



The role of ADAS within the UK CAM Ecosystem

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Objectives & Scope

The CAM Working Group is a cross-sector, industry-led, advisory body operating under Automotive Council UK

- Collect, synthesize, and communicate the perspectives of industry on matters related to Connected & Automated Mobility (CAM)
- Goal of informing UK Government strategy and advancing national economic interests.

1) ADAS / DCAS Proposition

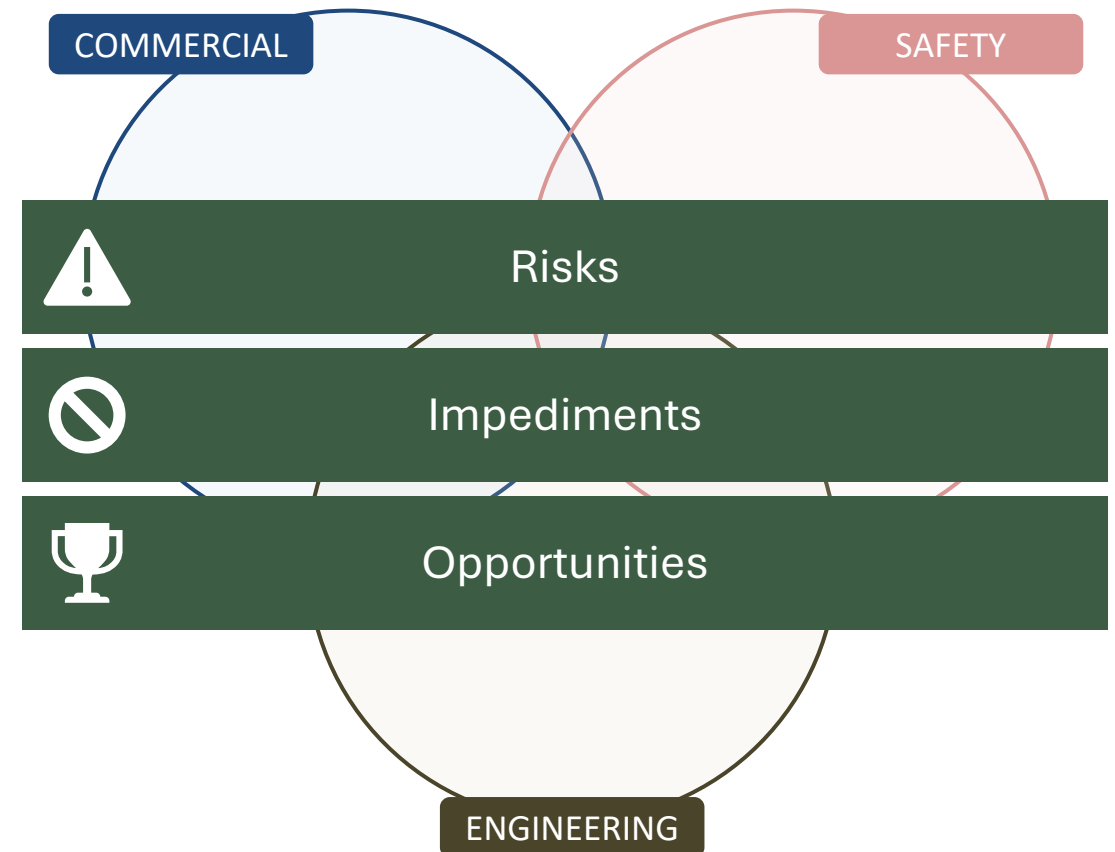
Review current state of ADAS / DCAS deployment
- strengths, opportunities, and challenges

2) Path to Autonomy

To what degree can ADAS / DCAS capability directly develop into Fully Automated capability?
Where might there be divergence of approach to ADAS / DCAS versus Full Automation?

3) UK Growth & Impacts

How might the UK gain most benefit from development, supply & deployment of ADAS / DCAS?



Why ADAS and why now?

Advanced Driver Assistance Systems (ADAS)

Established market & supply chains

- No fundamental barriers to entry
- Long-term market need

Diverse functions & features

- **Safety** – Collision mitigation & safe driving
- **Comfort & Convenience** – Adding value
- **Efficiency** – Scope for optimisation

Growing scope and complexity

- **Efficiency** – Scaling tools and process
- **Safety** – Moving towards shared control
- **Performance** – For acceptance & robustness

Domain

Focus on private passenger and commercial vehicles; ADAS in adjacent sectors can be highly specialised

Connected & Automated Mobility (CAM)

Disruptive technology

- New services
- New supply chain
- New legal and regulatory framework

High complexity

Large, distributed, systems of systems

High risk & High reward

Strong argument for intervention

- Seed investment
- Foster collaboration
- Create the ecosystem & infrastructure for long term success

Partial Autonomy

Partially automated, part of the time

High technical complexity

Critical dependency on **human factors** for shared control

Domain

Early deployment in constrained environments and specialised use cases

Commercial perspective

Commercial



Risks



Impediments



Opportunities

Market trend



Aggressive market competition
& rapid commoditisation

Need to scale fast
& cost effectively

Direct value
Commercially sustainable supply chain for ADAS & ADS

Indirect value
Validated data-driven insights & know-how

UK Market share



Cost of not doing –
diminishing market share

Established market – Low UK content (T1 in particular)

Focus on differentiators

Targeted supply chain gaps

Consumer Value



Consumer understanding & willingness to pay

Willingness to pay linked to current performance gaps

Safety opportunity in fleet markets (*Risk, Insurance, Maintenance*)

Create customer value with comfort features

Safety perspective

Safety



Risks



Impediments



Opportunities

Consumer awareness



User awareness

Continuum of control
Shared control between user and vehicle

Consistency of terminology and performance across brands & markets

Human factors & Intuitive HMI

Inform consumer expectations for ADS

Standards & Policy



Increasing severity and authority – **significant safety imperative** for higher ADAS/ADS

Regulation driven market

Variable market requirements

Risk-based UK policy & standards framework

Positively contribute to road safety

Engineering



Risks



Impediments



Opportunities

Development
time & cost



Rising engineering
cost & complexity

High entry
cost

Need to
scale fast

Define engineering
best practice

Deliver enabling
tools & services

Scalable
platforms








Product variability -
perception, calibration,
market requirements

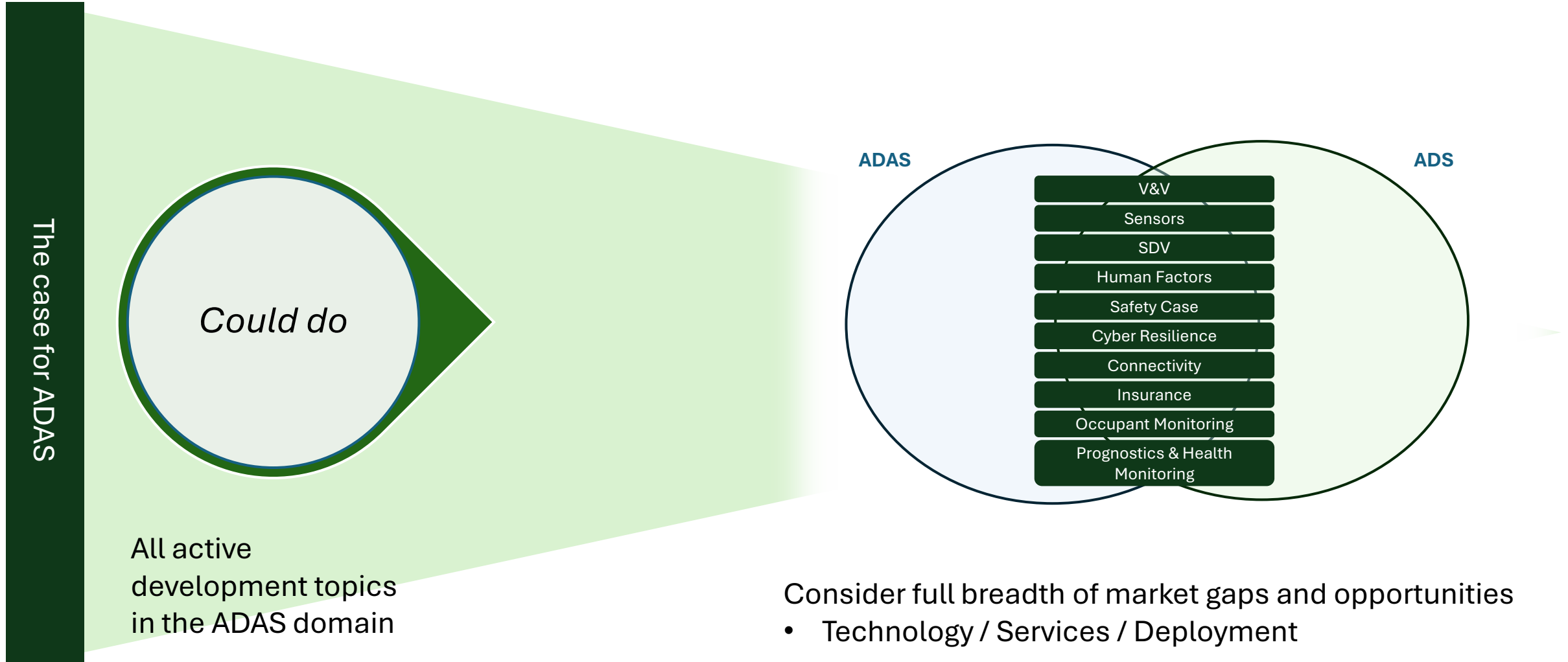
Cost-sensitive – hard
to justify future-proof
hardware integration

Software
Defined Vehicle
(SDV)

The case for ADAS

	 Risks	 Impediments	 Opportunities
Commercial	<div>Aggressive market competition & rapid commoditisation</div> <div>Cost of not doing – diminishing market share</div> <div>Consumer understanding & willingness to pay</div>	<div>Established market – Low UK content</div> <div></div> <div>Need to scale fast & cost effectively</div>	<div>Build (commercially sustainable) supply chain for ADAS & ADS</div> <div>Create customer value with comfort features</div>
Safety	<div>User awareness</div> <div></div> <div>Accelerated product deployment</div>	<div>Variable market requirements</div>	<div>Risk-based UK policy & standards framework</div> <div>></div> <div>Positively contribute to road safety</div> <div>></div> <div>Help set consumer expectations for ADS</div>
Engineering	<div>Rising engineering cost & complexity</div>	<div>High entry cost</div>	<div>Define engineering best practice</div> <div>Deliver enabling tools & services</div>

Where is the opportunity?

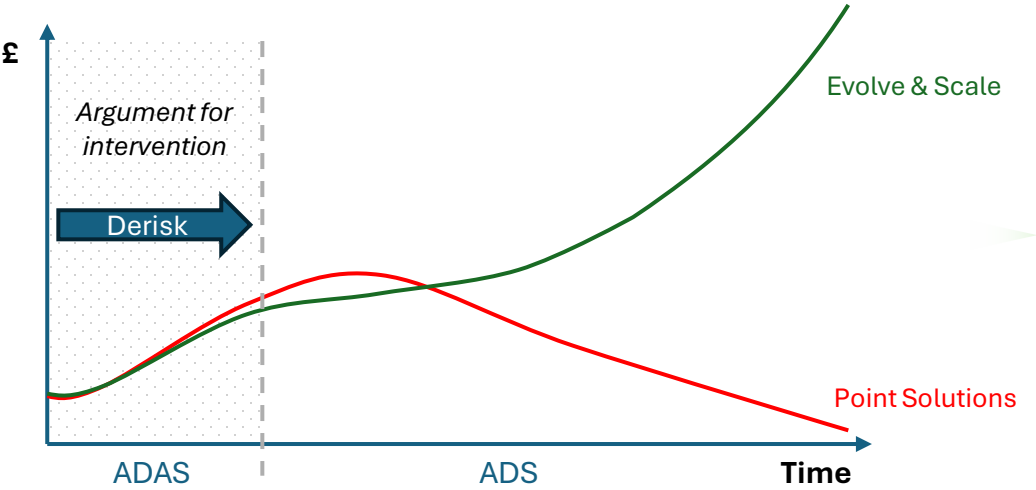
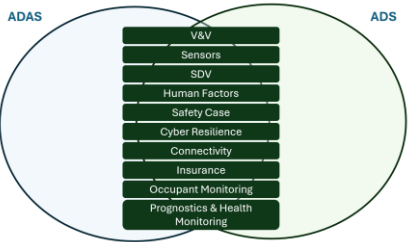
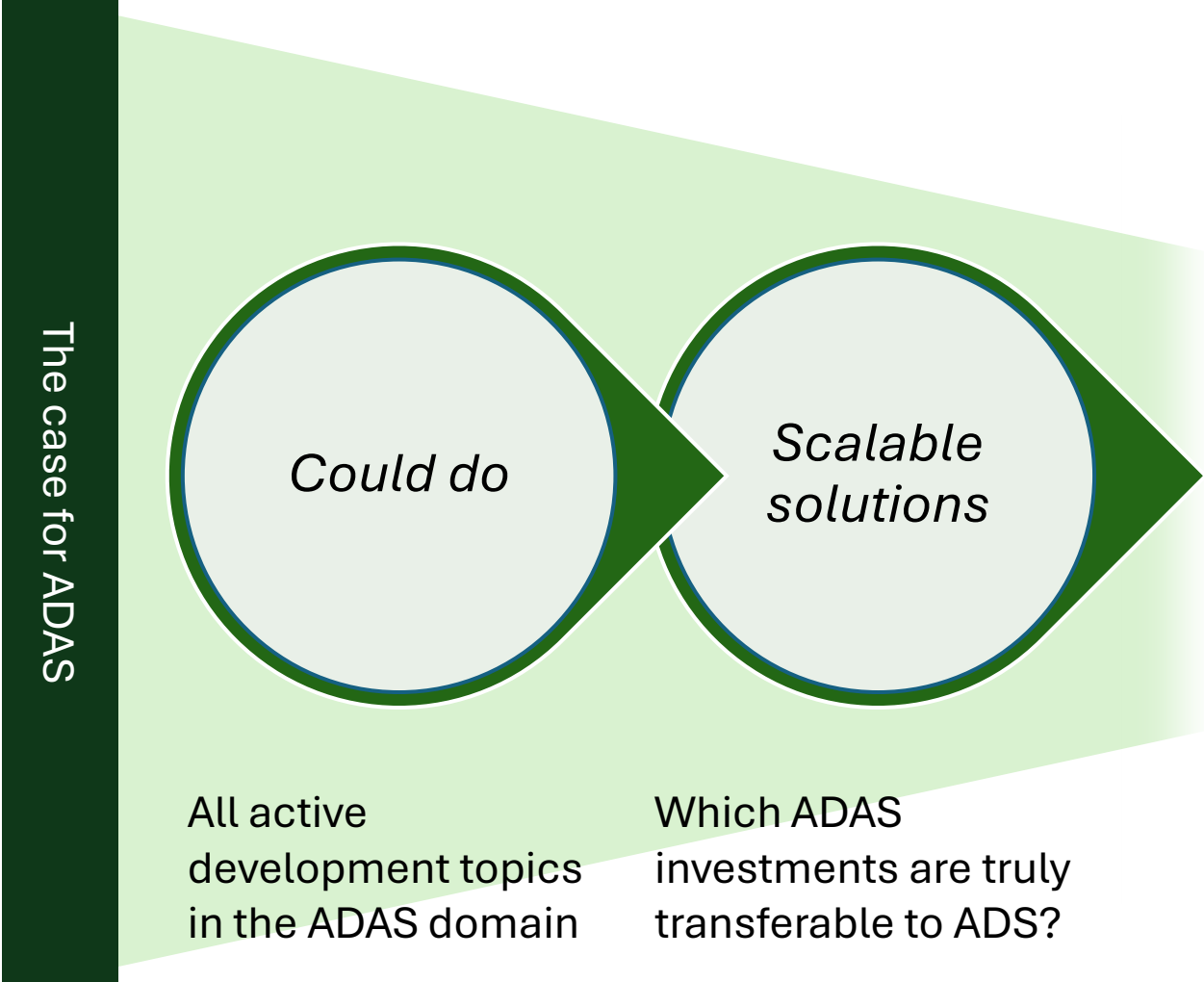


Consider full breadth of market gaps and opportunities

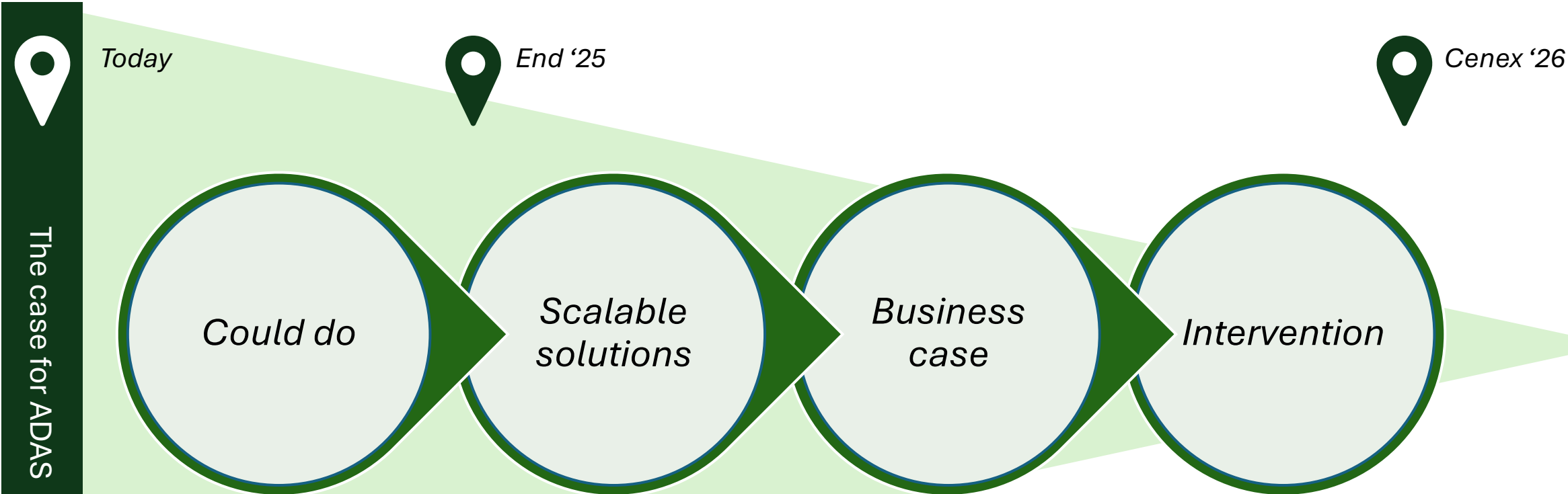
- Technology / Services / Deployment

UK capability may be at different levels of the supply chain

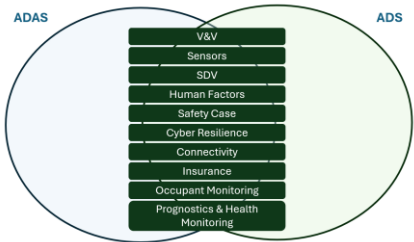
ADAS Workstream – Action planning



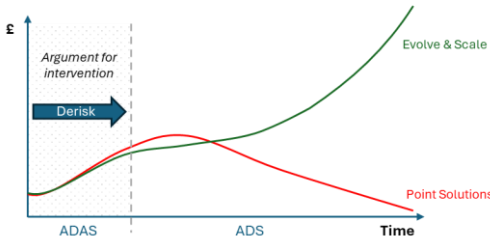
ADAS Workstream – Action planning



All active development topics in the ADAS domain



Which ADAS investments are truly transferable to ADS?



Where does UK have a competitive advantage?

- IP
- Technology
- Services

Where are market forces insufficient to incentivise or derisk early investment?

ADAS Workstream – Recommendations

CAM has high growth potential: high risk, disruptive technology, new market opportunities, positive societal benefits

ADAS is a large, well-established, market, with long-term viability. However, attention is required to address rising costs and complexity, emergent risks, and international competition

TRUSTED	UNDERSTANDABLE	SUSTAINABLE
<ul style="list-style-type: none">○ Positively contribute to road safety (and, with connectivity, to efficiency) – help set consumer expectations for ADS○ Mitigate the “do nothing risks”<ul style="list-style-type: none">○ Rising engineering cost and complexity○ Loss of market position, to fast and low-cost international competition○ Ensuring the safety of hands-free and partial autonomy	<ul style="list-style-type: none">○ Consumer understanding and willingness to pay – linked with performance gaps○ Continuum of control (between driver and ADAS/ADS)○ Comfort features have potential to make step changes in value (e.g. Valet Parking, Urban Pilot)	<ul style="list-style-type: none">○ Scale, growth and (relative) stability – Allow supply chains to achieve critical mass (for ADAS & ADS)○ Aggressive market competition and rapid commoditisation○ Transferability from ADAS to ADS<ul style="list-style-type: none">○ Significant differences in validation requirements○ Deployment domains may not be aligned (i.e. early CAM opportunities largely off-highway)

Next steps -

- One Ecosystem - Recognise ADAS need and opportunities alongside CAM Pathfinder
- Deep dive specific technical opportunities – focused on UK capability and scalability to ADS markets



Thank you