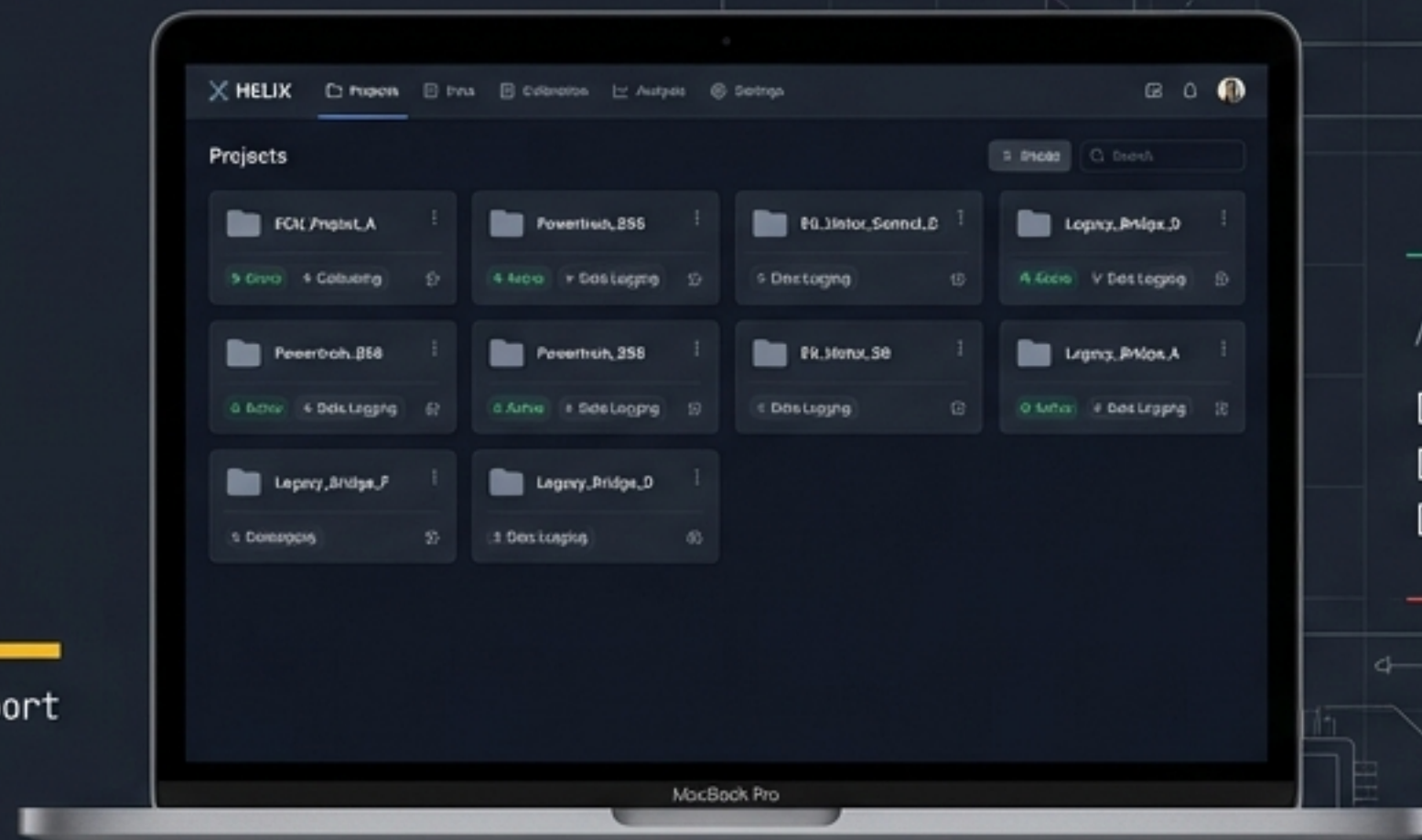


# HELIX

## Cloud-Native ECU Calibration Platform

Version 2.0 Strategic Status & Pivot Report



// SYSTEM STATUS

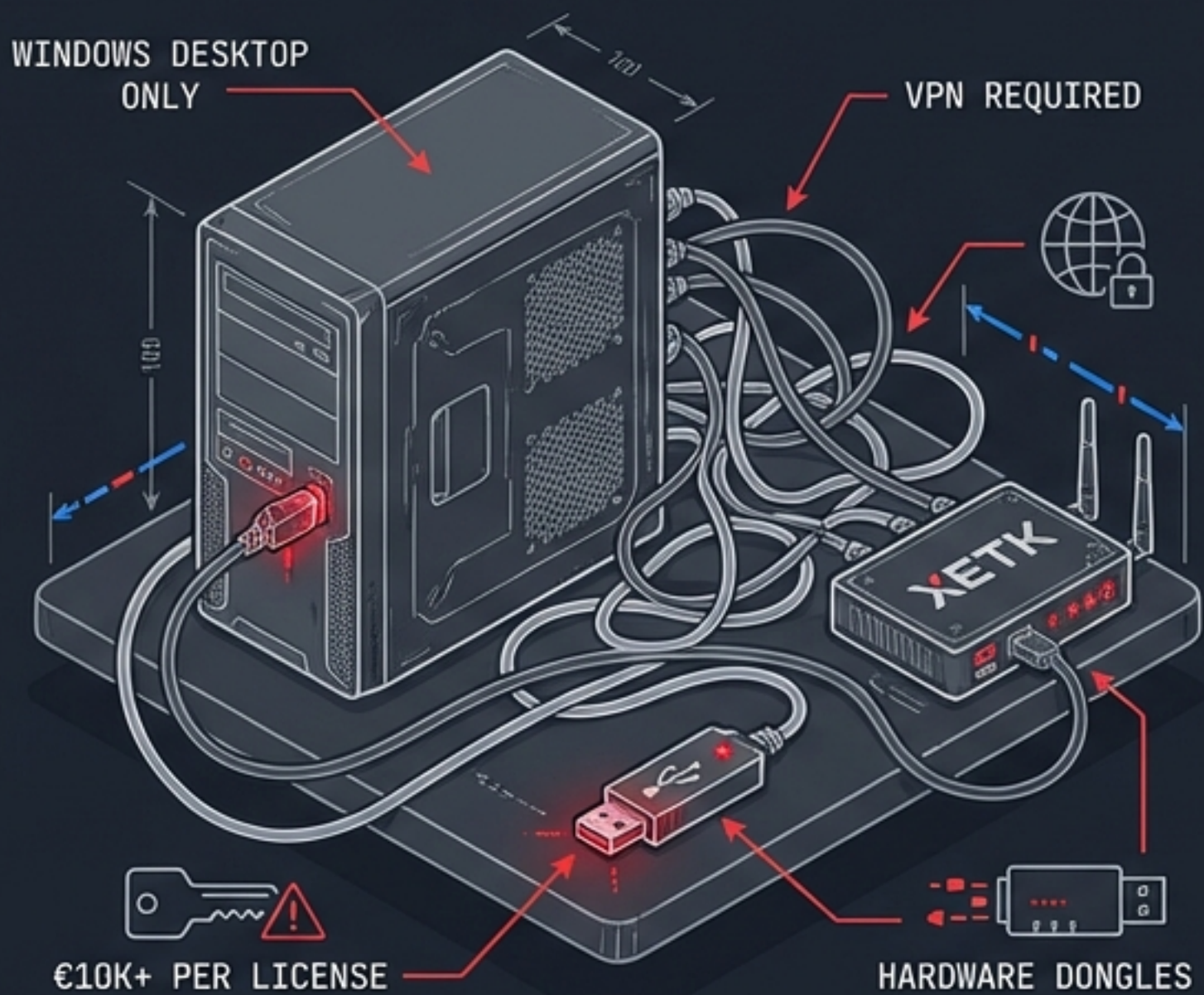
[FOUNDATION]..... COMPLETE (Data, WorkFlow, UI)

[REAL-TIME LAYER]. IN PROGRESS (Critical Gap)

[STRATEGY]..... PIVOT TO 'BRIDGE TO REALITY'

# THE VISION: ESCAPING THE LEGACY DESKTOP TRAP

## THE LEGACY (Current State)



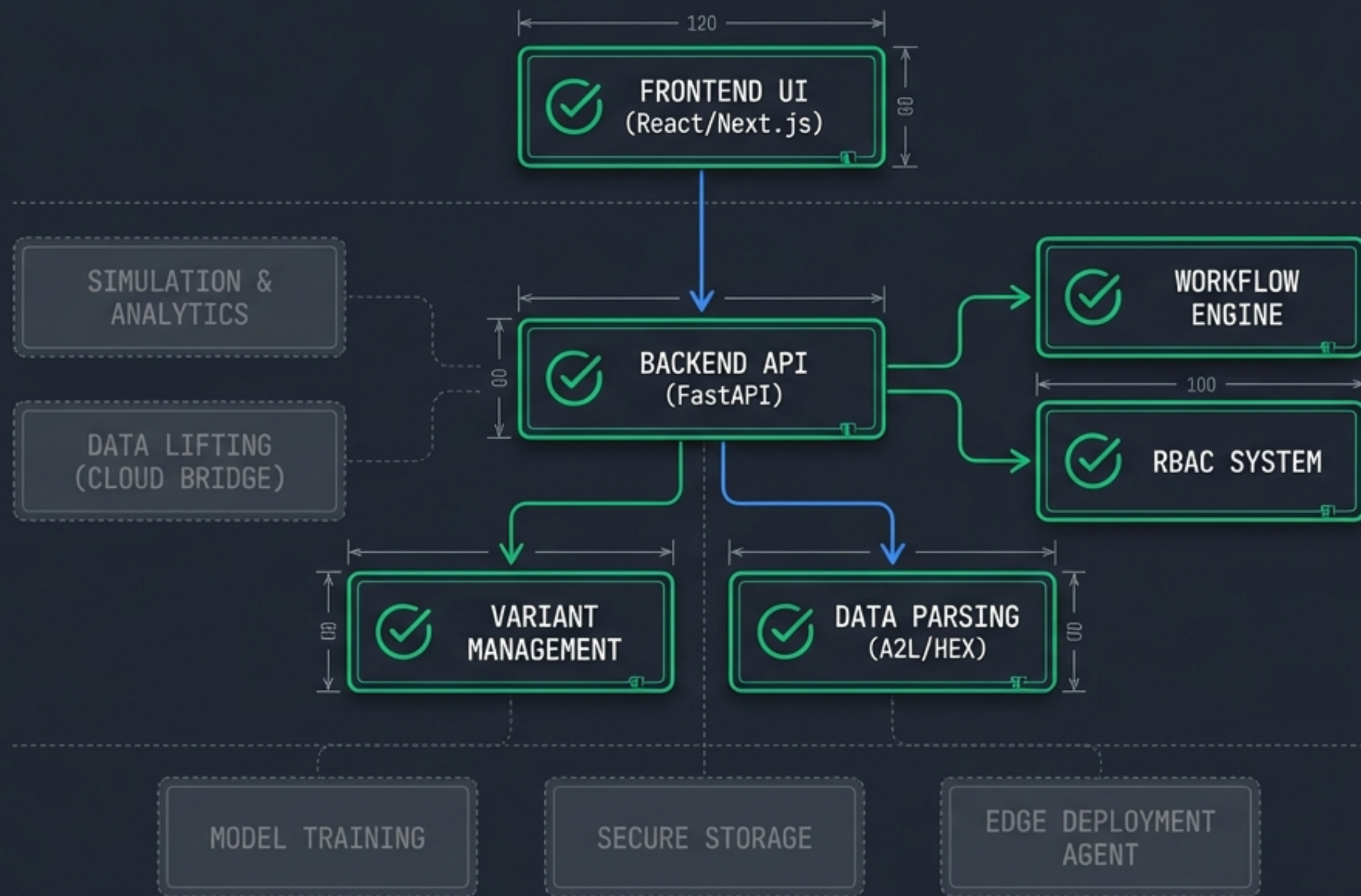
## THE VISION (HELIX)



MOVING THE WORKFLOW FROM THE DESKTOP TO THE CLOUD.



# STATUS CHECK: THE DATA FOUNDATION IS SOLID



## PRODUCTION READY CAPABILITIES

- [✓] vCDM-compliant Workflow
- [✓] Full Variant Tree Logic
- [✓] Intel HEX Generation
- [✓] Role-Based Access Control
- [✓] Database Schema (SQLAlchemy)

PROJECT: HELIX CORE

SHEET: 02 - DATA FOUNDATION STATUS

DATE: 2024-05-22

# THE BRUTAL TRUTH: A CHASSIS WITHOUT AN ENGINE

```
DIAGNOSTIC REPORT: CRITICAL FAILURES DETECTED
-----
> CHECKING: XCP MASTER LAYER...
  [ERROR] NO IMPLEMENTATION FOUND.
  [IMPACT] CANNOT CONNECT, READ, OR WRITE TO ECU.

> CHECKING: REAL-TIME STREAMING...
  [ERROR] WEBSOCKET SERVER MISSING.
  [IMPACT] FRONTEND GRAPHS ARE STATIC.

> CALCULATING PRODUCT VIABILITY...
  [RESULT] 0%
  [NOTE] CURRENTLY A DATA VIEWER, NOT A CALIBRATION TOOL.
```

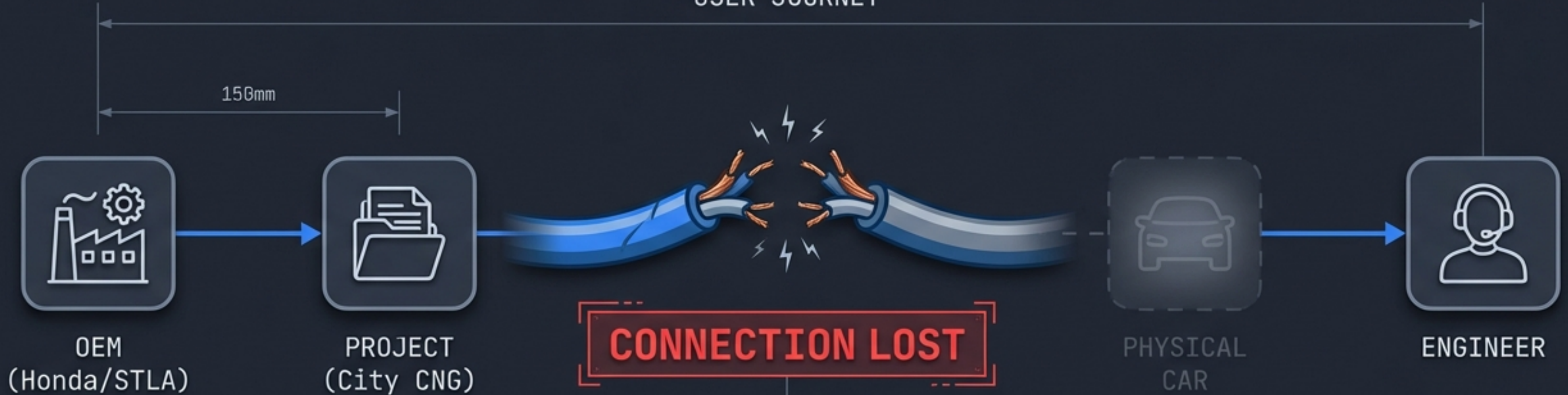
Annotations:

- FAILURE\_POINT (left) points to the first failure.
- FAILURE\_POINT (right) points to the first failure.
- MISSING\_COMPONENT (right) points to the second failure.
- CRITICAL\_IMPACT (right) points to the third failure.

“Our Foundation is Strong. But without the Real-Time Layer, we are only 40% there.”

# THE ECOSYSTEM GAP: MISSING THE PHYSICAL CONNECTION

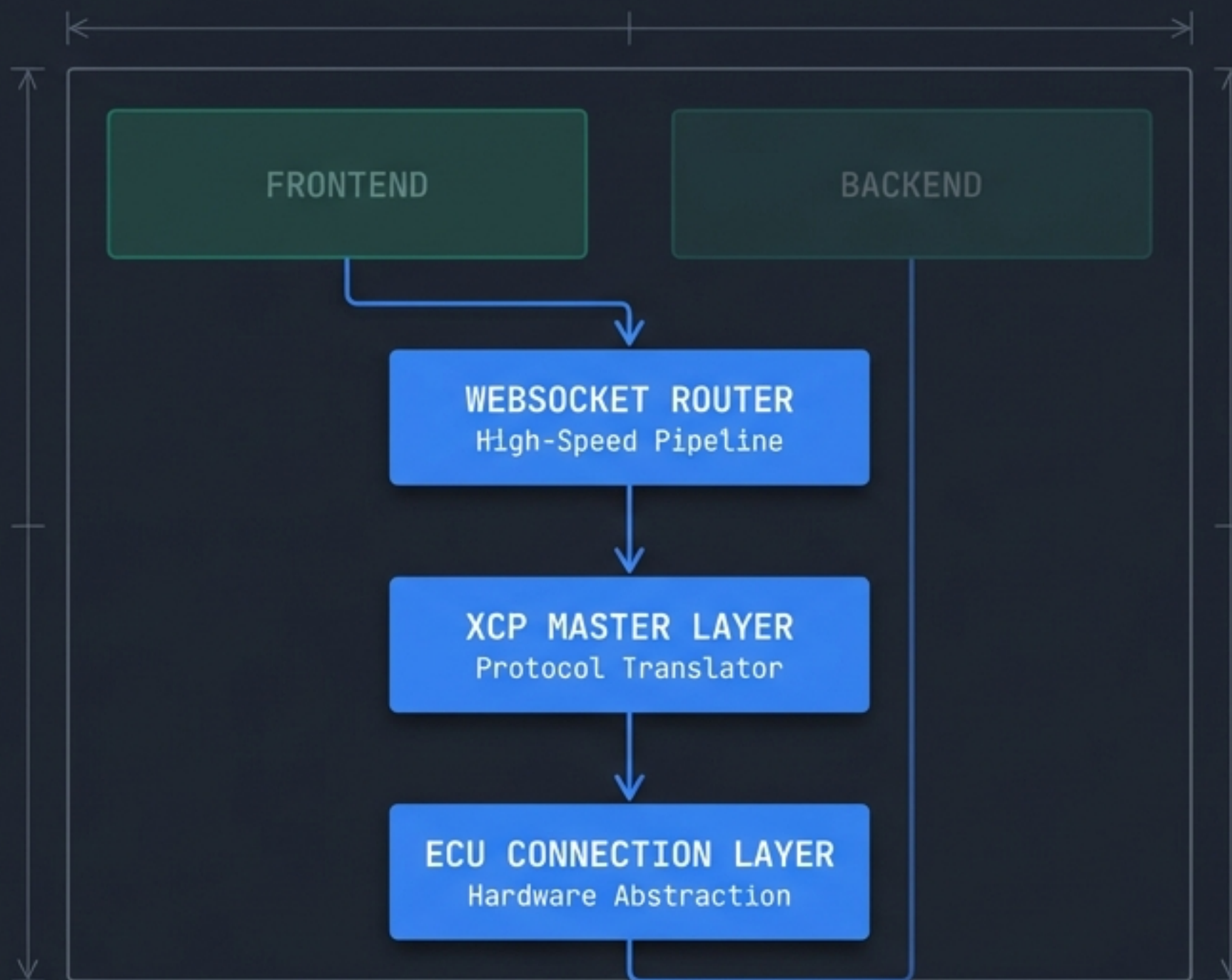
USER JOURNEY



## THE MANAGER BLIND SPOT:

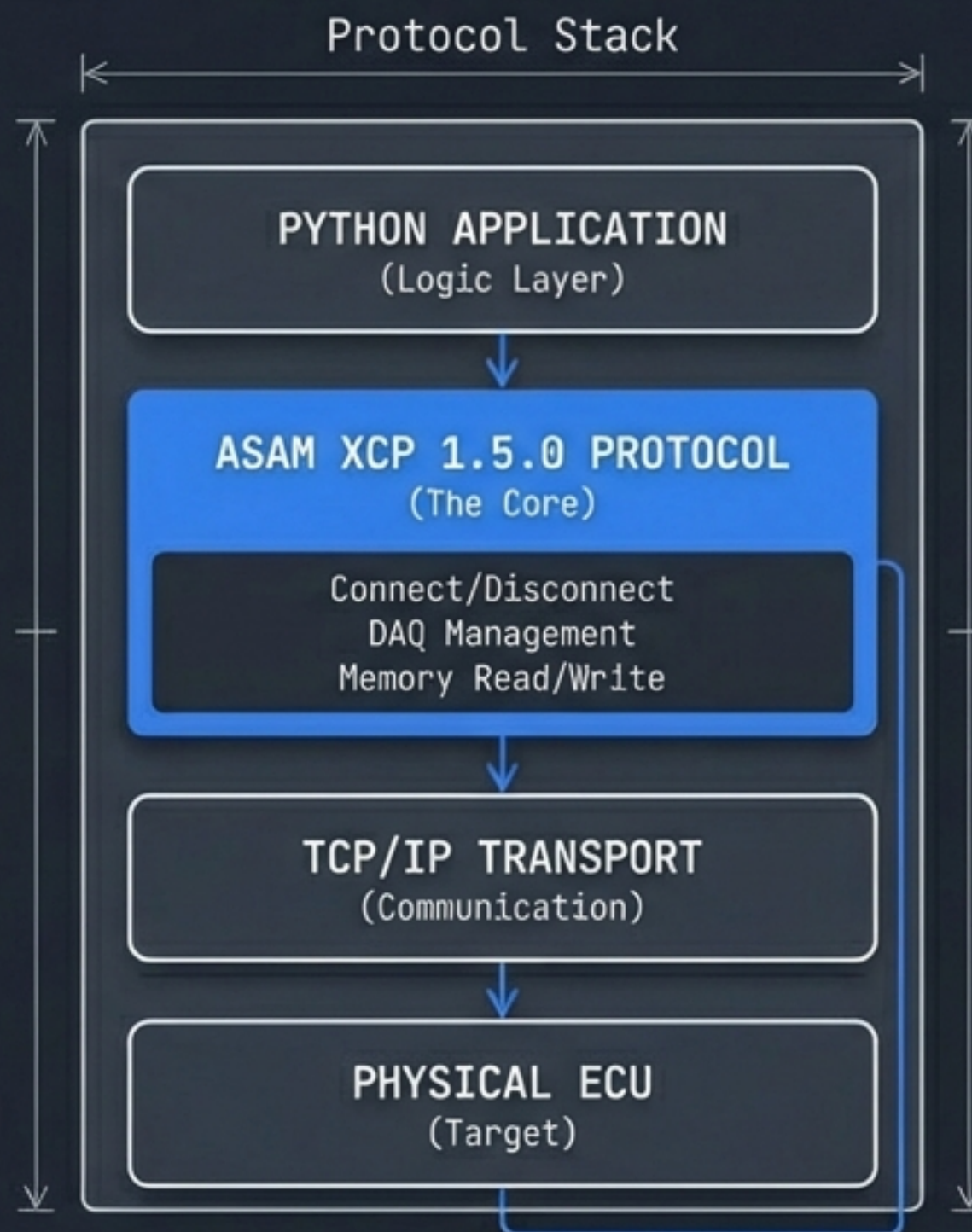
The system knows the Project and the Engineer, but cannot see the Physical Car. We cannot answer: "Who is working on which car right now?"

# ARCHITECTURE STRATEGY: THE REAL-TIME INJECTION



Injecting the dedicated real-time layer into the scalable foundation.

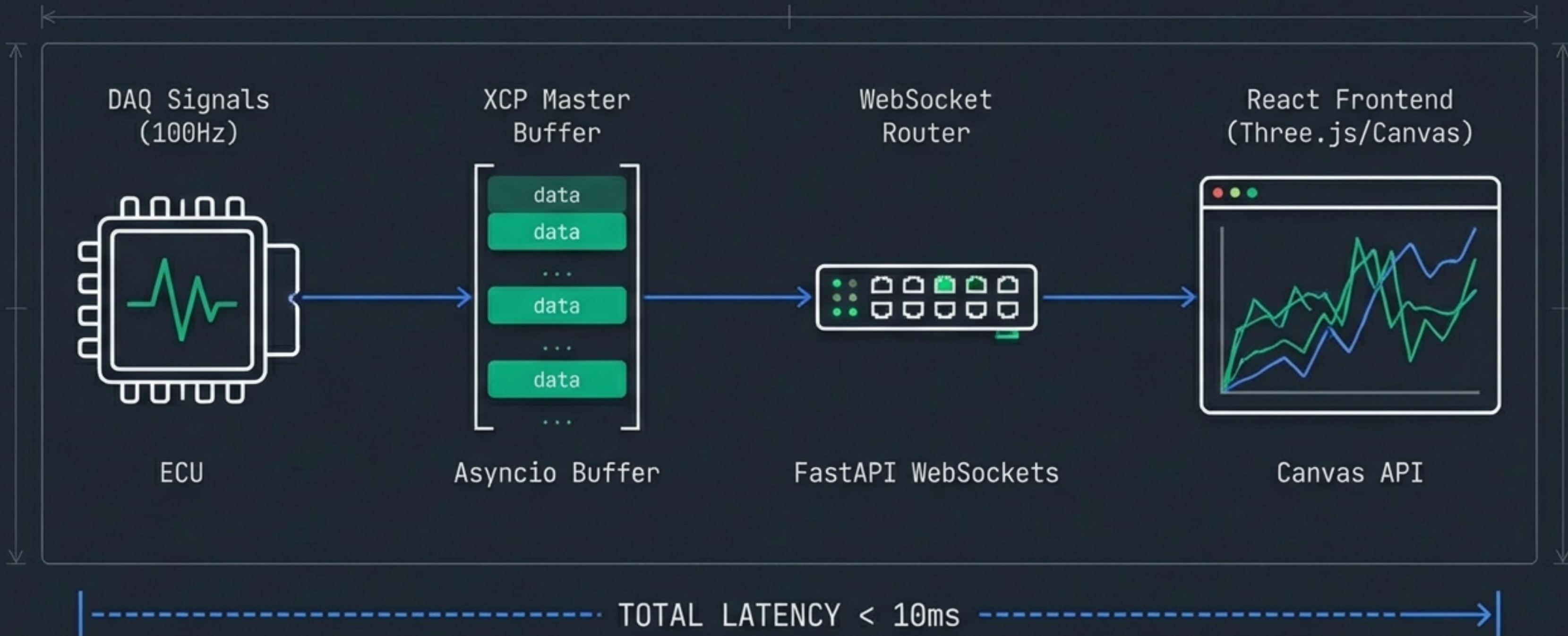
# PRIORITY 1: IMPLEMENTING THE XCP MASTER LAYER



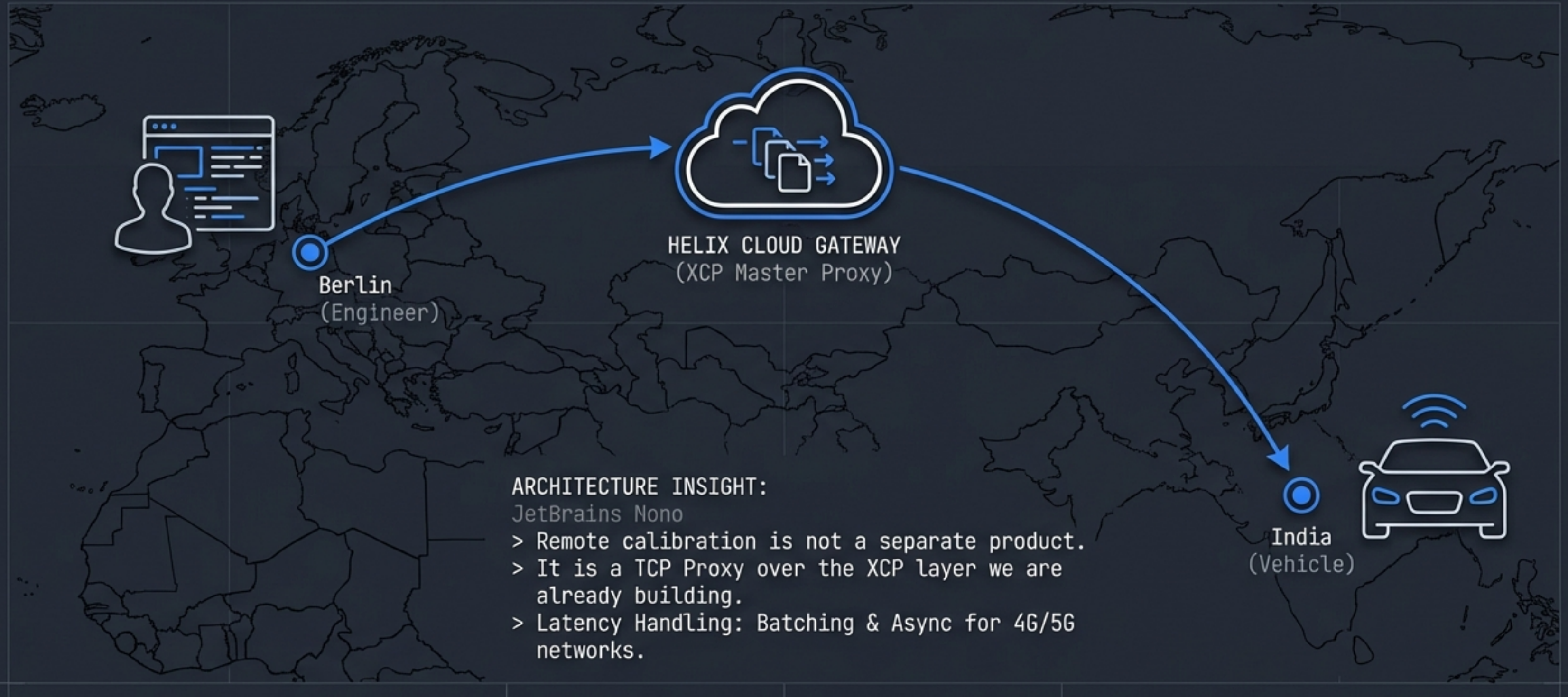
## KEY CAPABILITIES

- > **COMMAND:** Connect, Status, Unlock
- > **MEMORY:** Read/Write Parameters, Short Upload
- > **DAQ:** Synchronous Data Acquisition (ODT Allocation)
- > **TARGET:** < 5ms per command execution

# THE STREAMING PIPELINE: 100HZ TO THE BROWSER



# Inter Tight: The Unlock: Remote Calibration is Just a Proxy

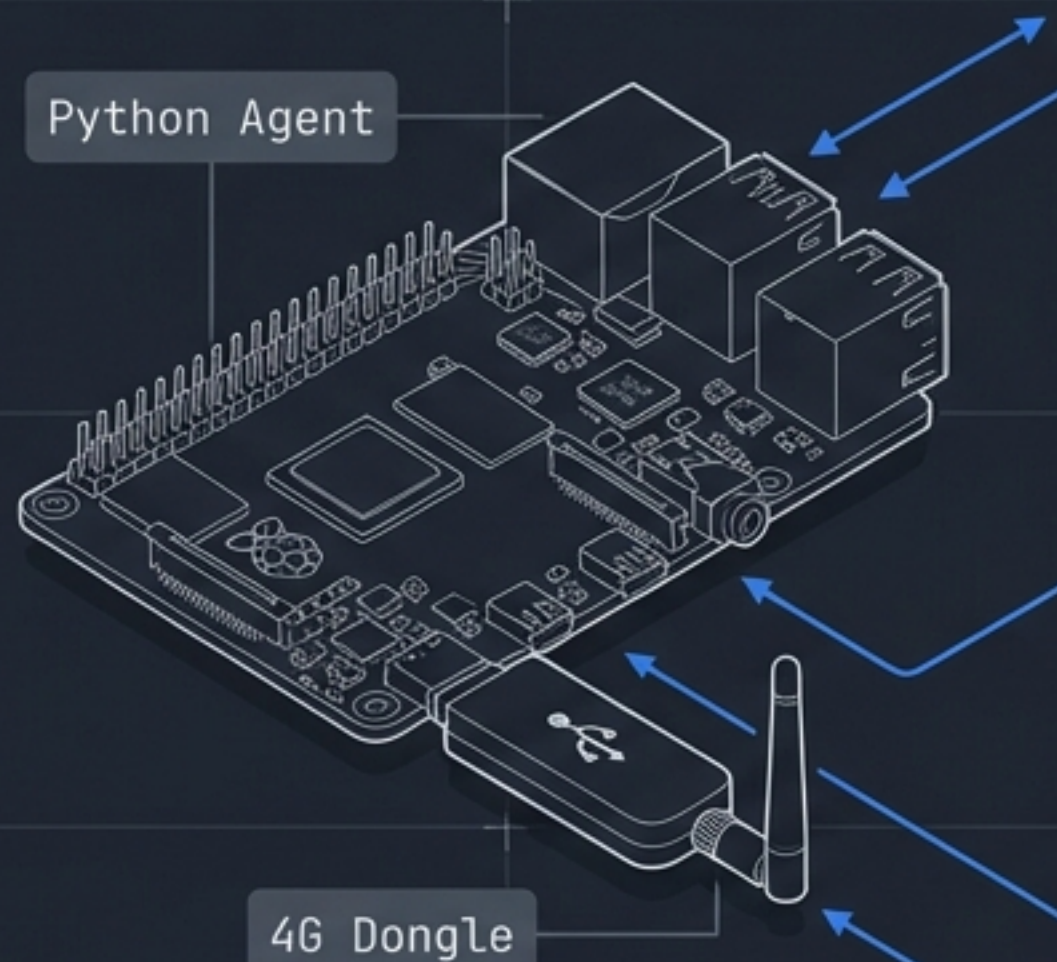


# The Edge Strategy: The Vehicle Agent

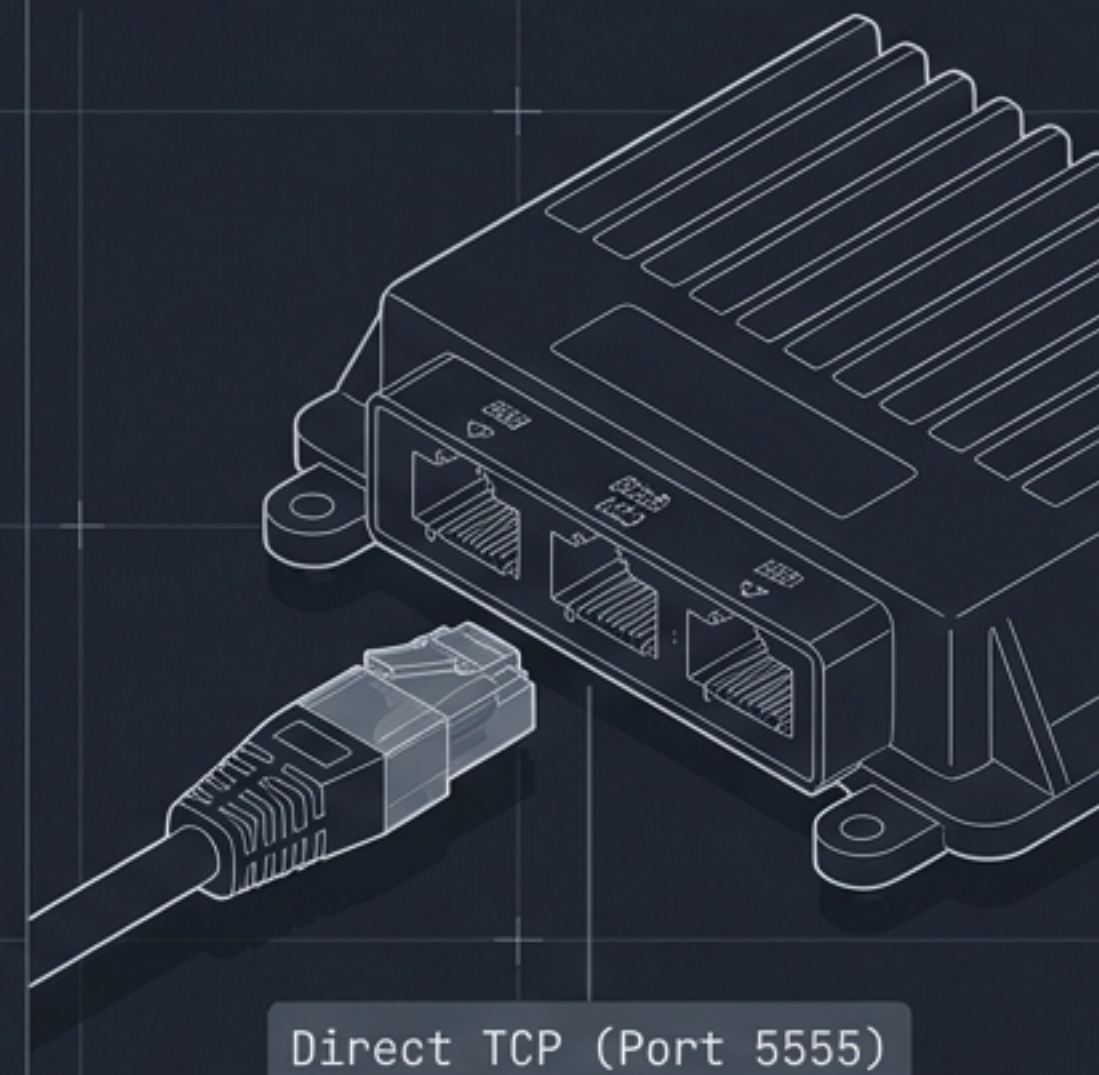
## OPTION A: PRO



## OPTION B: EMBEDDED

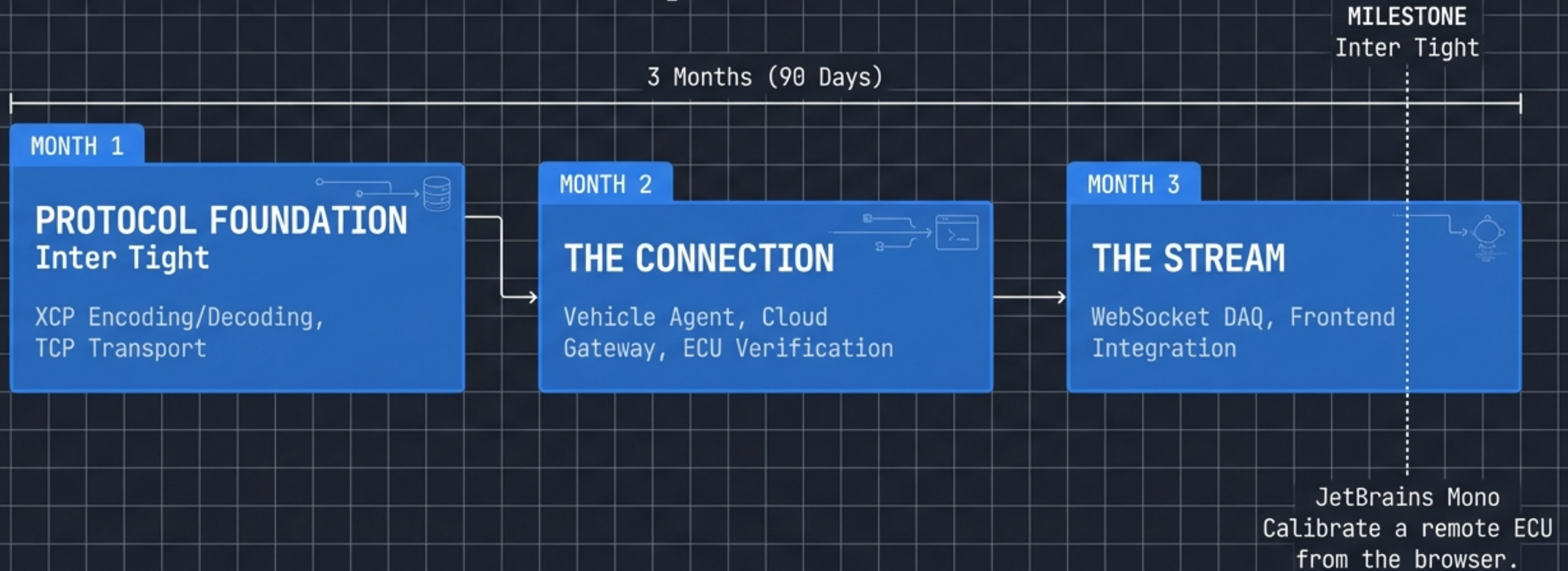


## OPTION C: DIRECT



Agent Software: Lightweight Python script bridging Physical XETK/ECU to Cloud Gateway.

# Phase 1 Execution: The "Make It Work" Sprint



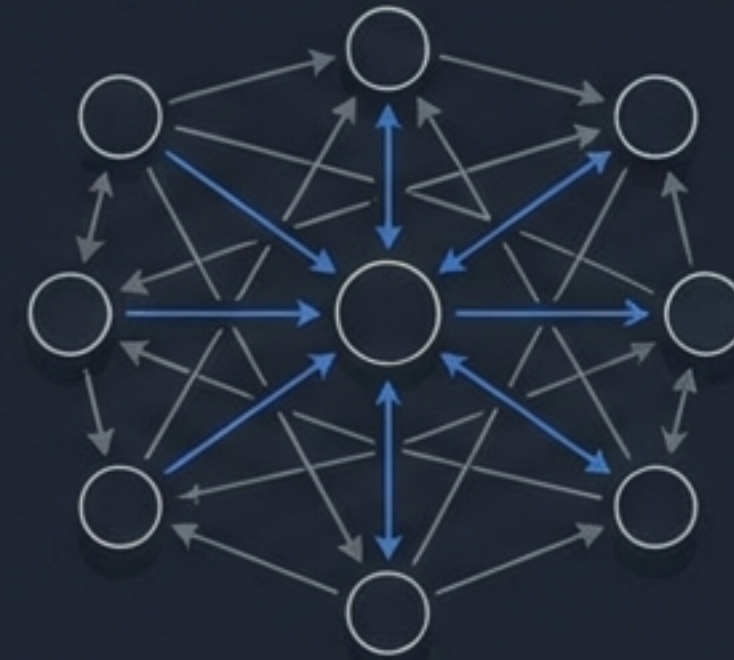
# Inter Tight Phase 2 & 3: From Prototype to Enterprise Scale

## Q2 2026: MAKE IT GREAT



- Full A2L Engine (ASAM MCD-2 MC)
- Parsing AXIS\_PTS & MEMORY\_SEGMENTS
- Live Map Editing with Undo/Redo

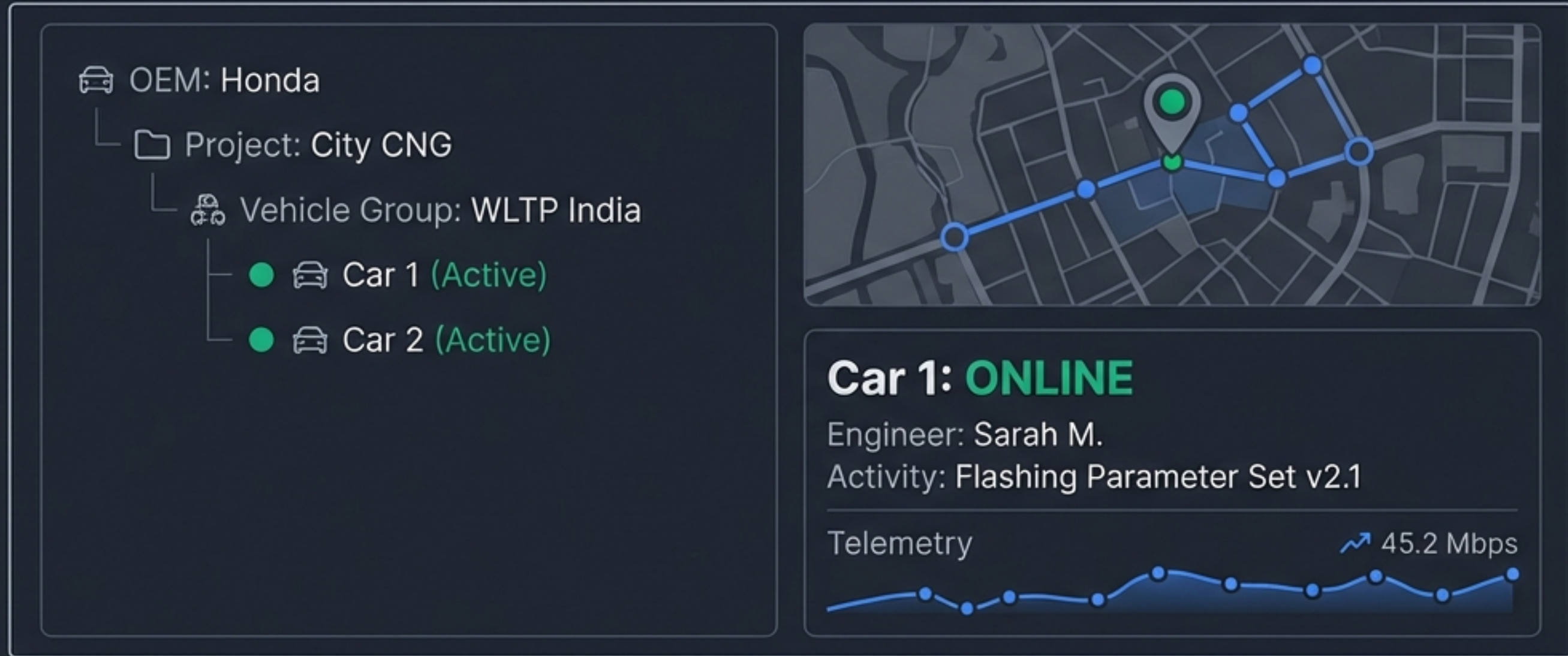
## Q3 2026: MAKE IT SCALE



- Multi-ECU Calibration
- CAN Bus Integration (DBC)
- Enterprise Parity with INCA









# Inter Tight

## The Destination: The Manager's Command Center



All OEMs, all projects, all cars, and engineer status—in a single view.

# Competitive Advantage: Why We Win

	LEGACY (Vector/ETAS)	HELIX (Cloud-Native)
DEPLOYMENT	 Desktop Install (Heavy)	 <b>Browser / SaaS (Zero Install)</b>
COST MODEL	 Upfront License (€10k+)	 <b>Subscription (Opex)</b>
REMOTE WORK	 VPN + Add-ons	 <b>Native Built-in</b>
COLLABORATION	 File Merges	 <b>Real-time (Google Docs style)</b>

Modernizing the toolchain to modernize the workflow.

# The Path is Clear.

FOUNDATION: STRONG ✓

VISION: CORRECT ✓

MISSING LINK: REAL-TIME LAYER →

> EXECUTE PRIORITY 1: XCP IMPLEMENTATION  
BUILD THE BRIDGE TO REALITY.

Next Review: 90 Days