cost-effectively planning, operating, optimizing and monetizing their network. InfoVista's combined expertise and technology innovations in radio and IP networks provide more than 550 customers worldwide with a new level of network intelligence, visibility and control across the entire network life cycle. Using InfoVista's solutions, they deliver optimal quality of service, ensure a high-quality user experience, invest appropriately and consolidate their OSS/BSS ecosystems while keeping total cost of ownership as low as possible. For more information, please visit www.infovista.com.



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