

3D Laser Scanners (Handheld)

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | 3D Printing, Laser & CNC

Handheld 3D laser scanners capture the real shape of objects as point clouds and meshes by projecting laser lines and tracking the scan, turning physical parts, people and rooms into digital models for reverse engineering, CAD and preservation.

Key Features

- Structured laser scanning
- Accuracy to 0.1 mm class
- Real-time mesh feedback
- Markers and markerless modes
- Colour capture on scan models

Typical Uses in the Workshop

- Reverse engineer components into CAD
- Digitise models, figures and artefacts
- Scan students and objects for projects
- Capture parts for 3D printing or CNC

Safe Operation

1. Prepare the object and markers
2. Frame the scan area with the live view
3. Sweep the scanner evenly around the object
4. Check the mesh coverage as you scan
5. Export the mesh for the CAD workflow

SAFETY NOTES

- Laser-class scanners - do not stare into the emitter
- Keep the scanner away from reflective and polished surfaces
- Handle the unit with both hands
- Store in the case when not scanning
- Check the software licence coverage

Maintenance & Consumables

- Clean the lenses with a soft brush
- Check the cables and connector
- Update the firmware and software
- Calibrate per the maker's schedule
- Store dry and charged

Specification & Buying Notes

Entry handheld scanners capture sinterable meshes for reverse engineering in schools. Quality tracking holds detail; cheap units drift on large objects. Check software subscription costs.