

Failing the Fix (2025)

GRADING LAPTOP AND CELLPHONE COMPANIES
ON THE FIXABILITY OF THEIR PRODUCTS



FAILING THE FIX (2025)

Grading laptop and cell phone companies on the fixability of their products



WRITTEN BY:

Stephanie Markowitz, U.S. PIRG Education Fund Lucas Rockett Gutterman, U.S. PIRG Education Fund

February 2025

Acknowledgements

The authors thank R.J. Cross, Don't Sell My Data Campaign Director, U.S. PIRG; Nathan Proctor, Senior Right to Repair Campaign Director, U.S. PIRG; Kyle Wiens, CEO, iFix It; and others for their contributions.

The authors bear responsibility for any factual errors.

© 2025 U.S. PIRG Education Fund. Some Rights Reserved. This work is licensed under a Creative Commons Attribution Non-Commercial No Derivatives 4.0 Unported License. To view the terms of this license, visit creativecommons.org/licenses/by-nc-nd/4.0.

U.S. PIRG Education Fund is an independent, non-partisan group that works for consumers and the public interest. Through research, public education and outreach, we serve as counterweights to the influence of powerful special interests that threaten Americans' health, safety or well-being. For more information, please visit www.uspirgedfund.org.

Repairability Scorecards

FAILING THE FIX 2025

Laptop Repairability



Manufacturer	Grade
/SUS	A-
acer	B+
DELL	B-
Microsoft	B-
SAMSUNG	B-
	C
	C-
Lenovo	F

We gave Lenovo an F because they failed to provide the full French repairability index for 12 of the 13 models (92%) available in both the U.S. and France. Because of this, we were only able to score one Lenovo device.

FAILING THE FIX 2025

Cellphone Repairability



Manufacturer	Grade
	В-
Google	В-
motorola	C+
SAMSUNG	C-

Executive Summary

Nobody walks into an electronics store and thinks, "I'm going to buy something that breaks." Our newly-updated scorecard helps you choose repairable phones and laptops from brands that support your Right to Repair.

Has this ever happened to you? You spend good money on a new device, expecting years of use—then it breaks, and fixing it is nearly impossible. Many phones and laptops on the market are designed to be so difficult to fix that they become essentially disposable once they start to malfunction. Consumers should be able to choose electronics knowing they are durable and fixable, but right now manufacturers and vendors aren't making that information easy to access or understand. How can we know which products are designed to last and which are destined for the dump?

This annual report calculates a repairability score for the most popular cellphone and laptop brands, and grades which manufacturers are designing devices to last and which are "Failing the Fix."

Since January of 2021, France has required companies to provide detailed information about how fixable consumer tech products are and to post an overall repair score once the product goes on sale, much like car fuel economy stickers in the U.S.¹ Our fourth edition of "Failing the Fix" reviews the detailed repair data from 104 devices and tracks changes in scores since our last report.

Overall, our scores have increased for cellphones, indicating that repair scores are continuing to incentivize manufacturers to design more repairable products. Unfortunately, improvement has not been consistent across product categories, as laptops are not becoming significantly more repairable according to several of our measurements. The French repair scores themselves are improving for laptops, but this unfortunately does not include the disassembly scores that measure how easy products are to open up and repair, and which we more heavily weigh in our methodology.

(See more in "Laptop Breakdown" and "Methodology" sections.)

Apple and Google are tied for the most repairable cellphones, both with a grade of B-. Motorola follows with a C+, then Samsung comes in last with a C-. For laptop manufacturers, ASUS leads in repairability with an A-; followed by Acer with a B+; Dell, Samsung, and Microsoft are tied for third each scoring a B- grade; followed by HP with a C; then Apple with a C-; and finally Lenovo in last with an F, as its lack of available documentation only allowed us to grade one device.

Some notable trends from last year have continued. ASUS and Acer continue to manufacture the most repairable laptops due largely to their ease of disassembly. While Apple continues to be in last place for laptop repairability (not including Lenovo, as we were only able to score one of its devices), it improved the most among cellphone manufacturers (alongside Google), surpassing last year's C to earn a B. Apple's higher marks partially result from a significant increase in the ease of disassembly of its products. We also expected this improvement given Apple's recent cooperation

with—and in some cases even support of—Right to Repair.³ (See more in "Cellphone Breakdown" section.)

Unfortunately, not all of the trends from last year have been positive. HP laptops, which decreased in repairability from 2023 to 2024, hardly improved at all this year. Repairability improvements in Lenovo and ASUS laptops have been slow and inconsistent over the past few years. Google phones, which had previously struggled to improve, got harder to fix this year. Motorola and Samsung phones have similarly failed to demonstrate consistent improvement. Year-to-year improvements in repairability are a step in the right direction, but we must evaluate a company's track record over multiple years to ensure these changes represent a consistent and lasting commitment to repairability.

Unrepairable devices are a problem for the environment and fuel a growing deluge of electronic waste. In 2022, the United States alone generated more than 7 million tons of e-waste, a number that's only getting bigger: The World Health Organization determined that e-waste is one of the fastest growing solid waste streams in the world, and the U.S. Environmental Protection Agency (EPA) reports that it is the fastest growing part of our domestic municipal waste stream.⁴

Fixable devices also benefit Americans looking to save money. A previous PIRG report found that the average American family spends nearly \$1,800 on new electronics per year, a number that has only been increasing. In other words, Americans could save a combined \$49.6 billion if they were able to repair instead of replace electronics and appliances.⁵

The detailed repairability information provided by manufacturers in France are composed of five categories which help consumers understand what challenges they could face during repair. Our report more heavily weights the disassembly category because we believe this better reflects what consumers think a repairability score indicates, and because the other categories can vary based on the country the consumer is shopping in—in other words, disassembly is the only category we know will be in the same in the U.S. as it is in France. Because consumers' ability to fix their devices is limited by efforts to stop the Right to Repair, our final grades also remove points from companies that are members of trade groups which lobby against repair legislation. Finally, we grant points to manufacturers that have actively supported Right to Repair legislation. (See more on our rationale in "Methodology" section.)

Consumers who want to purchase easily repairable products—and who want to avoid companies that fight against the Right to Repair—can use these grades as a starting point for comparison shopping. Similarly, repair scores encourage companies to design products that are repairable and compete on who has the most fixable products. Both these components need to be acknowledged in order to protect consumers and our planet.

France's Repairability Index

The European Union's Ecodesign Directive, established in 2009, sets goals to improve the environmental performance of consumer products around energy usage and sustainability by "bringing all products produced or sold in the EU in line with technical standards for sustainability." The European Parliament, as part of that directive, voted in November 2020 to approve new repairability measures, in order to address the rise in throwaway electronics. Part of that measure requires the European Union to create repairability and durability labels for consumer products, which the European Commission is tasked with developing, with the goal of addressing the shortening lifespans of electronics.

France debuted the first repairability scores in January 2021, ahead of an EU-wide law requiring other countries to follow suit. These labels are meant to incentivize manufacturers to abandon unsustainable design practices such as designing products that are impossible to repair, requiring proprietary tools, refusing to provide access to tools or service instructions, and other anti-repair tactics. The repairability index will be replaced by a durability index in 2025, but this has not yet been implemented for smartphones and laptops. The EU will also start providing a durability index by June 2025 for smartphones. Under the service in January 2021, ahead of an EU-wide law requiring other countries to abandon unsustainable design practices such as designing products that are impossible to repair, requiring proprietary tools, refusing to provide access to tools or service instructions, and other anti-repair tactics. The repairability index will be replaced by a durability index in 2025, but this has not yet been implemented for smartphones and laptops. The EU will also start providing a durability index by June 2025 for smartphones.

On behalf of Samsung, OpinionWay investigated how the French repairability index has influenced French consumer attitudes and behavior since its introduction on January 1, 2021. Among the key findings: 71% have heard about the index, and 86% say that the index impacts their purchasing behavior—including 8 out of 10 who indicated they would give up their favorite brand for a more repairable product.¹¹

These concerns resonate on both sides of the Atlantic. American consumers also expect to be able to repair devices, but without repair scores don't know which devices will meet their expectations. A 2021 study of U.S. consumers conducted by Aaron Perzanowski revealed consumers expect to be able to repair consumer electronics such as tablets, smart speakers, digital cameras, and smart refrigerators. "Across device categories, 83% of consumers agreed with the proposition that they have the right to repair devices they purchase themselves or to take them to the repair shop of their choice. 59% reported that they would be very or somewhat surprised to learn that a manufacturer limited their ability to repair a device they purchased." 12

The repairability index scores devices on five criteria, with a maximum score of 20 for each criterion. Those criteria are: availability of repair documentation (manuals and service guides), ease of disassembly (how easy or hard it is to open the device), availability of spare parts, affordability of spare parts (calculated as a percentage of the cost of the whole product), and a device-specific category. The scores for the five categories are then summed and divided by 10 to create a total score ranging from 0 to 10.

Our grade more heavily weighs the disassembly score, and deducts points for membership in anti-Right to Repair trade organizations. We grant points for each instance a manufacturer advocated in support of Right to Repair legislation. This edition of "Failing the Fix" reviews the top

10 most recent devices from each brand that were available for sale directly from manufacturers in January 2025.

(See more on our rationale in "Methodology" section.)

Laptop Breakdown

For the second year in a row, ASUS has the highest grade among laptop manufacturers with an A-. Second place is once again taken by Acer with a B+; Dell and Samsung are tied for third each scoring a B- grade; followed by Microsoft with a B-; then HP with a C; then Apple with a C-; and finally Lenovo in last with an F, as its lack of available documentation only allowed us to grade one device. We also removed points for membership in trade associations that fight against the Right to Repair, with Apple, Dell, Google, HP, and Samsung all losing a full point for membership in both TechNet and the CTA, while ASUS, Lenovo, and Microsoft lost half a point for their membership in one of these anti-repair associations. Finally, we added 0.25 points for each piece of Right to Repair legislation supported by a manufacturer in the last year. Apple and Microsoft each earned a quarter point for this reason, as they supported Right to Repair bills in California and Washington, respectively.¹³

(See more on lobbying scores in "Methodology" section.)

Laptop Manufacturers	Scored Devices	Total score	Average FR score	Disassembly Total	Disassembly average (out of 10)	Lobbying Modification	Grade	Letter Grade
Acer	10	71.0	7.1	161	8.0	0	7.6	B+
Apple	10	68.8	6.9	97	4.9	-0.75	5.1	C-
ASUS	10	83.2	8.3	172	8.6	-0.5	8.0	A-
Dell	10	72.3	7.2	167	8.3	-1	6.8	B-
HP	9	53.5	5.9	143	7.9	-1	5.9	С
Lenovo	1*	7.3	7.3	14	7	-0.5		F*
Microsoft	10	62.3	6.2	144	7.2	-0.25	6.5	B-
Samsung	10	84.5	8.4	145	7.2	-1	6.8	B-
average			7.2		7.4		6.7	

Table 1: Laptop manufacturer scores overview

Drilling down further into the five different categories within the French repairability index provides additional insight into where manufacturers excel or lag in terms of supporting repair. We can see that the average French repair score across manufacturers increased slightly from 6.9 in last year's edition to 7.2 this year, as did the average disassembly score across manufacturers, going from last year's 7.3 to 7.4 this year. This indicates that overall, manufacturers' progress toward repairability has been nearly stagnant. This is further demonstrated by the fact that this is not a consistent upward trajectory: Last year, we saw the average laptop disassembly score decrease from 2023 to 2024. We weigh the disassembly category more heavily than the others in our manufacturer grades given that we believe it most accurately represents the concerns

^{*} We gave Lenovo an F because they failed to provide the full French repairability index for 12 of the 13 models (92%) available in both the U.S. and France. Because of this, we were only able to score one Lenovo device.

consumers have when considering repairability. (See more on our rationale in "Methodology" section.)

Laptop Manufacturers	FY25 Scored Devices	FY24 Scored Devices	FY25 Average FR score	FY24 Average FR score	FY25 Disassembly average (out of 10)	FY24 Disassembly average (out of 10)	FY25 Grade	FY24 Grade	Difference in Grades FY24-FY23
Acer	10	14	7.1	6.9	8.0	8.1	7.6	7.3	0.3
Apple	10	8	6.9	6.6	4.9	4.0	5.1	4.3	0.8
ASUS	10	14	8.3	7.4	8.6	9.1	8.0	7.7	0.2
Dell	10	48	7.2	7.5	8.3	7.6	6.8	6.3	0.5
НР	9	33	5.9	6.2	7.9	7.8	5.9	5.6	0.3
Lenovo	1	6	7.3	7.0	6.9	6.6		5.5	-5.5
Microsoft	10	6	6.2	6.4	7.2	8.0	6.5	6.3	0.2
Samsung	10		8.4		7.2		6.8		
average			7.2	6.9	7.4	7.3	6.7	6.2	

Table 2: Laptop manufacturer scores compared to last year's report

The following table compares the breakdown of this year's scores on the five categories that make up the overall French repair score with the results from last year's edition. We can see that the averages across manufacturers for documentation, disassembly, parts availability, parts pricing, and the final laptop-specific category have all increased. As previously noted, disassembly is the most important category in our analysis, but that category unfortunately saw only minimal improvement.

Laptop Manufacturers	FY25 Cat 1: Documentation	FY24 Cat 1: Documentation	FY25 Cat 2: Disassembly	FY24 Cat 2: Disassembly	FY25 Cat 3: Parts Availability	FY24 Cat 3: Parts Availability	FY25 Cat 4: Parts Pricing	FY24 Cat 4: Parts Pricing	FY25 Cat 5: Specific	FY24 Cat 5: Specific
Acer	18.0	16.9	16.1	16.1	14.5	13.9	2.4	2.1	20.0	19.8
Apple	15.4	15.4	9.7	8.0	12.8	13.2	10.9	9.8	20.0	20.0
ASUS	19.7	17.0	17.2	18.2	6.9	5.4	19.4	14.1	20.0	19.3
Dell	16.6	16.6	16.7	15.1	15.4	14.6	3.7	8.8	20.0	20.0
НР	17.8	17.9	15.8	15.7	5.3	4.9	0.6	3.0	20.0	20.0
Lenovo	18.5	18.5	13.7	13.2	14.1	14.1	7.0	4.5	20.0	20.0
Microsoft	15.4	15.4	14.4	16.0	9.2	8.1	7.8	8.7	15.5	15.5
Samsung	17.7		14.5		12.5		19.8		20.0	
average	17.3	16.8	14.8	14.6	11.2	10.6	7.4	7.3	19.4	19.2

Table 3: Laptop manufacturer scores category breakdown

Cellphone Breakdown

Apple and Google are now tied for most repairable cellphone manufacturer with B- grades, while Motorola is in second place with a C+. Samsung lags with a C-, as it did last year. All manufacturers besides Motorola lost a full point due to membership in both anti-Right to Repair trade associations, another trend that continues from last year. Google's high score—a positive trajectory continuing from previous years—is largely due to its support of Right to Repair legislation, which we factored into manufacturer scores for this year's edition. (See more on lobbying scores in "Methodology" section.)

Cellphone Manufacturers	Scored Devices		Average FR score	Disassembly Total	~	Lobbying Modification	Grade	Letter Grade
Apple	10	77.2	7.7	140	7.0	-0.75	6.6	B-
Google	10	80.5	8.0	104	5.2	0	6.6	B-
Motorola	4	26.4	6.6	52	6.5	-0.25	6.3	C+
Samsung	10	82.4	8.2	83	4.2	-1	5.2	C-
average			7.7		5.7		6.2	

Table 4: Cellphone manufacturer scores overview

The following table compares scores from last year's edition of "Failing the Fix" to this year. We can see that cellphone manufacturer grades are relatively similar to last year, staying relatively clustered due to a lack of change from Motorola since last edition as well as promising increases from Apple and Google. However, this 0.9 point increase represents a slower pace of improvement for Apple than in last year's report. Apple's improvement largely comes from its increase in ease of disassembly (the part of the French repairability index that is most relevant for consumers outside France).

Cellphone Manufacturers	FY25 Scored Devices	FY24 Scored Devices	FY25 Average FR score	FY24 Average FR score	FY25 Disassembly average (out of 10)	FY24 Disassembly average (out of 10)	FY25 Grade	FY24 Grade	Difference in Grades FY24-FY23
Apple	10	8	7.7	7.1	7.0	6.4	6.6	5.7	0.9
Google	10	6	8.0	7.5	5.2	5.9	6.6	5.7	0.9
Motorola	4	5	6.6	6.6	6.5	6.0	6.3	6.3	0.0
Samsung	10	16	8.2	8.2	4.2	4.2	5.2	5.0	0.2
average	8.5	8.75	7.7	7.4	5.7	5.6	6.2	5.7	

Table 5: Cellphone manufacturer scores compared to last year's report

Reviewing the following table, which compares the breakdown on the five categories that comprise the overall French repair score with the results from last year's edition, highlights improvements in the averages across manufacturers in all categories besides parts pricing. Across

the board, cellphones are getting more repairable with better documentation, more available spare parts, and easier disassembly.

Cellphone Manufacturers	FY25 Cat 1: Documentation	FY24 Cat 1: Documentation	FY25 Cat 2: Disassembly	FY24 Cat 2: Disassembly	FY25 Cat 3: Parts Availability	FY24 Cat 3: Parts Availability	FY25 Cat 4: Parts Pricing	Parts	FY25 Cat 5: Specific	FY24 Cat 5: Specific
Apple	16.3	14.6	14.0	12.7	16.7	14.1	10.1	10.0	20.0	20.0
Google	14.8	11.9	14.8	11.8	16.6	13.3	19.2	19.8	19.4	18.7
Motorola	13.8	13.8	13.8	12.0	5.3	5.3	16.0	16.8	18.0	18.0
Samsung	17.7	17.7	17.7	8.3	16.9	16.6	19.5	19.6	20.0	20.0
avg	15.7	14.5	15.1	11.2	13.9	12.3	16.2	16.5	19.4	19.2

Table 6: Cellphone manufacturer scores category breakdown

Conclusion

Cellphones are getting easier to open up and repair across the board. Manufacturers are showing progress in repair scores for documentation, spare part availability, and ease of disassembly. New support from industry leaders like Apple are producing the most repairable smartphones we've seen so far. The iPhone maker increased its cellphones' repairability by 0.9, tying with Google for the most improvement among cellphone manufacturers. This largely comes from Apple's 0.6 increase in the disassembly category average, indicating that newer iPhones are easier to take apart and fix.

Laptops aren't catching up with the times, as their repairability grades remain largely unchanged. There are a few industry standouts like ASUS and Acer when it comes to repairability, but laptop manufacturers run into the same problems of failing to prioritize consistent repairability over the years or demonstrate support for the Right to Repair. Companies like Google are beginning to show broader support for pro-repair legislation, but there's still a long way to go.

Some devices are not easily repairable, and it can be difficult to know which ones are hard to fix: Consumers should be able to access information about repairability and longevity as soon as a product goes on sale.

For a device to be repairable, it must be designed to facilitate repairs (such as being easy to disassemble) and have an ecosystem of support where users can access parts and documentation, in addition to giving consumers access to a range of repair businesses that can provide service. Repair scores give valuable information about the design of products and an indication of the support the manufacturer provides to the repair ecosystem. Our score further reflects membership in trade associations which fight against the Right To Repair as well as prior support of Right to Repair Legislation.

The long-term value of a product is tied to its ability to keep working over time. Consumers should therefore be able to know if the product they are purchasing is repairable, as it impacts the value of their purchase. There is a significant benefit for consumers to have access to this information as they make their purchases, especially because consumers are especially concerned about durability while comparison shopping. In a study by Avery Dennison, almost 30% of consumers ranked durability as a top three concern and 48% as a top five concern. Expairability transparency also increases incentives for manufacturers to make more repairable products, resulting in substantial and much-needed environmental benefits and e-waste reduction. Our report shows that some expensive models have low repair scores, while other more affordable models are very repairable—so price alone does not convey how repairable a product is, and therefore how long it will hold value.

FAILING THE FIX 2025

Product Comparison: 16" Laptops



Dell Inspiron 16 Laptop 5640 or 5645

Apple MacBook Pro 16" M2 Pro or M2 Max (Model A2780)





\$2499



Image source: Dell

20/20

6.5/20

<u>16</u>

FAILING THE FIX 2025

Product Comparison: 14" Laptops





Apple MacBook Pro 14" M2 Pro or M2 Max (Model A2779)





\$1999



19.5/20
(Disassembly score)

FAILING THE FIX 2025

Product Comparison: Low-End/Budget Cellphones



Motorola Moto G 5G, 2024

Samsung Galaxy A16 5G



\$199.99





\$199.99

SAMSUNG

Image source: Motorola

Google Pixel 9 Pro

<u>18</u>

FAILING THE FIX 2025

Product Comparison: High-End Cellphones









14.8/20

19

Software is being used to hinder repairability in several different ways.

Although newer iPhone models have been designed with more accessible hardware, software locks still make them increasingly difficult to repair. For example, while the iPhone 16 Pro features an improved modular design and more accessible replacement parts, repairs still require specialized tools, and the heat-activated battery adhesive may fail to comply with new EU

regulations.²⁰ Apple used to prevent fixers from using third-party replacement parts through detrimental "parts pairing restrictions."²¹ While the company has thankfully stopped this harmful practice, they aren't the only tech company using software to prevent repair, posing a growing problem for consumers and repair technicians.²²

Software support timelines can also pose a challenge to device longevity. Annufacturers often use software to push us back into the endless cycle of disposability and replacement. One way they do this is by ending software support after just a few years. Consumers deserve to know the support timeline or policy that guarantees the length of a product's software support; without this information, we're left in the dark about when a phone or laptop will reach its "death date," referring to when it's cut off from security updates or bug patches, thus dooming the device to eventual unusability. In some cases, manufacturers abandon devices completely, immediately rendering them nonfunctional even though consumers already spent their money on them. Software support timelines are not currently included in French repairs scores and therefore aren't tracked in the manufacturer grades in this report.

Right to Repair reforms and repair scores would help consumers fix their stuff.

State lawmakers and the federal government can take action to provide consumers with the information they need to choose repairable products. Many retailers and manufacturers already have these scores due to the French repair score policy and should voluntarily provide them to U.S. consumers.

Requiring companies to provide access to parts and service instructions, as well as any necessary software tools, would improve device repairability across the board and result in more products getting fixed, reducing the amount of electronic waste we produce. There is active Right to Repair legislation in 20 states, including the first electronics Right to Repair law in New York, the first law restricting a harmful software practice called "parts pairing" in Oregon, and multiple laws enshrining comprehensive repair rights in Colorado and Minnesota. At the federal level, the FTC has been increasing its investigations into manufacturers that fail to disclose expiration dates for their products' support, do not comply with nationwide warranty requirements, or that engage in anticompetitive repair practices.

By continuing to pass Right to Repair reforms at the state and national levels, we can ensure consumers can fix their products.

Nobody walks into an electronics store looking to buy something that breaks and can't be repaired or fixed. But right now we don't know which products are destined for the dump and which are designed to last. There needs to be a consistent repair score criteria that allows apples-to-apples comparisons, just like other successful labeling programs such as automobile fuel economy stickers. U.S. Right to Repair scores, similar to the scoring system in France used by this report, provide transparency in the marketplace by providing consumers with a simple way to compare repairability across products.

Methodology

This report compared scores from major cellphone and laptop manufacturers in order to capture trends over time. For the inaugural edition, in order to select which brands to compare, we reviewed popular laptop manufacturers in the American market, the top eight of which were HP, Dell, Apple, Acer, Lenovo, ASUS and Microsoft. This year, we chose to add Samsung to the list of laptop manufacturers according to more recent data on the most popular brands. For cellphones, we also reviewed popular brands in the U.S., the top four of which continue to be Apple, Samsung, Motorola and Google. Acer.

Grading Individual Devices

We followed a three-phase approach to collect individual device models from each manufacturer and score them.

Phase One: Devices included in this report must have been available in the U.S. for sale directly from the manufacturer's website. We included manufacturer-refurbished devices and those that were currently out of stock, but we didn't include devices that were only available from third-party retailers. We listed the 10 most recently released devices from each manufacturer that met this inclusion criteria. If a website did not allow us to sort devices by newest release, we sorted them by "Bestselling," or something similar. This ensures that our data reflects the repairability of the newest devices and those that are most prioritized by each brand, which allows us to more accurately compare our findings to previous data, and to globalize the repairability scores to the brand as a whole.

Brand	Sorting metric (used on brand website to collect list of American devices)			
Acer	Newest			
Apple	Default/featured (no other options)			
ASUS	Newest			
Dell	Relevance			
HP	Newest			
Lenovo	Newest			
Microsoft	Best selling			
Samsung	Newest			
Google	Default/featured (no other options)			
Motorola	Newest			

Table 7: Sorting metric used for laptop and cellphone manufacturers

Phase Two: We searched for each American device on French retailers to find the repair score breakdown PDF. This repairability index PDF contains five criteria with a maximum score of 20 for each criterion for a maximum possible total of 100 points. It then divides the total by 10 to get a final topline score out of ten. We searched for the full repair score breakdown PDF on the French version of the manufacturer's website and on third-party retailers <u>boulanger.com</u>, <u>amazon.fr</u>, and

<u>darty.com</u>. We did not include products for which we could not locate this detailed scoring information.

In order to ensure each American device model was the same as its French counterpart, we compared both "marketing names" (e.g. Zenbook S14) and model numbers, as the French PDFs might list either, depending on the device. Using this method, we were able to find exact matches for all of the models included in this report, either with identical model names or numbers (excluding an" -FR" or "-US" suffix sometimes used to denote country of sale).

According to our research, there were a number of products that were not sold in France, so we were therefore not able to find repair scores for those devices. For example, Motorola had very few cellphone models that are sold in both France and the U.S., which is why we were only able to score four devices from them. Manufacturers didn't receive any sort of deduction for U.S. models not being available in France. If we couldn't find a corresponding French model we marked this device as "Not for sale in France."

Phase Three: If we found the PDF for a specific device, we transcribed the five score categories. We calculated the topline French score ourselves using the same steps listed above, in case the topline score for the device was either misreported or rounded incorrectly.

Some brands provided a full list of all their French repair scores in one central place, while others posted it alongside each product individually. Motorola and Dell deserve credit for displaying their scores alongside each device, which is the preferred method as it allows consumers to easily review them while shopping.²⁸ Apple links to its scores on a less accessible support page rather than on the store listing for each device.²⁹

On the other hand, some French devices had no links to the full score breakdown, broken links, or links to documentation that didn't include the device's full repair index. Lenovo was the worst at providing complete scoring information, with missing repairability indexes for 12 of the 13 models (92%) available in both the U.S. and France. Because of this, we were only able to score one Lenovo device, which is why the manufacturer received an F grade.

Calculating manufacturer grades

Our overall process was similar to last year's edition with some changes: We introduced the addition of points for supporting Right to Repair legislation, and stopped deducting points for missing score PDFs. As we did last year, we gave significant weight to the physical ease of disassembling the product in calculating the final grade. Because a large portion of the French score measures access to repair manuals and spare parts, and that access can change over time or from country to country, we wanted the score to reflect the physical design of the product more prominently. We also believe this is what consumers generally expect a "repair score" to refer to. Each company grade averages the total French score and the isolated disassembly score from each device, and then deducts 0.5 points for each case of membership in TechNet or the CTA. This year, we also added 0.25 points for each piece of Right to Repair legislation supported by the testimony

of the manufacturer in the last year. The full deductions and additions for lobbying are listed below.

As we did in past years, although Lenovo owns Motorola, we decided against deducting Lenovo's trade association memberships from Motorola, since the brand has its own lobbying efforts and appears to act independently.

Companies	TechNet Membership -0.5 to grade	CTA Membership -0.5 to grade	Bills supported +.25 to grade	Bill Supported notes	Grade Modification
Acer	FALSE	FALSE	0		0
Apple	TRUE	TRUE	1	CA ³⁰	-0.75
ASUS	FALSE	TRUE	0		-0.5
Dell	TRUE	TRUE	0		-1
Google	TRUE	TRUE	4	PA, OR, CO, WA ³¹	0
HP	TRUE	TRUE	0		-1
Lenovo	FALSE	TRUE	0		-0.5
Motorola	FALSE	FALSE	0		0
Microsoft	FALSE	TRUE	1	WA ³²	-0.25
Samsung	TRUE	TRUE	0		-1

Table 8: Lobbying data for laptop and cellphone manufacturers

In terms of lobbying, Google's role as a champion of four pieces of Right to Repair legislation allowed it to recover from deduction for belonging to the anti-repair groups, and then some. $\frac{33}{4}$ Microsoft's legislative support in Washington gave it a small boost as well, while Apple's support for a California Right to Repair bill allowed it to recover 0.25 points after trade association deductions. $\frac{34}{4}$ The big losers of Right to Repair lobbying were HP, Samsung and Dell which all belong to both anti-repair groups while failing to support any repair legislation.

Our manufacturer grades, out of 10, were translated to letter grades using the following breakdown from the previous editions of this report:

9 or above	A+
8.5-8.99	Α
8.0-8.49	A-
7.5-7.99	B+
7.0-7.49	В
6.5-6.99	B-
6-6.49	C+
5.5-5.99	С

5-5.49	C-
4.5-4.99	D+
4-4.49	D
3.0-3.99	D-
2.99 or below	F

Table 9: Conversion chart for numerical score to letter grade

Endnotes

- 1. Anne Marie Green, "Landmark E.U. votes advances Right to Repair," December 9, 2020.
- 2. Danny Katz, "What is a repair score and why is Colorado calling for one?," January 24, 2024.
- 3. Nathan Proctor, "Apple debuts repair innovations, but will repair actually be easier?" U.S. PIRG, September 19, 2024.
- 4. United Nations Institute for Training and Research, "<u>Leading countries based on electronic wastegeneration worldwide in 2022</u>," Statista, March 2024.

World Health Organization, "Electronic waste (e-waste)," October 1, 2024.

Environmental Protection Agency, "<u>Helping Communities Manage Electronic Waste</u>," Overviews and Factsheets, June 1, 2021.

- 5. Nathan Proctor, "Repair saves families big," U.S. PIRG, April 4, 2023.
- 6. Danny Katz, "What is a repair score," January 24, 2024

Anne Marie Green, "Who doesn't want the Right to Repair? Companies worth over \$10 trillion," U.S. PIRG, May 3, 2021.

- 7. European Union, "Sustainable product policy & ecodesign," accessed February, 2022.
- 8. Christopher Pitchers and Aida Sanchez, "MEPs vote for easier phone repairs, potentially ending big tech's mending monopoly," EuroNews, Nov. 25, 2020.
- 9. Adele Chasson, "French repairability index: what to expect in January?" Repair.eu, Nov. 3, 2020.
- 10. Hannah Thompson, "New logo launches on (some) goods in France to show their durability," The Connexion, Jan. 9, 2025.
- 11. Samsung Newsroom France, "The French and the repairability index: an OpinionWay survey for Samsung," May 18, 2021.
- 12. Aaron Perzanowski, "Consumer Perceptions of the Right to Repair," Law Archive, May 1, 2020, https://doi.org/10.31228/osf.io/v48zc.
- 13. Lucas Gutterman and Shaam Beed, "What's Apple's stance on Right to Repair?" U.S. PIRG, December 15, 2023.

Colleen Kerr, "<u>Legislative progress creates a better future for Washington state</u>," Microsoft On the Issues, May 3, 2023.

- 14. Repair.org, "Championing Change: Google Wins 2024 Right to Repair Advocacy Award," November 7, 2024.
- 15. Tom Ryan, "Is Durability a More Sustainable Selling Point than Sustainability?" RetailWire, November 16, 2022.
- 16. Dell Inspiron product image:

https://www.dell.com/en-us/shop/dell-laptops/inspiron-16-laptop/spd/inspiron-16-5630-laptop/usichbts5630ggjr

Dell Inspiron product price:

https://www.dell.com/en-us/shop/dell-laptops/inspiron-16-laptop/spd/inspiron-16-5640-laptop/useichbts5640hdcc

Apple MacBook product image:

https://ipowerresale.com/products/apple-16-inch-macbook-pro-m2-pro-12-core-16gb-ram-512gb-flash-19-core-gpu-space-gray-grade-b

Apple MacBook product price:

https://www.apple.com/newsroom/2023/01/apple-unveils-macbook-pro-featuring-m2-pro-and-m2-max/17. ASUS Zenbook product image:

https://press.asus.com/news/press-releases/asus-ai-zenbook-s14-ultra-thin-oled-release/ASUS Zenbook product price:

https://web.archive.org/web/20240904183620/https://shop.asus.com/us/90nb14f4-m00620-asus-zenbook-s-14-ux5406.html

Apple MacBook product image: https://www.which.co.uk/reviews/laptops/apple-macbook-pro-14-2023 Apple MacBook product price:

https://www.apple.com/newsroom/2023/01/apple-unveils-macbook-pro-featuring-m2-pro-and-m2-max/

18. Motorola Moto G product image:

https://www.motorola.com/us/en/p/phones/moto-g/g-5g-gen-3/pmipmgl36mr?pn=PB0L0000US&srsltid=AfmBOorLmpocEYSrW8oEgGbmY68krGNYXrQTD6Be4K91gncRnxez1Vuk

Motorola Moto G product price:

 $\frac{https://www.motorola.com/us/en/p/phones/moto-g/g-5g-gen-3/pmipmgl36mr?pn=PB0L0000US\&srsltid=AfmBOorLmpocEYSrW8oEgGbmY68krGNYXrQTD6Be4K91gncRnxez1Vuk}{\label{eq:motorola.com/us/en/p/phones/moto-g/g-5g-gen-3/pmipmgl36mr?pn=PB0L0000US\&srsltid=AfmBOorLmpocEYSrW8oEgGbmY68krGNYXrQTD6Be4K91gncRnxez1Vuk}$

Samsung Galaxy product image:

https://www.samsung.com/us/smartphones/galaxy-a16/buy/galaxy-a16-5g-128gb-unlocked-sm-a166uzkax aa/

Samsung Galaxy product price:

https://www.samsung.com/us/smartphones/galaxy-a16/buy/galaxy-a16-5g-128gb-unlocked-sm-a166uzkax aa/

19. Apple iPhone product image:

https://www.apple.com/shop/buy-iphone/iphone-16?afid=p238%7Cs5Egpt12t-dc_mtid_20925d2q39172_pcrid_729420694454_pgrid_167776333592_pntwk_g_pchan_pexid_172088292424_ptid_kwd-25840297_75_&cid=wwa-us-kwgo-iphone--slid-K1Nhlzsn--Core-iPhone16-TradeIn2025-

Apple iPhone product price:

https://www.apple.com/shop/buy-iphone/iphone-16?afid=p238%7Cs5Egpt12t-dc_mtid_20925d2q39172 pcrid_729420694454_pgrid_167776333592_pntwk_g_pchan_pexid_172088292424_ptid_kwd-25840297 75_&cid=wwa-us-kwgo-iphone--slid-K1Nhlzsn--Core-iPhone16-TradeIn2025-

Google Pixel product image:

https://www.amazon.com/Google-Pixel-Pro-Unlocked-Smartphone/dp/B0D7HVCD91?th=1 Google Pixel product price:

https://store.google.com/config/pixel_9_pro?hl=en-US&selections=eyJwcm9kdWN0RmFtaWx5ljoiY0dsNFpXeGZPVjl3Y204PSIsInZhcmlhbnRzljpbWyl3liwiTVRFPSJdLFsiMilslk5BPT0iXSxbljEiLCJNalUyll0sWyl0liwiTVE9PSJdXSwidHJhZGVJbil6eyJzZWxlY3Rpb24iOjN9LCJwcmVmZXJyZWRDYXJlljoiVEhkMGRVRmoif0%3D%3D

- 20. Kyle Wiens, "More Modular Than Ever Before: iPhone 16 Pro and Pro Max Teardown," iFixIt, September 26, 2024.
- 21. Lucas Gutterman, "Why Did iFixit Downgrade its Score for the iPhone 14? Bad Software Makes It Impossible to Repair," U.S. PIRG, September 21, 2023.
- 22. Nathan Proctor, "Apple debuts repair innovations, but will repair actually be easier?" U.S. PIRG, September 19, 2024.

Lucas Gutterman, "Consumer Reports, U.S. PIRG, 15 other groups ask FTC to create clear guidance for 'software tethering'," U.S. PIRG, September 9, 2024.

- 23. Lucas Gutterman, "Refurbishers, repairers and recyclers call on the FCC to stop phone software locks," U.S. PIRG, July 30, 2024.
- 24. Nathan Proctor, "The State of Right to Repair," U.S. PIRG, January 23, 2025.

Nathan Proctor, "Already. 20 states have active Right to Repair legislation in 2025," U.S. PIRG, February 6, 2025.

25. Lucas Gutterman, "FTC, responding to PIRG and Consumer Reports letter, finds most smart products fail to disclose expiration dates," U.S. PIRG, November 27, 2024.

Will Sherwood, "Why is the FTC suing John Deere?" U.S. PIRG, January 17, 2025.

- 26. Umair Bashir, "Laptop ownership by brand in the U.S. as of December 2024," Statista, January 30, 2025.
- 27. Umair Bashir, "Most popular smartphone brands in the U.S. as of December 2024," Statista, January 30, 2025.
- 28. Motorola France, "afficher tous les smartphones | motorola FR Motorola France," accessed January 2025.

Dell France, "Ordinateurs portables," accessed January 2025.

- 29. Apple France, "Regulatory Information: Repairability Index, Technical Documentation," accessed January 2025.
- 30. Lucas Gutterman and Shaam Beed, "What's Apple's stance on Right to Repair?" U.S. PIRG, December 15, 2023.

31. Repair.org, "Championing Change: Google Wins 2024 Right to Repair Advocacy Award," November 7, 2024.

Kathryn Horvath, "Washington's Right to Repair bill is gaining steam," WashPIRG, February 7, 2025.

- 32. Maddie Stone, "Microsoft quietly supported legislation to make it easier to fix devices. Here's why that's a big deal." Grist, Apr 28, 2023.
- 33. Repair.org, "Championing Change," November 7, 2024.
- 34. Colleen Kerr, "Legislative progress," Microsoft On the Issues, May 3, 2023.

Lucas Gutterman and Shaam Beed, "What's Apple's stance on Right to Repair?" U.S. PIRG, December 15, 2023.