



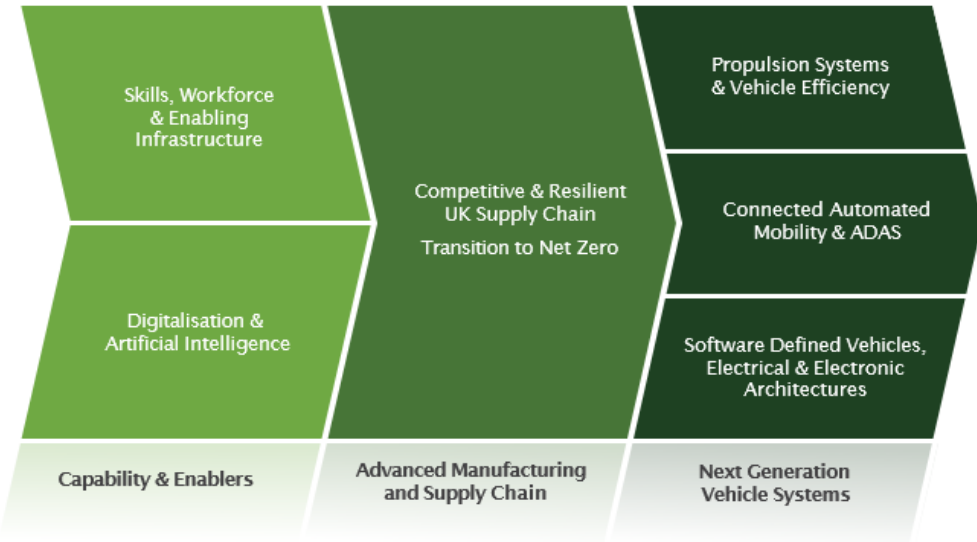
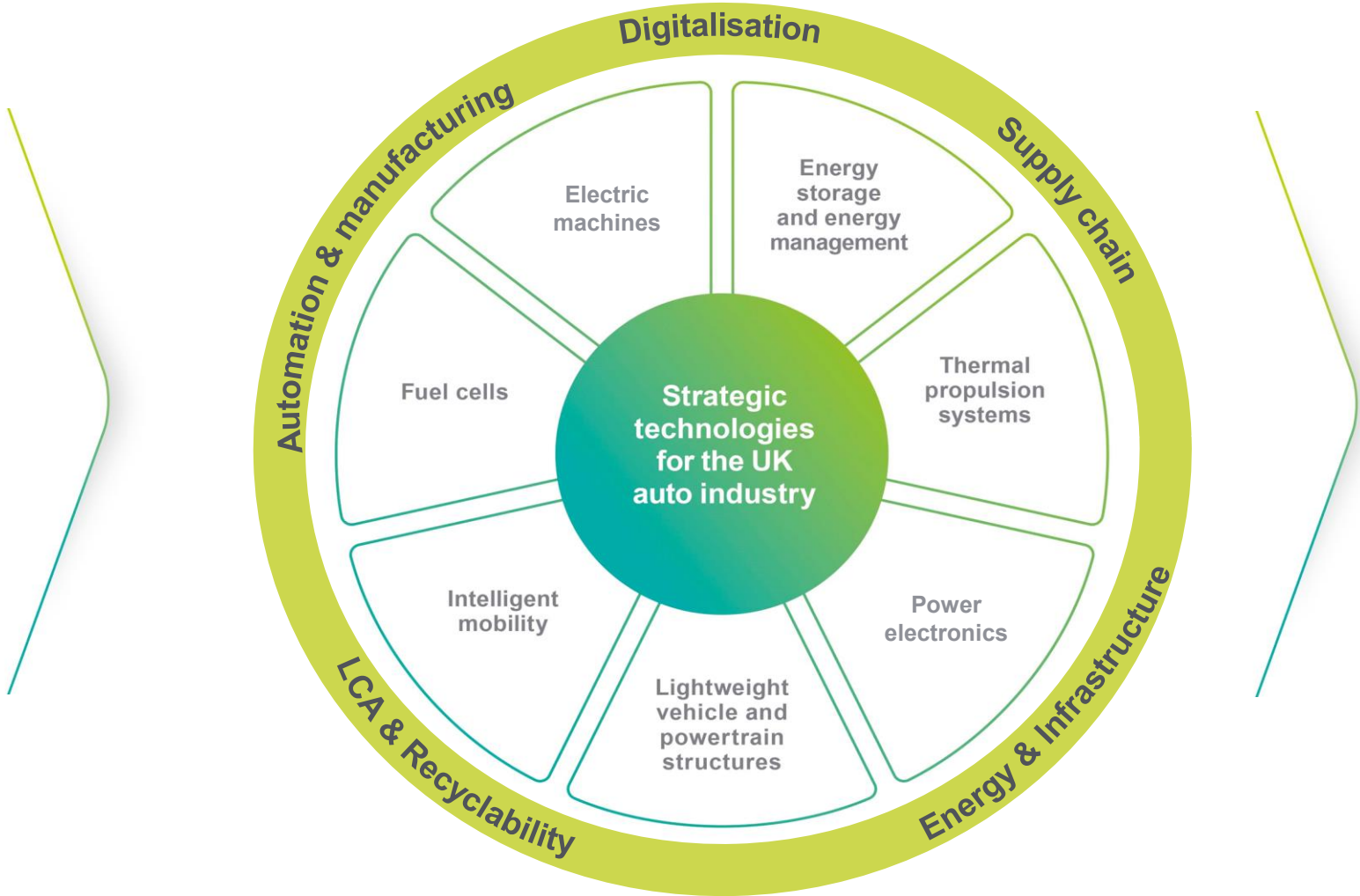
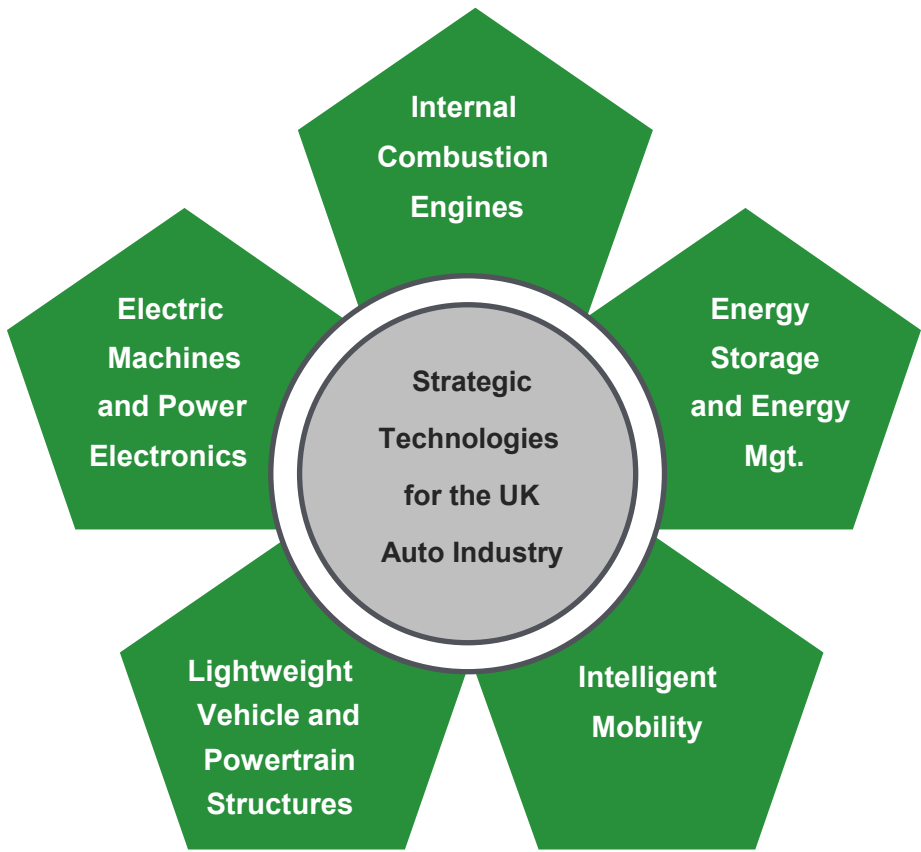


Automotive Council UK
Strategic Technologies

August 2025

Auto Council Roadmaps and Strategic Technologies

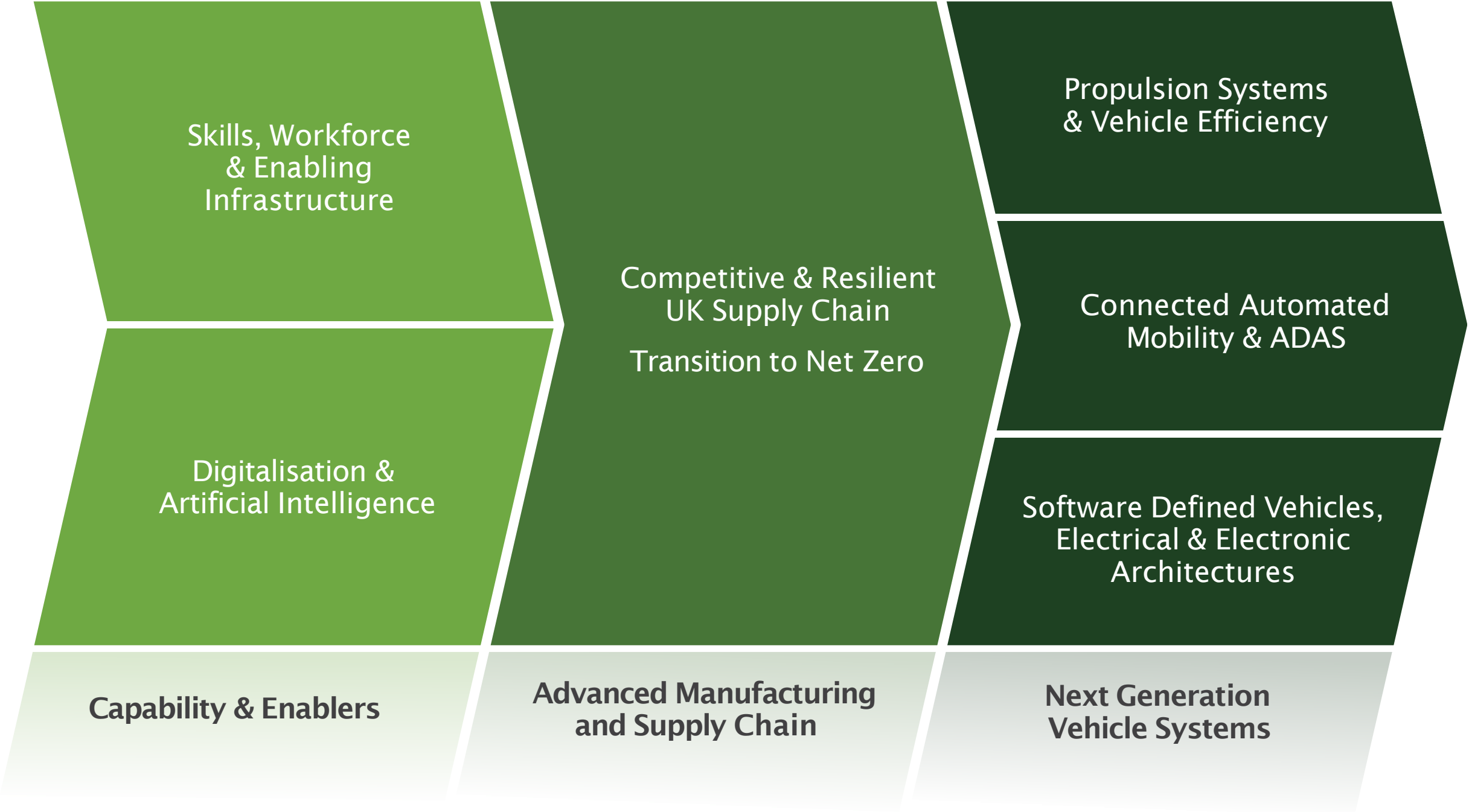
- A visual framework to map and prioritise strategic automotive technologies, developed via a consensus-building exercise across the Automotive Council community
- Strategic Technologies are emerged out of the roadmaps development and refresh process
- In the evolving landscape, reviewing and updating the Strategic Technologies is crucial



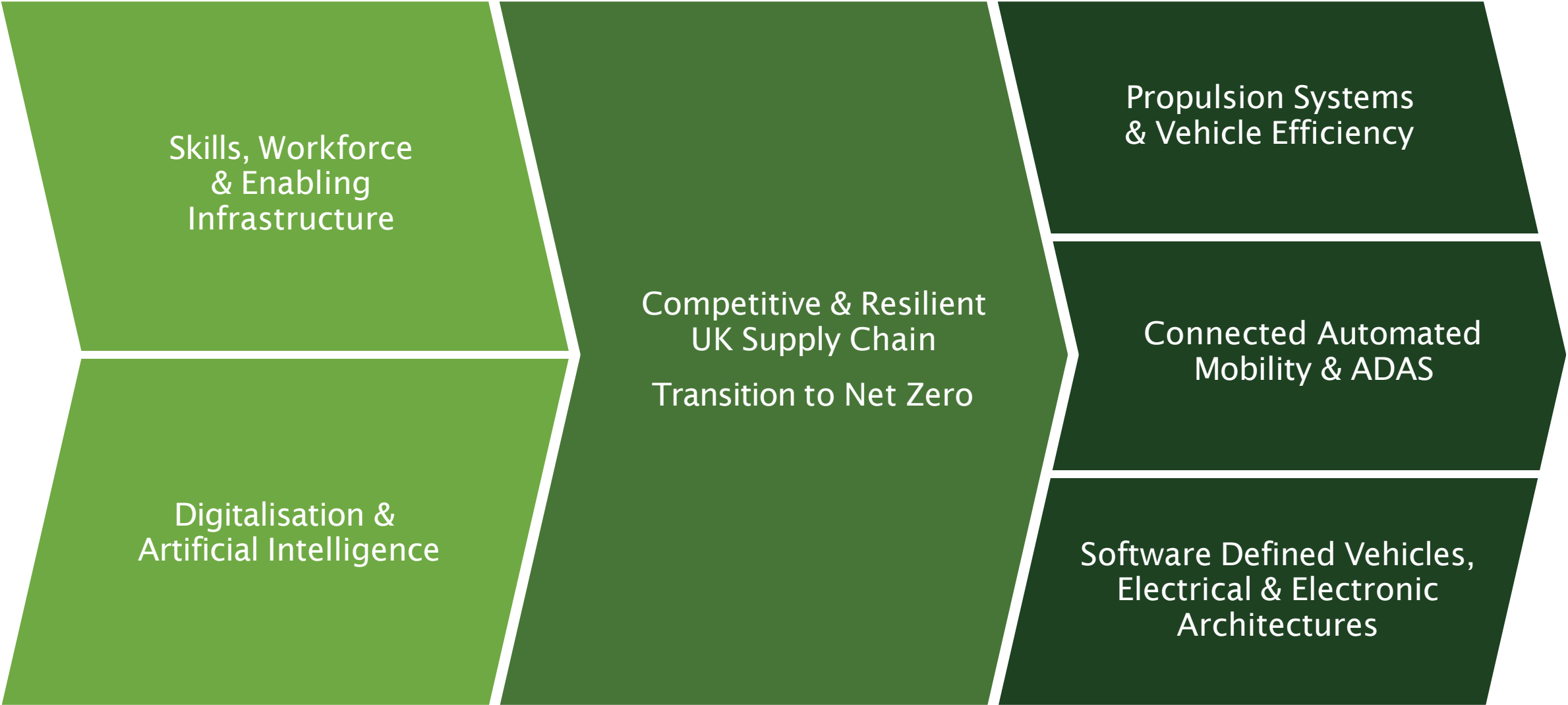
The Automotive Council Vision

A thriving, growing, highly productive UK Automotive Sector.
Where the development, supply and manufacture of vehicles
is internationally competitive and renowned for delivering
world leading sustainable mobility

Automotive Council Strategic Technologies



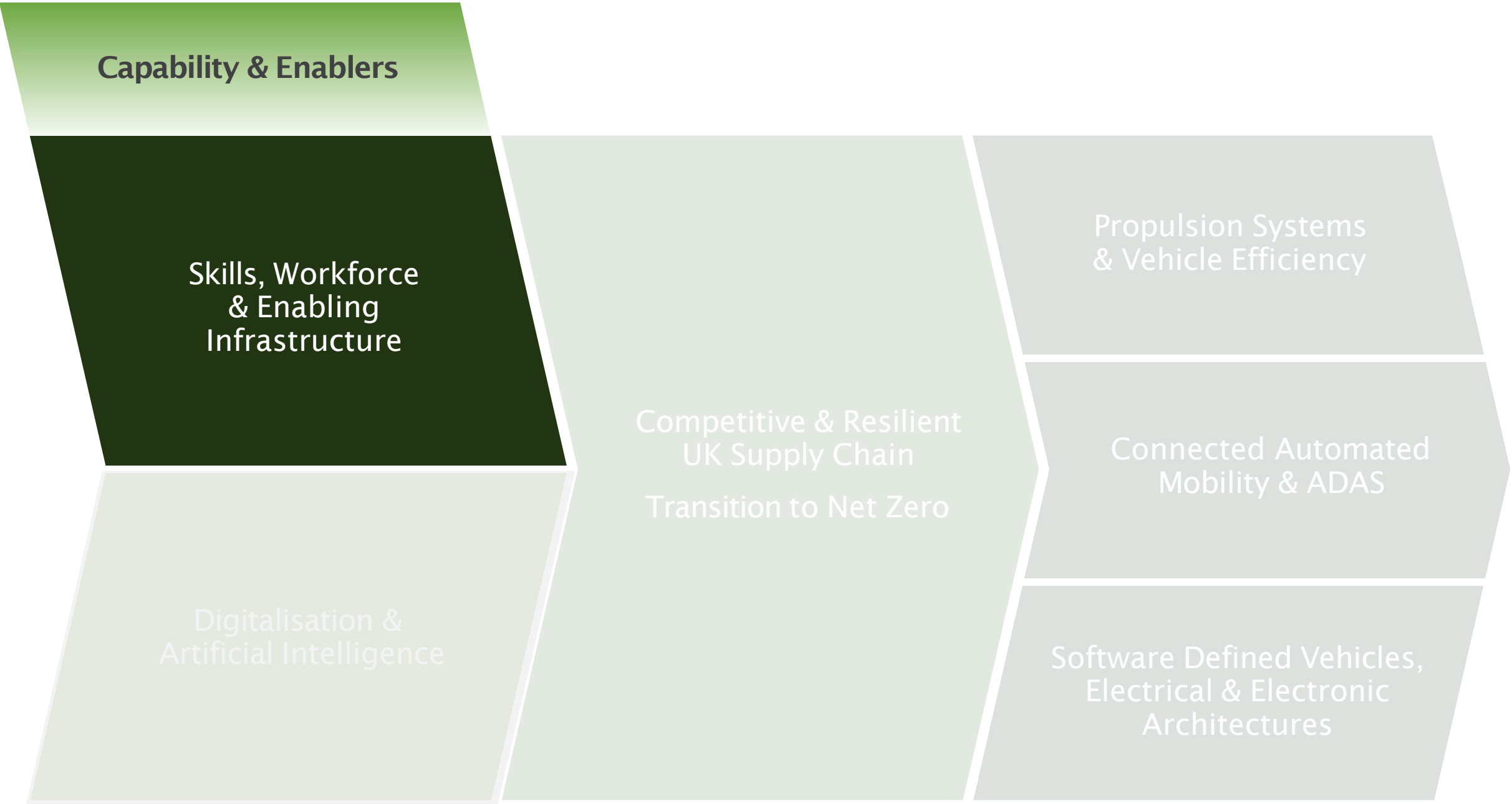
Automotive Council Strategic Technologies



Capability & Enablers

Advanced Manufacturing
and Supply Chain

Next Generation
Vehicle Systems



Skills and Workforce:

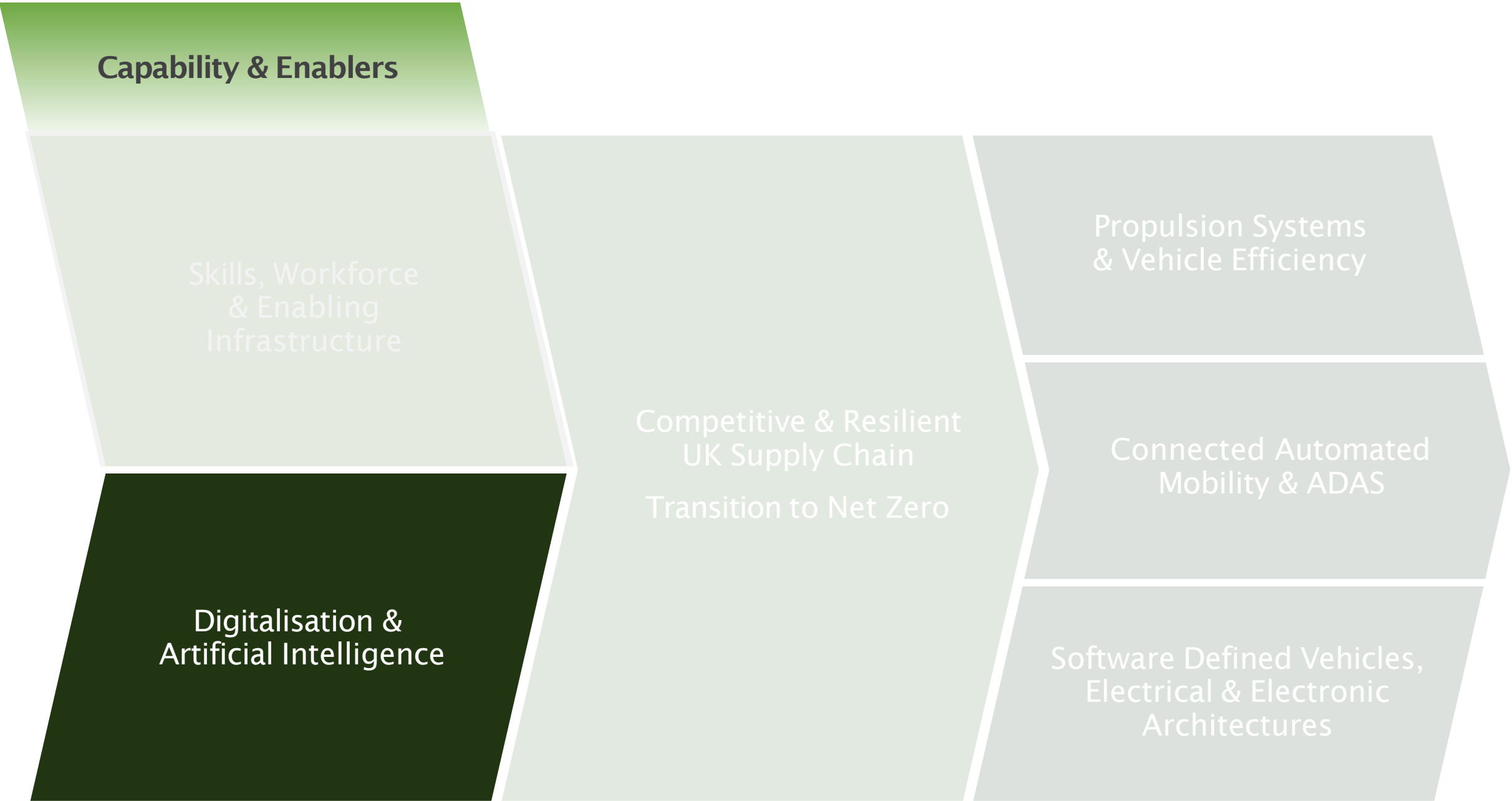
- Workforce upskilling, reskilling and new skills development to support industrial transition
- Up-to-date skilled workforce to keep UK automotive competitive globally
- Retain and attract talents

Enabling Infrastructure:

- Accelerate transition and adoption, providing adequate cost-effective energy and digital infrastructure
- Unlock investment and growth by reducing deployment risks, making UK more attractive for supply chain investment
- Support net zero and sustainable mobility goals

Focus on capabilities and enablers across the UK PLC and the broader ecosystem to facilitate and enable the Auto Council vision





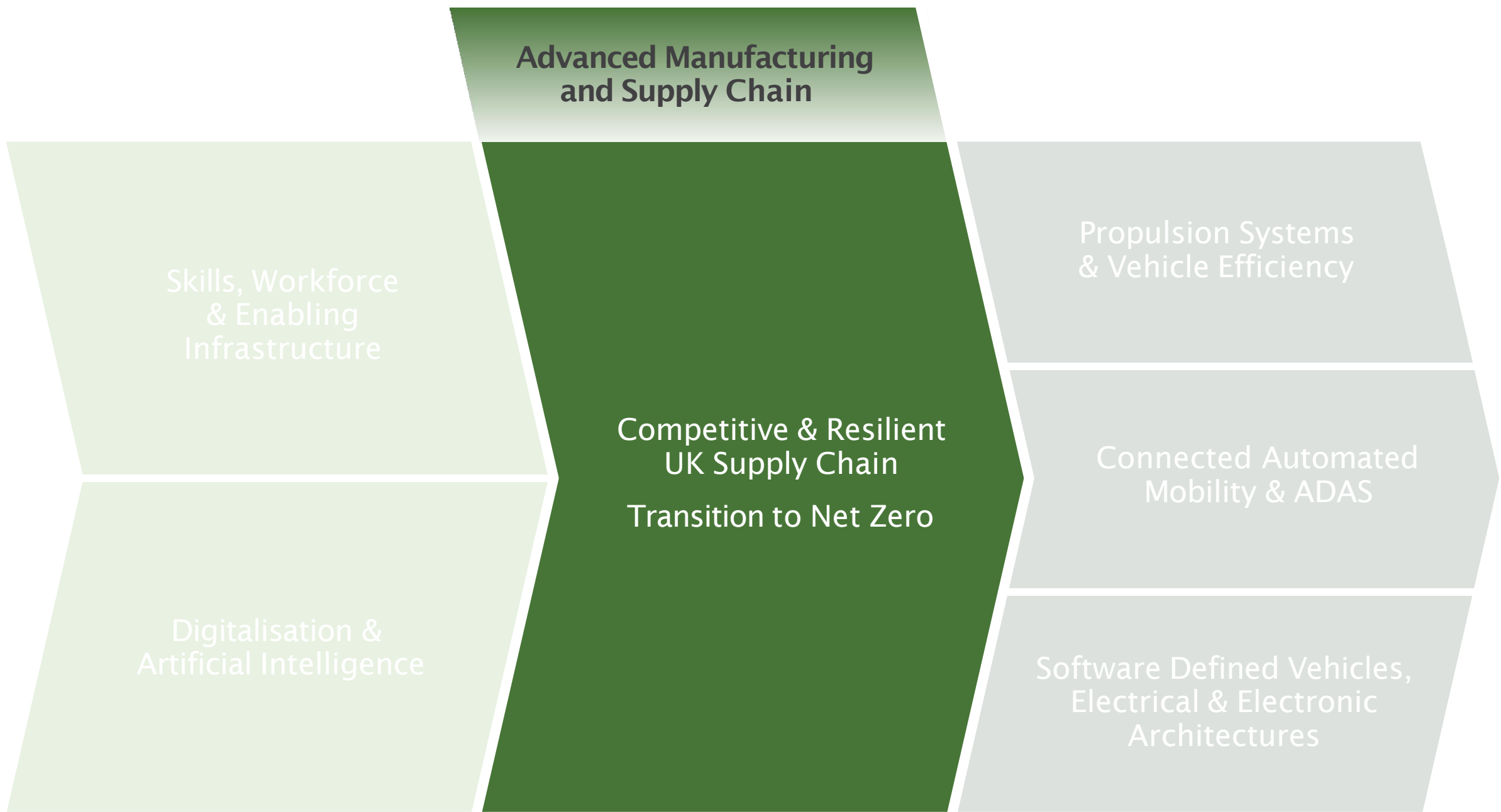
Digitalisation and Artificial Intelligence:

The application of digital and AI tools for R&D and manufacturing automation to improve international competitiveness by

- Improving productivity and manufacturing efficiency
- Implementing manufacturing Industry 4.0, including cybersecurity
- Supply chain digitalisation, transparency/traceability and cybersecurity
- Digital tool development, digital twin
- Innovation in software system, design, development, and secure & safe deployment
- Component, system- and vehicle-level simulation, testing, validation and verification

Focus is on deployment of digital and AI tools particularly within the supply chain



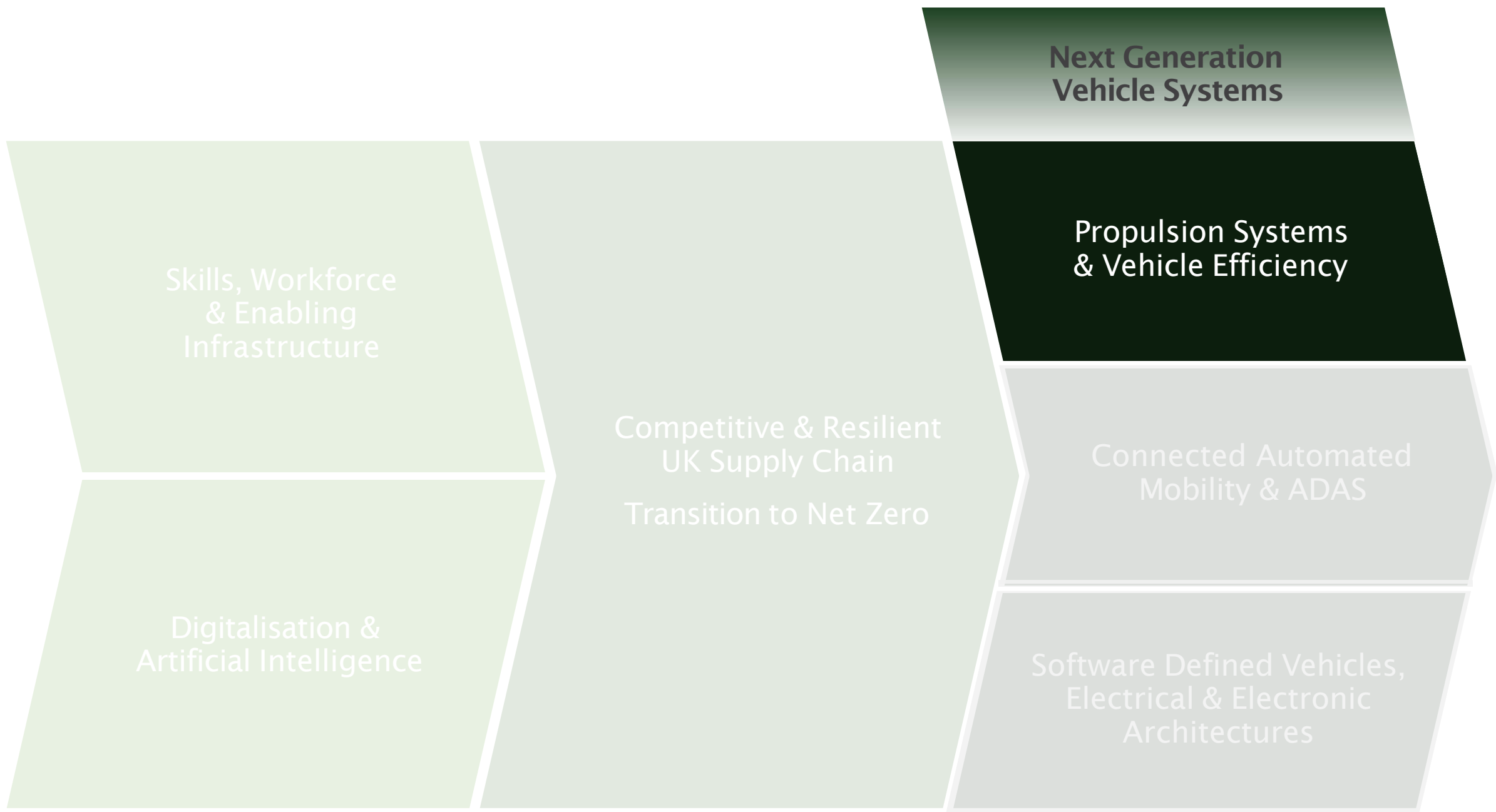


Competitive & Resilient UK Supply Chains - Transitioning to Net Zero

The focus is on improving UK manufacturing competitiveness, productivity, energy efficiency and decarbonisation. In addition, there is a need to improve the resilience and reduce the embedded carbon of the total supply chain.

- Technologies that improve UK manufacturing competitiveness, productivity, energy efficiency and decarbonisation.
- Reducing embedded carbon and improving resilience of the total supply chain including an end-to-end approach for critical materials, through onshoring friendshoring and repair, reuse, recover and recycle (design for circularity).

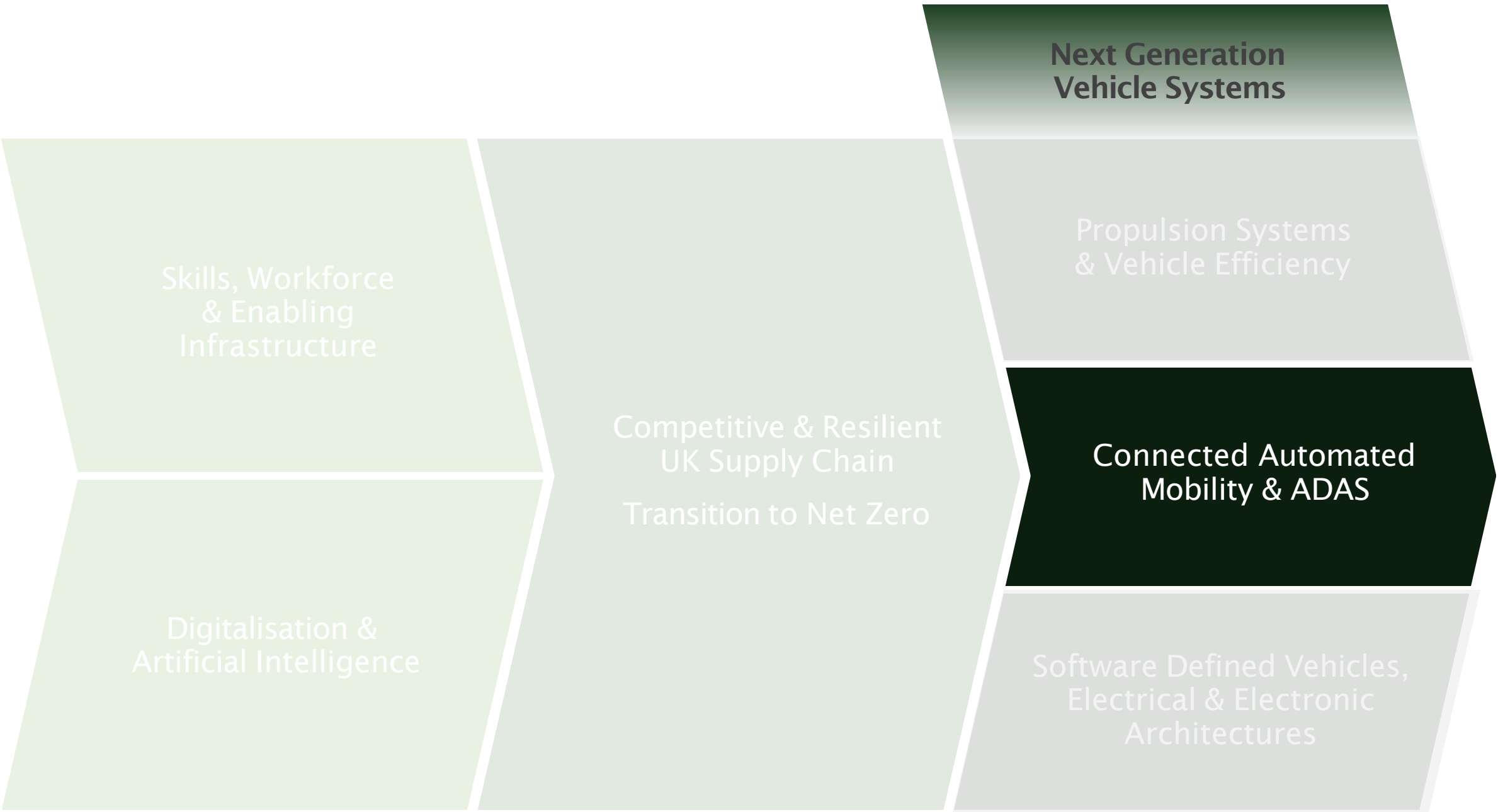
Focus is on improving the UK supply chain manufacturing competitiveness through productivity, decarbonisation and improving supply chain resilience, reducing embedded carbon by onshoring/friendshoring.



Propulsion Systems and Vehicle Efficiency focussed on meeting UK and export markets regulation requirements, reducing cost and improving performance:

- Electrical energy storage, focus on upstream battery materials and processing
- Electric machines
- Power electronics
- Hydrogen fuel cell and hydrogen storage, focus on heavy-duty on- and off-road applications
- Internal Combustion Engines (ICE) / H2 ICE / e-fuels, focus on off-road / Non-Road Mobile Machinery (NRMM) and high-performance (niche) applications
- Improving vehicle-level energy efficiency; lightweight vehicle and powertrain structures, aerodynamics and integrated thermal management particularly for zero-emission vehicles.

Focus is on systems and vehicle deployment of propulsion systems and energy storage aligned to UK and export markets regulations

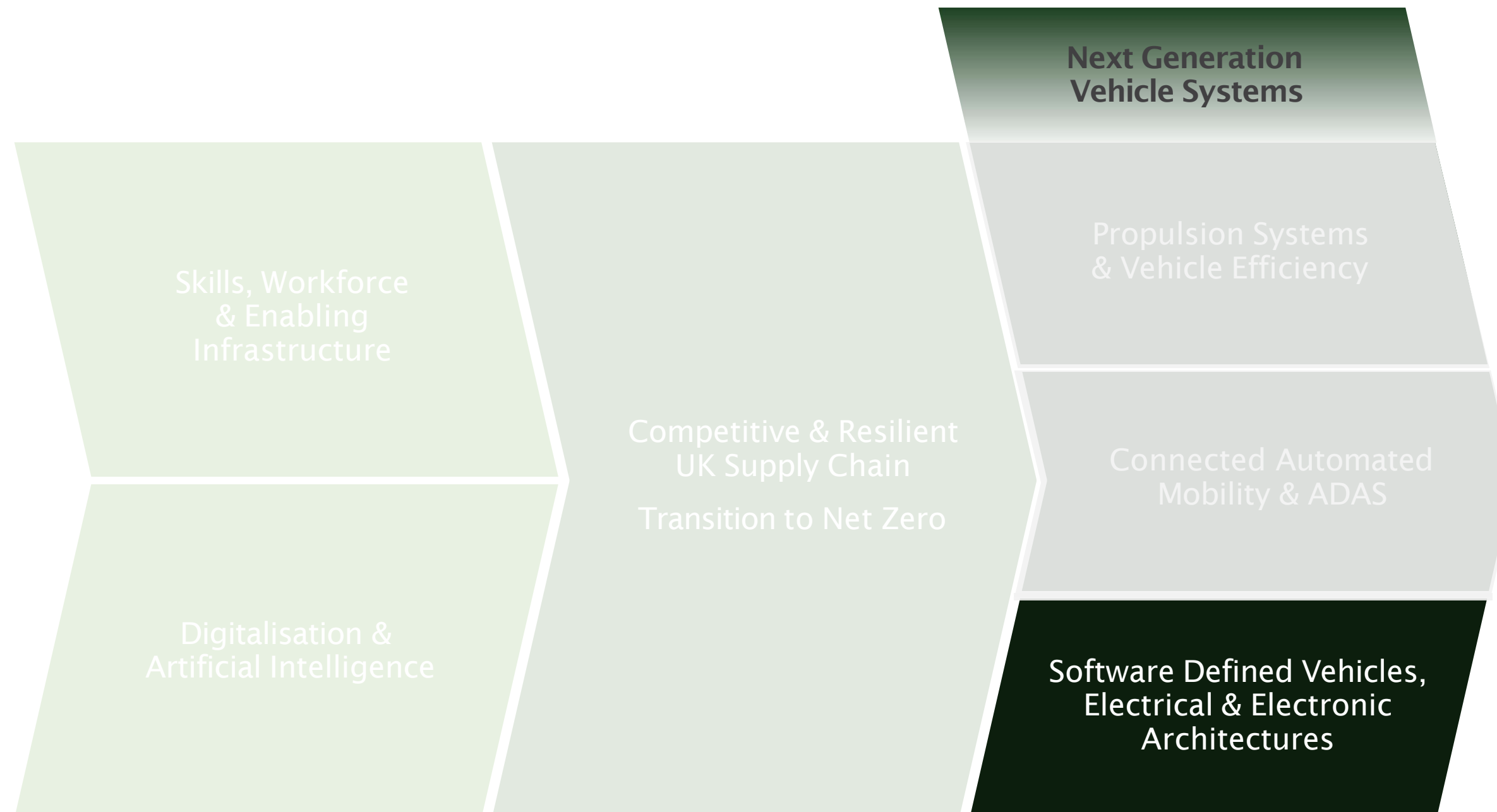


Connected Automated Mobility (CAM) & Advanced Driver-Assistance Systems (ADAS)

To improve productivity, road safety, and energy efficiency, for the movement of goods & people, both on and off road

- Development and deployment of Autonomous Driving Systems (ADS)
- CAM ready vehicle platforms inc. sensors and actuators
- Cyber-physical capabilities and processes to secure safety critical CAM systems
- Software development and software integration into vehicles systems and services
- Testing, verification, validation, certification, and in-use monitoring capabilities for safety case methodology (including simulation and digital twins)
- Connectivity capabilities for advanced networks and connected feature development
- Society driven, Human factors, HMI, and human driver/operator performance

Focus is on achieving commercial deployment of CAM across on-road and off-road environments including connectivity and infrastructure enablers



Software Defined Vehicles (SDV) and Electrical & Electronic (E&E) Architecture is focussed on enabling features through software systems and involves a major paradigm shift and redesign across the electrical and electronic architectures.

This is system- and vehicle-level evolution and includes:

- Delivering features faster, through a shift to rapid software native tools and processes adapted to meet automotive safety and security requirements (Software Factory)
- Software and control systems integration
- Future architectures including their systems, components, sensors and actuators
- Vehicle- and system-level simulation
- Innovations in the safe use of AI in the functional software
- Innovations in tools, processes, design practices for SDV and E/E architectures including use of AI

Focus is on software, future architectures, electrical/electronic systems and sensors to enable safe & secure features to be deployed more rapidly.

