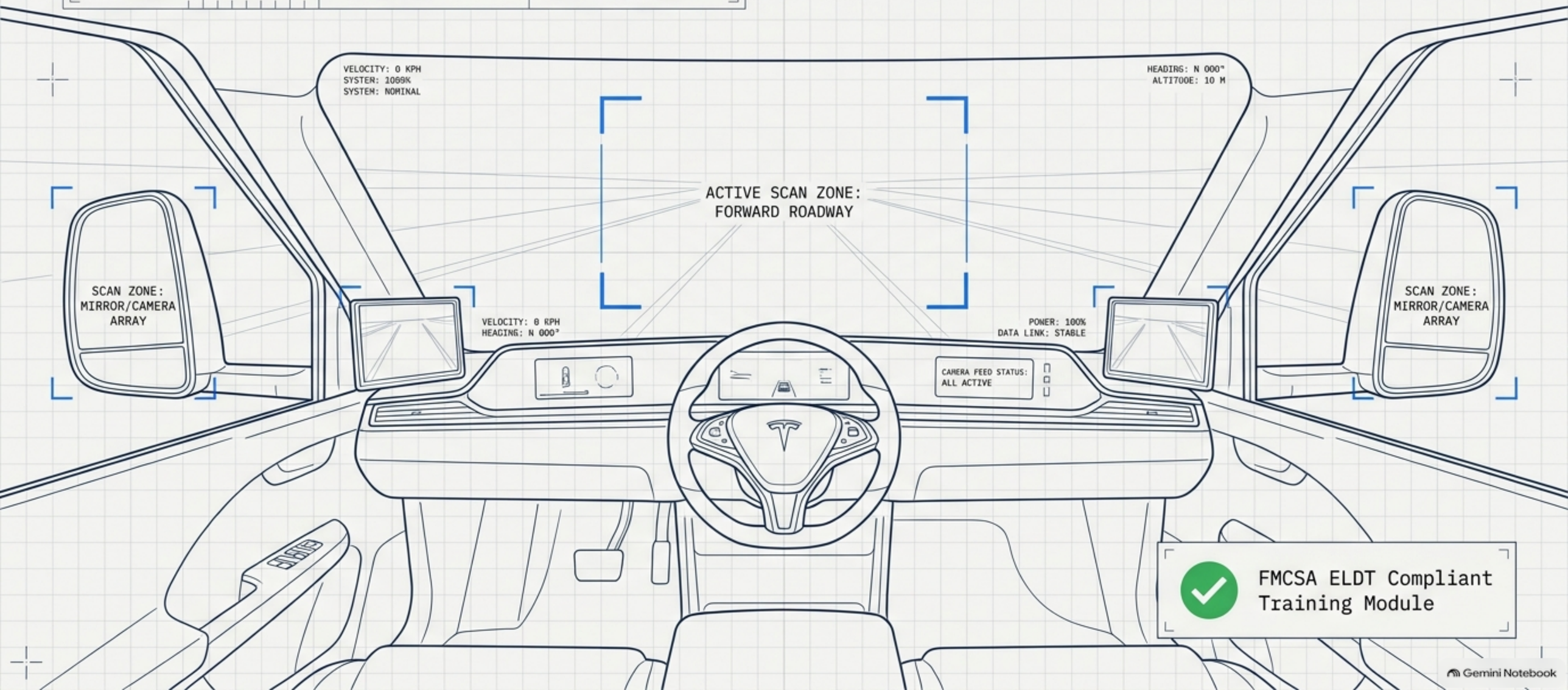
Game 01 // Mirror Management & Camera Monitoring

Mastering the 14-Feed Field of View for Modern Class 8 & Tesla Remote Operations

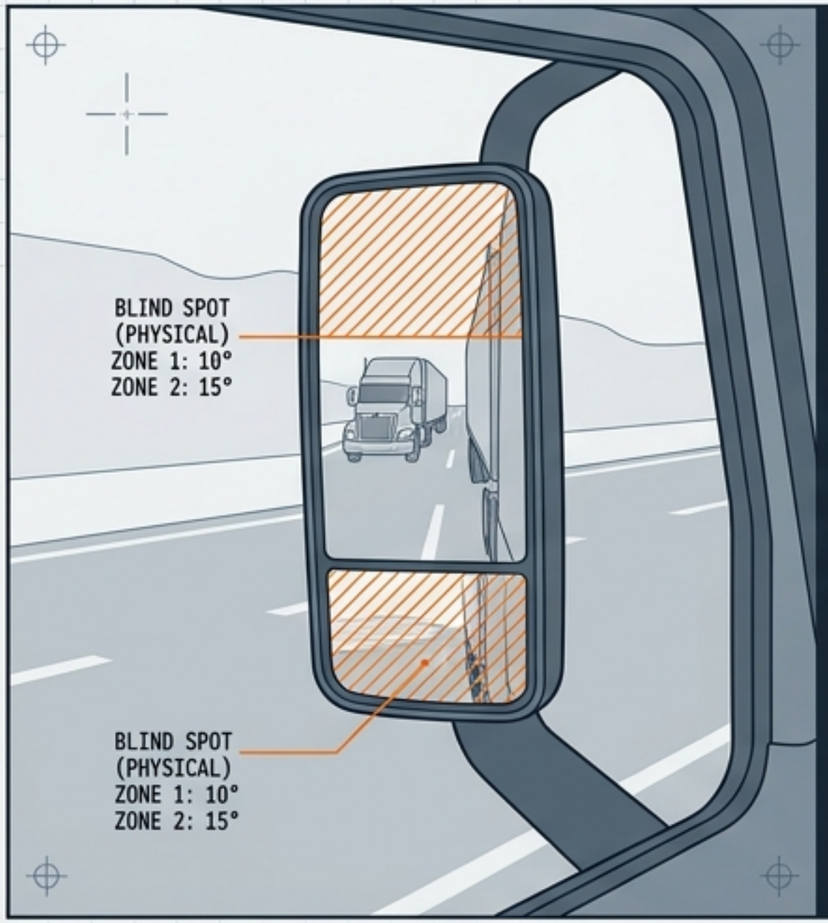
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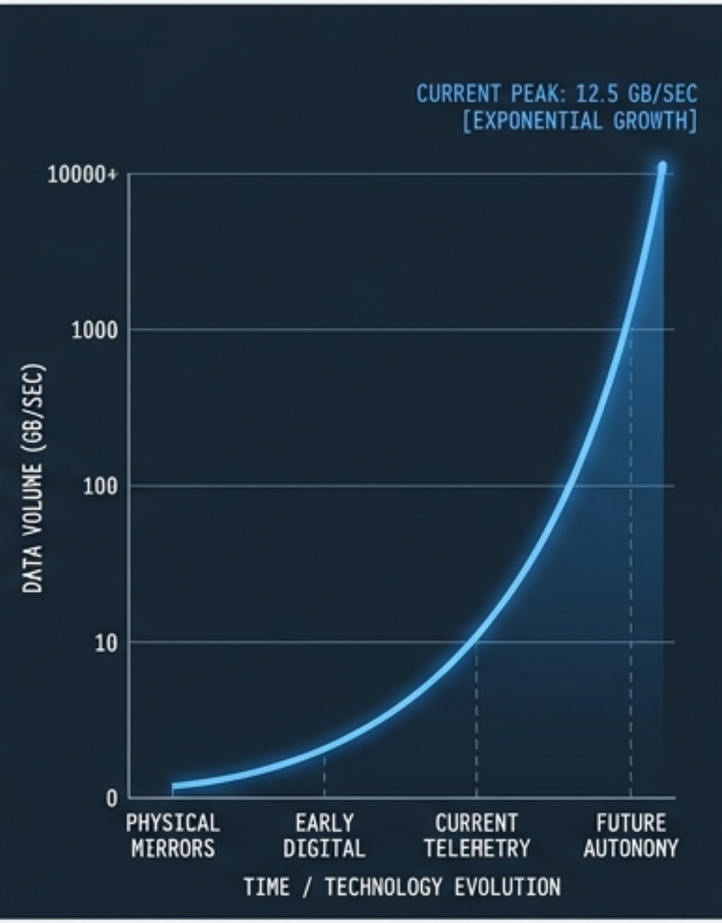


FMCSA ELDT Compliant Training Module

Gemini Notebook

THE EXPONENTIAL COGNITIVE LOAD OF MODERN FREIGHT







EVOLUTION SUMMARY

Modern commercial trucking has evolved from isolated physical mirror checks to real-time digital feed synthesis.

INPUT REQUIREMENTS

14 DISTINCT VISUAL INPUTS MUST BE PROCESSED SIMULTANEOUSLY BY THE OPERATOR.

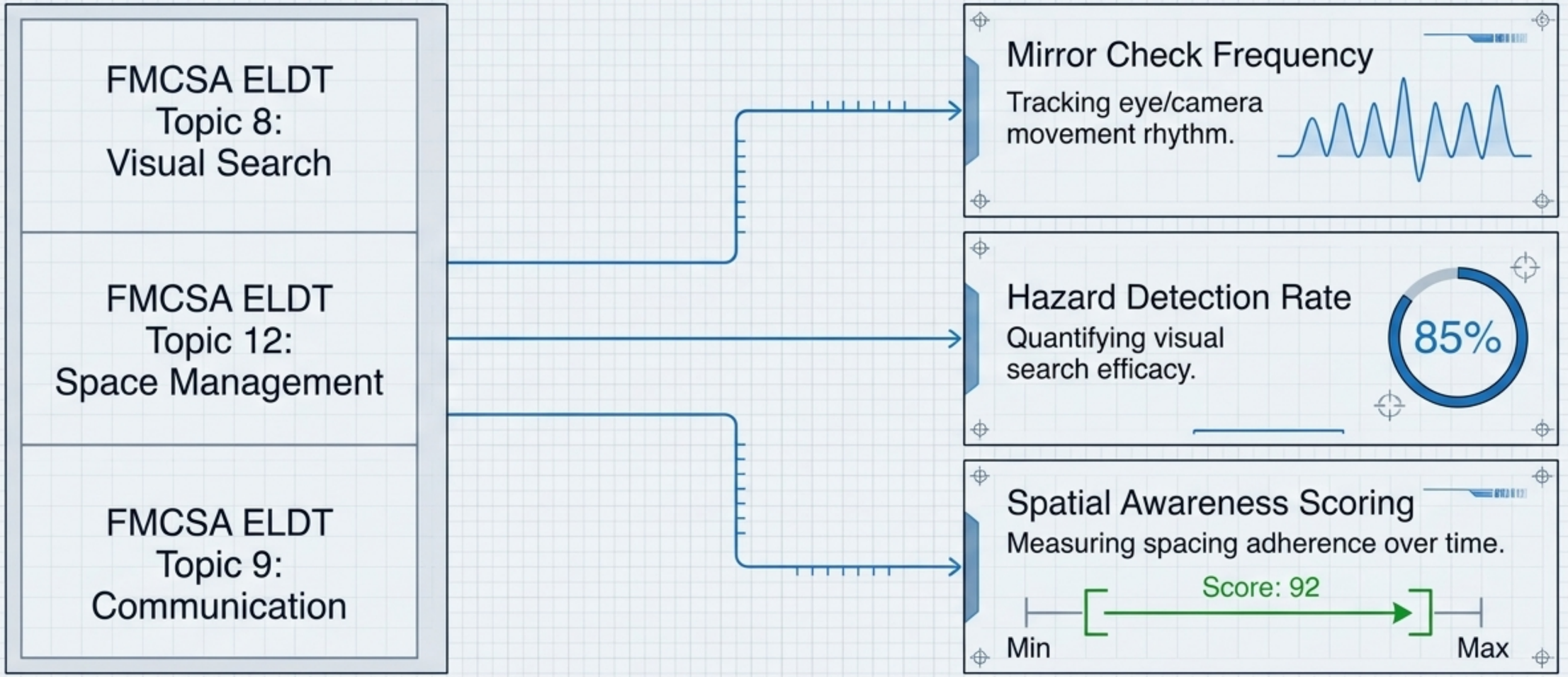
CONCURRENT STREAMS: 14	DATA RATE: >10 GBPS	LATENCY TARGET: <20MS

COGNITIVE IMPLICATIONS

Managing this unprecedented data flow requires esports-level visual processing speeds (APM) integrated seamlessly with commercial-grade safety protocols.

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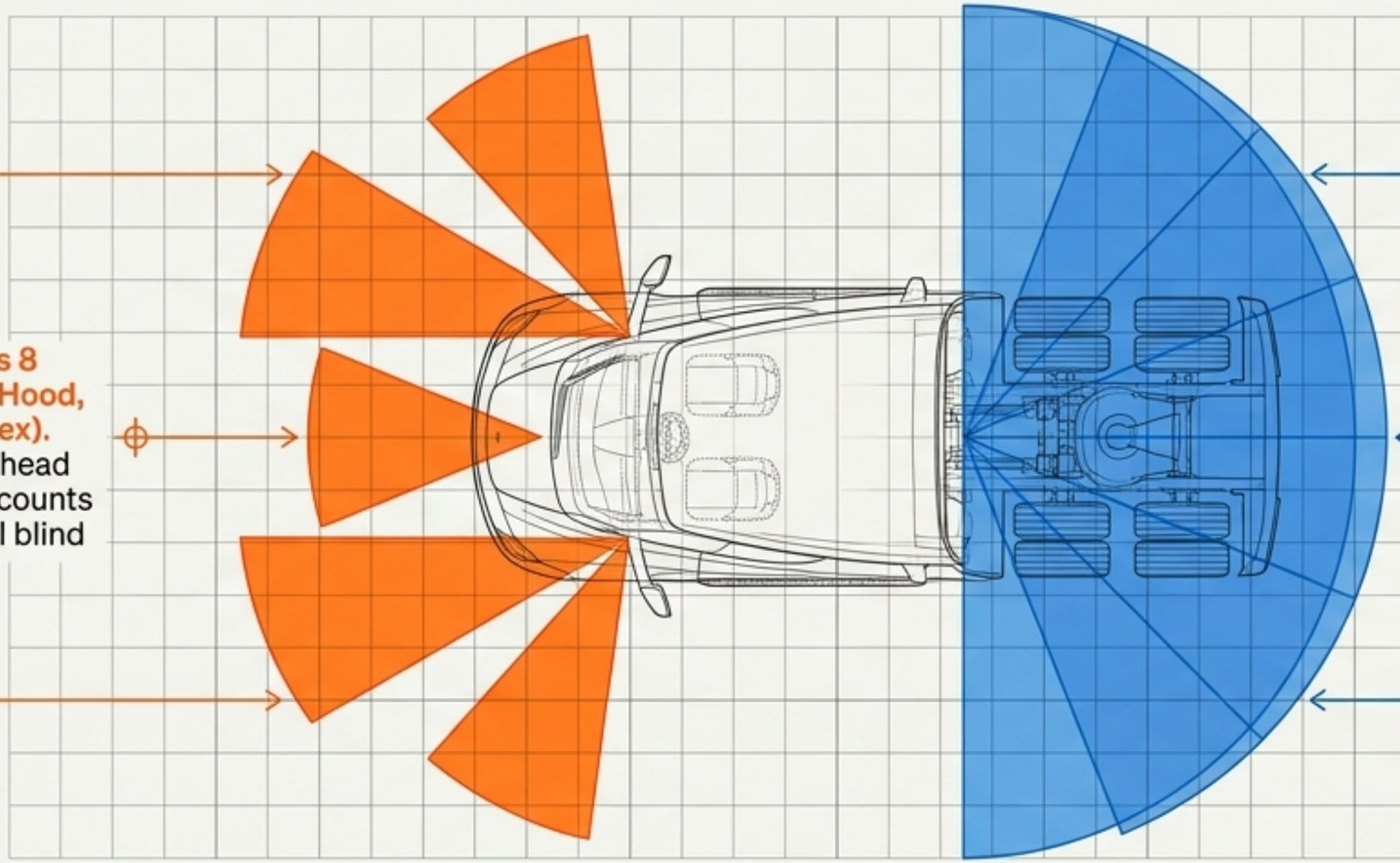
Translating federal ELDT mandates into trackable game telemetry



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The 14-feed hardware architecture mapping

6 Traditional Class 8 Physical Mirrors (Hood, West Coast, Convex). Requires physical head movement and accounts for known physical blind spots.

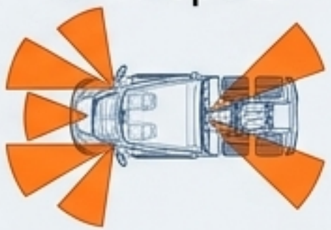
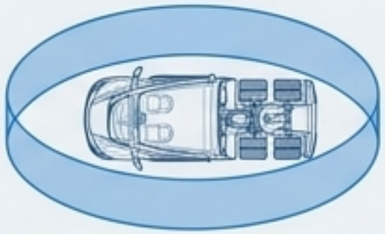


8 Tesla HW4 Camera Feeds (Front, side repeaters, side pillars, rear). Offers seamless digital stitching.

Total situational awareness requires the simultaneous management of both analog geometry and digital FOV inputs.

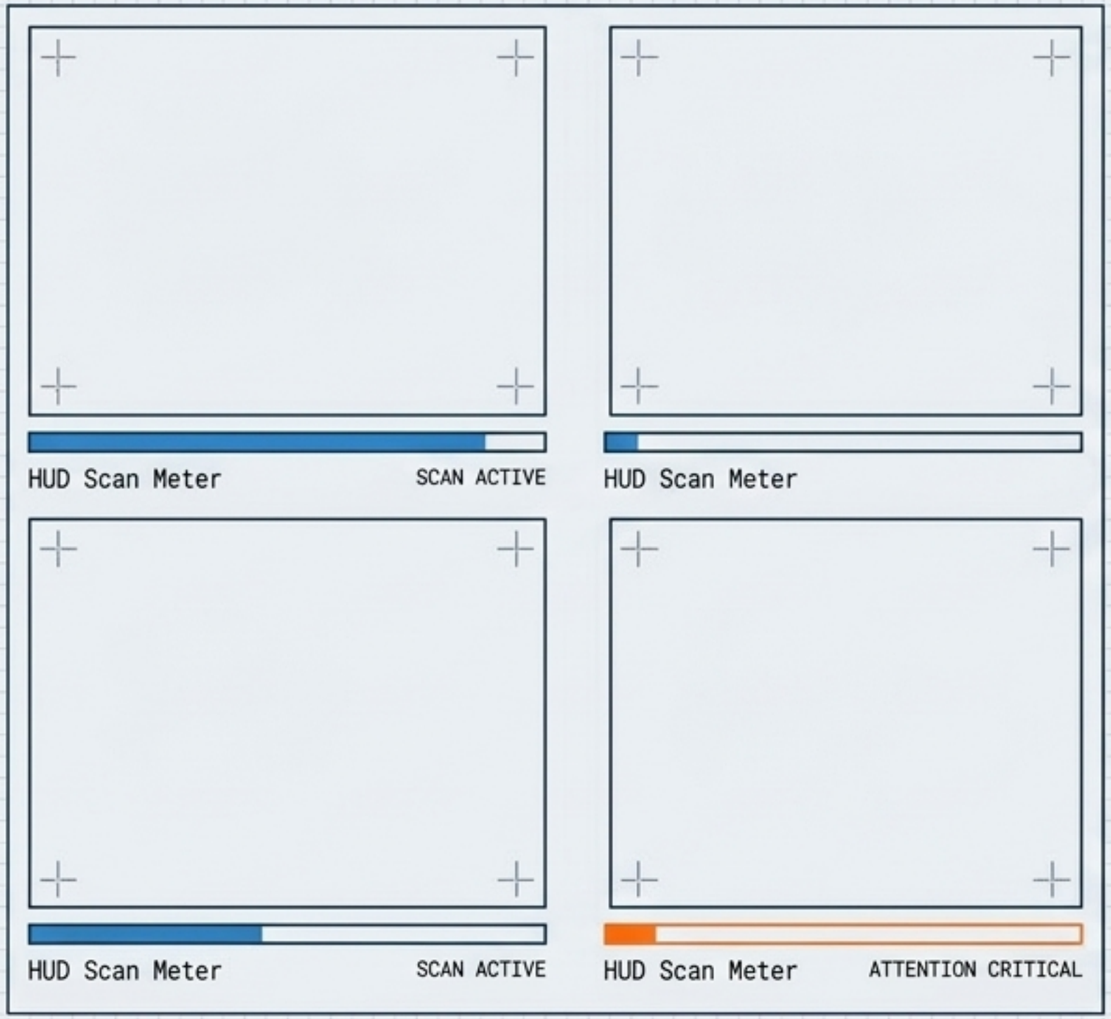
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Cognitive processing requirements by hardware type

Hardware Type	Field of View (FOV)	Blind Spot Status	Cognitive Action Required
Physical Mirrors `6 inputs`	Fragmented, discrete geometry 	Persistent physical blind spots 	Requires physical head tracking and spatial interpolation.
HW4 Cameras `8 inputs`	Stitched digital panorama 	Blind-spot elimination 	Requires screen-switching, remote multi-cam management, and interface navigation.

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Enforcing rhythm through HUD Scan Meters



The Mechanic

Progress bars continuously deplete on every feed. Looking directly at a feed refills its meter.

The Rule

If any meter empties completely, a target `fixation penalty` is instantly triggered.

The Outcome

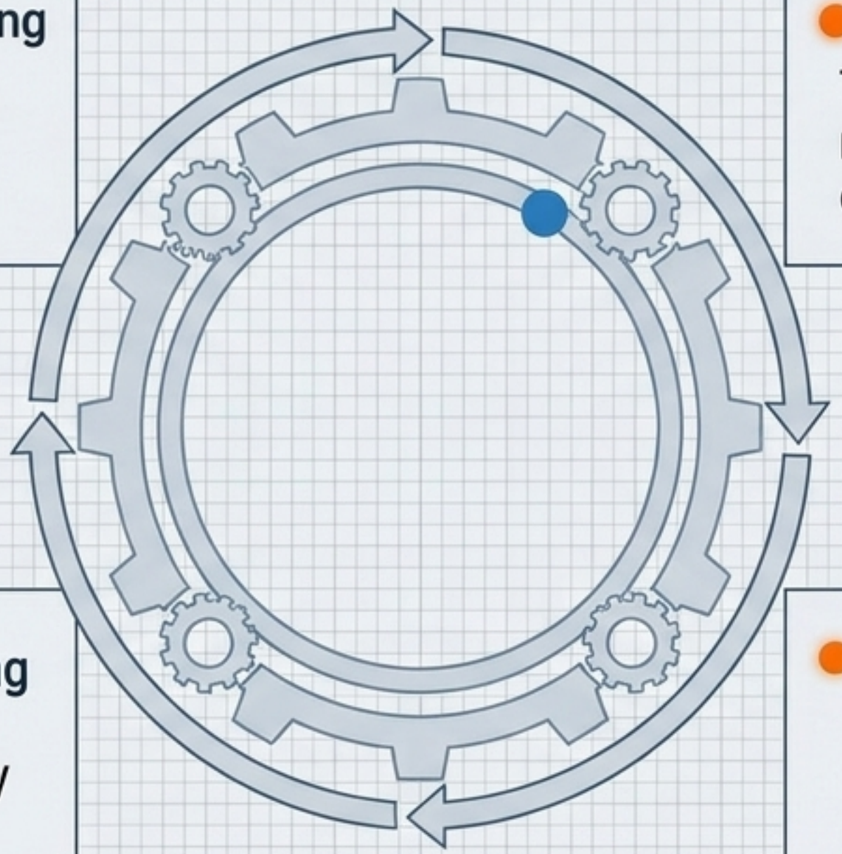
Forces trainees to build a continuous, rhythmic scanning pattern, embedding autonomous muscle memory for real-world driving.

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The continuous simulation loop

Phase 1: Continuous Scanning

Maintaining the HUD meter rhythm across 14 feeds.



Phase 2: Hazard Injection

The AI engine dynamically spawns road hazards (e.g., merging cars, debris, pedestrians).

Phase 3: Identification & Logging

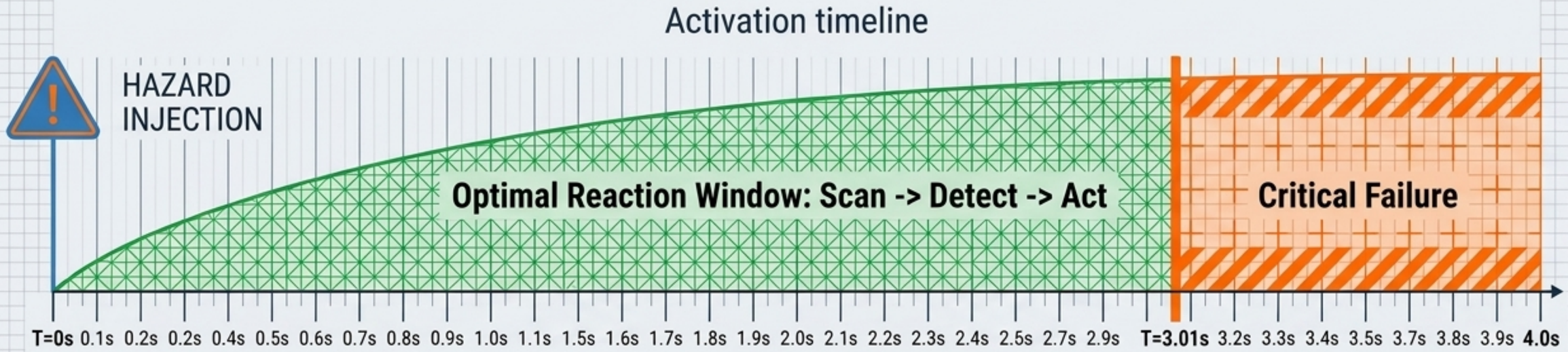
The trainee must spot and log the hazard without breaking their scanning rhythm.

Phase 4: Telemetry Reporting

The system calculates latency and updates the 40/30/30 score in real-time.

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The 3-second hazard detection threshold



The Mechanic

Upon an AI hazard injection, the player has exactly 3.00 seconds to log the detection via the interface.

The Science

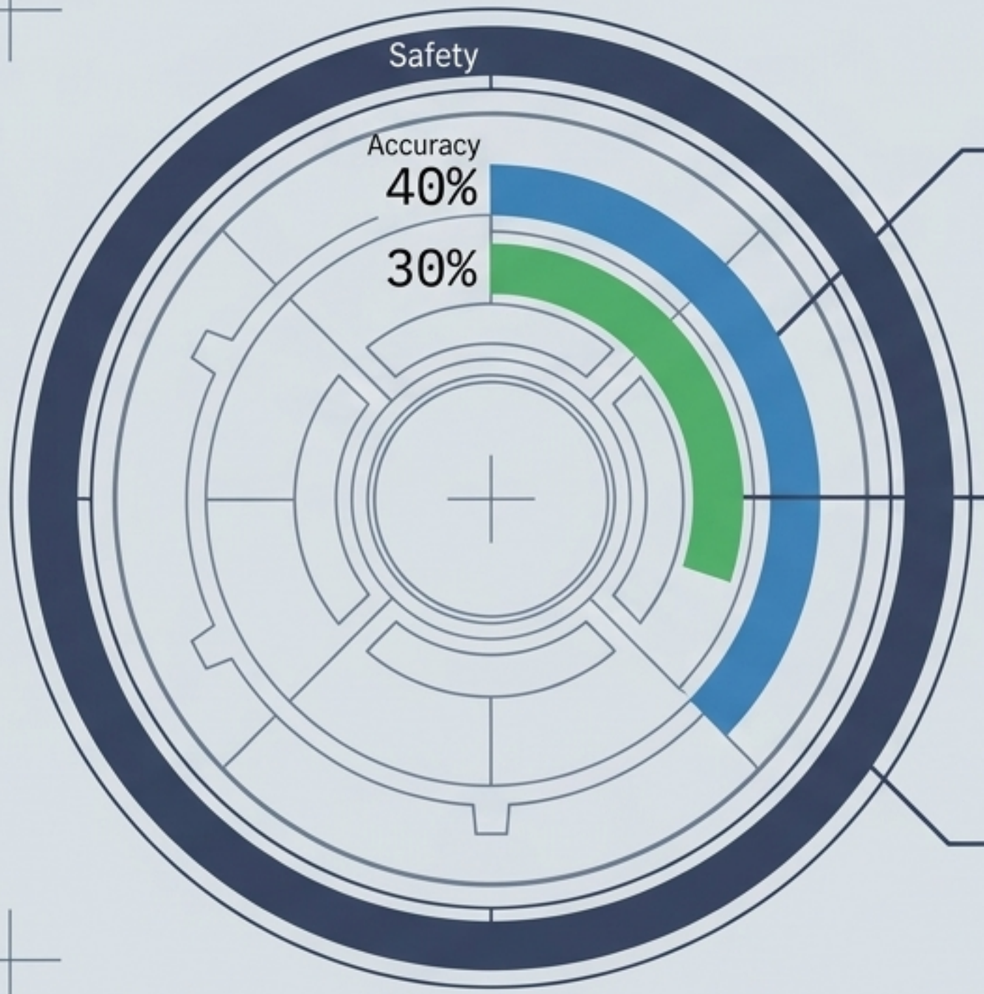
This threshold perfectly matches FMCSA safe following distance minimums and standard hazard baselines for 80,000 lb vehicles.

The Telemetry

Reaction time is logged and audited down to the millisecond, providing proof of cognitive readiness.

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Telemetry scoring mechanics: The 40/30/30 formula



40% Accuracy

Precision identification of injected hazards. Penalties applied for false positives (ghost clicks).

30% Efficiency

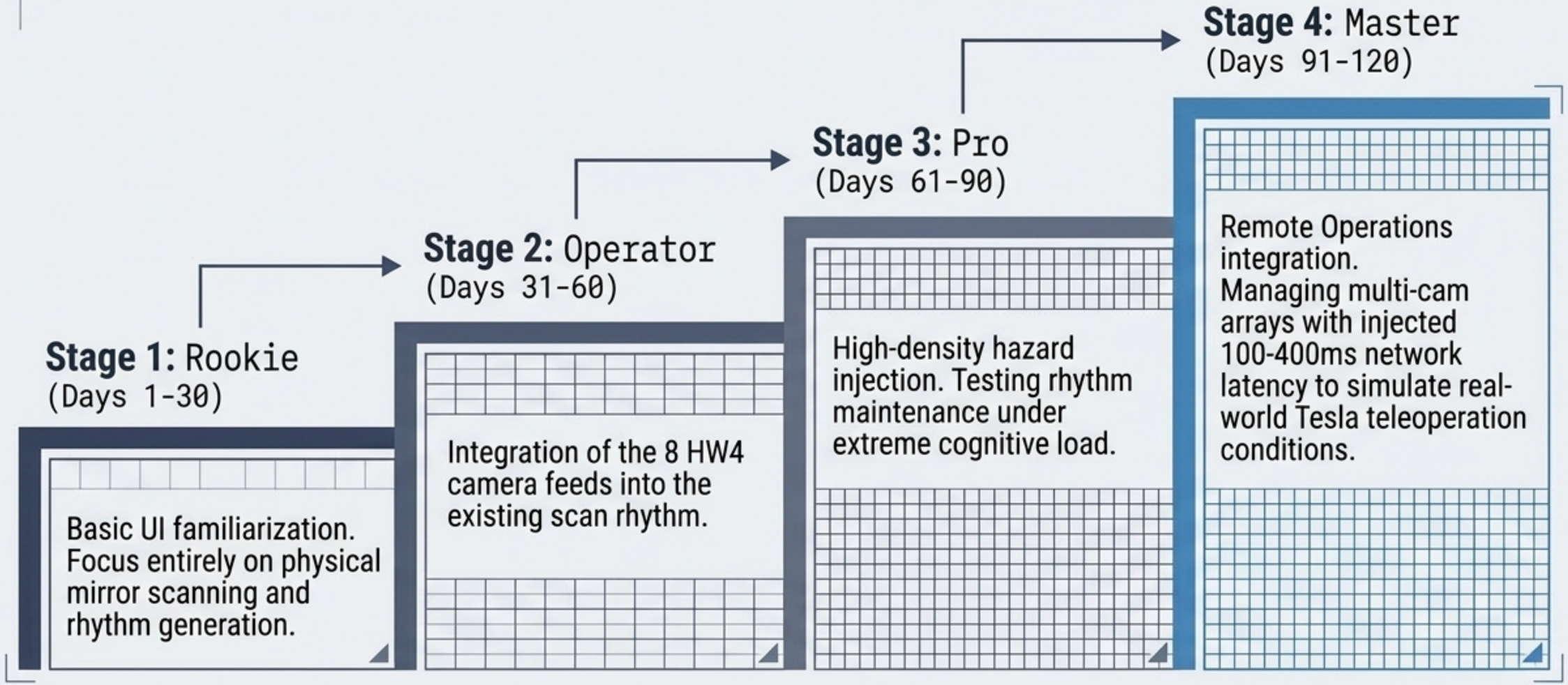
Maintaining the continuous rhythm of the HUD scan meters, minimizing time wasted fixating on empty feeds. (+ Tesla kWh/mi efficiency where applicable).

30% Safety

The ultimate veto. Requires zero missed 3-second thresholds and zero critical space management violations. A single safety failure tanks the overall score.

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The Mirror Management progression pipeline



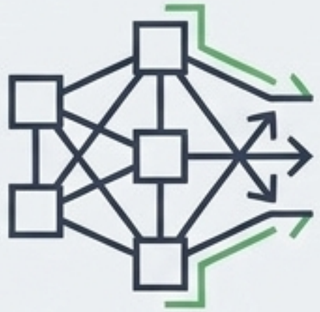
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Strategic integration of Game 01



Regulatory

Exceeds FMCSA ELDT Theory requirements by converting passive knowledge into logged, auditable proficiency.



Cognitive

Actively channels high-APM gamer skillsets into rigid commercial safety protocols.



Future-Proof

Establishes the fundamental visual baseline required for Level 2 FSD Supervised remote trucking operations.

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