

ASSET Suite



ASSET Suite



The ASSET Suite is a comprehensive planning portfolio designed to deliver cost-effective high performance networks for 2G/3G/4G and 5G.

A network plan is never static. As traffic grows and moves, a network's design needs tweaking; plugging coverage holes and adding capacity where required. Additionally, new technologies such as 5G need to be deployed on top of existing networks in the most efficient and cost-effective manner possible. This requires careful planning, especially when technology layers are expected to work together as a seamless network.

"TEOCO is able to offer the kind of large-footprint solutions for assurance and network planning and optimization that CSPs increasingly desire." - Analysys Mason

The products within the ASSET Suite cover radio, backhaul and capacity planning across a wide range of technologies. Key to the success of the ASSET suite of products is its ability to seamlessly integrate into your wider business, delivering business process automation and improving overall planning efficiency and accuracy.

- **Understand traffic demand** by leveraging crowdsourced data, geo-located traffic data and performance and configuration management network data
- **Address all aspects of network planning:** macro, small cell, backhaul, multi-height coverage and capacity and automated design optimization
- **Deliver 5G:** validate business cases, model scenarios and plan 5G networks



TEOCO is a network engineering tools market leader

For over 5 years, Analysys Mason has ranked TEOCO as a leading vendor of network engineering software tools.

ASSET Suite



The ASSET Suite is a comprehensive planning portfolio designed to deliver cost-effective high performance networks. The ASSET Suite consists of the following products:



ASSET Radio

Radio network planning. Coverage, capacity, cell parameter and neighbor planning for wireless networks.



ASSET Backhaul

Wireless backhaul planning. Microwave link planning, path profiling and frequency interference analysis.



ASSET Design

Automated network design. Automated optimization of existing cell configurations, as well as the placement of new sites.



ASSET Web

Web UI for planning tasks. A lightweight and fast workflow-based UI for common planning tasks.



ASSET Update

Planning tool update. Update ASSET with actual network configuration settings to enable planning from a valid baseline.



ASSET Geo

Geo-located usage maps. Enables more accurate radio network planning and network design optimization.



ASSET Radio is a radio planning tool, providing RF coverage, capacity, cell parameter, and neighbor planning for wireless and mobile cellular networks.



Deliver a cost effective, high performance network

The migration to new technologies and architectures such as Open RAN presents considerable challenges for operators across their radio, transmission and core networks. ASSET Radio provides comprehensive coverage, capacity, cell parameter and neighbor planning capabilities for 2G, 3G, 4G and 5G networks. 3GPP compliant modeling of carriers, bearers, services and terminal types is supported as are TDD and FDD network modes.



Integrate to 3rd party tools and automate business processes

Radio network planning is no longer a standalone business activity; a planning tool needs to connect to the wider business to leverage the vast amounts of valuable data available to deliver better plans, as well as to enable the move towards an orchestrated architecture. A suite of robust APIs allow ASSET to seamlessly and reliably integrate with other systems including inventory, site acquisition, site rollout, configuration management, and performance management. This integration approach delivers business process automation, significantly improves radio network planning accuracy and ultimately network performance.



Validate 5G business cases and plan 5G networks

ASSET delivers all the radio planning capabilities you need to design the best 5G network possible. Maximize CAPEX efficiency by validating 5G business cases and technology decisions. Reduce time-to-market and maximize revenue potential with sound roll-out plans. Reduce pressure on design teams with highly efficient planning and design optimization capabilities. Validate propagation models by importing 5G measurements and model Dynamic Spectrum Sharing to ensure a successful deployment. Last but not least, maintain customer QoS by successfully integrating 5G and your existing network technologies.

Hyper accurate coverage predictions are becoming critical for network planning, especially at higher frequencies where cell sizes are small. ASSET Radio has a number of components to ensure accurate predictions.



Landscan Population Maps

LandScan™ is the finest resolution global population distribution data available and is well suited to the needs of CSPs due to the smart modeling approach employed to disaggregate census data. TEOCO processes LandScan™ data to make it usable in ASSET Radio. This data is invaluable for network expansion budgeting and planning and ensures accurate population-covered statistics for regulatory and marketing purposes.



3D Building Vector Data

Building vector data is a useful addition for more accurate LTE planning but is mandatory for 5G, especially where millimetre wave frequencies are concerned. TEOCO's innovative approach to 3D building data creation results in a dataset with exceptional accuracy. ASSET's support for 3D predictions, 3D traffic spreading and 3D simulations ensure highly accurate network modelling.



Advanced Propagation Modeling

Advanced propagation models improve the accuracy of predictions, providing support for 3D building vector data support, mmWave frequency support and multipath and reflection modeling. This is critical for 5G planning. ASSET supports both the MYRIAD and Volcano models.

ASSET Backhaul



ASSET Backhaul is a wireless backhaul network planning tool providing microwave link planning, path profiling, frequency and interference analysis and routing and capacity optimization.



Backhaul is critical to your network performance

The migration to 5G and LTE presents considerable challenges for operators across their radio, transmission and core networks. Backhaul is now a much higher percentage of a sites costs and is increasingly becoming the bottleneck to meet the expanding data needs of customers. ASSET Backhaul is designed to help you overcome the technical challenges of backhaul network planning and deliver a high performance network while keeping costs in check.



Identify the most suitable wireless backhaul technology

Small cells with their high capacity and typically dense urban deployment locations provide numerous transmission planning challenges. A successful transmission plan requires a number of technologies from microwave to copper to fiber as well as some specialized microwave technologies such as point-to-multi-point links, non-line-of-sight links and microwave and millimetre wave radios. ASSET Backhaul helps you identify the best backhaul option for each site considering both performance and cost.



Deliver the optimal backhaul design

ASSET Backhaul delivers a number of advanced features to help you achieve the best backhaul network. A few highlights include routing and capacity optimization with what-if scenarios, frequency and interference analysis with support for Adaptive Modulation and Coding and path profiling based on the latest ITU recommendations.

ASSET Design



ASSET Design provides an automated approach to the optimization of existing cell configurations, as well as the placement of new sites.



Configure a candidate location strategy

ASSET Design can use pre-determined candidate locations or a greenfield approach when placing new cells. In a greenfield scenario, it can place candidate locations along roads, at evenly spaced grid intervals and uniquely, around buildings. If a list of candidate site locations is available this can be imported into ASSET Design via a csv file. These locations will then be used when evaluating new site locations. Importantly, this file can contain also cost information relating to site acquisition, rental, build, backhaul and power connectivity that can be used to add a cost element to the optimization algorithms.



Optimize the network to your business and performance needs

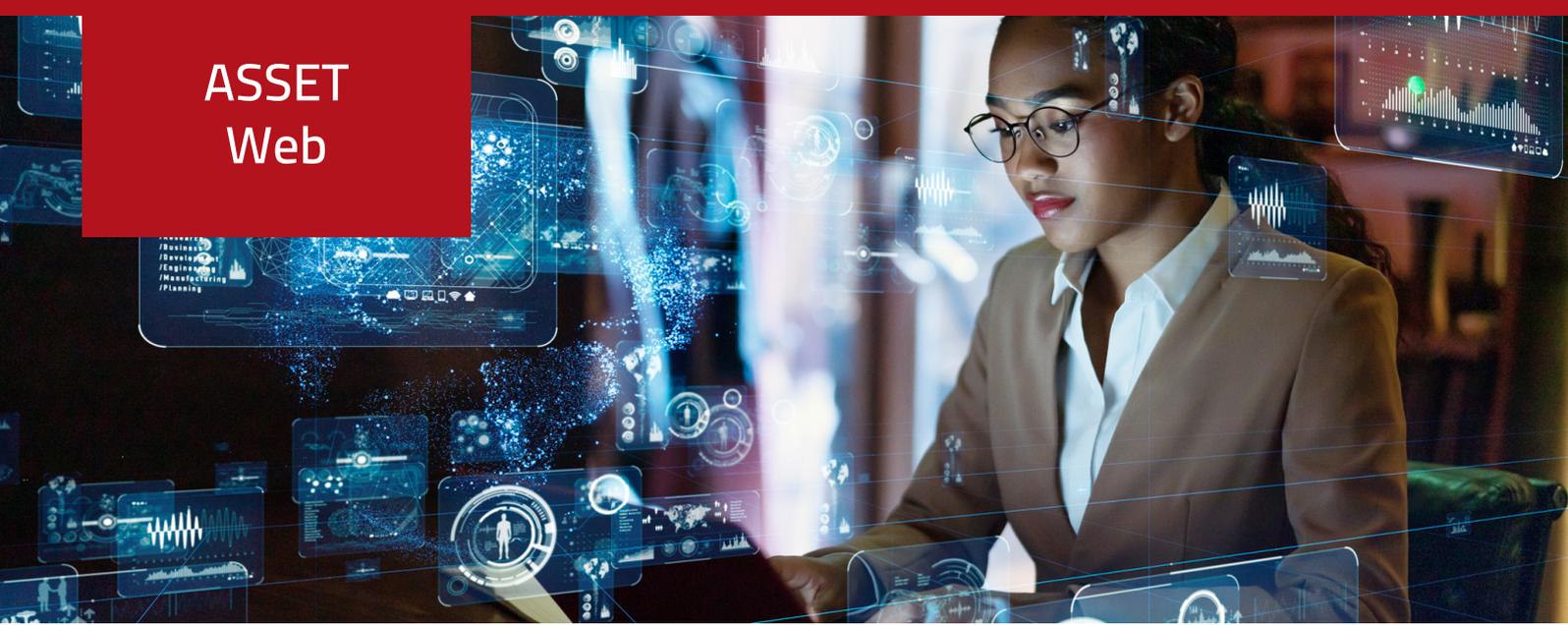
ASSET Design has an extensive list of configurable objectives, constraints, and parameters to guide the optimization algorithm. Targets for coverage, interference and capacity can be set and it is possible to weight combinations of objectives and target levels, and to set inter-system objectives. Constraints can also be used to guide ASSET Design's optimization. Time and cost budgets can be placed on various types of changes and an overall budget can be assigned per project. ASSET Design will then work to achieve the optimization targets within the constraints.



Implement the optimized design

The implementation planning in ASSET Design takes a theoretical plan and makes it practical. ASSET Design ranks each proposed change according to the performance improvement it will have on the network. This ordered list allows the most valuable changes to be done first, providing the most network improvement at the earliest possible stage.

ASSET Web



ASSET Web is a lightweight and fast workflow-based UI for common planning tasks that don't require the complexity of a fully featured tool.

Successful radio planning requires an advanced engineering tool, capable of many complex tasks. To achieve this requires a complex UI and significant project load times before a tool can be used. However, many simple planning tasks need to be done daily, as efficiently as possible, often by non-expert users. ASSET Web provides a lightweight and fast workflow-based UI to enable this.



Grid Data Loader (GDL)

The Grid Data Loader module provides rapid template-based data entry into the ASSET database. Projects can be rapidly switched between via a drop down. The required data fields can be found via flexible and powerful search functionality, and color-coding and visual cues enhance user friendliness. The grid data loader allows users to select global templates or create their own user templates. Finally detailed logging and auditing ensure all changes can be monitored and tracked.



Database Exploration (DE)

The Database Exploration module delivers discovery and visualization of ASSET database parameters. Hierarchical and single network element views along with filtering and search and color-coded technologies ensure efficient browsing of the network. A network element editor allows direct modification of parameters and templates allow you to view data in pre-defined layouts.

ASSET Update

ASSET Update updates ASSET Radio with the actual network parameter configuration settings to enable planning from a valid baseline.

Daily optimization exercises result in many changes to parameters in the network. Often these changes are not fed back into the planning tool resulting in configuration drift between the planning tool and the network. The result is that an area with good coverage in the planning tool could actually have poor coverage in reality and vice versa. This makes planning extremely tricky and there is potential for CAPEX to be spent on unnecessary network expansions.

By using ASSET Update to import the actual network configuration into ASSET Radio, engineers can be certain that the planning tool accurately represents the live network and can plan network changes with confidence.

Ensure planning accuracy by working from a valid baseline



ALIGN ASSET & THE NETWORK

Update topology, parameters and neighbors in ASSET Radio to match the live network.



PLAN FROM A VALID BASELINE

Plan and optimize sites and cells based on the actual network configuration for better results.



MAXIMIZE CAPEX UTILIZATION

Accurate planning of coverage expansions & capacity ensures CAPEX utilization is maximized



FULLY AUTOMATED

A zero-touch fully automated approach sync's ASSET Radio with the network on a daily basis

ASSET Geo



ASSET Geo provides geo-located traffic and performance maps for more accurate radio network planning and network design optimization.



General radio planning

ASSET Geo creates traffic maps based on actual measured traffic from the network which is geo-located with the help of sophisticated algorithms. These traffic maps consist of multiple layers and show traffic on a per bearer, per service or per UE basis. Leveraging these maps allows not only highly accurate placement of new sites but also analysis of specific services or bearers allowing a planning engineer to design for specific usage and not just traffic volume.



Indoor loss estimation

Traditionally planning teams estimate the attenuation of indoor signals based on a few limited sample measurements. Since ASSET Geo is able to determine whether measurements are indoors or outdoors an accurate view of indoor loss can be gained. This means network plans can account for indoor users much more accurately which leads to better indoor quality of service and CAPEX savings since engineers are no longer overly conservative with their indoor loss estimations.



Improved network modeling

Since the data produced by ASSET Geo comes from the live network, many insights can be gained which help to improve the planning tool's network modeling. By using actual signal strength, throughput and quality measurements planning engineers gain a much more accurate view of the network performance and simulation models within the tool can be tuned to more closely match reality.

ABOUT TEOCO

TEOCO is a leading provider of analytics, assurance and optimization solutions to over 300 communication service providers (CSPs) worldwide.

Our solutions enable the digital transformation of CSPs while enhancing their network QoS, improving their customer experience and reducing their operational costs.

Through advanced analytics, TEOCO products provide actionable and measurable insights into network and customer behavior. This includes the optimization, effective monetization, and delivery of new and existing services, such as 5G.

Our commitment to network flexibility and agility makes TEOCO the obvious choice for CSPs looking to maximize the revenue potential of 5G investments and capitalize on new opportunities tied to the emerging Internet of Things (IoT).



**Global
Footprint**



**Extensive
Portfolio**



**Proven
Solutions**



“TEOCO’s market leading position in Engineering Systems reflects the success of its extensive network planning and optimization solution set, built by some very cohesive acquisitions and integrated effectively to form a leading portfolio”

- Analysys Mason