

OXBROOK

N1

ENGINEERING REQUIREMENTS SPECIFICATION

Investor / strategic partner edition — preliminary targets for engineering validation

1. Vehicle Mission

Full-size luxury battery-electric SUV for premium family and executive use. Seven-seat standard package with a potential six-seat Executive derivative. Priorities: distinctive design, quiet luxury, long-distance comfort, AWD performance, charging capability and premium customer experience.

2. Package Targets

Target length $\approx 5,250$ mm; width $\approx 2,040$ mm excluding mirrors; height $\approx 1,820$ mm; wheelbase $\approx 3,150$ mm. Target curb mass $\approx 2,900$ – $3,050$ kg. Target GVWR $\approx 3,500$ kg / 7,716 lb. Final dimensions, mass, axle loads and packaging remain subject to professional vehicle engineering.

3. Performance Targets

Dual-motor AWD. Peak system power target ≈ 750 – 850 hp (≈ 560 – 635 kW). Target 0–100 km/h ≤ 4.5 seconds, subject to mass, tire and thermal validation. Target top speed ≈ 200 km/h. Development targets only.

4. Battery & High Voltage

≈ 140 kWh gross battery target; ≈ 125 – 135 kWh usable target. 800 V-class architecture. Liquid thermal management. HVIL, service disconnect, isolation monitoring, pre-charge, contactors and crash-triggered HV shutdown are required architecture considerations. Cell chemistry and pack architecture remain open to engineering recommendation.

5. Charging

DC fast-charging target ≈ 250 – 350 kW peak. AC charging architecture to suit target markets. CCS2 is the preliminary European assumption; North American charging architecture requires separate engineering selection.

6. Drive Units & AWD

Two electric drive units, one per axle. Motor topology, inverter technology, reduction ratios and thermal architecture are open to supplier recommendation. AWD control should balance traction, stability, efficiency, performance and NVH.

7. Chassis

Four-corner air suspension with adaptive damping. Electric power steering. Provision for rear-wheel steering. 24-inch wheel/tire package as a design target; 25-inch forged option only if engineering permits.

8. Braking

High-load friction braking with blended regenerative braking, ABS and electronic stability control. Final brake sizing and thermal capacity to be established from mass, tire, speed and duty-cycle analysis.

9. Thermal Management

Battery, eAxle/inverter and cabin thermal management to be developed as an integrated system supporting fast charging, sustained high load, hot ambient and cold-weather operation.

10. Body & Structure

Production-intent structural safety architecture. Steel, aluminium or mixed-material strategy is open to engineering recommendation. Crashworthiness, torsional stiffness, NVH, manufacturability and serviceability are engineering responsibilities.

11. Interior & Packaging

Seven genuine passenger positions with premium seating comfort. Target quiet cabin, high-quality materials, panoramic visibility and useful cargo capacity behind the third row. Six-seat Executive derivative may provide enhanced second-row comfort.

12. Electrical / Electronic Architecture

Central vehicle controller/gateway architecture using automotive Ethernet and CAN as appropriate. Secure diagnostics, OTA capability provision, HV control, thermal control, body control and vehicle data logging. Cybersecurity and functional-safety architecture to be developed with the engineering partner.

13. ADAS

Advanced Level 2 target. Sensor suite, compute platform and feature set open to Tier-1 recommendation. No autonomous-driving claims until a validated and compliant system exists.

14. NVH & Luxury Refinement

Flagship-level quietness and refinement are core product objectives. Objective targets should be established for cabin noise, road noise, HVAC noise, motor whine, vibration and body structure against selected premium competitors.

15. Environmental Requirements

Vehicle should be developed for rain, salt, wind, cold, heat, water exposure and winter-road contamination appropriate to target markets. North Atlantic operating conditions should be considered during validation.

16. Towing & Utility

Useful towing capability consistent with vehicle mass and regional regulations is a product objective. Final trailer rating, tongue load, cooling and brake requirements must be determined by engineering.

17. P001 Engineering Prototype

P001 should prove battery packaging, AWD operation, charging, thermal management, air suspension, steering, braking, vehicle controls and basic cabin packaging. Non-final trim is acceptable. Instrumentation and data acquisition are required.

18. P002 / P003

Move toward production-intent hard points, wiring, structural interfaces, thermal systems, software and interior. Establish DVP&R, durability, NVH, charging, environmental and safety validation.

19. Homologation

Engineering partner to define applicable U.S. and European regulatory pathway, required testing, certification responsibilities, documentation and manufacturing-conformity requirements.

20. Open Engineering Questions

OXBROOK specifically wants experienced automotive engineering partners to challenge battery size, GVWR, wheel size, power, range, charging power, suspension concept, eAxle selection, manufacturing architecture, supplier nominations, production volume and program timing.

21. Development Decision Gates

Gate	Evidence Required
Feasibility	Credible package, mass, cost and supplier architecture.
Architecture Freeze	Controlled hard points and major system interfaces.
P001	Running engineering vehicle with safe HV, braking, steering and thermal operation.
Validation	DVP&R; plus thermal, durability, NVH, charging and environmental evidence.
Homologation Readiness	Applicable compliance and conformity pathway established.
Production Readiness	Production-intent design, supply chain, tooling, quality and service plan.

IMPORTANT — ALL VALUES ARE PRELIMINARY ENGINEERING TARGETS. THEY ARE NOT CERTIFIED PRODUCTION SPECIFICATIONS. FINAL ARCHITECTURE, PERFORMANCE, MASS, COST, TIMING, REGULATORY COMPLIANCE AND MANUFACTURING APPROACH REQUIRE VALIDATION BY QUALIFIED AUTOMOTIVE ENGINEERING AND MANUFACTURING PARTNERS.

OXBROOK N1 is an early-stage vehicle development concept. This document communicates product intent and facilitates engineering and investment discussions.