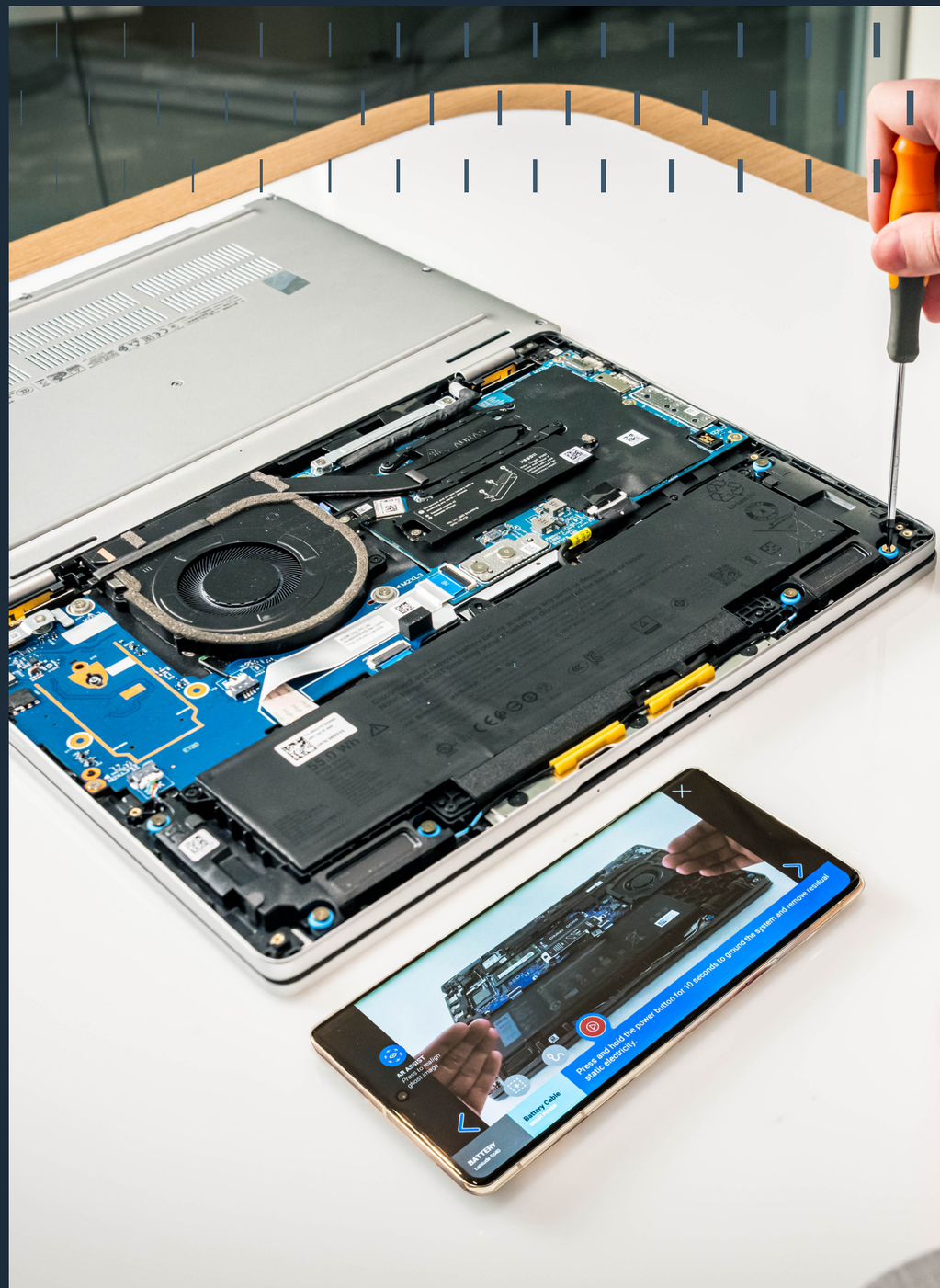
DELL Technologies

Built to last

Repair, durability, and modularity on Dell hardware



Design with repair and durability in mind

Designing for repair and durability isn't just good engineering—it's central to cutting environmental impact. Manufacturing new devices, especially emissions-heavy components like mainboards, consumes significant resources. By building products that are easy to repair, modular, and made to last, we reduce waste, avoid unnecessary replacements, and lower their total carbon footprint.

At Dell, these efforts support circularity initiatives while helping our customers benefit from extended life and value of their technology.

In the following pages, we'll explore how Dell is extending product life and reducing waste—starting with our approach to improve **repair and serviceability**. From there, we'll build on that foundation with innovations in **durability**, **modular design**, and **intentional resource use** throughout the product lifecycle.

Repair and serviceability

At Dell Technologies, advancing progress starts with building technology that lasts. We're committed to designing hardware that's not only powerful, but also easier to repair, maintain, and upgrade.

Through intentional design—we help extend product life, reduce downtime, and minimize waste. This approach empowers individuals and organizations alike to get more value from their technology while lowering their environmental impact.

Easy repairs and upgrades

Our approach to repair begins with smart, practical design. By creating modular and tool-less components, we ensure that repairs and upgrades are straightforward and efficient.

Key features

- **Streamline repairs:** Tool-less, modular components and intuitive designs ensure quick, hassle-free maintenance for IT teams and users.
- **Extend system value:** Durable construction and upgradable features keep systems performing optimally and adapting to changing needs.
- **Designed with circularity in mind:** Reduce hardware waste and extend product life to promote environmental and financial sustainability.

Learn More

Repair and serviceability

Repairability isn’t just about convenience—it’s a key strategy in our commitment to sustainability. Extending the life of devices reduces the need for replacements and helps avoid the emissions tied to manufacturing new equipment.

By making components accessible and upgrade-ready, we reduce e-waste and support responsible IT lifecycle management. Repairing high-impact parts like mainboards can dramatically cut emissions, costs, and resource use—all while keeping systems running at a high level.

Simplifying repairs with the Dell AR Assistant app

To make repair even more accessible, we developed the Dell AR Assistant app— a step-by-step augmented reality tool that guides users through common part replacements.

Whether you're managing a fleet of systems or maintaining a single device, the Dell AR Assistant makes it easier to take action and extend device life with confidence.

Key features

- **Visual guidance:** The app uses AR to overlay instructions on your device, making the repair process intuitive and hands-on.
- **Privacy-first:** No login required and no personal data stored.
- **Post-repair confidence:** Built-in diagnostics verify repairs and ensure systems are back to peak performance.

Download for Android

Download for IOS

Durability

PCs endure a variety of daily interactions, from morning coffee spills to accidental drops and bumps, that come with navigating crowded workspaces.

That's why Dell PCs are engineered for durability on every level, using resilient materials and purpose-driven design.

Whether in the office, on the road, or at home, our devices are stress-tested to keep users productive and protected, wherever work happens.

PCs

Dell client devices are built to meet the demands of everyday use while offering exceptional reliability and longevity. Designed for enhanced durability, these devices ensure consistent performance, even in challenging conditions.

Key features

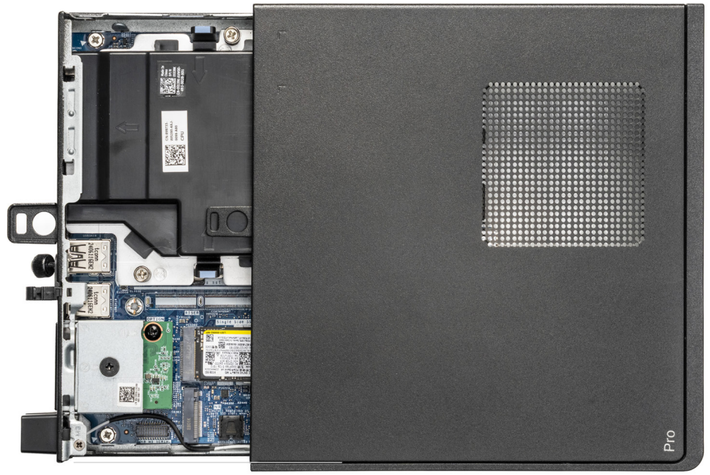
- **The world's first commercial PC designed with a modular USB-C port:** The modular USB-C port on Dell Pro laptops offers 4x better twist resistance[1] and 33x greater impact resistance. It can endure 10 times more cable pulls than Lenovo's and 3 times more than HP's soldered USB-C ports.[2]
- **Micro drop resistance:** Dell Pro 14 laptops are designed to withstand up to 4x more micro drops than competitor systems, offering reliable durability in real-world scenarios.[3]
- **Enhanced hinge durability:** Engineered for daily use, the Dell Pro 14 endures up to 3x more hinge cycles compared to competitor equivalents, ensuring long-lasting functionality.[4]

These robust features demonstrate Dell's commitment to delivering client devices that stand up to the rigors of everyday use, providing users with durable, dependable systems.

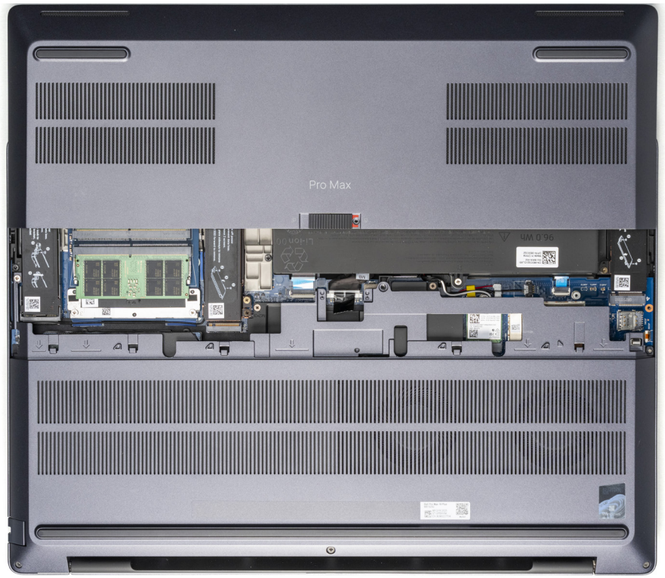
Watch the video

Modularity

Every workplace is unique, and so are its PC requirements. Dell's modular PC designs let users quickly add memory, boost storage, or refresh components as tasks and trends shift. That means longer life, simpler troubleshooting, and the ability to keep pace with new possibilities—without starting over from scratch.



Dell Pro Micro Desktop



Dell Pro Max Plus

PCs

Dell client PCs are designed with modularity in mind, making repairs and maintenance more efficient while enhancing durability. This design extends system lifespan while supporting sustainability and efficient maintenance.

Key features

- **Batteries** use fewer raw materials, include recycled content, and are easily replaceable.
- **Simplified cable connections** minimize damage and e-waste.
- **Modular components,** like memory and I/O boards, ensure easy replacement, boosting durability and adaptability.
- **Tool-less access** simplifies upgrades and repairs.

Dematerializing & resource optimization

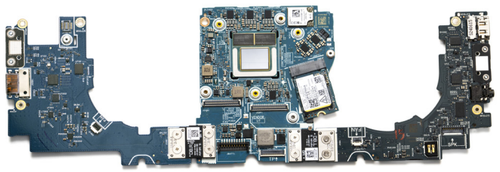
Reducing impact starts with using less—and using it smarter. Dell streamlines manufacturing, eliminates unnecessary materials, and simplifies components. This lowers resource use, reduces waste, and improves recyclability—without compromising performance or quality.

Intentional design in action

Our innovations reduce materials, waste, and complexity across Dell's portfolio. Dematerialization means achieving more with less through efficient design, responsible sourcing, and streamlined manufacturing. From servers to PCs, we aim for longevity, repairability, and reduced environmental impact at every stage.

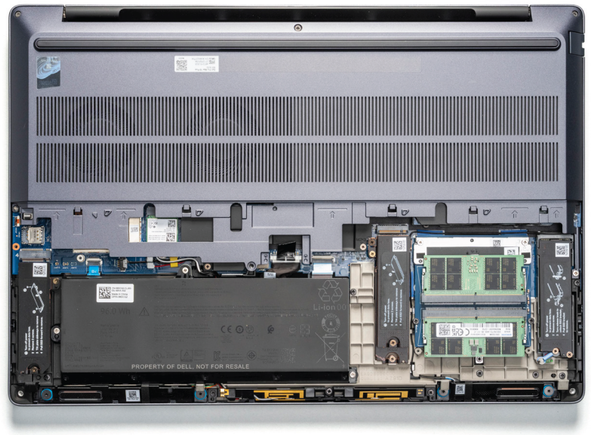
Dell Pro & Dell Pro Max devices:

Redesigned mainboard and I/O board are up to 29% smaller conserving materials.[5]



Simplified components:

Fewer parts enable easier recycling and lower environmental impact.



DELL Technologies

At Dell Technologies, we create innovative solutions that drive human progress while prioritizing sustainability. By championing circular design and reducing emissions, we empower individuals and organizations to achieve more, fostering a brighter, more sustainable future for all.

Learn more about product sustainability at
www.Dell.com/sustainable-devices

1 Applies to Dell Pro, Dell Pro Plus, and Dell Pro Premium notebooks launching in 2025. Based on internal comparison of the solder connection on Latitude 7450 vs screwed connection testing data of the Dell Pro Premium laptop subject to a standard repeated axial load and a standard wrenching torque in multiple directions. New USB-C port design is as screwed on connection for easier repairs and improved durability. Read warranty information for USB-C port replacement instructions.
2 Based on internal testing data of the Dell Pro 14 Plus, Lenovo ThinkPad T14 G5 and HP EliteBook 640 G11. Test conducted was a low force wrenching test (9 kgf) on the USB-C ports of the devices in 8 different directions for a repeated number of cycles.
3 Based on internal durability testing performed on Dell Pro 14 (March/May 2025) and HP EliteBook 640 G11 (November 2024).
4 Ibid.
5 Based on internal analysis, April 2025. Compares Dell Pro 14 Premium vs. Latitude 7x50 mainboard and I/O board size.