

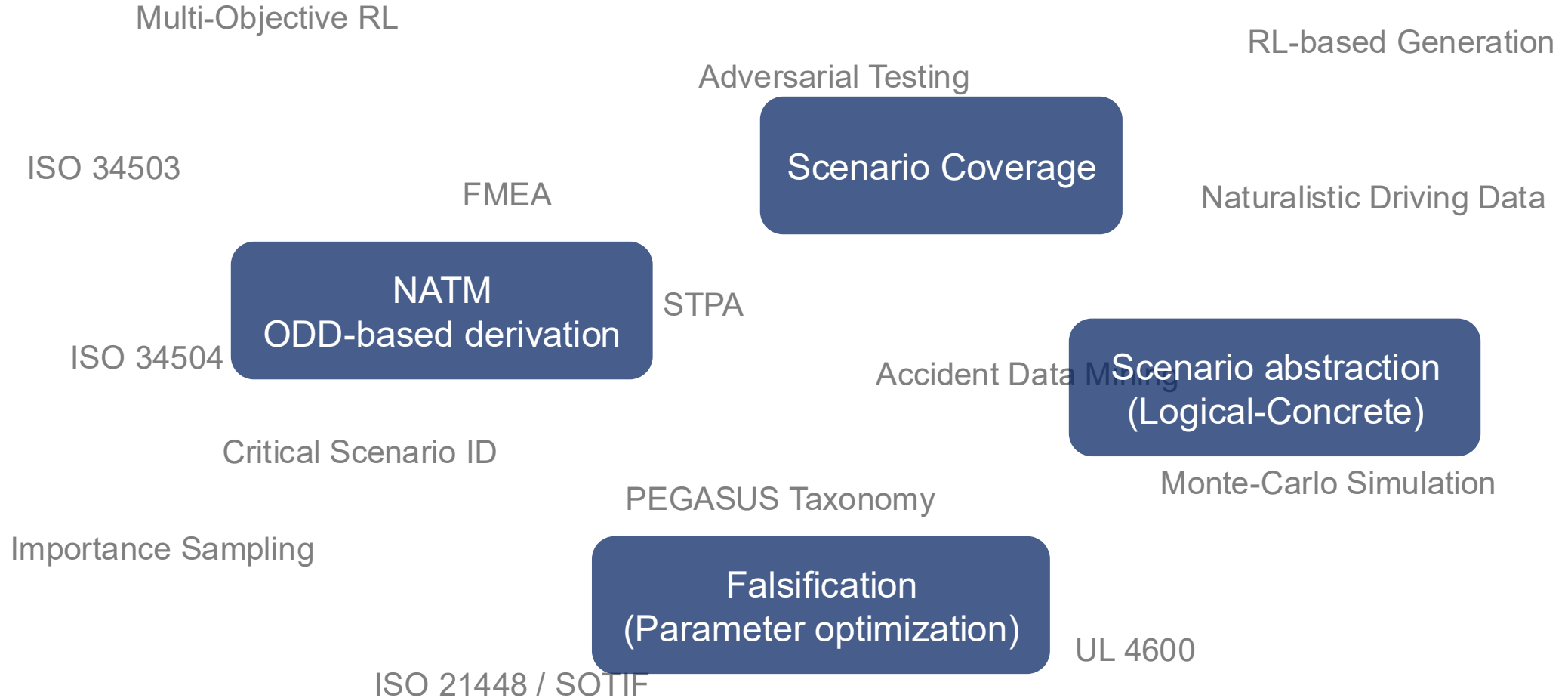
AV Validation is Fundamentally a Search Problem

and the search strategy must evolve with the system.



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MORAI



Rule-based Era

OVERALL ODD (Within Blue Geofence)		
	Geofence	Within Blue Boundary
	Road Type	Public Roads
	Speed Range	0 – 60 km/h
	Weather	Clear / Rain / Snow (No Severe Weather)
	Time	24/7
	Lighting	Day / Night
	Cyber Security	UN R155 / R156 Compliant
	Connectivity	5G / C-V2X Available
	Airspace	No Drone Restriction Area

	SPECIAL ZONE 1 (School Zone)	
Speed Range	0 – 30 km/h	
Time	07:00 – 09:00 14:00 – 16:00 (School Days)	
Conditions	Child Presence Pedestrian Priority	
Cyber Security	Enhanced	
V2X	Required	
Other	Sensitive Area (Children Safety)	

Clear on What Works

End-to-End Era

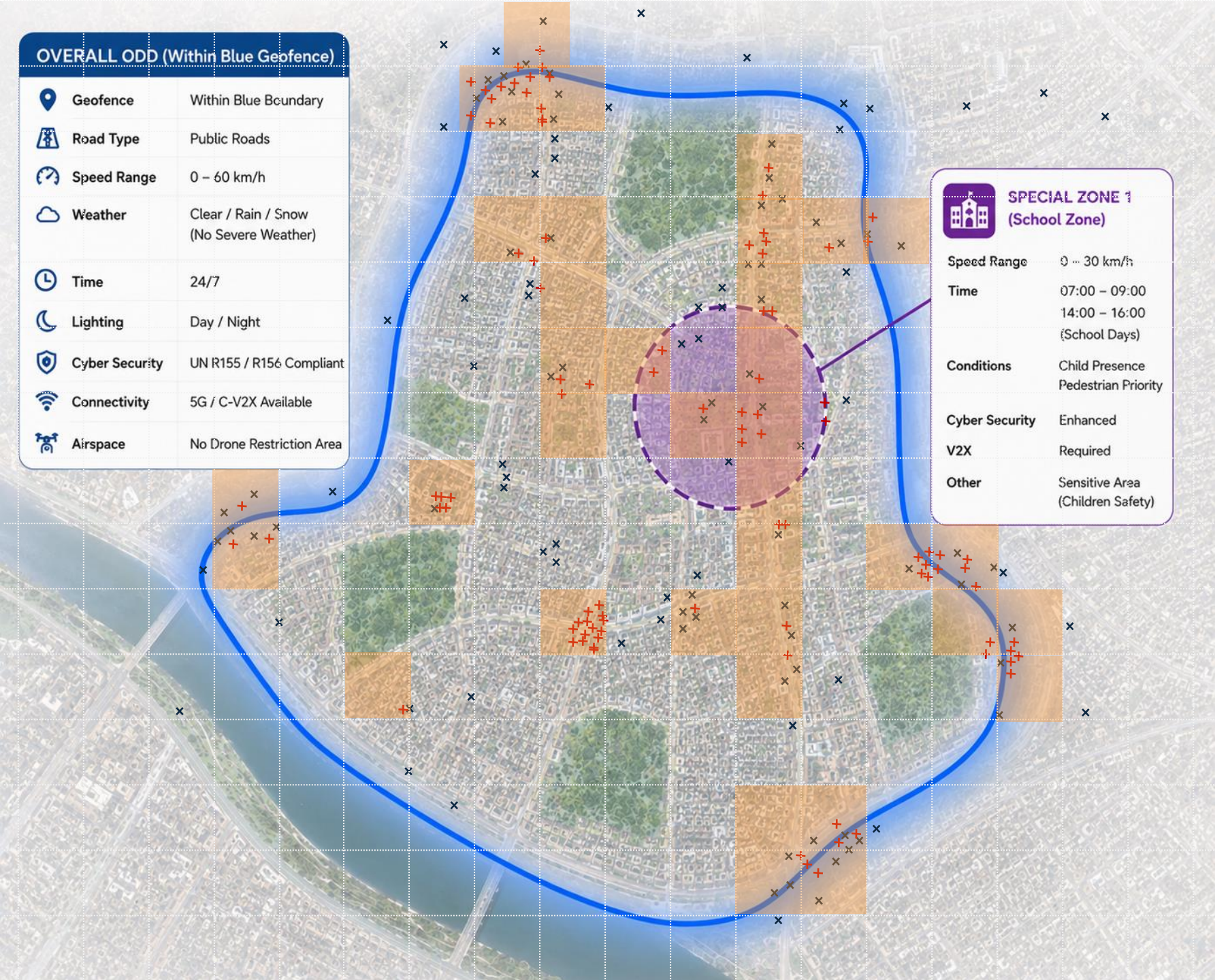
Boundary loses meaning



Mapping the Failure Space

OVERALL ODD (Within Blue Geofence)		
	Geofence	Within Blue Boundary
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Sparse sampling across the scenario space

Converging on the Vulnerability

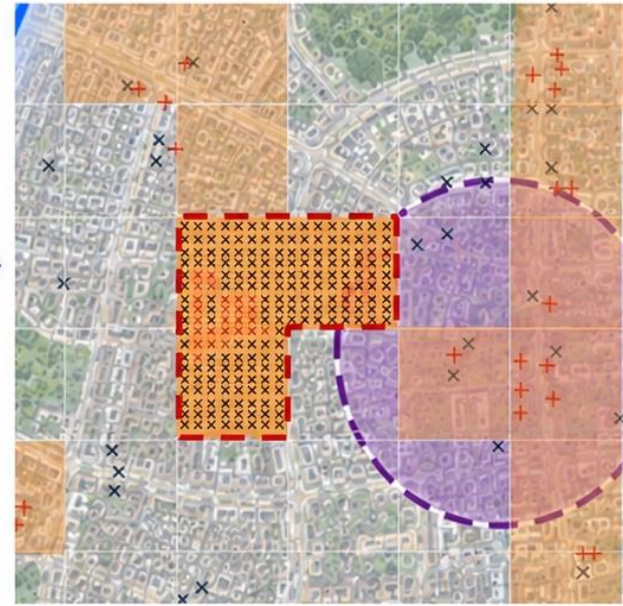
1 Failure Region Discovery

Find broad area where failures occur



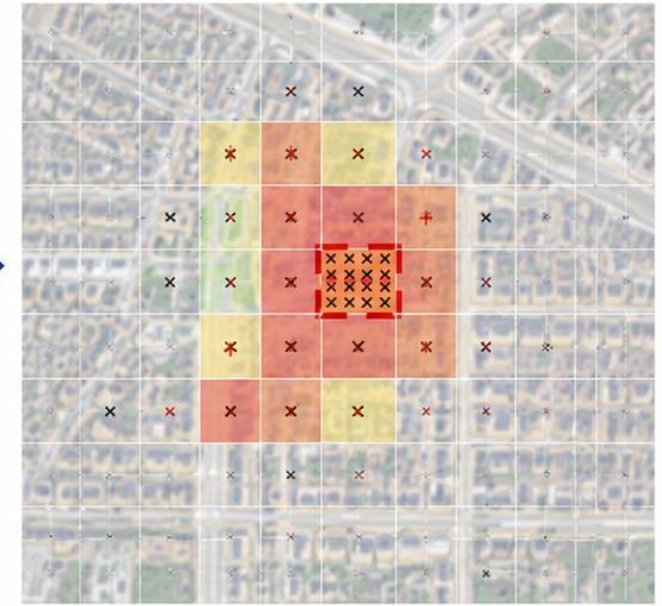
2 Perturbation & Refinement

Perturb failed cases to explore boundaries



3 Failure Localization

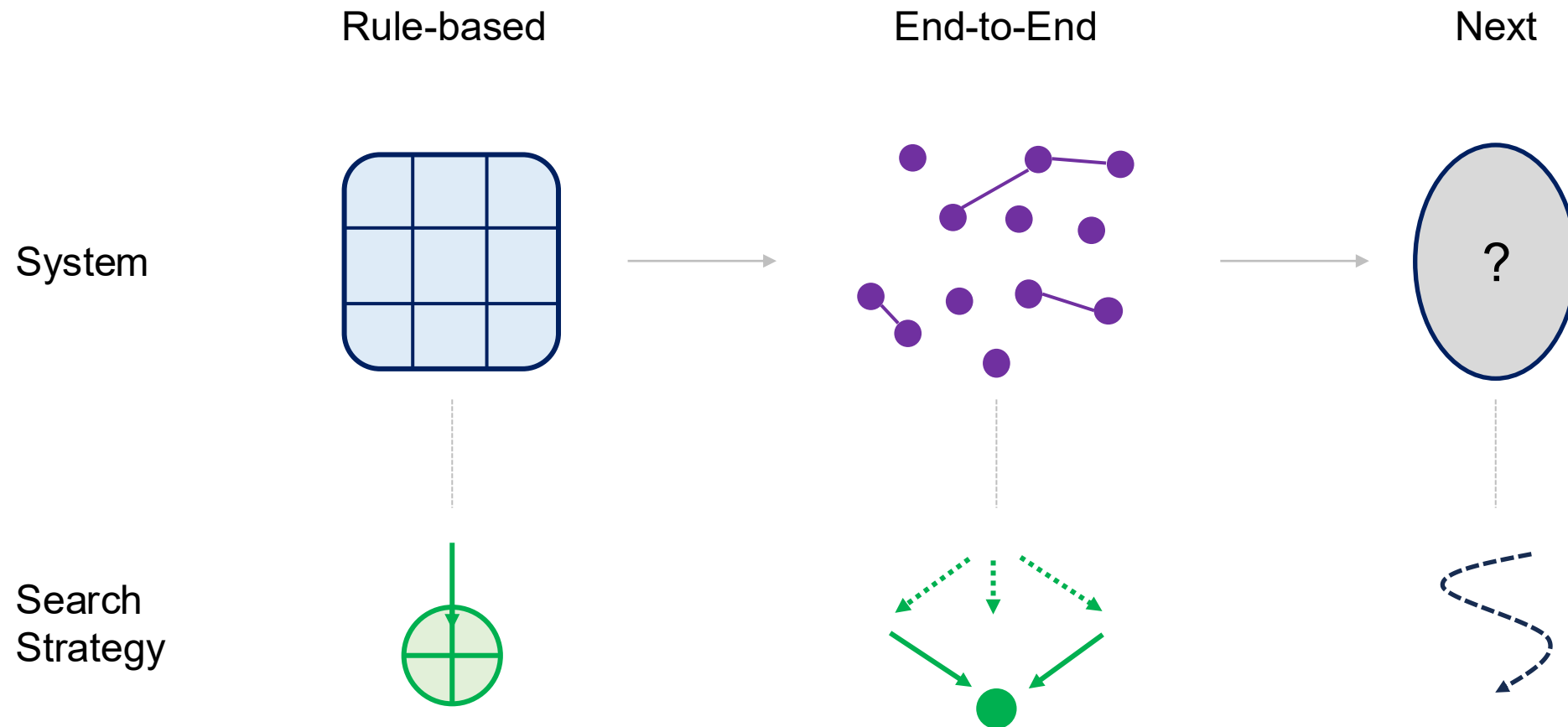
Converge to precise root-cause area



The Search Loop
Driven by an **AI Validation Agent**

Search Strategy Evolves with the System

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An aerial, top-down view of a city intersection. A wide, multi-lane road runs vertically through the center, divided by a median strip filled with a row of green trees and streetlights. Several cars are visible on the road, including a red car, a white car, and a silver car. The intersection features crosswalks with white stripes and traffic signals. The surrounding area includes sidewalks, trees, and buildings. The text "Thank you" is overlaid in the center of the image.

Thank you