FROST & SULLIVAN

2024 COMPANY OF THE YEAR

IN THE NORTH
AMERICAN ELECTRICAL
AND ELECTRONICS
EQUIPMENT CIRCULAR
ECONOMY INDUSTRY

FROST & SULLIVAN

2024

PRACTICES



Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. HP excels in many of the criteria in the electrical and electronics equipment circular economy space.

AWARD CRITERIA	
Visionary Innovation & Performance	Customer Impact
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

Circular Economy: The Key to Achieving Market Sustainability

Technological advancements, an improved standard of living, a rise in disposable income, urbanization and industrialization, and the development and access to low-cost products have ushered in a new era of digitalization. However, these factors have contributed to mounting electronic waste (e-waste) volumes containing toxic materials like mercury and plastics with brominated flame retardants that harm humans, wildlife, and the environment when improperly disposed of.

Frost & Sullivan's research shows that global e-waste reached 59.4 million tons in 2022 and will grow at an annual compound rate of 2.6% to reach 74.7 million tons by 2030¹. The rise in electrical and electronics equipment (EEE) consumption will contribute to an added two million in average metric tons per year². Even more concerning, EEE components are non-biodegradable, accumulating in the environment and releasing greenhouse gases into the atmosphere; thus, businesses across the globe must incorporate strategies for supporting the EEE circular economy based on reuse, repair, and recycling.

In this context, HP uniquely leverages its expertise to meet market needs by creating an advanced circular economy for EEE through sustainable design, which extends product durability. Moreover, the company

¹ Global Electrical and Electronic Equipment (EEE) Reuse, Repair, and Recycling Market (Frost & Sullivan, 2023)

² Ibid.

promotes reuse through take back, refurbishment, and repair programs and allows material and component recovery through recycling. HP is well-positioned to capitalize on new growth opportunities, cementing its leadership in the EEE circular economy industry.

Contributing to a Greener Future Through Conscious Innovation

HP creates innovative products through a rigorous design process that focuses on improving the environmental performance of its products throughout its lifecycles. The company developed and refined these processes over 30 years, perfecting its approach. In 1992, HP launched a Design for the Environment

"HP estimates and improves its products' environmental impact using life cycle and carbon footprinting assessment. The company avoids harmful materials by considering published lists, customer preferences, regulations, and scientific analyses. As a result, HP sources renewable materials for products and packaging, aiming to eliminate 75% of single-use plastic by 2025."

- Silvana Rulet Best Practices Research Analyst program, now known as Design for Sustainability, that employs a science-based method to boost recycled material use and responsible chemistry to improve product repairability, reusability, and recyclability.

HP estimates and improves its products' environmental impact using life cycle and carbon footprinting assessment. The company avoids harmful materials by considering published lists, customer preferences, regulations, and scientific analyses. As a result, HP sources recycled and renewable materials for products and packaging, aiming to eliminate 75% of single-use plastic by 2025. Furthermore, products like LaserJet Enterprise Solutions and InkJet Printing Solutions comply with environmental standards set by ISO 14001³.

HP's business model has enabled it to offer optimization, renewal, and maintenance services that help prolong the life of its products, enhance the value acquired from natural resources, and reduce environmental impact. For instance, its Device Recovery Service provides commercial customers with secure and easy-to-use device collection and data sanitization services that enable responsible repurposing or recycling of technology.

Additionally, HP provides various custom and free recycling programs for used equipment, including a convenient HP and Samsung ink and toner cartridge recycling program located in 67 countries worldwide. As of December 2022, customers across the globe have returned over 1 billion print cartridges⁴, helping reduce the environmental impact of e-waste and greenhouse gas emissions. Additionally, the HP Planet Partners program repurposes and recycles the company's end-of-life products, including batteries, packaging, and home office equipment. This effort has resulted in more than 5.8 billion plastic bottles and 149 million plastic hangers recycled to produce new Original HP Ink and Toner cartridges.

The company also runs recycling plants in the United States and Germany that shred and sort inkjet cartridges for material recovery, much of which becomes new inkjet cartridges. Secondary processing facilities receive the plastic, combining it with Ocean Bound Plastic and other materials to create closed-loop recycled resins also used in HP's new products, such as the HP Elite Dragonfly laptop and the HP

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https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05048528

⁴ https://www8.hp.com/h20195/v2/GetPDF.aspx/c08636600.pdf

ZBook Create and ZBook studio notebooks⁵. Unrecyclable materials, such as foam and ink, fuel electricity in waste-to-energy incinerators, with metals sold on the scrap metal market.

With this sustainability focus, Frost & Sullivan expects HP to remain at the forefront of the EEE circular economy industry.

Roadmap to Success: Customer-centric, Continuous, Proactive

HP's approach goes beyond its extensive expertise and best-in-class capabilities, with customer value as a strategic imperative. The company has earned a sterling reputation for supporting customers' paths toward a circular economy. Sustainability is a guiding principle for HP, influencing all aspects of operations, from product design and manufacturing to customer service. In October 2023, the company announced a PC refurbishment program⁶, the first tool in a suite of services known as Renew Solutions. The program starts with notebooks and will expand to include other products, such as printers and collaboration equipment. It will launch globally in 2024 and involves an exhaustive refurbishment process, including memory enhancements and storage expansions. The devices will then undergo testing and inspection to

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- Paulina Blaszczyk Industry Analyst, Sustainability and Circular Economy ensure optimal performance and reliability. Studies have shown that refurbished products have a lower carbon footprint than new devices. Therefore, this program will help both HP and customers across the globe reduce harmful emissions and reach sustainability goals.

HP builds its products and services by collaborating closely with various stakeholders and partners to evolve alongside market needs and trends. The company is a technical partner to Project STOP, an organization dedicated to advancing circular economy solutions that eliminate ocean and environmental plastic pollution in Southeast Asia. Furthermore, HP has partnerships with Homeboy Electronics Recycling (Homeboy) to provide employment opportunities for vulnerable communities. Homeboy's warehouses receive shipments of the end-of-service printers, and

their employees manually disassemble the products, separating the plastics that can be recycled and repurposed.

In 2022, HP joined the Circular Electronics Partnership, an alignment of industry leaders who focus on contributing to a greener future by applying circular solutions, such as promoting the use of recycled steel in electronics. The company also follows multiple policies and guidelines, including the HP Standard 011 General Specification for the Environment⁷, defining environmental requirements across the value chain

⁵ https://www.hp.com/us-en/shop/tech-takes/hp-computers-made-with-oceanbound-plastics

⁶ https://press.hp.com/us/en/blogs/2023/driving-circular-economy-device-refurbishment.html

⁷ https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05998906

for HP brand products, and the Circularity Accounting Manual⁸, compliant with ISO 59020. Moreover, the company adheres to producer responsibility regulations set by the European Union's Waste from Electrical and Electronic Equipment Directive (WEEE) and end-of-life government policies in North America, South America, Asia, Africa, and the Middle East.

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Conclusion

HP has developed an innovative design process focused on improving the environmental performance of its products throughout their life cycles. The company employs science-based methods that increase the use of recycled materials, responsible chemistry, and renewable materials to reduce environmental impact while offering optimization, renewal, and maintenance services to help prolong the life of its products.

Overall, HP addresses environmental challenges with a strong leadership focus that incorporates customer-centric strategies and exemplifies best practice implementation. HP provides worldwide customers with recycling programs and runs recycling facilities that help decrease electronic waste and harmful emissions. The company remains a trusted partner, joining forces with organizations like Homeboy and Project STOP. Moreover, it is a part of the Circular Electronics Partnership and complies with industry standards (e.g., ISO 59020 and ISO 14001) and regulations set by the WEEE. This approach has earned the company a reputation for offering the overall best in the electrical and electronics equipment (EEE) circular economy industry.

HP earns Frost & Sullivan's 2024 North America Company of the Year Award for its strong overall performance in the EEE circular economy industry.

⁸ https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c08138412

What You Need to Know about the Company of the Year Recognition

Frost & Sullivan's Company of the Year Award is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Award Analysis

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

Visionary Scenarios Through Mega Trends:

Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Mega Trends, thereby enabling first-to-market solutions and new growth opportunities

Leadership Focus: Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

Best Practices Implementation: Best-in-class implementation is characterized by processes, tools, or activities that generate a consistent and repeatable level of success

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator $^{\text{TM}}$.

Learn more.

Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- Growth Strategies: Proven Best Practices
- Innovation Culture: Optimized Customer Experience
- ROI & Margin: Implementation Excellence
- Transformational Growth: Industry Leadership

OPPORTUNITY UNIVERSE Capture full range of growth opportunities and prioritize them based on key criteria OPPORTUNITY UNIVERSE Capture full range of growth opportunities and prioritize them based on key criteria OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis of prioritized opportunities IMPLEMENTATION Execute strategic plan with milestones, targets, owners and deadlines OPPORTUNITY TO ANALYSIS OPPORTUNI

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)

