c. AV Repair and Maintenance

Technical skills to maintain autonomous cars are expected to be required such as AV dashboard diagnostic, perception system sensor diagnostic and replacement, network and vehicular communications, automatic vehicle control system and more. Core tasks performed by the AV maintenance technician revolves around providing expertise in AV related repair and maintenance and involves expertise around sensors, perception system, automatic general control system (see Figure 16 for illustrative persona).

EMERGING JOB ROLES IN AUTONOMOUS VEHICLE

AV Maintenance Technician

JOB DESCRIPTION

The AV Maintenance Technician performs general servicing and/or specific AV component replacements and maintenance. He/ she also conducts preventive maintenance activities for AV and their components and schedules maintenance operations.

KEY RESPONSIBILITIES

- Perform general servicing and preventive/corrective maintenance of different sub-systems for AVs (LIDAR sensors, electric drivetrain, battery engine) and mechanical components (air conditioning, body work, brake, steering and suspensions)
- Preparation of work activities, perform assigned serving and maintenance tasks
- Perform general housekeeping of workshop tools, equipment and safety
- Emergency breakdown assistance and recovery

SKILLS AND REQUIREMENTS

- **Automatic vehicle control system** – Conduct regular testing and inspection to ensure optimal performance, maintain and conduct proper diagnostic testing on automatic vehicle control system
- **High voltage workplace safety and health** – Proper handling of equipment and implement safety processes in high-voltage work environments
- **AV Dashboard Diagnostics** – Perform system checks and read AV dashboard diagnostic fault codes to troubleshoot and manage issues
- **Perception System Sensor Diagnostics and Replacement** – Conduct troubleshooting and perform repair and replacement of faulty perception system sensors

The AV Maintenance Technician performs general and/or specific AV component replacements and maintenance. He/she also conducts preventive maintenance activities and coordinates maintenance operations. The technician prepares work activities, perform assigned servicing and maintenance tasks of different AV components, perform general housekeeping of workshop tools and equipment and adheres to Workplace Safety and Health (WSH) procedures. The technician also operates recovery support vehicles and on-board equipment to assist on-the-road AV breakdown assistance and recovery. The senior AV technician assigns daily work tasks and provides technical guidance and on-the-job coaching.

EXAMPLE OF HIRING COMPANIES

- Tower Transit
- Tesla
- BYD
- Hyundai

EDUCATION AND EXPERIENCE

- Minimum secondary or equivalent level, undergone AV specific vocational training programmes and obtained high-voltage vehicle maintenance certification
- Specialize in electrical, automotive and/ or mechanical engineering
- Experience in ICE-based or EV-based vehicle repair and maintenance
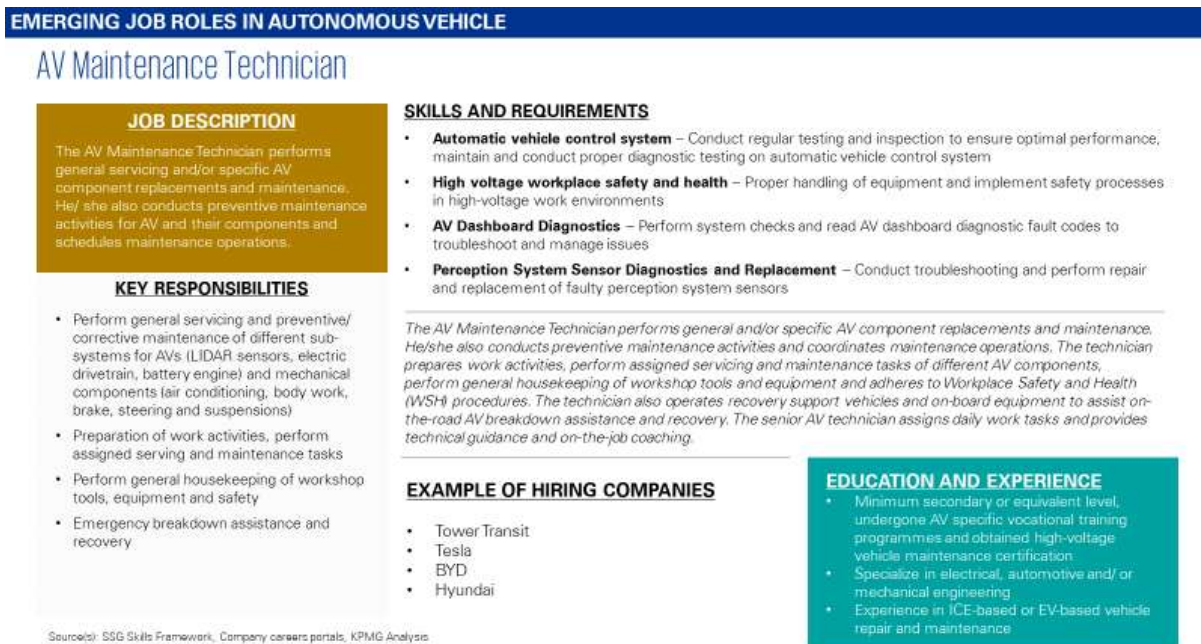
Source(s): SSG Skills Framework, Company careers portals, KPMG Analysis

Figure 16: AV Maintenance Technician Persona