



AI in Formula One.

Exploring Use Cases For
Simulation
Engineers

This content is an independent discussion of AI in motorsports engineering and is not affiliated with Formula One, FIA, or any specific team.

Enhancing Testing, Validation & Real-Time Adaptability

Why It Matters

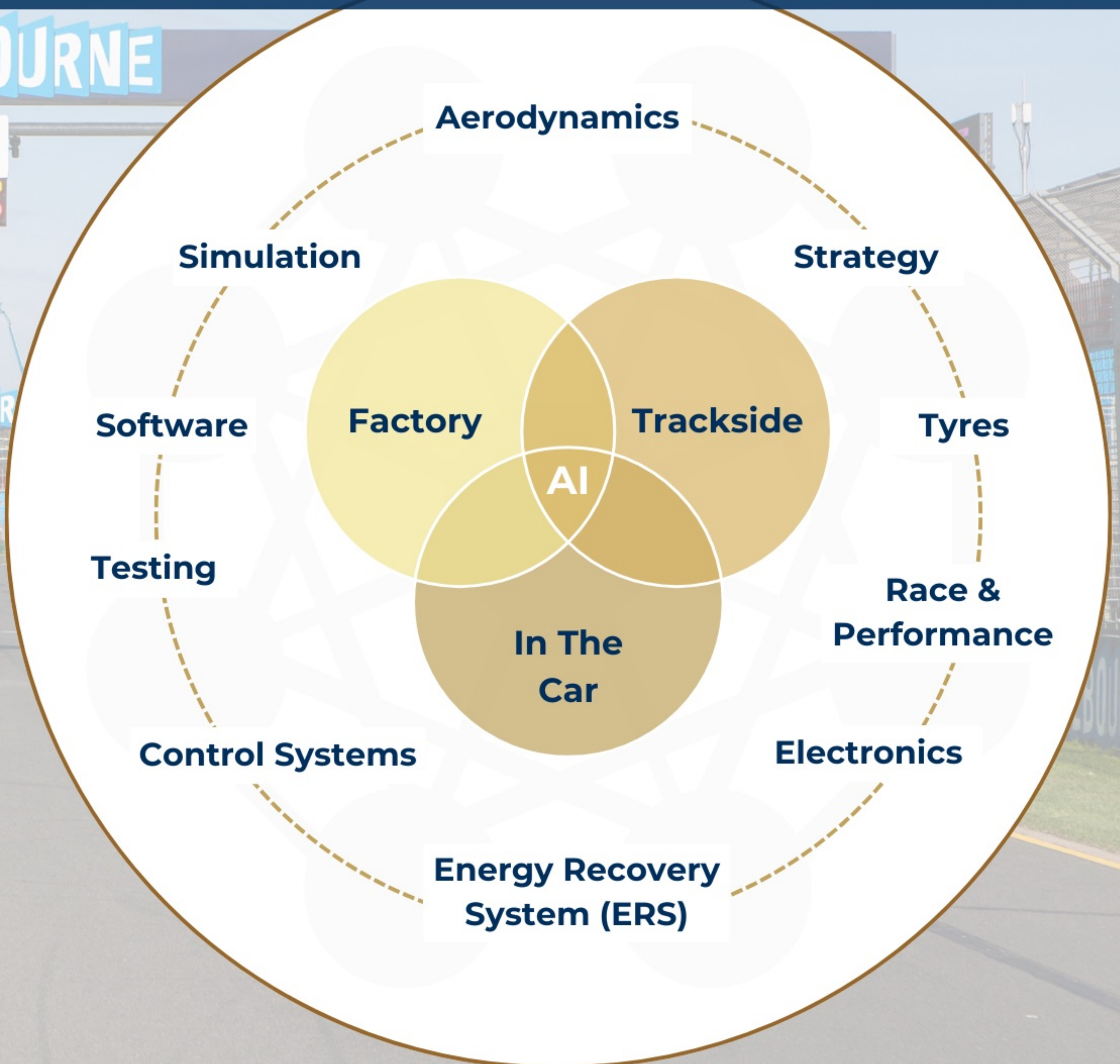
Formula One teams rely on extensive Driver-in-the-Loop (DIL), wind tunnel, and CFD simulations to refine race strategy, car setup, and performance.

The challenge is knowing which simulations will provide the most useful insights and ensuring they align with real-world performance.

AI-based Engineering Technology

- ✓ Prioritises the most valuable simulation runs based on expected learning and performance impact.
- ✓ Refines parameter selection to ensure tests capture a wider range of meaningful data.
- ✓ Improves correlation between simulations and real-world performance, reducing discrepancies.
- ✓ Adapts scenario-based simulations in real time, allowing engineers to refine models dynamically.

The Future of Racing: Streamlined with AI.



Aerodynamics

Simulation

Strategy

Software

Factory

Trackside

Tyres

AI

Testing

Race &

Performance

**In The
Car**

Control Systems

Electronics

**Energy Recovery
System (ERS)**

AI in Formula One.

Exploring Use Cases For **Simulation Engineers**

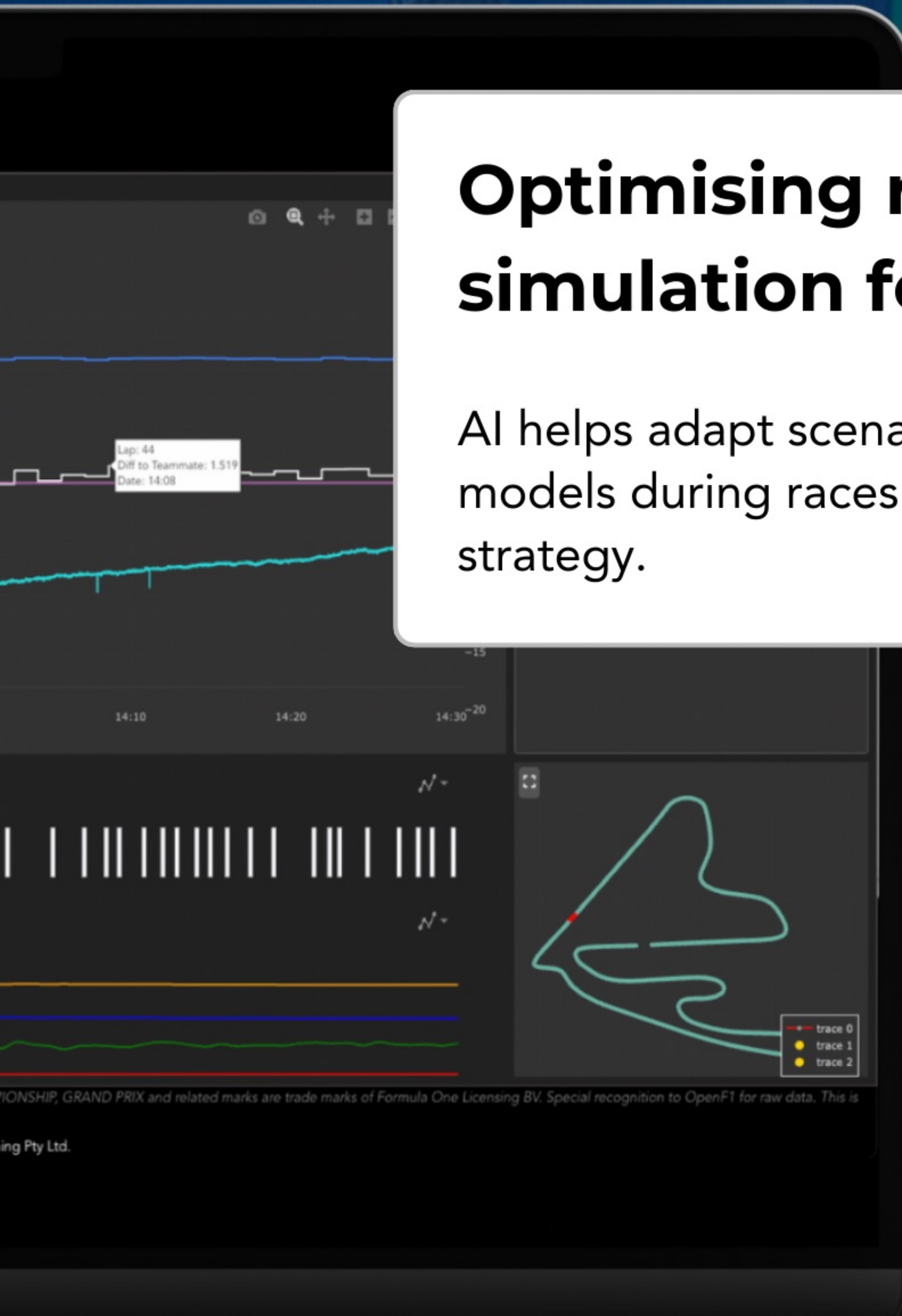
Potential Applications for Simulation Engineers

AI-driven simulation prioritisation

Predict which test conditions will yield the most valuable performance insights based on setup objectives and individual driver racing characteristics.

Optimising real-time simulation feedback

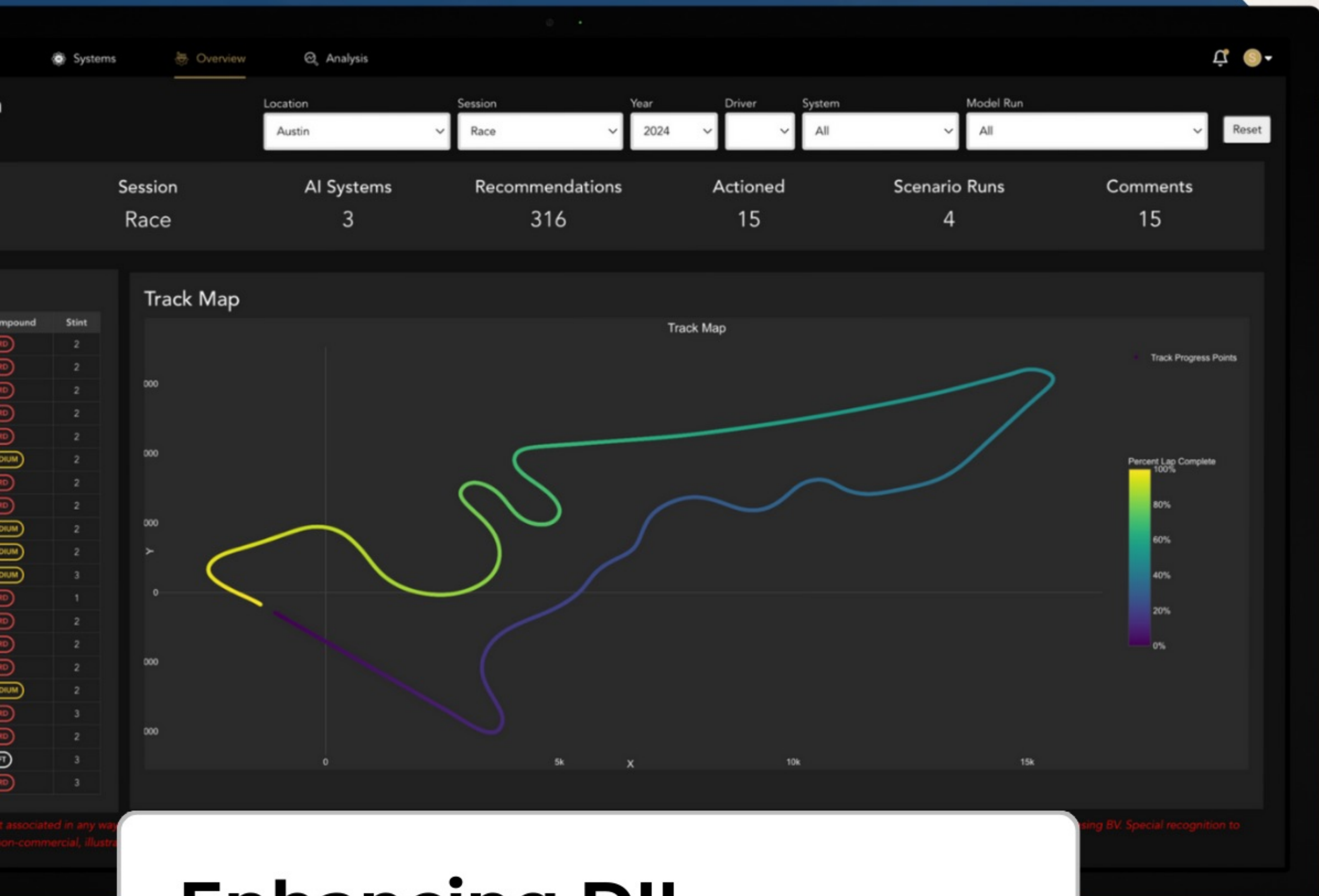
AI helps adapt scenario-based models during races to refine strategy.



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Enhancing DIL correlation with AI

AI aligns DIL test results with real-world track data, improving accuracy.

Next Steps



AI isn't replacing expertise - it's enhancing it.

To discuss one or more of these
AI use cases, contact us today.



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AI in Formula One Guide
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