

Spain's automotive maintenance and repair sector is being reshaped by electrification, digitalisation and sustainability requirements. Traditional mechanical repair work is increasingly combined with software diagnostics, battery management, electronic systems maintenance and connected vehicle technologies. This transformation creates both opportunities and challenges. Workshops and technicians must continuously update their skills, while training systems need to become more flexible and responsive to rapidly changing technologies. Micro-credentials can play an important role by offering shorter, targeted learning opportunities that allow workers to upskill quickly without enrolling in long qualification programmes.



### COUNTRY SNAPSHOT



Strong automotive manufacturing and supplier ecosystem



Rapid growth in electric and connected vehicles



Increasing demand for flexible upskilling pathways



Skills shortages particularly acute in independent workshops

### KEY TRANSFORMATION DRIVERS



#### Electrification of vehicles

The increasing adoption of electric and hybrid vehicles requires new competencies in high-voltage systems, battery technologies and safety procedures



#### Digital diagnostics and software-enabled repair

Modern vehicles rely heavily on software systems, requiring technicians to interpret digital diagnostics and manage electronic components



#### Battery maintenance and high-voltage systems

Battery systems are becoming central components of vehicle maintenance, creating demand for specialised technical expertise



#### Connected vehicle technologies and ADAS

Advanced Driver Assistance Systems (ADAS) and connected mobility technologies require new calibration and troubleshooting skills



#### Green transition and sustainability requirements

Environmental regulations and decarbonisation strategies are changing repair processes and maintenance standards

### MOST IN-DEMAND EMERGING SKILLS

#### TECHNICAL SKILLS



High-voltage safety procedures



EV battery diagnostics and repair



ADAS calibration



Software-based diagnostics



Electronic systems troubleshooting



Connected vehicle maintenance



Cybersecurity awareness for vehicle systems

#### Why these skills matter

Repair work is shifting from primarily mechanical tasks to a combination of mechanical, electrical and digital competencies.

Technicians increasingly need to work safely with complex electronic systems while understanding software-driven vehicle functions.

#### TRANSVERSAL SKILLS



Continuous learning mindset



Customer communication



Problem-solving



Digital literacy



Adaptability to technological change

#### Why transversal skills are increasingly important

Technological change in the automotive sector is happening rapidly. Employers are therefore placing growing importance on adaptability, communication and the ability to continuously update skills.

### CURRENT TRAINING LANDSCAPE

Spain already offers a wide range of training initiatives related to electric and connected vehicles, including the ones below. However, provision remains fragmented and difficult to navigate for learners and employers:



Modular VET programmes



OEM-led upskilling programmes



Short courses through the national Catalogue of Training Specialties



Emerging university micro-credentials using Europass-compatible digital certification

#### Main limitations identified

- Limited stackability between courses
- Uneven quality assurance
- Weak interoperability between systems
- Limited employer understanding of micro-credentials
- Regional differences in implementation

### WHY MICRO-CREDENTIALS MATTER



Respond faster to emerging skills needs



Support lifelong learning for technicians



Improve access to short specialist training



Enable modular upskilling pathways



Strengthen links between industry and training providers

If properly coordinated and recognised, micro-credentials could become a flexible bridge between labour market demand and vocational education provision.

### KEY RECOMMENDATIONS

- 1 Improve coordination across regions and training subsystems
- 2 Develop interoperable digital credentials
- 3 Strengthen employer recognition mechanisms
- 4 Expand modular EV and diagnostics training
- 5 Increase SME participation in skills initiatives



### KEY MESSAGE

Spain has strong industrial and institutional foundations to support the green and digital transition in automotive maintenance and repair. The main challenge is not the absence of training provision, but improving coordination, recognition and quality assurance across the system.

