



Crafting a new automotive experience with Embodied AI

Alex Kendall, Co-founder & CEO, Wayve

Nvidia GTC 2025

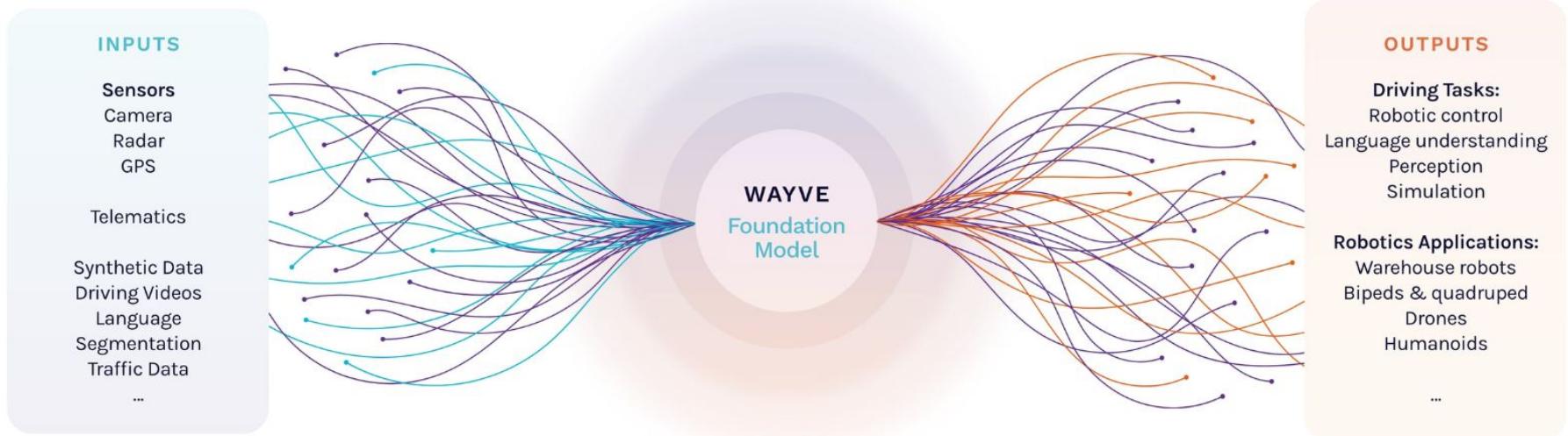


Wayve's mission is to reimagine autonomous driving with embodied intelligence

Autonomous driving is an AI problem



Wayve Foundation Model





To create production-ready
AI for Automotive, we are solving
adaptability, safety & trust.

Our Product

Wayve AI Driver is the leading AI Model for Self-Driving



Wayve
AI Driver

A safe driving intelligence designed to accelerate the transition
from Advanced Driver Automation to Driverless

Built for any vehicles

- Lean & flexible AV stack
- Sensor agnostic
- Integrates into existing stack

Built for any environment

- No HD Maps required
- Adapts to new cities with data
- Generalizes to new, unfamiliar situations

Built for automotive systems

- Versatile AI for automotive - powers stand alone features (e.g. AEB) to automated driving
- Seamless scalability supporting L2+ urban and L3 hands-off highway



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Building a Safe & Trustworthy Embodied AI

Vast Cloud Compute & Data Scale

Proprietary Streamlined Architecture

Safety-by-design Model Architecture

Novel Model Introspection

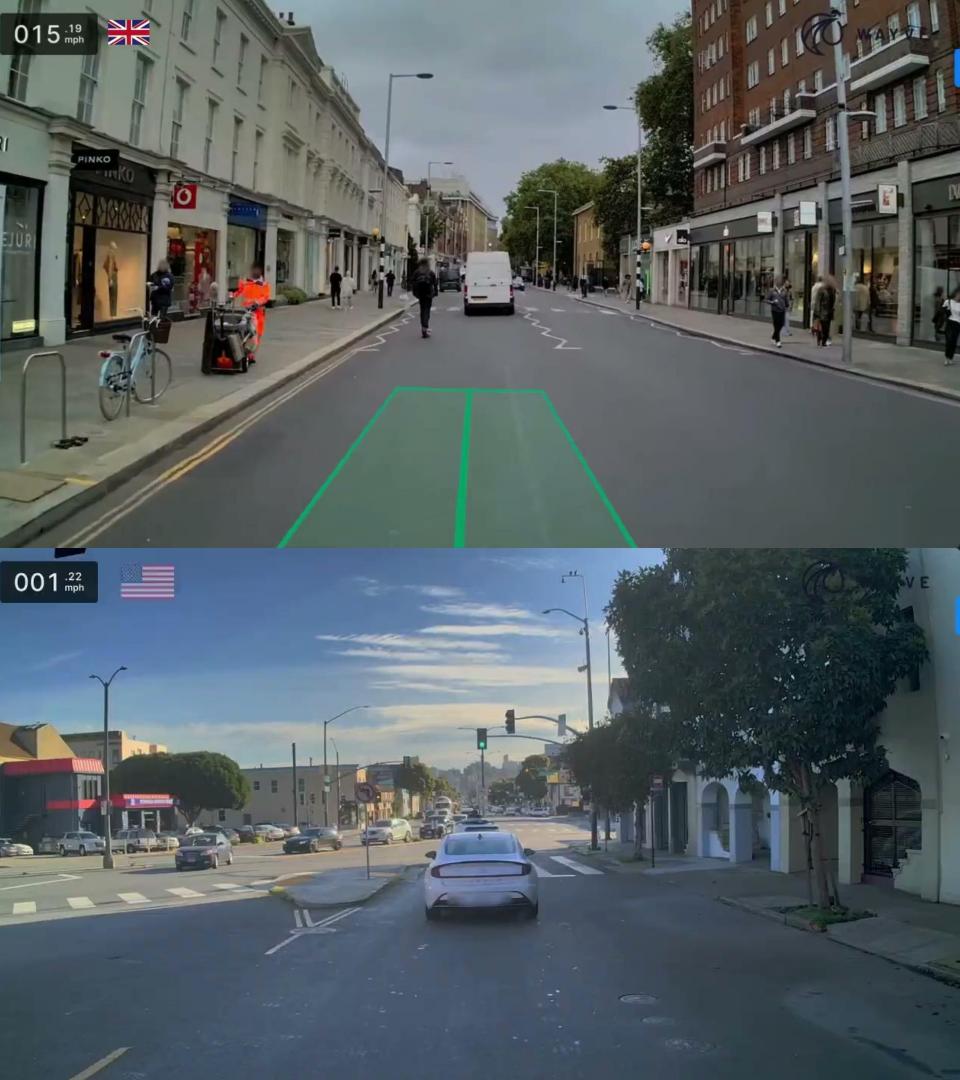
Scenario Intelligence

Cutting-edge Science



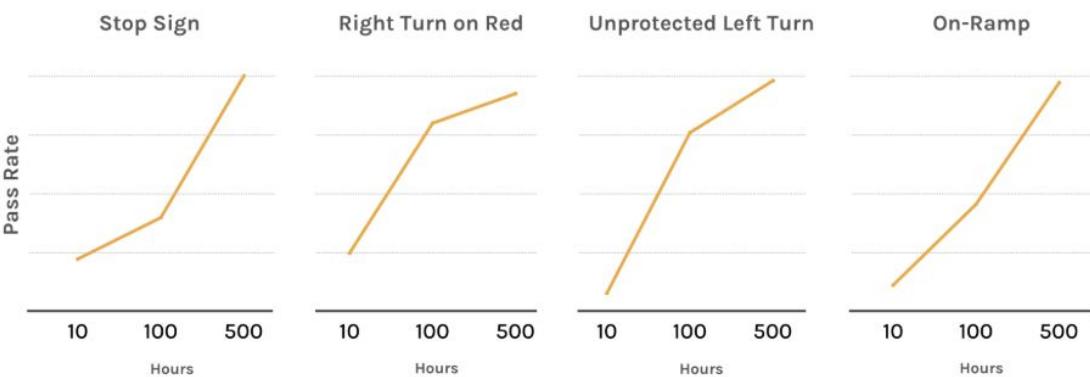
Adapting to the other side of the road

US Driving Performance
Compared to UK Benchmark



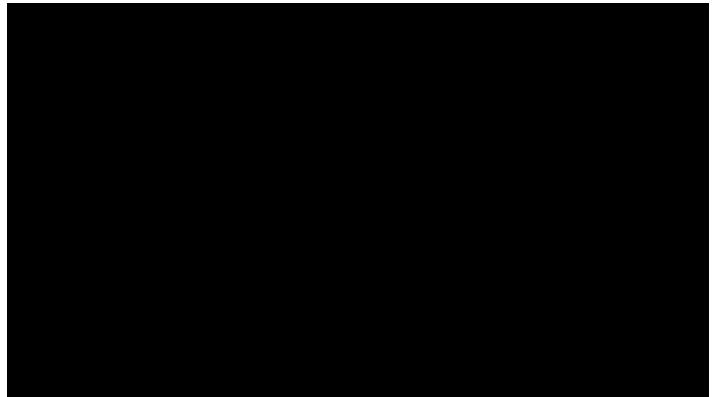
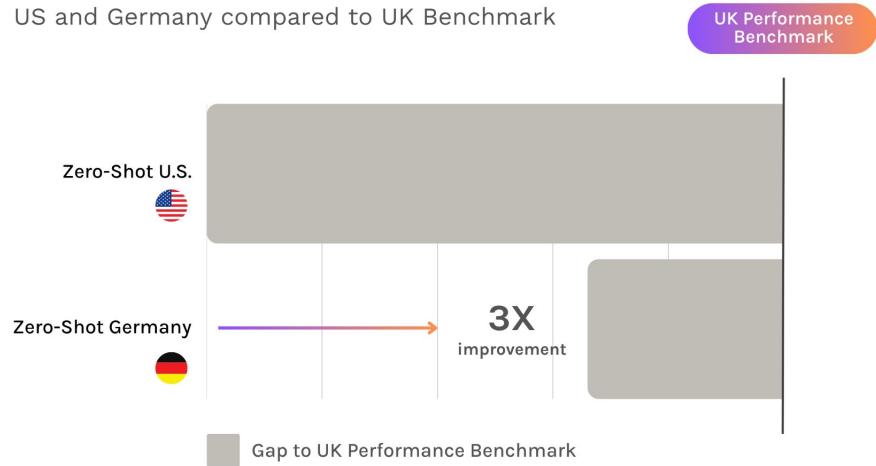
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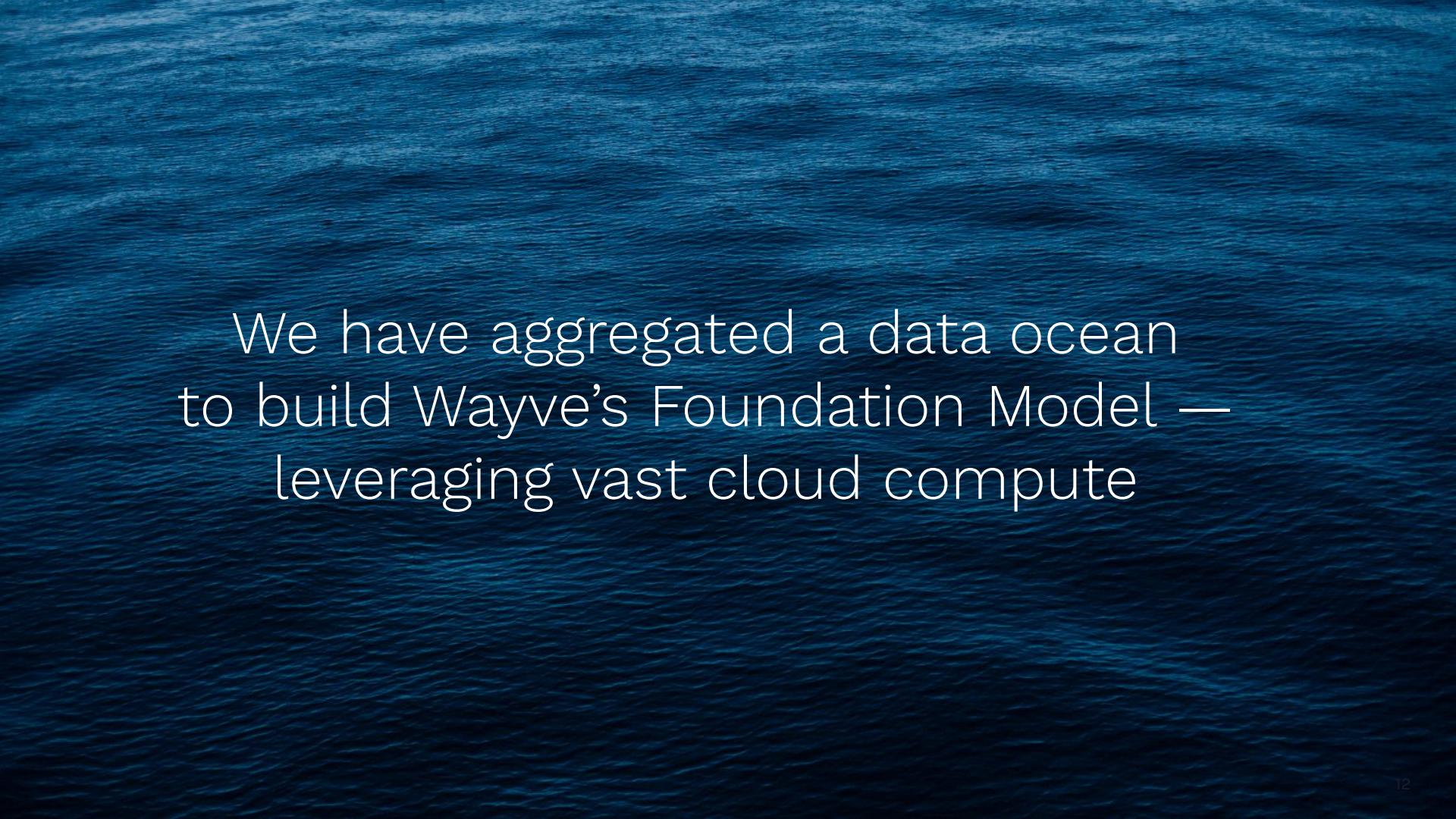
Mastering new
driving behaviors
from +100 hours'
worth of
sampled data



Network effect: Training on geographically diverse data improves model accuracy across all markets

Zero-Shot Driving Performance
US and Germany compared to UK Benchmark





We have aggregated a data ocean
to build Wayve's Foundation Model —
leveraging vast cloud compute

Proprietary Streamlined Architecture

AV2.0

Sensors

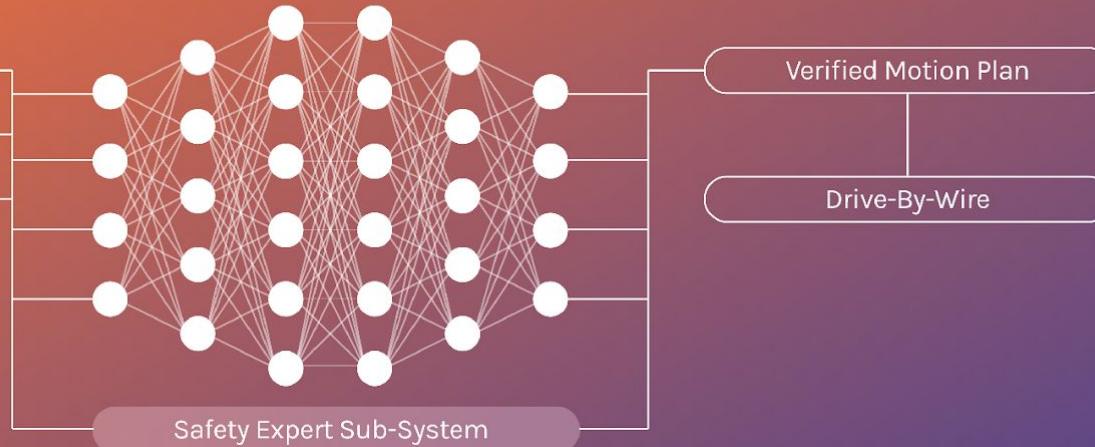
End-to-end AI

Control

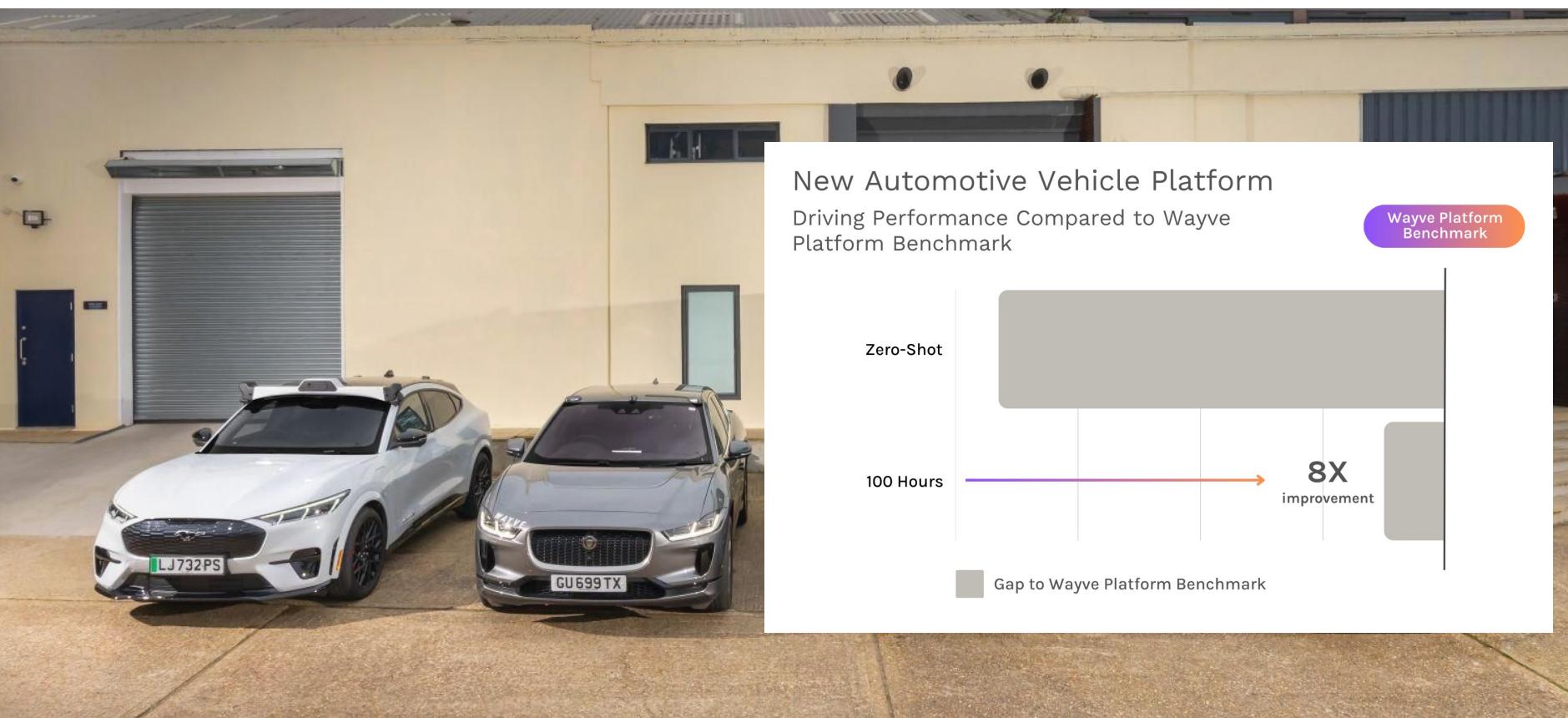
Camera

Radar / LiDAR

GPS

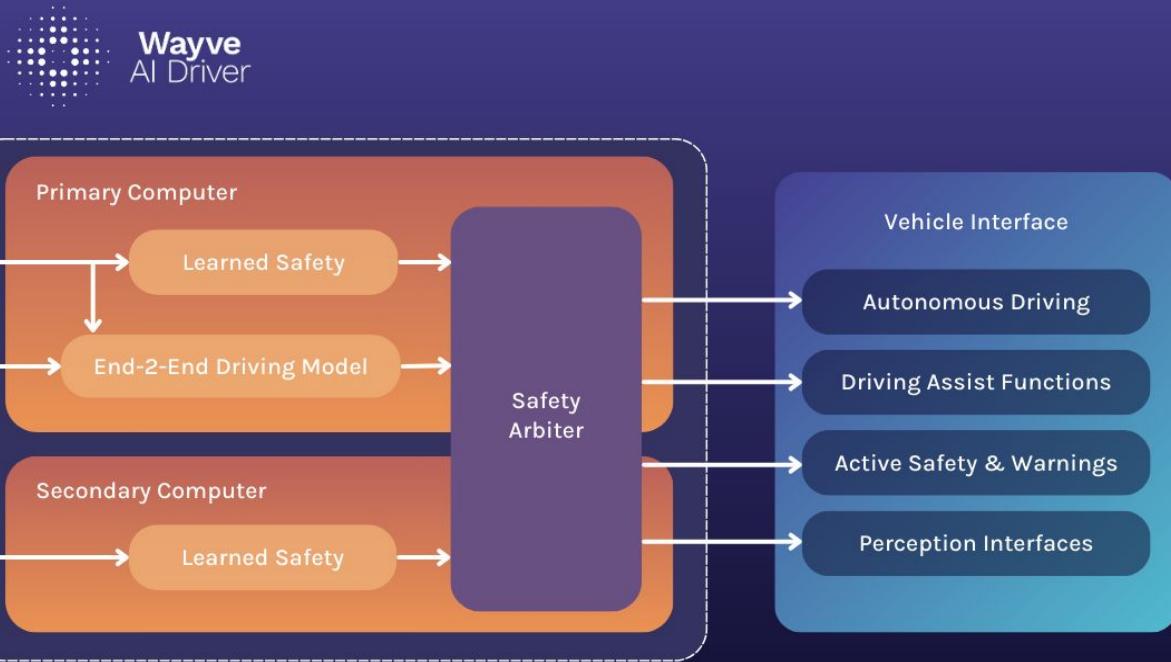


An AI that can drive across multiple platforms

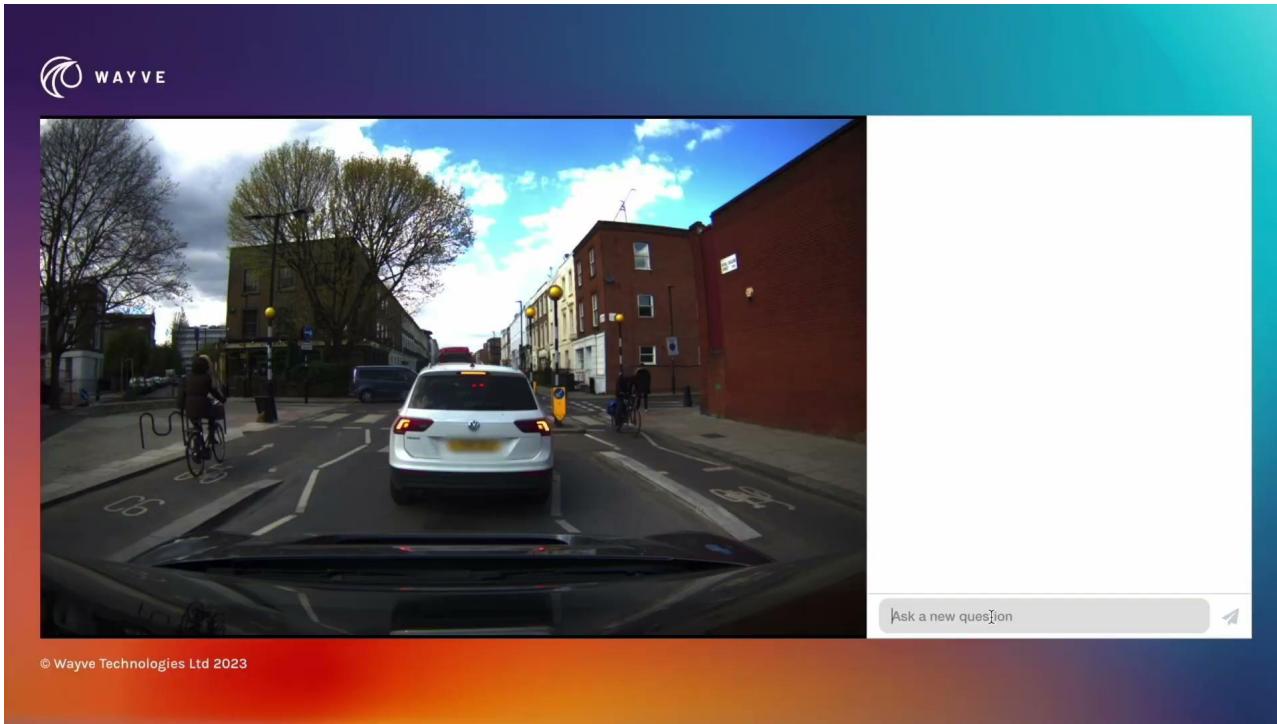


Turning E2E AI innovation into a scalable product

Safety by Design

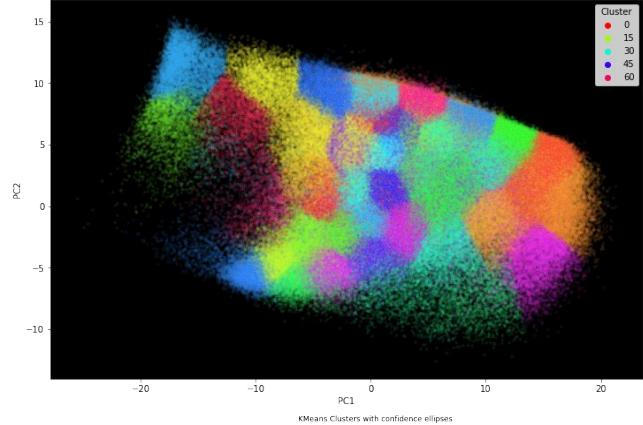


E2E Troubleshooting: Model Introspection

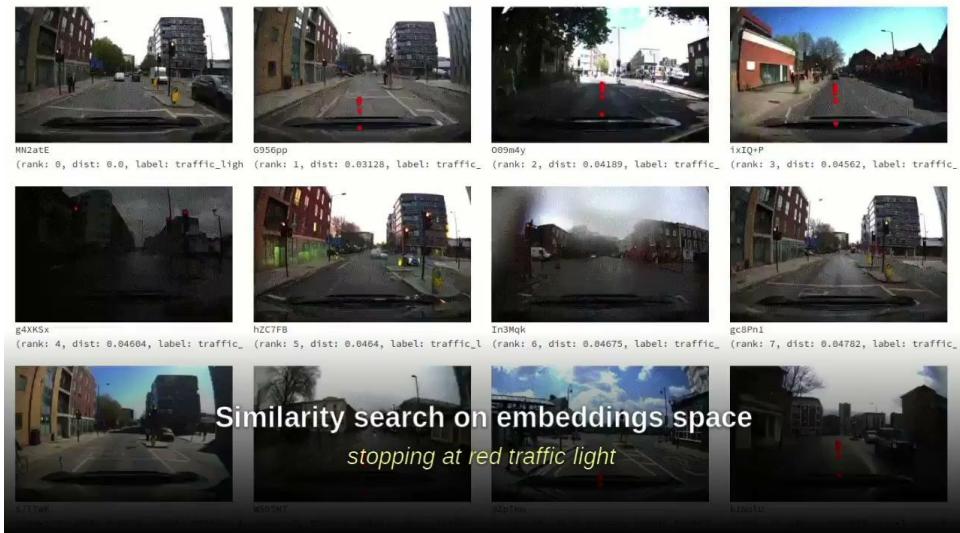
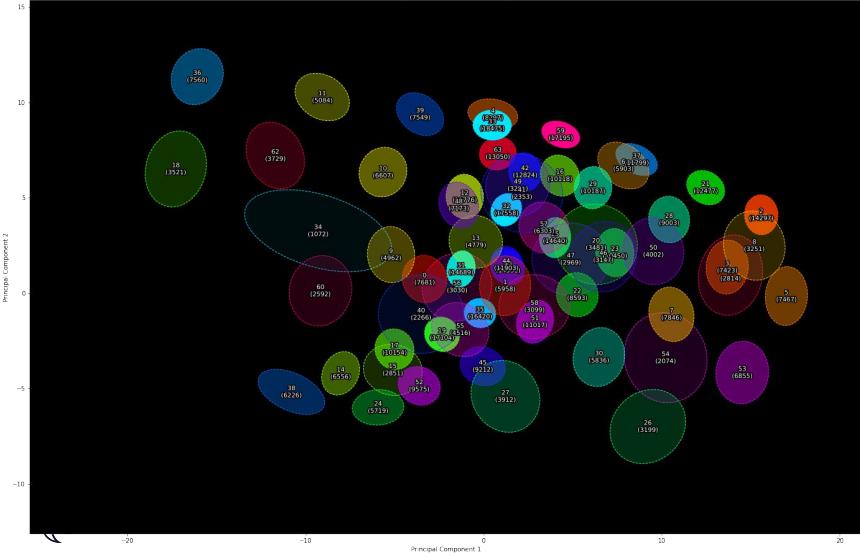


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n=500000 samples, d=64 dim, k=64 clusters



Scenario Intelligence for Self-Supervised Learning



Similarity search on embeddings space
stopping at red traffic light



Synthetic data for Validation & Verification

PHOTOREALISTIC SYNTHETIC DATA



PRISM-1
E2E data driven simulation for dynamic scenes

FUTURE PREDICTION



GAIA-1
First generative world model

Sneak Peek: GAIA-2



GAIA-2 pushes the boundaries of synthetic data generation with enhanced controllability, expanded geographic diversity, and broader vehicle representation.

Tackling the long tail of safety-critical scenarios



GAIA-2: Synthetic pre-collision scenarios

Tackling the long tail of safety-critical scenarios



GAIA-2: Synthetic Emergency Braking Scenarios

Generating out-of-distribution data



GAIA-2: Synthetic Out-of-distribution States

E2E Automatic Emergency Braking



Paving the way for safe, scalable auto-grade AI



A photograph of a white Tesla Model X driving on a multi-lane highway. The car is positioned in the center lane, facing towards the camera. Other vehicles are visible in the background and adjacent lanes. The road has white dashed lines and a solid yellow center line. The surrounding environment includes a grassy embankment on the left and a metal guardrail on the right.

Q&A