



Ministry of Information,  
Communications &  
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# UKDAP-Inclusive Digital Futures Project (IT TECHNICIAN TRACK)



# FOUNDATIONS

## Mobile & Computer Repair Technician

### Day 1: Technician Foundations, Tools, Safety & Smartphone Hardware

Day one marks the beginning of the learner's professional journey in device repair. At **Boltech Training Institute**, the focus is on building strong technical habits before attempting any repairs. This session introduces the mindset, discipline, and awareness required to handle modern smartphones safely and professionally in a virtual learning environment.



## Day 1 Session Overview

Day 1 is designed to bring all learners to a common starting point regardless of prior experience. Some learners may have opened devices before, while others are completely new. The goal today is to establish a shared professional foundation by understanding technician behavior, workspace organization, safe tool handling, and the internal structure of smartphones. By the end of the session, learners should think more like technicians rather than casual device users.



## Training Philosophy

### Observe → Understand → Document → Apply

The training follows a structured skills-first philosophy that ensures deep learning. First, learners observe professional demonstrations carefully. Next, they work to understand the purpose behind each action rather than memorizing steps. Documentation follows, where learners record procedures, tool names, and observations to build technical memory. Finally, learners apply the knowledge in practical situations. This four-stage approach builds confidence, reduces mistakes, and develops real-world repair competence.



## Who Is a Professional Technician?

A professional technician is not simply someone who opens devices; they are disciplined problem-solvers who work carefully, safely, and systematically. Professional technicians maintain clean workspaces, use the correct tools for each task, and avoid guesswork that could damage customer devices. They also communicate clearly with clients and document their work. Today's session begins shaping learners into professionals by focusing on habits, mindset, and responsibility before technical complexity.



## Importance of Safety Culture

Safety is the foundation of all successful repair work. Modern smartphones contain delicate components, sensitive circuits, and batteries that can be hazardous if mishandled. One careless movement can permanently damage a device or cause injury. Therefore, learners must develop a strong safety culture that includes proper tool handling, careful device opening, anti-static awareness, and organized workspaces. Building safe habits early prevents costly mistakes later in the technician's career.

ESD-electrostatic discharge D.C-direct current



## Technician Workspace Setup

A professional repair process begins with a well-organized workspace. Technicians must work on clean, well-lit surfaces free from clutter and liquids. Tools should be arranged systematically so they are easy to reach without confusion. Small components like screws must be stored carefully to avoid loss. In virtual learning, learners are guided to prepare their home workspaces to mirror professional benches. An organized workspace improves speed, accuracy, and device safety.



## Essential Repair Tools – Grouped by Function

Professional technicians do not treat tools as random items; they understand them in functional groups based on the stage of repair. This structured approach improves efficiency, reduces errors, and ensures the correct tool is used at the correct time. During Day 1, learners are introduced to the major tool categories they will repeatedly use throughout their training and future repair work.

### Disassembly and Reassembly Tools

These tools are used when opening devices and putting them back together. They include precision screwdrivers, plastic opening picks, pry tools, suction cups, and tweezers. Their purpose is to allow safe access to internal components without damaging the phone's casing or connectors. Learners are trained to apply gentle, controlled force and to keep screws properly organized during this stage.



## Diagnostic Tools

Diagnostic tools help technicians identify faults before attempting repairs. Examples include digital multimeters, USB testers, power supply units, and software diagnostic utilities. These tools enable technicians to measure voltage, check continuity, and confirm whether components are functioning correctly. Accurate diagnosis saves time, prevents unnecessary part replacement, and increases repair success rates.

## Screen Refurbishing Tools

Screen refurbishing involves specialized equipment used when repairing damaged displays while preserving the original screen where possible. Tools in this category may include screen separators, cutting wire, laminating machines, bubble removers, and curing equipment. At this stage, learners are introduced to the workflow and safety considerations, preparing them for deeper hands-on practice in later sessions.



## Soldering and Desoldering Tools

These tools are used for advanced motherboard repairs that involve removing and replacing electronic components. They include soldering irons, hot air rework stations, solder wire, flux, solder wick, and PCB holders. Because board-level repair requires precision and heat control, Day 1 focuses on identification, purpose, and safe handling principles.

## ESD and Safety Equipment

Electrostatic discharge protection tools such as anti-static wrist straps, ESD mats, and grounding equipment protect sensitive components from invisible static damage. Additional safety items like heat-resistant mats and protective eyewear reinforce professional safety culture. Learners begin to appreciate that protecting the device is just as important as fixing it.



## Understanding Smartphone Hardware Architecture

Before fixing phones, technicians must understand what exists inside them. Modern smartphones are compact systems made of interconnected components such as the motherboard, battery, cameras, display assembly, and connectors. These parts are tightly packed and highly sensitive. Day 1 focuses on helping learners visualize the internal structure of a smartphone so that future repairs are guided by understanding rather than trial and error.



## Risks of Careless Device Handling

Smartphones are engineered with microscopic precision, meaning even small mistakes can cause serious damage. Excessive force can break connectors, static electricity can destroy chips, and improper tool use can scratch or puncture components. This session emphasizes patience, controlled movements, and respect for device fragility. Learners begin developing the habit that careful work is faster in the long run.



## Day 1 Learning Outcomes

By the end of Day 1, learners should confidently demonstrate professional technician behavior, set up an organized workspace, identify grouped repair tools, and explain the basic internal architecture of a smartphone. Most importantly, they should understand that successful repair begins with discipline and safety, not speed. This strong foundation prepares learners for the hands-on technical work that follows in upcoming sessions.



# **Q & A SESSIONS**



**THANK YOU**