

Google & Repairability



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Introduction:

Repair is a critical component of Google's focus on enabling product longevity and sustainability

At Google, we believe we have a unique opportunity to drive positive action for people and our planet that extends beyond the environmental impacts of our own operations and value chain. Our products and platforms can empower people by making information accessible and by delivering capabilities that help make the more sustainable choice, an easier choice. Within our consumer hardware business, **we're working to empower everyone with more repair options to extend the useful lifespan of the hardware technology that has become so important in everyday life.**

Ensuring our hardware devices last longer, or “product longevity,” is key to our hardware sustainability strategy. **We want our devices to be used and valued for as long as possible** in order to drive customer savings and to reduce e-waste over time. First, longevity is fundamental to building more sustainable and circular business models to minimize our environmental impact. Secondly, **Google and our customers benefit most when our devices are durable and remain useful for as long as possible.** We care that our devices continue to deliver the best of Google through delightful, personalized experiences for many years to come. That's why our latest Pixel phones will enjoy at least **seven full years of software support** for Pixel 8 and 8 Pro, including the latest Android operating system, security updates and ongoing Feature Drops. Currently, this is the **longest software support commitment** of any major smartphone manufacturer.

One critical component of enabling product longevity is repair. **Google believes that users should have more control over repair—including access to the same documentation, parts and tools that original equipment manufacturer (OEM) repair channels have—which is often referred to as “Right to Repair” (R2R).** We strongly support initiatives that provide users with greater choice over the repair of their devices, that protect user safety and privacy, and that provide manufacturers with flexibility to drive innovation and to meet users' evolving needs.

Where We Are Today:

When we built the first Pixel phone eight years ago, we made a commitment to design our hardware products in a way that is sustainable and puts our users first. After just a few short years, **we're now pursuing an ambitious goal of net-zero emissions across our operations and value chain by 2030.** We aim to maximize the reuse of finite resources across our operations, products, and supply chains and enable others to do the same.

To meet this 2030 net-zero goal, our devices must be built to last. As a relative newcomer to the hardware industry, we continue to learn how best to innovate and serve users while managing the tradeoffs inherent in designing for longevity. **We've made significant investments throughout this journey—such as building out operational repair capabilities, extending software support,** and carrying out R&D projects to push the boundaries and better understand our users' needs for repair.¹

Today, we deliver an array of devices that not only combine thoughtfully made hardware, AI and software but are also fully supported for years to come. We're expanding our in-person retail and service offerings with our newest store in Mountain View, CA. **We partner with a growing network of small businesses and independent repair providers like uBreakiFix,** which has hundreds of locations across the U.S. and Canada supporting in-warranty and out-of-warranty Pixel phone repairs. We have similar partnerships with walk-in support providers around the world with more on the way. Pixel repair options are available in all countries where we sell Pixel phones.

To make repairs even more convenient, we offer free shipping on all mail-in repairs and are working to make repairs faster and easier. Google offers a one-year warranty on all our repairs so our users can be confident they'll receive a high-quality repair. As always, we offer customer support service, an online repair center, and an online community help center.

Where We Are Today:

Through our partnership with iFixit, launched in 2022, users can buy genuine spare parts and repair kits for Pixel 2 onwards across all markets where Pixel is sold. This partnership, alongside our other mail-in and authorized service provider repair channels, expands the choices customers have in Pixel phone repair. In addition to repair guidance offered through iFixit, we've started to make repair guides available in certain regions and intend to expand access to Google genuine parts, tools, fixtures and documentation.² To match our industry leading software support commitment, Google will also extend hardware support and make smartphone parts available for seven years.

We're excited about the future of hardware and will continue to make investments in sustainability, product longevity and repair. We'll be rolling out new features, guides, tools, software settings and diagnostics to exceed thoughtfully crafted emerging repair regulations and help our users repair their devices whenever and wherever.



Policy

Perspective:

At Google, we believe that **users should have more access to repair and greater control over technology**. We support thoughtful regulations towards these ends, and believe measures to enhance repairability should be guided by several core principles:

Ensure User Safety

User safety should be a top priority. Improper repair can be dangerous—especially if individuals use faulty parts or are unfamiliar with safety critical components, such as lithium ion batteries. Legislation should acknowledge the risks borne by unskilled repairers and allow original equipment manufacturers (OEM) to provide parts assemblies rather than individual components to reduce the risk of injury.

Manageable Product Scope

Right to Repair regulation should focus on:

- **Devices that are repaired by an OEM’s existing repair offerings³**

Right to Repair legislation in the United States is focused on leveling the playing field between OEM repair and independent repair offerings and putting consumers first, which we fully support.

To extend beyond this original scope in the future,⁴ policy makers might consider including specific device categories,⁵ including devices that are costly to replace and sold in large volumes,⁶ or including devices that would last meaningfully longer and lower consumer costs if subject to repair laws.⁷ Ideally, more devices should be designed with repair in mind, but building products for repairability is often a journey that takes time. By taking a careful approach, OEMs and policy makers can avoid potential tradeoffs or unintended outcomes,⁸ and meet users’ evolving needs and expectations.

Manageable Part Scope

Right to Repair regulation should focus on:

- **Parts that are provided by an OEM’s existing repair operations**

To extend beyond this original scope in the future, policy makers should consider common critical components for device-specific categories.

Security and Privacy Protections

User privacy and security should never be compromised during the repair process. OEMs should not be required to provide any passwords, security codes or materials to override security features on devices. At Google, we introduced “Repair Mode,” which helps users prevent access to all the data that’s on a device when it’s getting repaired, without the time-consuming process of backing up, wiping and restoring data. Users simply turn on this feature, hand the device to a repair technician, and then turn it off again when the device is returned.⁹

Design Flexibility

Focus on repair outcomes rather than design mandates. Well-intentioned regulations that set specific design requirements and standards in an effort to improve repairability may have unintended consequences that inhibit innovation and inadvertently lead to bad outcomes, such as more e-waste. Design-related policies for repair should focus on defining repairability outcomes rather than setting strict design standards.

Reasonable Implementation Period

Consumer electronics operate with lengthy product development timelines, often spanning years. New regulatory **measures should phase in on a sensible timeline** that ensures manufacturers can meet new requirements without undue burden. Regulations should not apply to products that are already designed and launched as such measures are problematic and may have negative unintended consequences, such as creating more e-waste.

Discourage Unfair Repair Practices

Policies should **constrain OEMs from imposing unfair anti-repair practices.** For example, parts-pairing, the practice of using software barriers to obstruct consumers and independent repair shops from replacing components, or other restrictive impediments to repair should be discouraged.



Alignment Across Regulatory Bodies

Policy measures **should align with existing rules across regulatory authorities** within a given country.¹⁰ Ideally, regulations should be standardized across geographies and markets to reduce consumer confusion and encourage investments in repairability.

Encourage Proper Disposal

Policies should **encourage repairers and recycling centers to recycle or to dispose of e-waste responsibly**. We believe repair can be an important mechanism to reduce the large and growing problem of e-waste. We already encourage our users to take advantage of our complimentary trade-in and device recycling programs and hope to make additional information available on how to properly dispose of parts and hazardous materials.



Endnotes

1. These include a modular smartphone investigation known as “Project Ara,” customer survey research and testing more repairable design architectures.
2. The regulatory context varies by region and certain locations require more work before we can release documentation. Google recently made available repair fixtures through a partnership in the U.S. with Shyft Global Services. This tooling is currently available for our Pixel 8, 8 Pro and Fold smartphones. Read more here: <https://blog.google/products/pixel/pixel-phone-repair-update/>.
3. This scope represents the Repair Association’s original legislative product scope and is still the scope widely seen in legislation in the United States.
4. Extending the scope in the future may eliminate a theoretical perverse incentive for brands to offer entirely unrepairable devices without repair offerings, which may harm consumers and exacerbate the e-waste problem.
5. For example, Europe’s Lot X targets mobile phones and tablets, and the French Repairability Index establishes device-specific repair categories for smartphones, laptops, televisions, washing machines and lawnmowers.
6. By focusing on large volume hardware, regulations are less likely to impact small, upstart hardware makers that are unable to distribute the fixed costs of setting up repair operations over many unit sales. (Note: We anticipate Google’s product volumes would surpass any reasonable volume threshold and therefore be subject to repair-related legislation.)
7. For example, there’s a good argument that, for some devices that very infrequently fail, spare parts would create excess waste and not enable those devices in aggregate to last meaningfully longer.
8. For example, the costs to consumers of enabling repair operations and supply chains may in some instances outweigh any product longevity benefits. Some products very infrequently fail; repair laws could make such products less durable, reliable or affordable. Certain repair operations may impose a net-negative environmental impact as well. Although these tradeoffs are real, as a practical matter, they are often hard to assess, even by the OEMs themselves, much less legislators. Policy makers might consider longer warranty periods as a way for products to gain exemption from R2R product scope.
9. For more information, see here: <https://support.google.com/pixelphone/answer/14266732>.
10. For example, the UL 1642 and UL 2054 standards for battery User-Replaceability may conflict with what certain emerging regulations require of OEMs.

