

A wide-angle photograph of the New York City skyline at dusk, viewed from across the water. 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's surface. A semi-transparent red rectangular box is overlaid on the center of the image, containing white text.

RAN CAPACITY MANAGEMENT

RAN Capacity Dimensioning and
Forecasting Service



www.teoco.com

RAN CAPACITY MANAGEMENT



Our RAN Capacity Management service delivers ROI optimized expansion plans via a predictive analytics approach.

The effectiveness of a CSPs RAN capacity management program can be a significant differentiator in terms of network quality and profitability. Network traffic continues to grow exponentially. Yet for most CSPs revenue growth is flat or almost flat. To maintain profit margins requires CAPEX spent on network capacity upgrades to be aligned with revenues and not traffic.

Around 25% of capacity is underutilized.

In a recent strategy report, Analysys Mason highlighted a further issue: "Around 25% of the capacity of most operators is underutilized at any one time, which is very costly." They identified a lack of planning and optimization agility, uncertainty about required capacity and difficulty moving capacity around as key causes of this. Yet even with 25% of excess capacity in the network, pockets of serious congestion still exist and these damage subscriber experience.

A predictive analytics approach is required.

All this points to the fact that traditional capacity management approaches are no longer good enough, a new predictive analytics approach is required.

Rich
data
inputs



Advanced
forecasting
algorithms



Automated
optimization
expertise



ROI optimized
expansion
plans

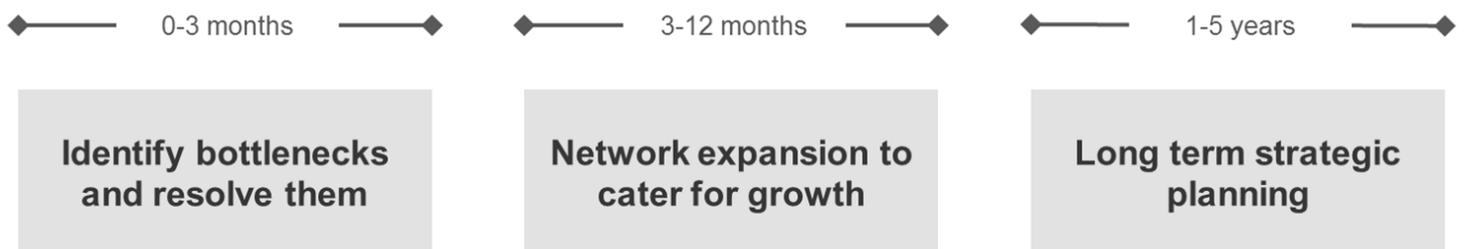
RAN CAPACITY MANAGEMENT



RAN capacity management – how we do it.

Our approach is based on a combination of subject matter experts and our ASSET Capacity tool. Using rich data inputs, advanced forecasting algorithms, network optimization expertise and automated 'what-if' analysis we deliver significantly more accurate capacity dimensioning. This helps to identify network bottlenecks and resolve them, optimize network resource utilization and expand your network intelligently to cater for growth.

We optimize RAN capacity across 3 distinct time periods addressing the short, medium and long-term needs of the network:



- **0-3 months:** Bottlenecks are identified and resolved with parameter optimization, load balancing, equipment features and extra licenses.
- **3-12 months:** Network expansion requirements to cater for growth are determined, including adding hardware, carriers, sites and rehomeing if necessary.
- **1-5 years:** Long term strategic planning is undertaken. This is a vitally important step to ensure your network maintains its competitiveness and considers aspects such as spectrum refarming, small cell deployments, new architectures, new technologies and even network sharing.

RAN Capacity Management



Field proven capacity management.

Irrespective of how good it looks on paper, the value of any approach needs to be validated in the field. We trialed our approach against the traditional methods of two of our long-time customers and these were the results:

Case Study 1: Annual 3G capacity expansion for an 8000 cell network.

Leveraging rich data inputs, the advanced forecasting algorithms and automated optimization within ASSET Capacity we were able to reduce the existing network overloading by 64% in the first 3 months with only tilt and parameter changes. To cater for the next 12 months of growth our solution resulted in a network expansion budget with 30% fewer new sites required and a 10% saving in the overall annual upgrade budget.

Case Study 2: Annual 2G/3G capacity expansion for a major metro region (1370 sites).

For this case study short-term optimization was not in scope. However our ASSET Capacity based approach was used to determine the expansion requirements for the next 12 months. The result was a solution with 30% fewer BTS upgrades and 39% fewer NodeB upgrades than the operator's traditional approach. At the end of the year in question analysis showed that our traffic prediction ended up being 8% above the actual versus 35% above actual for the operator's prediction.

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