AFRIDYNE SYSTEMS · HOME IT & HARDWARE GUIDE

Computer Upgrades & Repairs Guide

Which hardware upgrades deliver the biggest real-world speed boost, common laptop & desktop repairs, when to upgrade vs. replace, and a pre-workshop checklist.

Topic: Computer Upgrades and Repairs | Covers: SSD & RAM Upgrades · Common Repairs · Upgrade vs. Replace · Pre-Service Checklist

1. The High-Impact Upgrades (Best Value Per Rand)

Replacing an entire computer is rarely necessary when sluggishness is caused by a single bottleneck. In most 3- to 8-year-old laptops and desktops, two upgrades deliver 90% of the noticeable speed gain:

Upgrade	When You Need It	Real-World Impact & Notes
SSD Storage (NVMe or 2.5" SATA)	PC still boots from a mechanical hard drive (HDD), or current SSD is ≥ 85% full.	**Biggest single speed boost.** Cuts boot times from 2+ minutes down to ~15 seconds and makes apps open instantaneously.
RAM (Memory) Expansion	System has 4 GB or 8 GB RAM and slows down with multiple browser tabs, Zoom/ Teams, or spreadsheets open.	Upgrading to **16 GB** (or 32 GB for heavy creative/VM workloads) stops constant disk paging and browser freezes.
Full Thermal Service	Laptop runs hot, fans roar constantly, or CPU throttles under light tasks after 3–5 years.	Cleaning heatsink fins and applying fresh high-grade thermal paste restores quiet operation and full boost clock speeds.
Fresh Battery Pack	Battery lasts under 60 minutes, shuts down abruptly at 20–30%, or shows a swelling warning.	Restores full portability and prevents permanent chassis/trackpad damage caused by expanding lithium cells.

> **Before Buying Parts:** Always check whether your laptop has *socketed SO-DIMM* RAM slots or *soldered onboard* memory, and whether its M.2 slot accepts **NVMe (PCIe)** or **SATA** drives—installing the wrong keying or unsupported capacity wastes money.

2. Common Laptop & Desktop Repairs

- **Broken Hinges & Cracked Palmrests:** Stiff laptop display hinges eventually tear brass screw standoffs out of the plastic lid or base. Catching a stiff hinge early prevents snapped Wi-Fi antenna cables and cracked LCD panels.
- **Loose Charging Ports (DC Jacks & USB-C):** If you have to wiggle the charger plug to make contact, stop forcing it—damaged pins can short motherboard power rails. Many laptops use modular cable-in DC jacks that replace cleanly without soldering.
- **Liquid Spills:** Power off immediately by holding the power button for 10 seconds, unplug the charger, disconnect external devices, and keep the laptop flat/inverted—**never** use a hairdryer or bury it in rice (rice dust jams fans and keyboards).
- **Failed Power Supplies (Desktop PSU) & CMOS Batteries:** Desktops that refuse to power on after a surge or reset their BIOS clock every power cut often only need a quality PSU replacement or a R30 CR2032 coin-cell battery.

3. Upgrade vs. Replace: Practical Decision Guide

Worth Upgrading / Repairing	Better to Replace (or Migrate to Linux)
Solid CPU (Intel Core i5/i7 8th Gen+ or AMD Ryzen 5/7) held back only by 8 GB RAM, a small/old drive, or a worn battery.	Entry-level Celeron / Pentium / Atom or pre-2016 dual-core CPUs with soldered 4 GB RAM and eMMC storage.
Repair cost (SSD + RAM + labour, or hinge/battery replacement) is well under 40–50% of an equivalent replacement machine.	Severe motherboard liquid corrosion plus a cracked high-resolution touch display on an older consumer laptop.
Business-grade chassis (ThinkPad, Latitude, EliteBook, ProBook) built for easy servicing and long-term parts availability.	Windows 10 PCs incompatible with Windows 11 where the user strictly requires Windows-only software (note: installing **Linux Mint / Ubuntu** gives these machines years of fast, secure life).

4. Pre-Upgrade & Pre-Workshop Checklist

- ☐ **Back up personal files first:** Copy Documents, Desktop, Pictures, browser bookmarks, and accounting/email archives onto an external drive or cloud backup—even routine drive clones carry a small risk if the old drive is already failing.
- ☐ **Record passwords & recovery keys:** Write down your OS login password, BitLocker/FileVault recovery key, and Wi-Fi password so software activation and cloud sync reconnect smoothly.
- ☐ **Bring the original charger with laptops:** Technicians need the exact wattage adapter to stress-test charging circuits, battery health, and thermal performance under full load.
- ☐ **Note exact symptoms:** Jot down when the fault occurs (on battery vs. plugged in, after 20 minutes of use, or specific error messages) to speed up diagnosis.

Want an honest opinion before spending money on parts or a new PC? Afridyne Systems handles SSD & RAM upgrades, data cloning, thermal servicing, battery/hinge repairs, and clean OS installations across the Helderberg. Call/WhatsApp **062 509 8065** or visit **afridyne.co.za**.