



### COUNTRY SNAPSHOT



Strong adult learning and qualification frameworks



Expanding EV and hybrid vehicle market



Diverse mix of public and private training providers



Growing need for specialised technical upskilling

### KEY TRANSFORMATION DRIVERS



#### Electrification and high-voltage systems

Electric and hybrid vehicles are creating demand for new safety and maintenance competencies



#### Battery maintenance and diagnostics

Battery systems are becoming central to vehicle servicing activities



#### Environmental compliance

New environmental regulations are influencing workshop procedures and technician responsibilities



#### Digital diagnostics and connected systems

Repair work increasingly depends on software-enabled diagnostics and digital troubleshooting



#### Vehicle software integration

Vehicles are becoming more connected, intelligent and software-driven

### MOST IN-DEMAND EMERGING SKILLS

#### TECHNICAL SKILLS



EV/HV safety procedures



Battery systems maintenance



Hybrid vehicle diagnostics



ADAS and electronic calibration



Digital troubleshooting



Vehicle software diagnostics



Environmental compliance handling

#### Why these skills matter

The shift toward electrification and connected mobility means technicians need a broader mix of electrical, digital and software-related competencies.

#### TRANSVERSAL SKILLS



Adaptability



Communication



Digital literacy



Continuous learning



Customer service skills

#### Why transversal skills matter

Employers increasingly value technicians who can adapt to evolving technologies and communicate effectively with customers about complex vehicle systems.

### CURRENT TRAINING LANDSCAPE

#### Portugal already provides:



- Modular adult learning pathways
- National qualification structures (CNQ)
- Certified Modular Training
- Stackable short EV/HV courses
- Industry-aligned safety certifications

#### Provision is delivered through:



- Public VET providers
- Higher education institutions
- Private training providers
- Employer academies
- Sectoral organisations

#### Current challenges



- No unified national MC framework
- Fragmented recognition systems
- Uneven quality assurance
- Limited stackability across learning pathways
- SME participation barriers

### WHY MICRO-CREDENTIALS MATTER

Portugal already has many of the institutional building blocks needed to support effective micro-credential ecosystems. Micro-credentials could help Portugal:



Respond faster to labour market change



Support lifelong learning and reskilling



Improve visibility of specialist training



Increase flexibility for adult learners



Strengthen links between employers and training providers

### KEY RECOMMENDATIONS

- Develop shared national standards for MCs
- Improve digital credentialing systems
- Create a national MC registry
- Strengthen employer and sectoral involvement
- Improve access for SMEs and adult learners



#### KEY MESSAGE

Portugal's main challenge is not the lack of short, modular learning offers, but improving coherence, portability and recognition across the system so that micro-credentials become more visible and trusted by learners and employers alike.

### EMERGING OCCUPATIONAL PROFILES



EV/HV Mechatronics Technician



High-Voltage Safety Specialist



Battery Service Technician



Automotive Diagnostics Technician



Connected Vehicle Service Specialist

These profiles reflect the growing specialisation of automotive repair work.

