AUTOMOTIVE SKILLS AGENDA STRATEGY & OUTLOOK

Action Summary

TRiREME

DIGITAL & GREEN SKILLS TOWARDS FUTURE OF THE MOBILITY ECOSYSTEM

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Context, Relevance, and Purpose

This document presents a concise summary of the **Automotive Skills Agenda Strategy & Outlook**, a key deliverable of the **TRIREME project** ("Digital & Green Skills Towards Future of the Mobility Ecosystem"), implemented under Erasmus+ as a Blueprint initiative within the Pact for Skills Large-Scale Partnership for the automotive-mobility ecosystem. The Strategy has been developed through collaboration between industry, education and training providers, social partners, and public authorities, building on the Automotive Skills Alliance platform to support coordinated, sector-wide skills transformation in Europe.

Why this Strategy exists

The European automotive-mobility ecosystem is undergoing a systemic transformation driven by decarbonisation, digitalisation, automation, artificial intelligence, and shifting regulatory and geopolitical dynamics and demand. As a system-shaping industrial ecosystem, automotive mobility has direct implications for Europe's competitiveness, innovation capacity, regional cohesion, and quality employment.

The Strategy responds to a set of **structural skills challenges**:

- Rapidly evolving technologies are redefining products, processes and business models.
- Skills shortages and mismatches are emerging across the value chain (software, AI, batteries, electronics, cybersecurity, systems integration).
- Workforce restructuring and skills shortages coexist, creating risks for productivity, investment and social cohesion.
- Education, training and labour-market systems struggle to adapt at the speed required.

The Strategy positions skills and human capital as a core enabler of industrial policy, aligned with the Union of Skills and the Industrial Action Plan for the European Automotive Sector.

Purpose of the Strategy

The Automotive Skills Agenda Strategy provides a **framework of key recommendations** to:

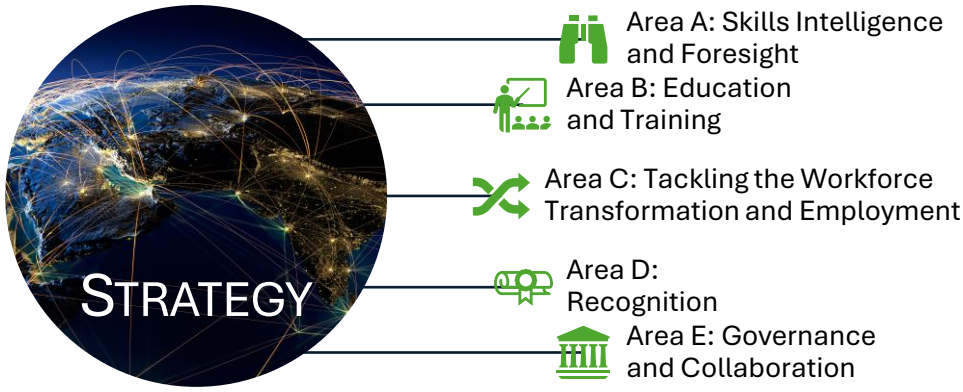
- Align skills intelligence, education and training, workforce transition instruments, recognition mechanisms and funding, and facilitate cross fertilisation between member States.
- Reduce fragmentation and duplication across EU, national and regional initiatives.
- Scale effective solutions across Member States and regions.
- Support a just and competitive transformation of the automotive-mobility ecosystem.

Overall, the Strategy functions as a **practical coordination framework** in a fragmented and rapidly evolving skills landscape. By providing a shared reference structure across stakeholders, levels of governance, and initiatives, it enables more coherent, scalable, and timely skills action aligned with industrial transformation. This is particularly important in a convergence ecosystem such as automotive-mobility, where skills developments in digital, AI, energy, and manufacturing are increasingly interlinked **and cannot be addressed through isolated or short-term measures**.

You can access the full version of the Automotive Skills Agenda Strategy and Outlook here, or by **scanning the QR on the left**.

Areas and Actions

The Strategy is designed as a living, actionable, objective-oriented document, organised around **ten specific Actions** in a comprehensive set of **five Areas**. This summary presents a concise overview of each Action.



Area A: Skills Intelligence and Foresight

Action A1

Systematic Skills Intelligence Gathering and Anticipation

This action aims to establish a continuous and coordinated sectoral skills intelligence capability for the automotive-mobility ecosystem, enabling early identification of emerging skills gaps, restructuring risks, and evolving occupational profiles. Its core purpose is to transform fragmented data, labour-market signals, and technological foresight into a shared, reliable evidence base usable by industry, education providers, and public authorities at European, national, and regional levels. By integrating real-time labour-demand insights, stakeholder input, and forward-looking analysis of technological and regulatory trends, the action supports faster and more targeted policy, training, and workforce transition measures. Ultimately, it strengthens the sector's adaptive capacity, reduces skills mismatches, and ensures that education and training systems can respond proactively rather than reactively to rapid technological and industrial change.

Action A2

Joint Description of a European Automotive Competence Matrix

This action focuses on promoting a shared Automotive-Mobility Competence Matrix as a common reference framework for job roles, skills, and proficiency levels across the value chain. Its objective is to reduce fragmentation in skills definitions and enable faster translation of skills intelligence into curricula, training modules, and learning pathways. By providing a stable and continuously updated competence baseline, it improves transparency for employers and learners, supports modular learning design, and facilitates comparability and portability of skills across regions and sectors. The action also strengthens cross-sector interoperability by enabling the reuse of competence building blocks in related domains such as digital technologies, batteries, and advanced manufacturing, while ensuring that competence frameworks remain aligned with rapidly evolving technological trends, including AI-driven job transformation.

Area B: Education and Training

Action B1

Preparing Education and Training Offers Based on Skills Intelligence

This action seeks to create a continuously updated, industry-relevant education and training offer that systematically reflects evolving skills intelligence in areas such as electrification, software-defined vehicles, AI, and digitalisation. Its purpose is to bridge the gap between identified skills needs and actual training provision by accelerating the translation of intelligence into modular, scalable, and jointly developed curricula and learning solutions. By strengthening collaboration between education providers, industry, and regional ecosystems, the action promotes the reuse and adaptation of high-quality training assets, supports specialised centres of excellence, and reinforces STEM pathways as a long-term talent pipeline. The expected impact is a more coherent, agile, and accessible training ecosystem that reduces duplication, improves quality and relevance, and enables faster deployment of skills solutions across Member States and regions.

Action B2

Effective Education and Training Solution Delivery

This action addresses the delivery bottleneck in upskilling and reskilling by strengthening scalable training capacity across Europe through modular learning, micro-credentials, blended formats, and strong train-the-trainer mechanisms. Its objective is not only to design relevant programmes but to ensure their consistent and widespread implementation, including accessibility for SMEs, workers in transition, and underrepresented groups. It emphasises work-based and practice-intensive learning, supported by digital and AI-enabled tools that enhance personalisation, adaptive learning, and efficiency at scale. By modernising delivery methods and strengthening teacher and trainer capabilities, the action increases the reach, speed, and effectiveness of lifelong learning, enabling the workforce to continuously update skills in line with rapidly evolving industrial and technological requirements.

Action B3

Future Mobility Academy

This action aims to develop the Future Mobility Academy (FMA) as a sectoral coordination and delivery platform that connects education providers, industry, social partners and training initiatives across the automotive-mobility ecosystem. Its purpose is to act as a structured hub for consolidating, scaling, and sustaining high-quality training solutions, including modular courses, micro-credentials, and specialised programmes aligned with emerging mobility technologies. By leveraging existing initiatives and fostering collaboration rather than duplication, the Academy supports lifelong learning pathways, trainer capacity building, and cross-border dissemination of training content. The expected impact is a more visible, integrated, and scalable sectoral learning infrastructure that accelerates workforce upskilling and reskilling while ensuring alignment with industrial transformation and innovation priorities.

Area C: Tackling the Workforce Transformation and Employment

Action C1

Attractiveness of STEM Education

This action aims to strengthen the attractiveness and uptake of STEM education as a strategic pipeline for future mobility skills, addressing long-term talent shortages and demographic challenges in the sector. Its objective is to promote coherent STEM pathways across education levels, improve inclusiveness and gender balance, and enhance the visibility of automotive-mobility careers as technologically advanced, sustainable, and future-oriented. By linking education more closely with real-world innovation and industrial applications, the action seeks to inspire learners and secure a steady inflow of qualified talent. The impact is a more resilient skills pipeline capable of supporting digital, green, and AI-driven transformation while sustaining Europe's competitiveness and innovation capacity.

Action C2

Education and Career Guidance

This action focuses on strengthening structured career guidance and labour-market orientation to support smoother job-to-job transitions and better alignment between individual skills and emerging occupational opportunities. Its purpose is to provide learners, workers, and jobseekers with clearer information on evolving career pathways in the automotive-mobility ecosystem, including new hybrid roles shaped by digitalisation and automation. By improving guidance systems, collaboration with public employment services, and visibility of training pathways, the action enhances labour-market matching and supports workforce mobility across roles, companies, and regions. The expected impact is reduced transition friction, improved employability, and more efficient reallocation of talent in response to industrial restructuring and technological change.

Area D: Recognition

Action D1

Sector-Endorsed Mutual Skills Recognition

This action aims to ensure that skills acquired through formal, non-formal, and informal learning are transparent, trusted, and portable across employers, regions, and borders. Its objective is to facilitate mutual recognition mechanisms, including existing system of skills validation, micro-credentials and validation of prior learning, aligned with shared competence frameworks and quality assurance principles. By enhancing comparability and credibility of learning outcomes, the action supports workforce mobility, employer confidence in qualifications, and faster career progression. The impact is a more flexible and inclusive labour market where skills can be effectively utilised regardless of where or how they were acquired, thereby supporting lifelong learning and cross-sector mobility in a rapidly transforming ecosystem.

Area E: Governance and Collaboration

Action E1

Multi-level European Sectoral and Cross-sectoral Skills Collaboration

This action aims to strengthen structured collaboration across European, national, regional, and sectoral stakeholders, including industry, education providers, social partners, and public authorities. Its purpose is to reduce fragmentation of initiatives, improve coordination of skills actions, and enable scaling of effective solutions across the automotive-mobility ecosystem and related sectors. By building on existing platforms and partnerships, it supports knowledge sharing, joint implementation, and alignment of skills development with industrial and innovation priorities. The expected impact is a more coherent European skills architecture that leverages regional strengths, enhances cross-border cooperation, and accelerates the collective response to workforce transformation.

Action E2

Financial Mechanisms to Support Implementation

This action focuses on strengthening and aligning financial instruments to ensure sustainable and large-scale implementation of skills measures across the sector. Its objective is to improve accessibility, coordination, and strategic use of funding for upskilling, reskilling, training infrastructure, and innovation in education and training delivery. By enabling long-term investment and reducing reliance on short-term project cycles, the action supports continuity, scalability, and inclusiveness, particularly for SMEs and regions with limited training capacity. The impact is a more stable and effective funding ecosystem that accelerates skills development, supports workforce transition, and enhances the overall resilience and competitiveness of the automotive-mobility sector.

Key Takeaways

- Skills are a strategic enabler of industrial and workforce transformation, and closing skills gaps is critical to maintaining innovation, deployment capacity, and sector competitiveness.
- Continuous and shared skills intelligence must replace fragmented, project-based insights to enable faster and more targeted education responses
- A shared competence framework and common competence language improve transparency, scalability, and labour mobility across the skills ecosystem.
- Education and training systems must be faster, modular, and industry-aligned to systematically reflect evolving sectoral skills needs.
- Scalable training delivery requires strong train-the-trainer approaches, modern learning methodologies, and the effective use of digital and AI tools.
- Coordinated, multi-level collaboration - supported by structures such as the Future Mobility Academy - enables coherent and scalable sector-wide skills implementation.
- Workforce transition requires reskilling, job-to-job mobility, and forward-looking career guidance that reflects emerging hybrid and digital roles.
- Attractiveness of STEM is crucial for long-term talent pipelines.
- Skills recognition and micro-credentials enhance portability, trust, cross-sector and cross-border employability, and flexible lifelong learning pathways.
- Strong governance and sustainable funding are essential to reduce fragmentation and scale long-term skills measures.

Outlook: Navigating Systemic Transformation

The transformation of the automotive-mobility ecosystem is structural, systemic, and irreversible, driven by the convergence of digitalisation, decarbonisation, automation, and shifting global competition. The key uncertainty is no longer the direction of change, but the speed, unevenness, and institutional capacity to adapt. Skills availability will increasingly act as a decisive constraint—or enabler—of industrial deployment, innovation uptake, and regional economic resilience. As technologies, value chains, and business models continue to evolve, workforce profiles will become more hybrid, combining engineering, digital, sustainability, and systems competences across interconnected industrial ecosystems.

Artificial Intelligence will play a particularly transformative role in both the sector and its skills ecosystem. AI will not only reshape vehicle technologies, manufacturing systems, and mobility services, but also redefine job content, requiring continuous upskilling in data literacy, software integration, AI-assisted engineering, and human–machine collaboration. At the same time, AI-enabled learning systems, adaptive training platforms, simulation environments, and digital twins will fundamentally change how skills are developed, updated, and delivered at scale, accelerating curriculum cycles and personalising lifelong learning pathways.

Looking ahead, competitiveness will depend on Europe's ability to align skills systems with industrial transformation in a continuous and coordinated manner. Fragmented, slow, and project-based approaches will be insufficient in a context where technological cycles are shortening, and global competitors are integrating skills development directly into industrial strategies. A more agile, intelligence-driven, and collaborative skills architecture—supported by scalable training delivery, trusted recognition mechanisms, and sustained governance—will be essential to ensure that workforce transformation keeps pace with technological change.

In this context, the Strategy should be understood as a living framework, capable of iterative adaptation, enabling the automotive-mobility ecosystem to sustain innovation, manage transition, and secure high-quality employment in an increasingly AI-driven and knowledge-intensive industrial landscape.