National Future Transport Summit

Submission – Epicentre Equilibrium

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Which theme areas are you most interested in? (select all that apply): Infrastructure, Social Legitimacy, Sustainability, Productivity, Safety

How would you describe the sector your submission represents? (eg: rail, aviation, community, research): Interdisciplinary Academic Research – Sociotechnical Systems (Psychology, ICT, and Future Transport)

How would you describe the geographic reach of your organisation? (eg local, state, regional, national, international): National

Do you agree with the challenges described?: STRONG AGREEMENT with the five CCAT themes, with our research providing empirical validation:

Safety Challenges - CONFIRMED

Our research validates CCAT's concerns about eliminating human error and the complexity of mixed AV/non-AV traffic.

New insight: Australian participants identified unique geographical challenges, including wildlife detection, unsealed roads, and vast distances

Quote from research: "Whether it discriminates against and will be able to pick up small animals on the road... might raise some animal welfare issues" (Professor, EV owner)

Social Legitimacy Challenges - STRONGLY CONFIRMED

CCAT's focus on trust and community acceptance aligns perfectly with our findings.

Our research identified cultural attachment to driving control as uniquely Australian

Evidence: 78% male participants showed strong resistance to losing driving choices: "I like driving and would like to be in control... Australians do public transport very well because they like to drive" (Law enforcement officer, EV owner)

Infrastructure Challenges - EMPIRICALLY VALIDATED

CCAT's productivity and infrastructure themes align with our findings on the inadequacy of charging infrastructure.

Critical finding: Rural-urban digital divide creates accessibility barriers

Quote: "*The country areas couldn't access them... [AVs] could have the same issue*" as mobile phone reception (Transport operator)

Sustainability Challenges - PARTIALLY ALIGNED

CCAT's environmental focus is confirmed, but our research reveals erosion of trust around energy sources.

New complexity: Participants questioned environmental benefits when EVs charge using coal-generated electricity

Quote: "We pretend that EVs are eco-friendly... charging overnight, that's when we use coal" (Mining technology support, EV owner)

What challenges are missing?

Our research identifies FOUR CRITICAL GAPS in CCAT's framework:

A. Cybersecurity as a Standalone Theme

CCAT addresses cybersecurity within safety, but our research shows it deserves independent focus.

Evidence: Participants with cybersecurity backgrounds raised sophisticated concerns about data sharing, third-party apps, and remote vehicle access.

Professional insight: "You make it as fool-proof as you can, but you can't make it people-proof" (Retired computer systems manager, EV owner)

B. Technology, Corporate Power, and Ownership

Missing theme: "Big Tech" control and monopolisation concerns.

Evidence: Participants worried about "vested commercial interests... at the expense of public and community interest" (Strategic policy government adviser)

Recommendation: Add "Digital Sovereignty" as another potential theme

C. Government Preparedness and Policy Coordination

Gap: Coordination between federal, state, and local government readiness.

Evidence: "The people in charge of government [and] the regulators behind them... need to be taken on the journey" (Elected official, EV owner)

D. Workforce Transition Beyond Skills

CCAT focuses on capability building, but it is missing broader economic displacement.

Evidence: "A whole industry is going to be out of work... these people still need to work" (Fleet manager)

What are your solutions for addressing the challenges?

SOCIAL LEGITIMACY SOLUTIONS

3.1 Experience-Based Trust Building

Solution: Mandatory direct experience programs before policy decisions.

Evidence: Our research shows direct EV experience changes attitudes: "As soon as you get this into people's hands... they're like, 'That was really easy'" (Principal IT engineer, EV owner)

Implementation: Public trial programs, "try before you buy" initiatives.

3.2 Choice-Preserving Design

Solution: Maintain intervention capabilities in automated systems.

Rationale: Australian cultural attachment to driving control.

Design requirement: Steering wheels and override systems during transition.

3.3 Transparent Energy Sourcing

Solution: Real-time renewable energy tracking for EV charging.

Evidence: Trust issues around energy sources affect acceptance.

Implementation: Blockchain-verified green energy certificates.

INFRASTRUCTURE SOLUTIONS

3.4 Rural-First Infrastructure Strategy

Solution: Prioritise rural/regional infrastructure to address equity concerns.

Evidence: "Low socioeconomic sections... unlikely to see a lot of the benefits" (Education worker).

Implementation: Co-funding models between government levels.

3.5 Standardised Trial Protocols

Solution: National framework for AV trials with standardised data collection.

Evidence: CCAT workshops identified the need for transparent, comparable safety data.

Implementation: Independent data repository for public access.

SAFETY SOLUTIONS

3.6 Australian-Specific Testing Requirements

Solution: Mandatory testing in Australian conditions (wildlife, unsealed roads, extreme weather).

Evidence: "Different wildlife [like] nowhere else in the world [that would need different AI mapping]" (Research founder).

3.7 Graduated Autonomy Framework

Solution: Clearly defined levels with specific capability requirements.

Evidence: Participants are confused about automation levels and capabilities.

CYBERSECURITY SOLUTIONS

3.8 National Cybersecurity Standards

Solution: Mandatory security auditing and incident reporting for connected vehicles.

Evidence: Professional cybersecurity participants identified sophisticated attack vectors.

Implementation: Regular penetration testing, public vulnerability reporting.

How would you prioritise the proposed solutions?

IMMEDIATE PRIORITIES (0-12 months)

4.1 Trust and Experience Programs (HIGHEST PRIORITY)

Rationale: Our research shows that experience changes attitudes more than education.

Impact: Addresses social legitimacy across all demographics.

4.2 Rural Infrastructure Assessment

Rationale: Address equity concerns early to prevent the urban-rural digital divide.

Impact: Ensures inclusive deployment.

Evidence: "increase the divide between country and urban" (Transport manager).

4.3 Cybersecurity Framework Development

Rationale: Must be built in, not bolted on.

Impact: Prevents systemic vulnerabilities.

MEDIUM-TERM PRIORITIES (1-3 years)

4.4 Graduated Deployment Strategy

Rationale: Allow learning and adjustment based on real-world experience.

Evidence: "The True Benefits Come at the End" (Research theme)

4.5 Workforce Transition Planning

Rationale: Proactive approach prevents social resistance.

Impact: Maintains social license for technology adoption.

LONG-TERM PRIORITIES (3-5 years)

4.6 Full Automation Readiness

Rationale: Only after proving lower levels of automation.

Evidence: Participants noted technology "very much in its infancy"

4.7 International Standards Alignment

Rationale: Ensure global interoperability while maintaining Australian requirements

I acknowledge that this submission will be published online: Yes