



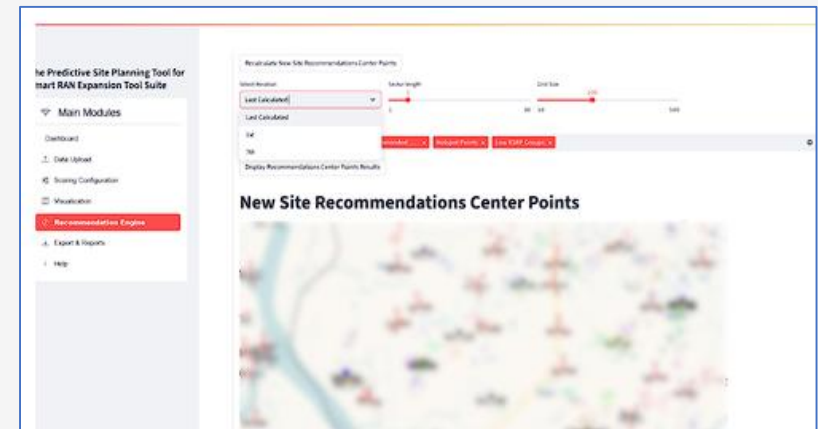
CASE STUDY: Strategic RAN & vRAN Planning Assistant – Smarter 4G/5G Expansion

Introduction

Mobile operators face pressure to expand coverage, boost performance, and prepare for 5G — all while keeping CAPEX and OPEX under control. Yet many still rely on outdated planning methods, leading to errors, wasted resources, and poorly placed sites that impact networks for decades.

The **Strategic RAN & vRAN Planning Assistant** replaces these legacy approaches with an AI/ML-driven solution that unifies business strategy, technical feasibility, and investment control.

It delivers clarity and confidence for decision-making, enabling operators to increase market share, plan resources efficiently, and ensure sustainable long-term growth.





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THE CHALLENGE

Operators continue to rely on legacy planning methods that lack analytical clarity and depend heavily on manual work, Excel sheets, and outdated processes. This leads to costly site selection errors, human bias, and wasted resources that affect the network for decades.

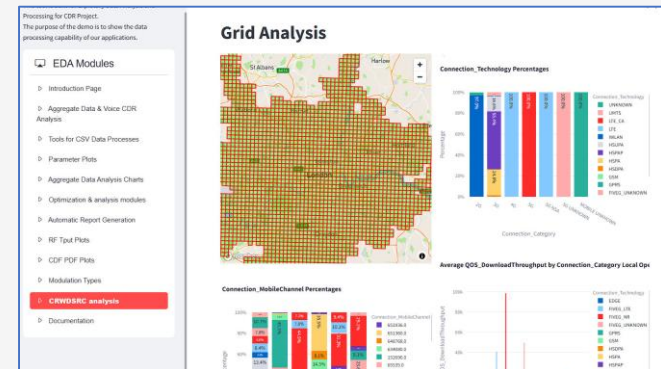
Key Challenges

- **Human Error:** Manual site/node planning is error-prone, often resulting in long-term inefficiencies.
- **Site Selection Risks:** Poorly placed sites cannot be corrected through optimization — even small mistakes last for decades.
- **Resource Waste:** Billions are lost in CAPEX/OPEX from redundant builds, misaligned sites, and underutilized infrastructure.
- **Market Impact:** Poor coverage and misaligned planning directly cause loss of customers and revenue.

Leadership teams (CTOs, RAN directors) need numbers, statistical clarity, and analytical certainty — not assumptions or guesswork.

Industry Needs

- Visionary leadership that bases decisions on data, not intuition.
- Proof of feasibility before committing large investments.
- A shift away from outdated practices toward predictive, automated, and resource-efficient planning.



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THE SOLUTION

The Solution: Strategic RAN & vRAN Planning Assistant

The Strategic RAN & vRAN Planning Assistant introduces automation, intelligence, and predictive analysis into RAN planning, replacing outdated manual approaches with data-driven precision.

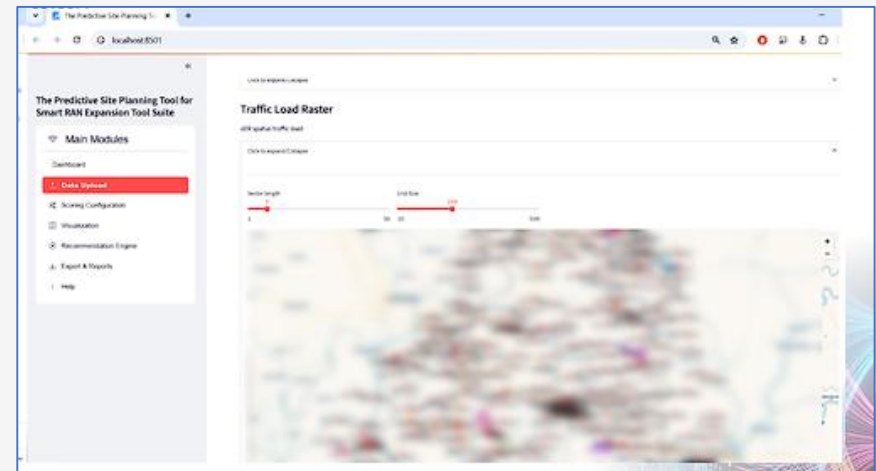
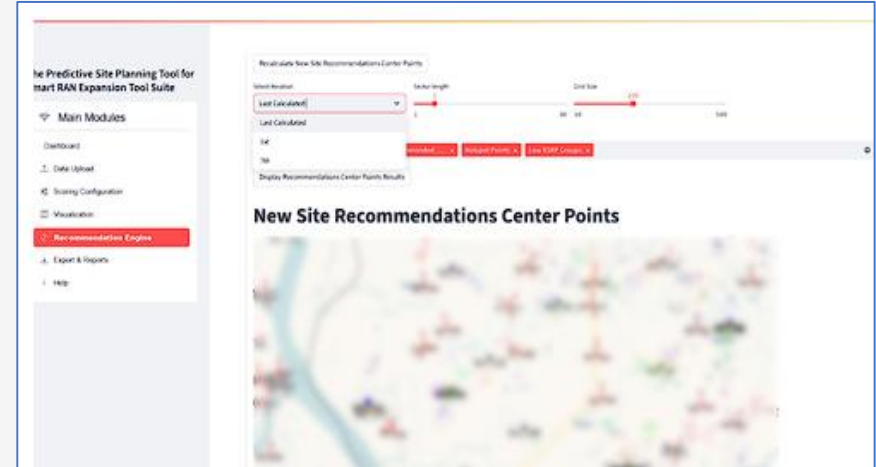
Key Capabilities:

Predictive Site Planning

- AI/ML-driven analysis to recommend high-value site locations for multi-year rollouts.
- Prioritization based on business impact, traffic forecasts, and statistical accuracy.

Feasibility Assessment & Investment Control

- Validates both existing and new sites with complete parameter sets.
- Provides feasibility checks using statistical and geospatial tests to ensure efficient CAPEX allocation.





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THE SOLUTION

Smarter Use of Existing Assets

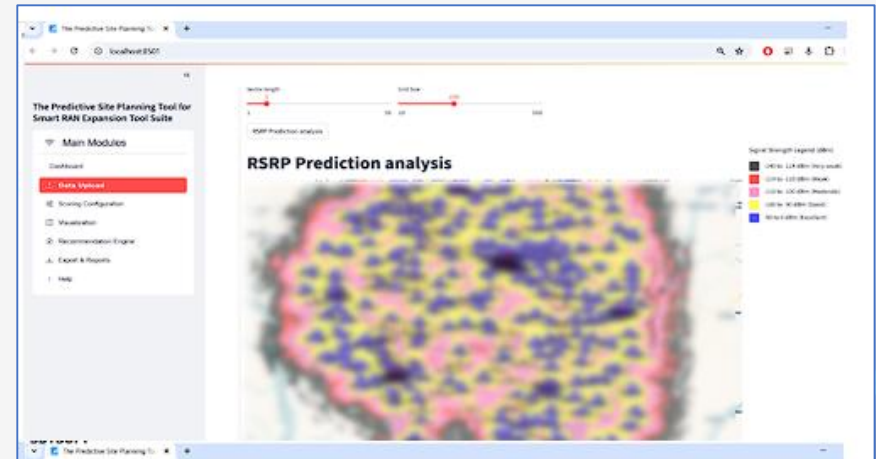
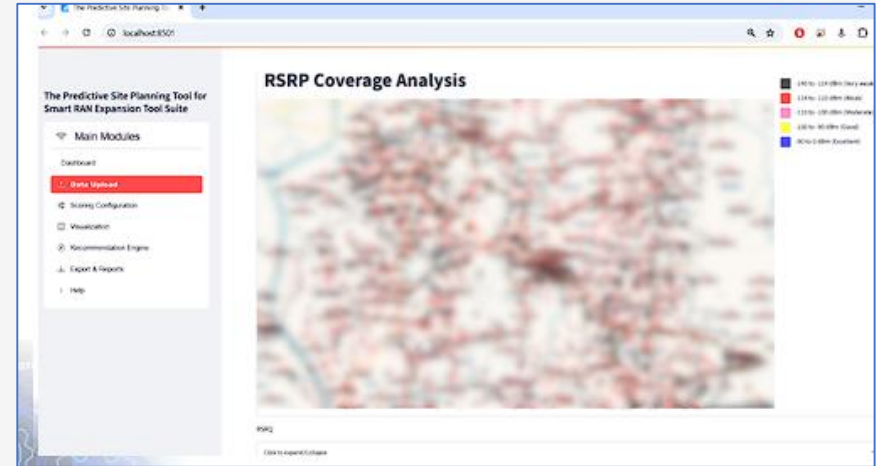
- Assesses the current site portfolio to detect underutilized or misaligned assets.
- Redirects investments away from wasted sites toward higher-value areas.

Proactive Expansion

- Identifies new indoor and outdoor sites based on:
 - Marketing hotspots
 - Customer geolocation data
 - Traffic growth patterns
 - 4G & 5G rollout requirements

Executive Clarity

- Generates outputs in minutes, not weeks, delivering surgical clarity for directors and managers.
- Enables fast, confident, and data-backed investment decisions.



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DEPLOYMENT/IMPLEMENTATION

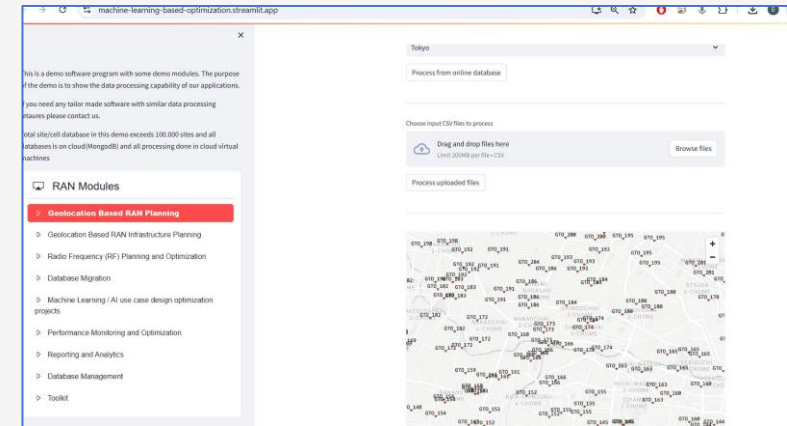
The Planning Assistant integrates diverse operator data sources into one holistic framework. All inputs are processed through AI/ML algorithms to deliver actionable recommendations, feasibility scores, and business-aligned rollout strategies.

Key Data Sources – Geodata

- MRR & Field Measurements – Signal strength, coverage, and quality assessments.
- Drive Tests & Benchmark KPIs – On-the-ground validation of network performance and service quality.
- Marketing Hotspot Data – Demand-driven targeting based on high-value customer zones.
- Geolocated Customer Data – Spatially mapped user behavior and demand concentration.

Key Data Sources – Statistical & Configuration Data

- Traffic Data & Handover Statistics – Insights into network load, capacity, and mobility patterns.
- 4G & 5G Planning Inputs – Technology-specific requirements for current and future rollouts.
- Existing Site Portfolio – Full parameter sets to assess current site utilization and feasibility



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KEY RESULTS / OUTPUTS

New Site Expansion

- Recommended site locations for multi-year rollouts with clear prioritization.
- Coverage gap closure with hotspot alignment to business demand.
- Forecasts for traffic, population coverage, and cost impacts.
- Planning cycle reduced from weeks to minutes, enabling faster, data-driven decisions.
- Efficient Investments – Align strategy with ROI and growth targets.
- Future-Proof Planning – Smooth transition to vRAN/OpenRAN with market protection.

Existing Network Improvement

- Targeted sector additions and capacity upgrades.
- Utility scoring of sites for retention, upgrade, or decommissioning.
- Automated optimization outputs in minutes for any network objective.
- Redundant or misaligned sites identified to redirect investment.



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SUMMARY

The Strategic RAN & vRAN Planning Assistant transforms site planning from a manual, error-prone process into a predictive, strategic, and resource-efficient practice. Operators gain clear investment control, CAPEX and OPEX savings, and stronger market positioning through better-planned networks.

With predictive analysis, automated feasibility checks, and executive-level insights, the solution empowers operators to plan efficiently today and scale confidently into the 5G future. By combining network KPIs, traffic data, and business drivers, the Planning Assistant delivers:

- Coverage improvements that drive customer satisfaction.
- Optimized use of existing assets, reducing redundancy.
- Sustainable long-term growth strategies aligned with 5G adoption.

Call to Action

Stop relying on outdated practices, start building networks with precision. Partner with us to validate the Strategic RAN & vRAN Planning Assistant in your network and unlock multi-year strategic growth. Let's discuss how this solution can deliver clarity, smarter investments, and long-term competitive advantage.





CONTACT



SEYHUN BARBAROS YABACI

Seyhun Barbaros Yabaci
Electronics & Telecommunications Engineer, MSc
Founder & Owner, SBYSoft Data Science Consultancy &
Software Services (Reg. No: 218509)
Principal Data Scientist, RAN Design & Optimization SME

Specializing in Cloud-Based RAN Technologies, Microservices,
ML/AI Automation, and Cross-Disciplinary Solutions

 www.sby-soft.com

 barbaros.yabaci@sby-soft.com

 +90 533 085 56 33 / +81 804 636 50 87

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