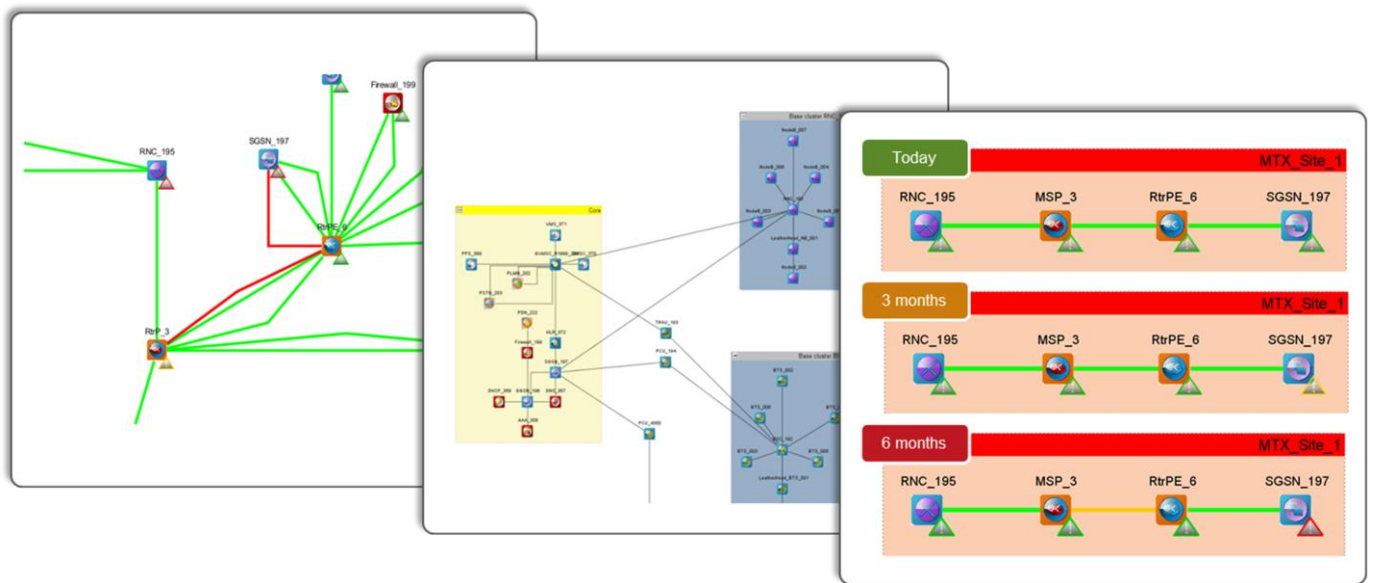# DIMENSION – Capacity Planning

End-to-end network capacity planning tool providing network visualization, capacity management and scenario planning

As customers consume more and more rich media on their phones network capacity requirements increase and the capacity across the network becomes less uniform (pockets of high capacity demand appear). Accurate planning and forecasting of cell and link capacity is required to ensure upgrades are implemented before customers are impacted by congestion and poor quality of service. This coupled to the fact that a modern site often consists of at least 3 technologies (typically GSM, UMTS and LTE) served by a mixture of TDM and IP, wireless and wired connections means capacity planning is no longer a simple exercise.

DIMENSION addresses these challenges through E2E dimensioning of the radio, backhaul and core components of a network allowing engineers to plan upgrades and meet traffic growth demands. The ability to visualize multi-vendor and multi-domain network topology and routing information in a single place enables engineers to understand the network and validate recommendations provided.

Scenario planning is a key component for dimensioning exercises allowing engineers to investigate various traffic growth scenarios. DIMENSION also has the capability to utilize historical traffic data to forecast future traffic and create a plan for that capacity.

Beyond dimensioning it can also plan transmission networks for GSM, UMTS and LTE covering backhaul and core, microwave and fiber and it can plan TDM and IP/Ethernet services and links.
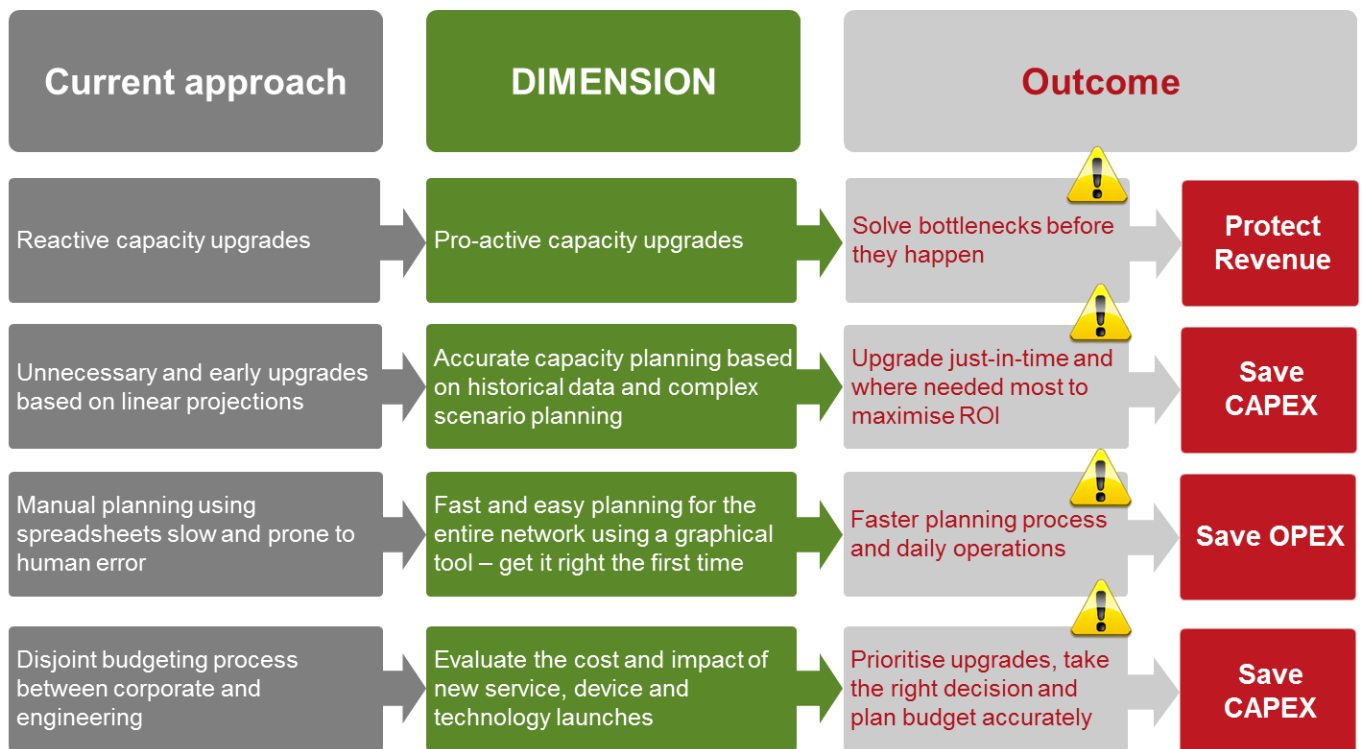
Plan upgrades for the E2E network (radio, backhaul and core)

Visualize multi-vendor, multi domain topology

Store, report and plot network topology and routing information

Plan TDM and IP/Ethernet services and links

Scenario planning and what-if analysis

Current approach	DIMENSION	Outcome	
Reactive capacity upgrades	Pro-active capacity upgrades	⚠️ Solve bottlenecks before they happen	**Protect Revenue**
Unnecessary and early upgrades based on linear projections	Accurate capacity planning based on historical data and complex scenario planning	⚠️ Upgrade just-in-time and where needed most to maximise ROI	**Save CAPEX**
Manual planning using spreadsheets slow and prone to human error	Fast and easy planning for the entire network using a graphical tool – get it right the first time	⚠️ Faster planning process and daily operations	**Save OPEX**
Disjoint budgeting process between corporate and engineering	Evaluate the cost and impact of new service, device and technology launches	⚠️ Prioritise upgrades, take the right decision and plan budget accurately	**Save CAPEX**

Business benefits of adopting DIMENSION

DIMENSION Modules

E2E visualization module: Build or import and visualize the E2E network topology in different layers. Create plots and reports. Create multiple projects and scenarios.

Network dimensioning module: Dimension base station baseband units and licenses. Calculate the traffic on the mobile network. Generate traffic from the mobile layer to be used for transmission planning.

Traffic forecasting: Forecast future traffic by trending historical performance management data.

Transmission planning module: Plan the E2E multi-layer transmission network. Manual and automatic routing. Identify bottlenecks and plan capacity upgrades. Create routing and bottleneck reports.

DIMENSION provides all the functionality to ensure the cost effective design and dimensioning of your network.

Mobile and transmission dimensioning

- Radio dimensioning of baseband units and licenses.
- Multi-layer transmission dimensioning & automatic routing.
- Seamless radio to transmission dimensioning.

Forecasting

- Forecast base station and link traffic based on historical traffic data.
- Vendor agnostic.
- Use traffic forecasting in dimensioning ad scenario planning.

Flexible visualization

- Quick and easy visualization of the entire network in multiple layers.
- Both logical and physical data including basic inventory (cards, ports, addresses, etc.).
- Multi-user environment.

Complete network modeling

- Multi-vendor, multi domain coverage
- All radio technologies
- All transmission technologies