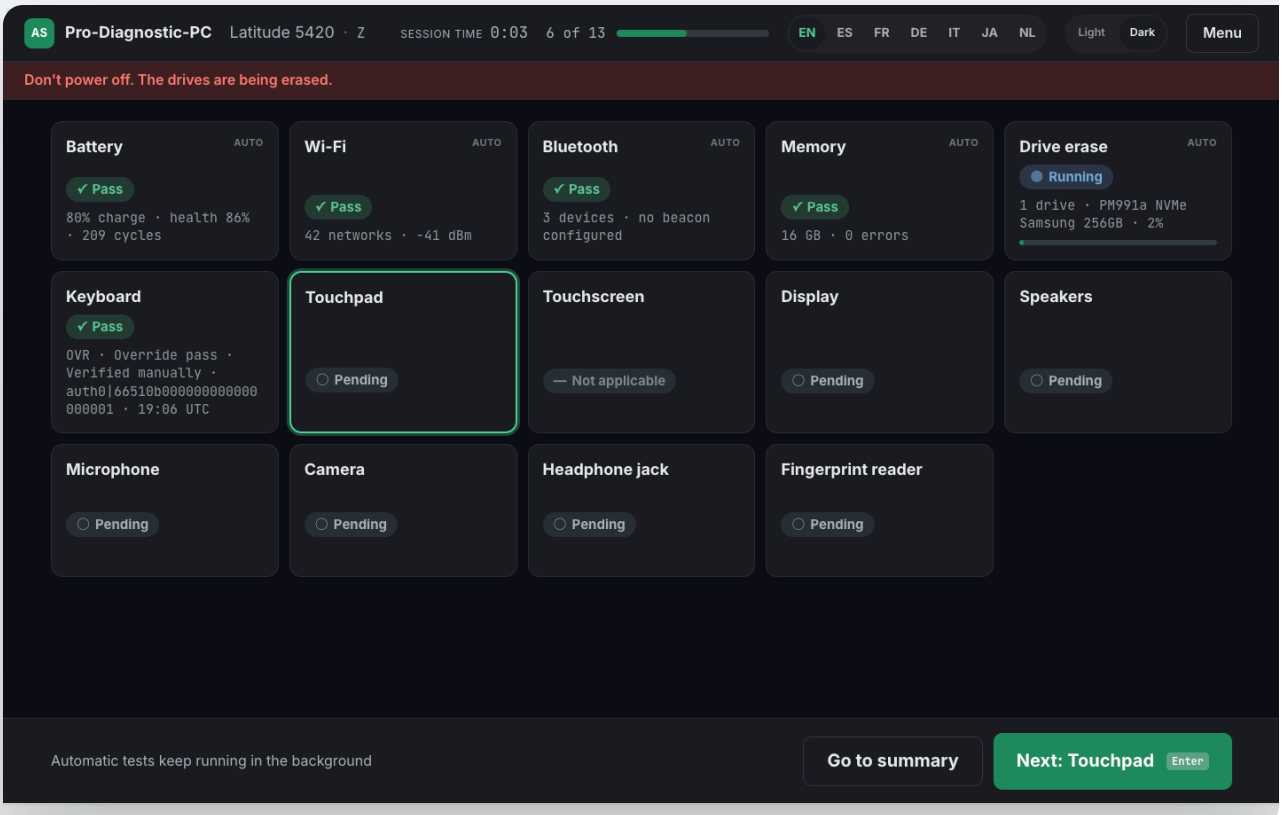
PRO-DIAGNOSTIC PC & MAC

Every computer tested and every drive erased, in one pass at the bench.

Computer diagnostics and multi-drive erasure for laptops, desktops and towers. A signed app on macOS, a bootable Linux stick on PCs. 23 tests on Mac, 25 on PC, a per-drive erase report, and one record per unit in Control Center.



AUDIENCE

Operations, IT & compliance leads at ITAD firms and refurbishers

TESTS

Mac · PC (booted from the PDP stick)

WEB

assetscience.com

AT A GLANCE

The eight questions every buyer asks, answered at their scope.

Pro-Diagnostic PC & Mac (PDP) is the computer version of our phone bench: it collects the hardware profile, walks the operator through the tests, erases the PC's drives in the background and sends one record per unit.

CERTIFICATE

Yes

Per-unit record with a per-drive erase report, feeding the Content Cleared and Diagnostics certificate in Control Center: PDF, shareable link and public lookup by serial at verified.assetscience.com.

ADISA CERTIFIED

Not applicable

No. No ADISA certificate covers PDP. Its erasure follows NIST SP 800-88 Rev. 2 and IEEE 2883-2022 methods, with a per-drive erase report. ADISA assurance level 4 applies to Pro-Diagnostics and MacRestore only.

TYPE OF WIPE

NIST 800-88

PC only. **Purge** where the drive supports it (NVMe or ATA sanitize), **Clear** as the fallback (one-pass PRNG overwrite). Every method is followed by sampled read-back verification. Macs are not erased by PDP.

GUIDED USER TESTING

Yes

Guided tests run **one screen at a time** with the instruction on screen, in seven operator languages. Automatic tests start by themselves and never block the operator.

TYPE OF TESTS

23 · 25

23 tests on Mac, 25 on PC across audio, camera, display & input, battery & power, connectivity & ports, memory & thermals, sensors, security & identity.

MAIN FEATURES

4

Full hardware profile per unit, read from the machine. **Every internal drive erased** while the tests run. **Locks reported**: BIOS password, Absolute, TPM ownership. **Cosmetic grade and label** on the same record.

PLATFORMS SUPPORTED

Mac · PC

Tests **Macs** (macOS 13 or later, Apple silicon and Intel) through a signed app, and **PCs** (Dell, HP, Lenovo, ASUS with UEFI) booted from the PDP Linux stick. No Windows install is needed.

DATA ANALYTICS AND API

REST

The record exposes identity, hardware specifications, every test result with fail codes, the grade, overrides and the erase report. Reached through Control Center, the **REST API** and CSV/Excel export.

Honest scope. No ADISA certificate covers Pro-Diagnostic PC, so no certified-erasure claim is made for computers. Macs are erased by Mac Restore, which is where that certification sits. PDP's erasure is stated as method and report: NIST 800-88 methods, per-drive erase report.

HOW IT RUNS

A signed app on the Mac. A boot stick on the PC. Nothing installed on either.

The same application and the same kind of test suite, delivered the way each platform allows. Both read the program, suite, fail codes and operators from Control Center and send the same record shape back.

MAC

A signed, notarized macOS app, run on the Mac itself.

Runs on macOS 13 or later; the build is universal, Apple silicon first. On a production bench the app and its configuration live on a bench stick that PDP only reads and never writes. With no configuration file, the operator signs in to Control Center instead.

- **Permissions are visible.** Camera, microphone and Bluetooth each show Allowed, Not allowed or Not available; a refused permission never stops the run.
- **Updates are never forced.** A banner says a newer version exists; the current one keeps working.
- **Macs are not erased by PDP.** PDP diagnoses the Mac; Mac Restore does the Mac wipe.

PC

A bootable Linux USB stick. The installed OS is never trusted or needed.

The PC boots PDP's own Ubuntu stick straight into the app, full screen, with no desktop, browser or shell. The same stick tests the PC and erases its drives. Nothing is installed on the PC and its own operating system is never started. There is no Windows build; a Windows PC is simply a PC that boots the stick.

- **Boots any Dell, HP, Lenovo or ASUS PC** with UEFI and Secure Boot on, into the Start screen in under 90 seconds, without a menu.
- **The stick is never erased.** It is never listed as a drive, and nothing automounts.
- **Root work is allow-listed.** Hardware reads, Wi-Fi and the erase go through a root helper that runs a fixed set of operations.

What each platform does

CAPABILITY	MAC	PC (BOOTED FROM THE STICK)
How PDP starts	Signed app on the Mac or on a bench stick	PC boots the PDP stick into the app, no menu
Hardware profile	Chip, memory, storage, battery, display, OS, keyboard, ports, Activation Lock	CPU, memory, storage, graphics, display, OS, keyboard, firmware, battery, locks
Guided and automatic tests	23 tests	25 tests
Drive erase	No · Mac Restore	Every internal drive · NIST 800-88 methods
Label and record	Yes	Yes
Updates	Banner on the Start screen	A new stick image; the stick never updates itself

THE OPERATOR FLOW

The record has an owner before the first test runs.

A five-step Start wizard, then a Device screen showing what the machine is and what will happen to it. Nobody types a spec, and nothing erases by accident.

1 Start
Language, bench setup and network check, access check, program fields, and who is testing.

2 Device
Hardware profile from the machine. On a PC, the drives to erase and any lock that blocks resale.

3 Test
Automatic tests run by themselves; guided tests one at a time. The PC's drives erase throughout.

4 Grade
Results reviewed, cosmetic grade picked. Picking the grade sends the record and prints the label.

5 Done
Record sent, label printed, erase report on screen and on the record. Safe to power off.

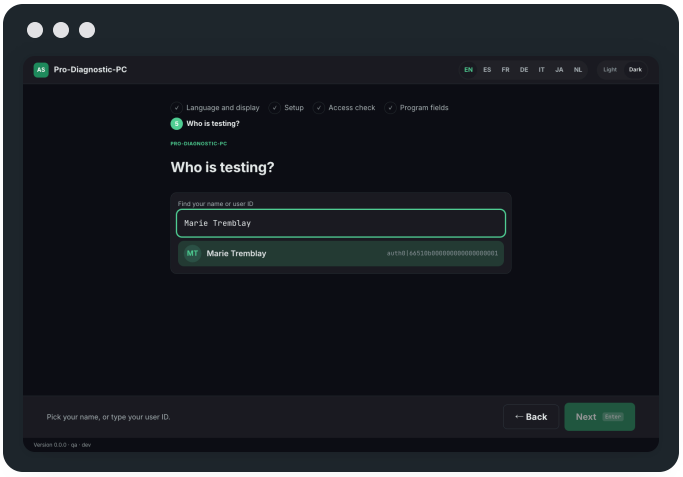


FIG. 1 Start → step 5, Who is testing? The operator picks their name or types a user ID; Next stays off until one is chosen. Names shown are synthetic.

Who is testing. The Start wizard ends by naming the operator, so every record, override and skipped drive carries a person and a time. The program, team and shift come from the bench configuration and cannot be changed at the bench; the Batch ID and any custom field are scanned here.

The Device screen. Every value is read from the hardware; the operator reviews it and presses Start tests. On a PC it also lists the locks PDP found, worded as the action each blocks, and the drives it will erase.

- **Every internal drive is selected**, with model, size, serial and the method it will get.
- **Keeping a drive out** records it as skipped by that operator, never as erased. A program can lock the toggle on.
- **The PDP boot USB is never listed** and never erased.

Before the first unit. The Setup step of the Start wizard shows what the bench is configured for, read-only: facility, program, the test configuration for the platform, team and shift. Below it, a Network panel says whether Control Center is reachable and how fast. It is the first place to look when a record does not arrive.

THE OPERATOR FLOW

Automatic tests report themselves. The operator handles the rest, one card at a time.

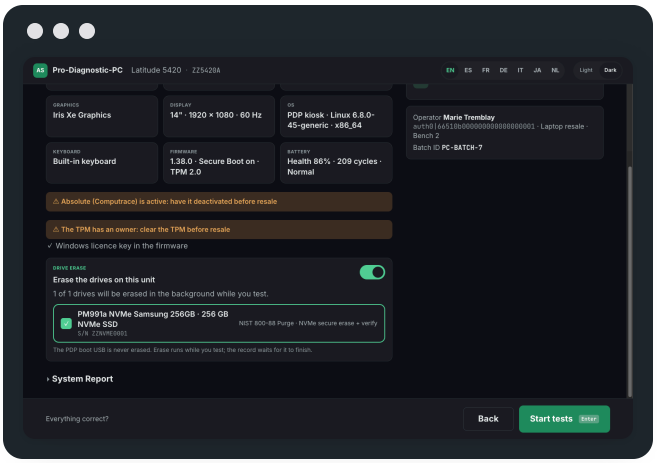


FIG. 2 Device → Drive erase on a PC. One NVMe drive selected for NIST 800-88 Purge; Absolute and TPM ownership reported as locks to clear before resale.

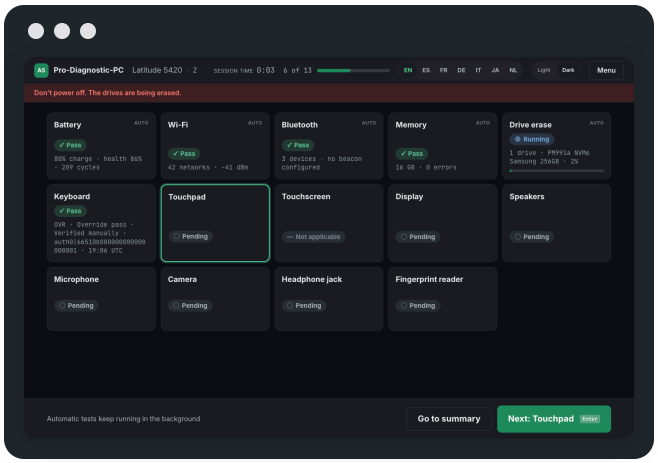


FIG. 3 Run dashboard. Battery, Wi-Fi, Bluetooth and Memory have passed on their own; the Drive erase card runs alongside the guided tests.

Failing a test opens the fail picker with the codes linked to that test in Control Center. The operator picks one or more and may add a note. A test that cannot be completed is handled by an override, which requires a reason and goes to QC with the operator and time. Every result is shown as an icon and a word, never a color alone.

The Summary lists every result with its detail and fail codes, and every override for QC. The operator can re-test the failed tests only, then picks the cosmetic grade (A, B, C, D or TBG by default, from the program). Picking a grade sends the record and prints the label. No other step is needed.

Done. On a PC, if the erase is still running when the grade is picked, PDP shows a walk-away screen; when the erase ends it sends the record and prints the label by itself. The Done screen shows the per-drive erase report.

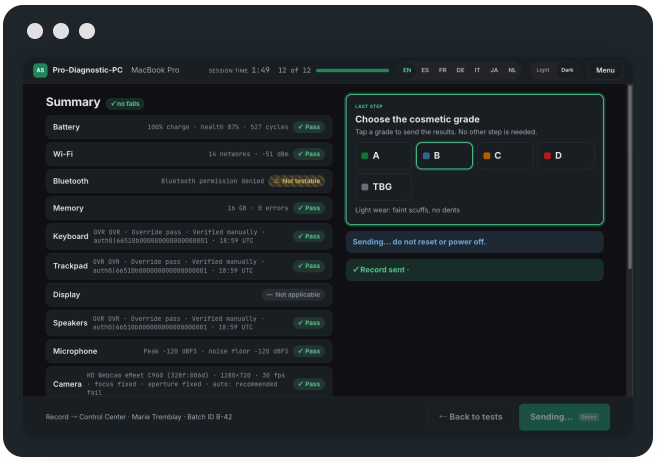


FIG. 4 Summary on a Mac: grade B chosen, record sent.

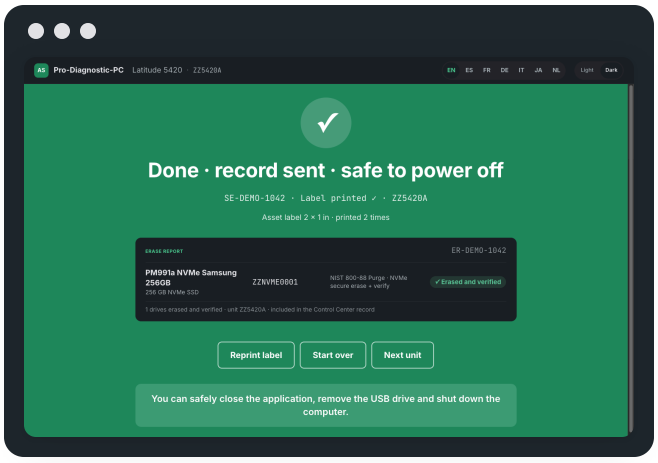


FIG. 5 Done on a PC: record sent, label printed, erase report shown.

MAC TEST CATALOGUE

23 tests on a Mac, seven categories.

The suite a customer runs is defined in Control Center, one for macOS and one for Linux, so a program may use any subset. Storage I/O is a Mac test because a PC's drive is being erased during the run.

⚡ Automatic — runs with no operator action Guided — operator-driven, one screen at a time

Audio · 4 tests

Speakers · Microphone · Headphone jack · Microphone and speaker self-test

Camera · 2 tests

Camera · Scan camera (QR code)

Display & input · 4 tests

Display (pixels, patterns, brightness) · Keyboard · Trackpad · Touchscreen

Battery & power · 2 tests

⚡ Battery health · Sleep / wake

Connectivity & ports · 4 tests

⚡ Wi-Fi · ⚡ Bluetooth · Ethernet · Ports (USB, Thunderbolt, charger, video out, SD)

Memory, storage & thermals · 3 tests

⚡ RAM pattern test · ⚡ Storage I/O (throughput and verified read-back) · ⚡ Stress / thermal

Sensors & identity · 4 tests

Ambient light sensor · Lid sensor · Touch ID · Serial check (scan and match)

How a few of them work

Display

Seventeen full-screen patterns: solid colors, gray uniformity, gradients, checkerboard, 1-px lines, small text, a brightness ramp and motion bars. The operator marks defects; more than two marks fails the test.

Keyboard

Every key turns green once pressed and released. A key held over 3 s is flagged stuck; a key that fires again within 60 ms of release is flagged chattering. Fn and Touch ID are confirmed on screen.

Camera

Opens the camera and checks stream, liveness, brightness, color tint and identity against the hardware scan, then recommends Pass or Fail. The operator confirms or changes it.

Touch ID

The system asks for a finger; PDP records pass or fail only and never reads or stores the fingerprint. A Mac with no sensor is recorded as Not applicable.

PC TEST CATALOGUE

25 tests on a PC, seven categories.

The PC list adds what PC hardware has and Macs do not: WWAN and GPS, orientation sensors, and a lock check for BIOS password, Absolute and TPM. Locks are reported, never removed or bypassed.

⚡ Automatic runs with no operator action Guided operator-driven, one screen at a time

Audio · 4 tests

Speakers · Microphone · Headphone jack · Microphone and speaker self-test

Camera · 2 tests

Camera · Scan camera (QR code)

Display & input · 4 tests

Display (pixels, patterns, brightness) · Keyboard · Trackpad · Touchscreen

Battery & power · 2 tests

⚡ Battery health · Sleep / wake

Connectivity & ports · 5 tests

⚡ Wi-Fi · ⚡ Bluetooth · ⚡ WWAN / GNSS (cellular modem and GPS) · Ethernet · Ports (USB, Type-C, charger, video out)

Memory & thermals · 2 tests

⚡ RAM pattern test · ⚡ Stress / thermal

Sensors, security & identity · 6 tests

⚡ Lock check — BIOS, Absolute, TPM · Ambient light sensor · Lid sensor · Orientation sensors (convertibles) · Fingerprint reader · Serial check (scan and match)

Results, fail codes and what the record keeps

Every test ends in one of six states, and only **Pass** counts as a pass: Pass, Fail with one or more fail codes, Skipped where the suite allows it, Not applicable when the unit lacks the part, Not testable when a permission or driver blocks it, and Blocked by an operator override. A model the customer's suite excludes is recorded as Skipped, never as a fail.

Fail codes, their titles and categories come from Control Center and are linked to tests; the operator only ever sees the codes for the test that failed.

AUTOMATIC TEST	PASSES WHEN
Battery	Health at or above the program's minimum, 80% by default
Wi-Fi	A network seen at or above the signal floor, −80 dBm by default
Bluetooth	A device found; a configured beacon seen above −85 dBm
Memory (RAM)	Pattern test for about 60 s, no memory errors
Locks (PC)	No BIOS password, Absolute not active, TPM not owned

DRIVE ERASURE · PC

Erasure that refuses rather than guesses.

Every internal drive, erased while the operator tests. NIST SP 800-88 Rev. 2 and IEEE 2883-2022 methods, a per-drive erase report, no certification claim.

METHOD	APPLIES TO	HOW IT WORKS	NIST LEVEL
NVMe secure erase + verify	`NVMe SSD`	The drive's own sanitize command, block erase or cryptographic erase, issued to the controller, then verified by read-back.	Purge
ATA sanitize + verify	`SATA SSD · SAS`	The drive's native sanitize, cryptographic scramble or block erase. SAS devices use SAS sanitize.	Purge
PRNG overwrite, 1 pass + verify	`HDD · eMMC · fallback`	A single pseudorandom overwrite of the full addressable space, used where sanitize is unsupported or where the drive's own sanitize failed.	Clear

VERIFICATION

The controller saying "done" is not trusted.

After erasure, the engine reads the drive back at sampled points across the whole disk: 1% of it by default, up to 4,096 points of 4 MiB each. Any point that still holds recoverable data fails the drive. A drive that could not be verified is UNVERIFIED, which counts as a failed erase, never as a pass.

And its limits.

Verification is sampled, not exhaustive. An under-wipe in the gaps between sample points is caught with probability, not certainty. A self-encrypting drive with a locked range cannot be read back; its verification fails, and a PSID revert is a separate physical step.

What the engine does, per drive

- **Every internal drive in one pass:** NVMe, SATA SSD and HDD. Opal revert, NVMe Sanitize, ATA Sanitize or overwrite, chosen per drive.
- **Purge where the drive supports it, Clear as the fallback**; the method is named on the report beside the serial.
- **Hidden areas (HPA) lifted** and the drive re-measured before an overwrite.
- **A skipped drive is recorded as skipped**, with who skipped it, never as erased.
- **The PDP boot stick is never erased**, and neither is the drive holding the pending-record queue.
- **RAID/VMD controllers that hide drives refuse the run** rather than under-erase.

When PDP refuses to erase

GATE	BEHAVIOR
No real serial	System, board and chassis serials all placeholders: erase refused.
Low battery	Below 25% on battery, the erase waits for a charger.
Frozen list	Drives fixed before erasure; serials re-checked just before writing.
Interruption	Nothing more is erased until an operator chooses: erase again, or record a failure.

RECORDS & REPORTING

No result is lost, and every result lands in the same Control Center as the phone bench.

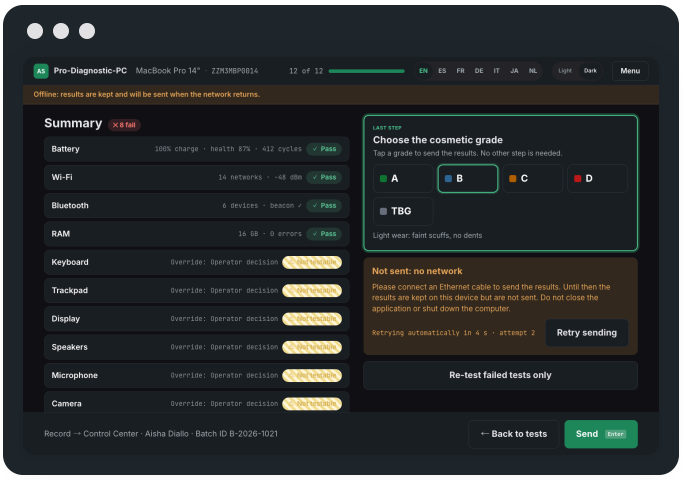


FIG. 6 Summary on a Mac with no network. The amber banner says results are kept; the record is queued and retried automatically until Control Center confirms it.

The offline queue. PDP is built to be online, but a run never depends on it. The record is written to disk first, on a PC to the stick's data partition, and deleted only after Control Center confirms it. With no network, an amber banner says so, the record waits in the queue and PDP retries every few seconds with a Retry now button.

If the operator quits with records waiting, PDP warns and offers to stay open. Records still waiting send the next time PDP starts with a network. A used stick that still holds unsent records cannot be re-flashed by our tooling until they have gone.

A record Control Center refuses outright is kept in a rejected folder for support and never deleted. A record is never lost; at worst it is duplicated.

Shared Control Center configuration and reporting

CONFIGURED ONCE

The program decides what the bench does.

Programs, service suites, a test suite per platform (macOS and Linux), fail codes, grading categories, custom fields, teams, shifts, operators and the label design are all read from Control Center at start. Per-model inclusion and exclusion keeps a test off hardware the image cannot drive.

ONE RECORD PER UNIT

What the record holds.

Identity (model, serials with their source, MAC addresses); hardware specifications (CPU, memory, storage with drives, graphics, display, battery, firmware, locks); every test with result, detail and fail codes; the grade and fail reason; every override with reason, operator and time; and on a PC the per-drive Data Wipe results and the Content Clearing roll-up.

REPORTING & API

Reach it the way you already do.

Records appear in Control Center like any other process run, looked up by serial or session. Per-unit history, operator audits and dashboards sit alongside the phone data. Every record is available through the REST Back-Office API and CSV/Excel export, and the erase report feeds the Content Cleared and Diagnostics certificate, public at verified.assetscience.com.

Licence key, not a login. A production bench is identified by a licence key in its configuration, one per company or warehouse and scoped to a facility. Revoking the key stops every stick that carries it; records already queued are kept and send once a valid key is in place.

HONEST SCOPE

We say exactly what covers what.

ADISA assurance level 4 applies to Pro-Diagnostics and MacRestore. Pro-Diagnostic PC & Mac is not ADISA certified. Its erasure follows NIST 800-88 Rev. 2 and IEEE 2883 methods, verifies by sampled read-back, and produces a per-drive erase report on every unit. Locks are reported, never removed or bypassed.

See it on your own laptops and desktops.

Talk to us about running Pro-Diagnostic PC & Mac on a bench in your facility, sharing the Control Center your phone stations already use. No proprietary hardware required.

GET STARTED
onboarding.assetscience.com

PUBLIC CERTIFICATES
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