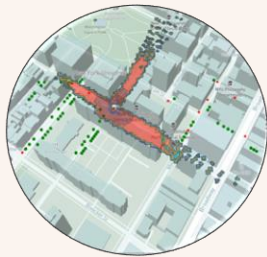# SUDARSHAN

A GEO-SPATIAL OPTIMIZATION PLATFORM FOR WIRELESS NETWORK

SAFFRON

PROBLEM STATEMENT -
WHERE DO I DEPLOY MY WIRELESS/IOT ASSETS?

in a complex environment with buildings and vegetation....

when I want to MAXIMIZE Resident Coverage...
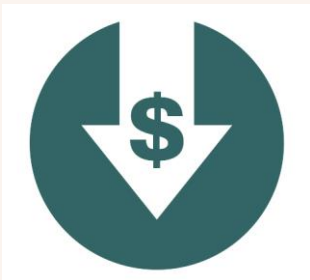

MAXIMIZE Vehicle Coverage....

MAXIMIZE ROI
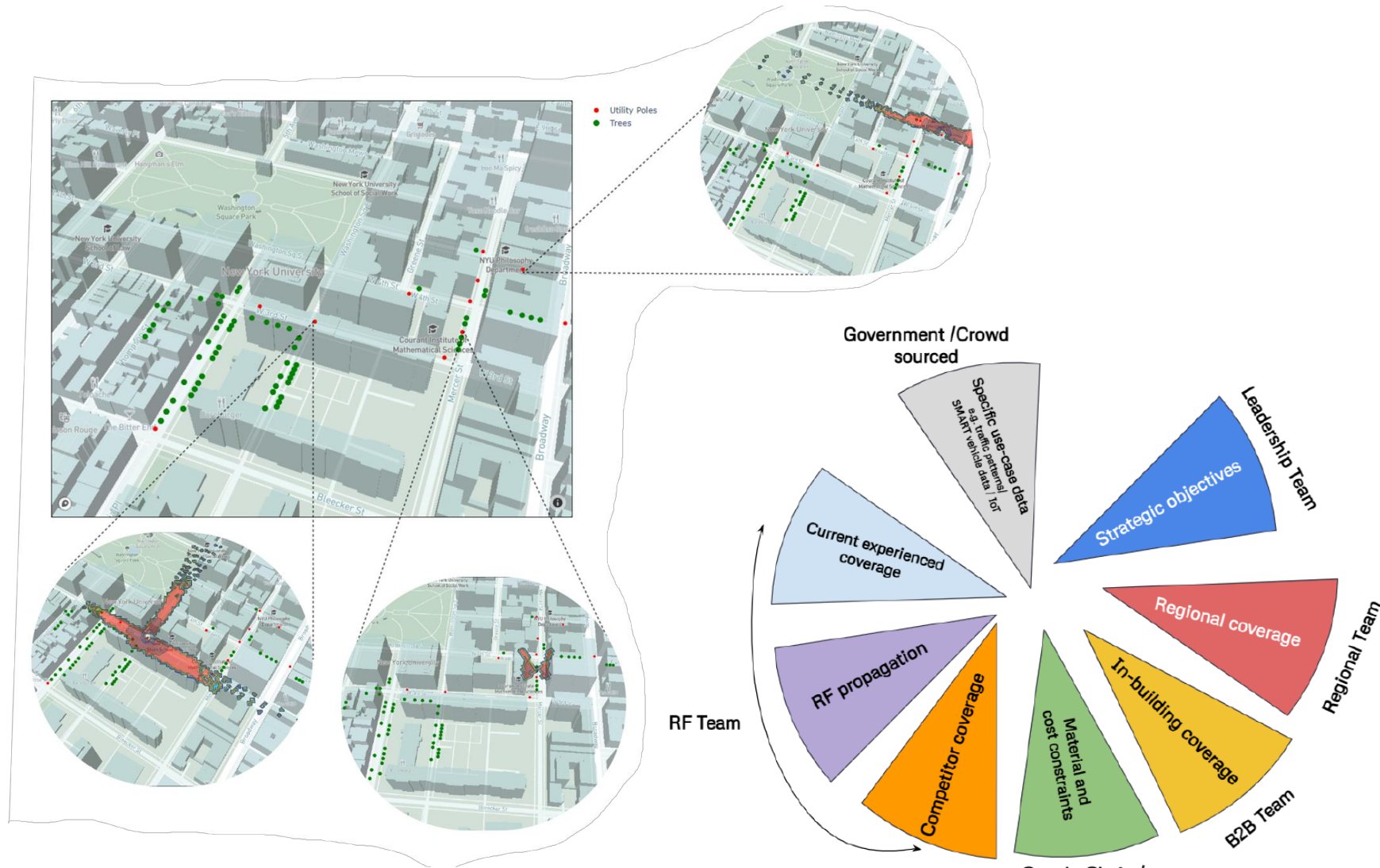

MAXIMIZE Customer Retention

MINIMIZE cost...

CONSTRAINED BY spectrum and regulations...

The challenge:
- Multi-objective
- Multi-constrained
- Multi-dimensional

SAFFRON

Proprietary and Patent Pending

# COVERAGE MAPS ARE JUST ONE PIECE OF THE PIE...

- Different stakeholders use different data and different systems or frameworks for analysis
- No integrated analysis and planning platform to capture inter-dependencies and constraints

Outcome - Inefficient CapEx and OpEx planning, missed opportunity of cost savings and quality of service

Our Solution:

SUDARSHAN

A platform that brings together all data sources to make AI-enabled smart decisions in optimal planning and deployment of wireless infrastructure
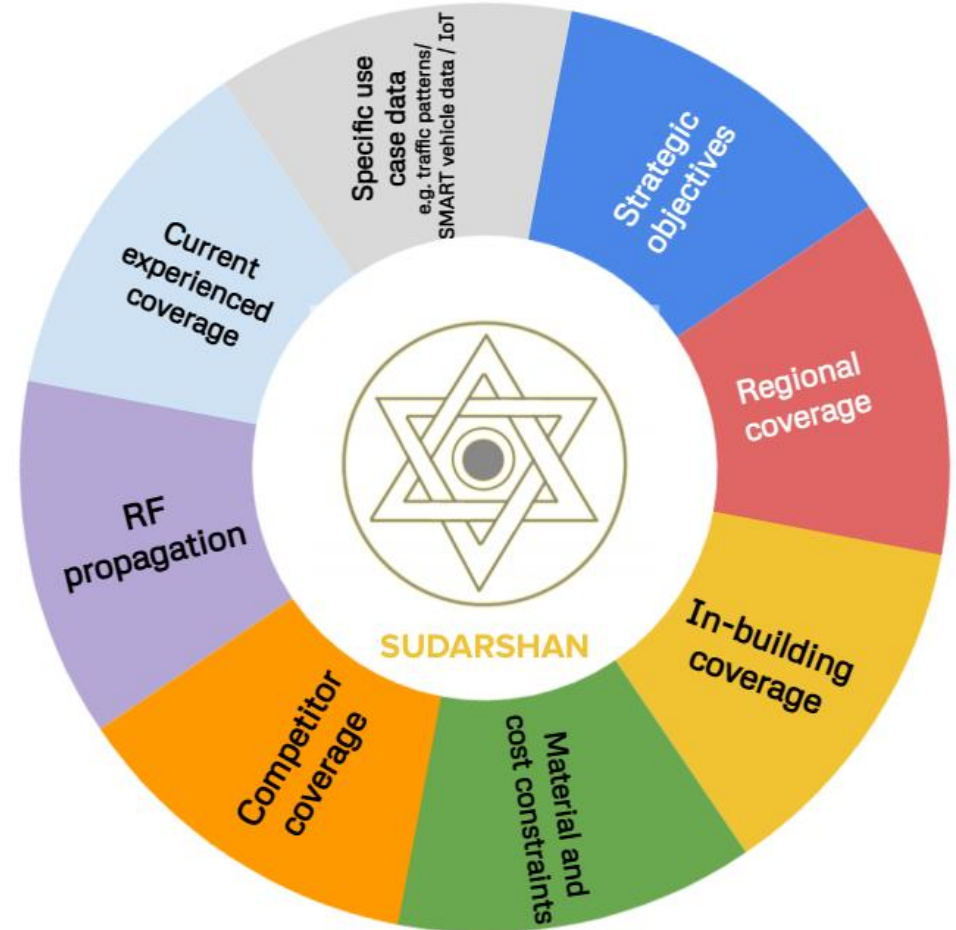
WHAT MAKES SUDARSHAN UNIQUE?

CUSTOMIZATION

Train your own ML/AI propagation models to solve your custom 5G deployment problem, e.g., FWA, Private 5G network, mm-Wave deployment, etc.

MULTIPLE OBJECTIVES

Simultaneously optimize multiple business objectives - Ability to "drag and drop" business objectives

FASTER

Near real time ray tracing using massive GPU parallelization - Enables placement of 5G towers anywhere

EASY TO USE

Simple design that gives customers the targeted information they need

SAFFRON

Proprietary and Patent Pending

SUDARSHAN - A geo-spatial wireless network optimizer platform that brings together all relevant data sources to make AI-enabled smart decisions to optimize the number and locations of wireless assets subject to constraints such as cost, presence of fiber backhaul, etc.

NO OF OPTIMAL CELLS : **3**   NO OF UTILITY POLES : **3**

Pole Id	Latitude	Longitude	No Of Cells	Building Scores
11879	40.7564614	-73.9979209	1	13,218.11
8413	40.7553773	-73.9987295	1	69,582.67
8418	40.7558631	-73.9998412	1	57,991.30

TOTAL AREA
0.12 km ²

CURRENT RANGE
0 Ghz (CBRS)

MAP GENERATED ON
03/12/2023 02:59 PM

LAYERS APPLIED

Trees/Vegetation   Fiber Map   Utility Poles

PARAMETERS APPLIED

Census   Min Dist To Fiber

Three optimal utility poles selected to maximize coverage for population in selected area

- Simultaneously optimizes multiple business objectives, allows customers to train their own ML/AI propagation models to solve custom 5G deployment problem.
- Optimization objectives - Maximize coverage for population or buildings Output - Optimal number and location of assets -cellular towers, utility poles or traffic light poles to mount antennas
- Constraints - Total cost of ownership (TCO = CapEx + OpEx), distance from fiber backhaul, etc.
- Factors - impact of foliage, etc.