

A wide-angle photograph of the New York City skyline at dusk, viewed from across the water. The sky is a mix of blue and orange, with scattered clouds. The city lights are beginning to glow. A semi-transparent red rectangle is centered over the skyline.

# ASSET 5G



# ASSET

## Delivering high performance cost-effective 5G networks

### ASSET delivers all the capabilities you need to design the best 5G network.

For over 20 years, TEOCO has delivered the best network planning tools for every major mobile technology. We understand what it takes. ASSET's 5G capabilities have been designed to meet your needs, especially over the next decade as 5G grows and matures; coping with the inevitable uncertainties and evolving to support new 5G technologies as they are developed.

We understand you value your existing investments in tools and business processes. Leveraging them is important to maintain efficient operations. This is why ASSET features strong integration capabilities, ensuring it can be seamlessly integrated into your organization.

### ASSET – Helping you deliver on the benefits of 5G



#### STRATEGIC PLANNING

Maximize CapEx efficiency by validating 5G business cases and technology decisions



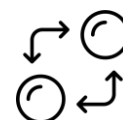
#### SCENARIO MODELING

Reduce time-to-market and maximize revenue potential with sound roll-out plans



#### NETWORK DESIGN

Reduce pressure on design teams with highly efficient planning and design optimization capabilities



#### MULTI-TECHNOLOGY

Maintain customer QoS by successfully integrating 5G and your existing network technologies



### 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.

# 5G ASSET

## Everything you need to plan state-of-the-art 5G networks

As new technologies such as 5G are adopted these need to be deployed on top of existing networks in the most cost-effective manner possible. This requires careful planning to ensure technology layers work together as a seamless network. Along with existing 2G, 3G and 4G support, ASSET is now a fully capable 5G radio planning tool. 5G NR modeling with advanced propagation models, complex antenna arrays and full multi-technology capacity simulation are all supported.



### 5G coverage analysis

The move to millimeter wave frequencies in 5G requires a new approach to coverage modeling. ASSET 5G uses advanced propagation models that account for multi-path propagation and reflections. High resolution 3D building vector data support ensures accurate coverage modeling of 5G frequencies. Beamforming antennas are also supported with multi-array support for adaptive and switched-beam arrays. This enables modeling of complex arrays such as MU-MIMO and SU-MIMO configurations.



### 5G traffic modeling

ASSET 5G covers the full gamut of 5G traffic modeling capabilities from 5G NR gNodeB definition to code assignment and mobility planning. Standards-defined NR frequency bands, frame structures, numerology and carrier definitions are all supported too. Analysis capabilities include simulator arrays, cell level outputs and inter-technology interference analysis. Finally 5G automatic cell planning (ACP) and automatic site placement (ASP) functionality helps operators design their 5G networks in record time.



### A flexible and efficient approach to 5G planning

ASSET's multiple-technology project view ensures you can plan 2G/3G/4G and 5G networks concurrently in a single tool. A multi-user architecture ensures multiple engineers can work on the network at once with changes seamlessly synchronized. Support for multi-operator networks, LTE-5G spectrum sharing use cases and V-RAN / C-RAN architectures ensure ASSET can support you whatever your technology path.

# ASSET Radio



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

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**

ASSET is a software product for planning multi-technology wireless networks across GSM, UMTS, LTE, 5G and more, all within a single project. ASSET Radio can be customized through a range of productivity packs, enabling customers to add additional functionality to meet their needs.

Along with existing 2G, 3G and 4G support, ASSET is now a fully capable 5G radio planning tool that includes: 5G NR modeling with advanced propagation models, complex antenna array, and full multi-technology capacity simulation.



**TEOCO is a network engineering tools market leader**

For over 5 years, Analysys Mason has ranked TEOCO as a leading tools.



# ASSET Radio



## **Deliver a cost effective, high performance LTE network**

The migration to LTE 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 LTE and LTE Advanced networks. Modeling of carriers, bearers, services and terminal types is supported as are TDD, FDD and H-FDD network modes. VoLTE and NB-IoT are supported too, and automation such as the automatic RSI planner ensures maximum efficiency.



## **Take an integrated approach to planning**

Radio network planning is no longer a standalone business activity; a planning tool needs to connect to the wider OSS/BSS eco-system to leverage the vast amounts of valuable data available to deliver better plans. ASSET seamlessly and reliably integrates with other systems, including inventory, site acquisition, site rollout, configuration management, and performance management. This data sharing approach significantly improves radio network planning accuracy, business process efficiency 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. Maintain customer QoS by successfully integrating 5G and your existing network technologies.

# ASSET Radio



**ASSET Radio is a part of the TEOCO planning portfolio, a set of tightly integrated products to make the entire planning process as efficient as possible. Other products in the suite include:**



## ASSET Backhaul

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



## ASSET Capacity

End-to-end network capacity planning. Network visualization, capacity management and scenario planning.



## ASSET Design

Automated network design. Optimization of macro network designs and the addition of new small cell sites.



## ASSET Indoor

In-building system design. Design for a seamless user experience in buildings, stadiums, underground transport.



## ASSET Update

Planning tool update. Update ASSET with actual network settings and audit the network against a defined baseline.



## ASSET Geo

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

# ASSET Radio



**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.**



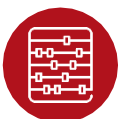
## Landscan Population Maps

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 at a fraction of the cost of commercially available data.



## 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.



## ABOUT TEOCO



**TEOCO is a leading provider of analytics, assurance & optimization solutions to over 300 communication service providers (CSPs) and OEMs 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 and automation, TEOCO solutions provide actionable and measureable insights into network and customer behavior. This includes the optimization, effective monetization, and delivery of new and existing services, such as VoLTE and Video.

Our commitment to network flexibility and agility makes TEOCO the obvious choice for CSPs looking to leverage NFV/SDN and the rise of 5G, and to maximize the revenue potential of new opportunities tied to video and 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



A wide-angle photograph of the New York City skyline at dusk, with the Freedom Tower prominently featured on the left. The sky is filled with soft, colorful clouds in shades of blue, orange, and pink. The city lights are beginning to glow, reflecting on the water in the foreground.

**THANK YOU**

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