

Moving innovation forward

Executive Summary—2024 Sustainability Report
September 19, 2024

“GE Aerospace technology is central to achieving the industry’s long-term climate goal of net zero carbon emissions. This is both an incredible responsibility and an unparalleled opportunity to advance a safer and more sustainable future.”



H. Lawrence Culp, Jr.
Chief Executive Officer,
GE Aerospace

“Our path forward is clear. We will continue to leverage our rich heritage of innovation to revolutionize the aircraft engine, and beyond. We will drive progress in reducing emissions, collaborating across the industry to meet our goals, and working closely with our employees, peers, and government partners to rise to the challenge of creating a more sustainable future of flight.”



Christoph Pereira
Chief Executive Officer, Aerospace
Carbon Solutions (ACS) and Sustainability,
GE Aerospace



Our global reach

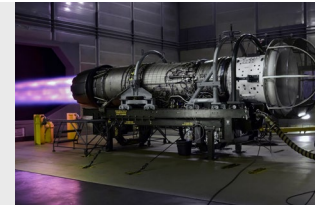
3 out of 4

commercial flights are powered by GE Aerospace or partner engines¹



\$2.3B

2023 invested in aerospace research and development²



~52k

employees



UN SDGs

The United Nations Sustainable Development Goals (UN SDGs) are an interlinked agenda of 17 objectives to help address humanity’s most pressing global challenges, from climate change to inequality. We have been a signatory to the UN Global Compact since 2008, and we consider the following SDGs:



Learn more about our Sustainability Report suite. [➔](#)

Blade pictured to the right is GE9X front view.

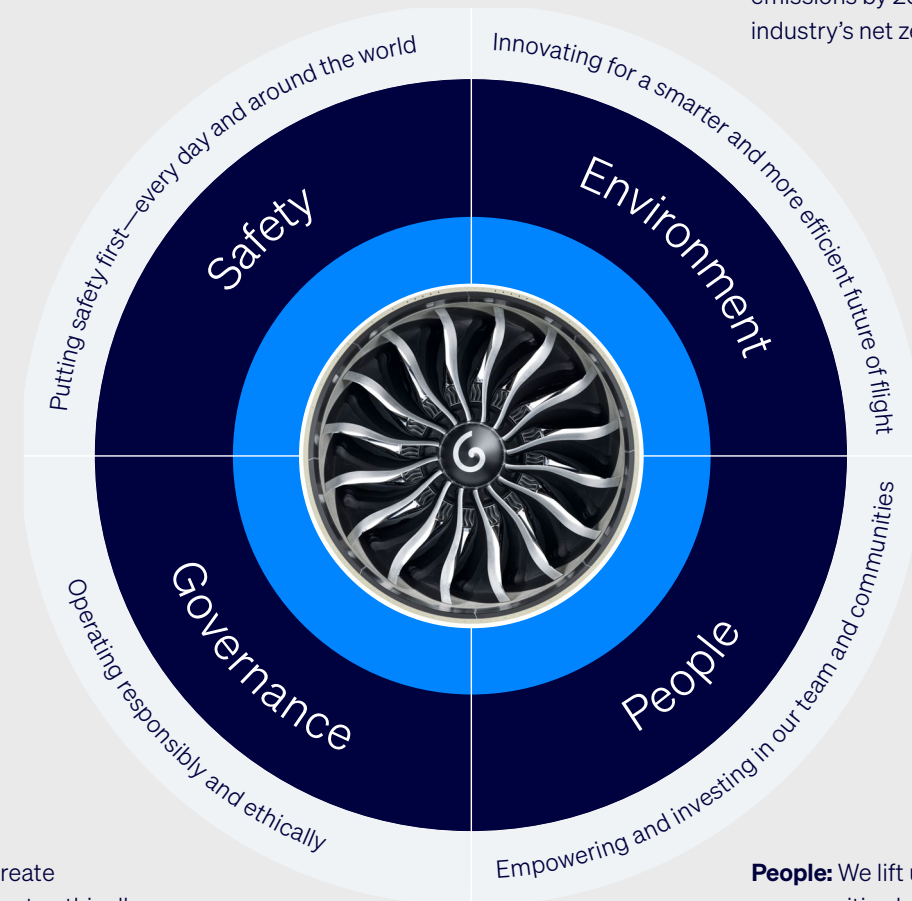
¹ Includes equipment made by GE Aerospace and joint ventures.
² Amount represents aerospace research and development as reported in our 2023 Form 10-K and includes customers and partner funding.

Our sustainability framework

Our sustainability approach is aligned with the company’s purpose to invent the future of flight, lift people up, and bring them home safely.

Safety: We put safety first and look to continuously improve our products, processes, and operations.

Environment: We build on the spirit of invention that has fueled us for over a century to help achieve net zero carbon for Scope 1 and 2 operational emissions by 2030 and propel the industry’s net zero by 2050 ambition.



Governance: We create accountability, operate ethically, and balance the needs of our stakeholders while supporting risk management and long-term value.

People: We lift up people and communities by working hard to foster a more equitable and prosperous society.

Putting safety first

Our operating framework at GE Aerospace is SQDC: safety, quality, delivery, and cost—in that order, for a reason. As safe as aviation has become, we are never done. Our approach is focused on continuous improvement.

- Our strong product safety focus is incorporated in our Safety Management System (SMS). In 2013, we became the first aerospace manufacturer to voluntarily implement an SMS. In 2017, GE Aerospace's SMS was the first established by a product original equipment manufacturer (OEM) to be accepted by the FAA.
- In 2023, we had zero engine-related incidents posing serious risk, improving on a five-year average of 0.04 incidents per million departures.
- Every individual is empowered and encouraged to take responsibility for creating a safe and healthy working environment, and to speak up if they have any concerns about health and safety matters. We embrace continuous improvement through an industry-leading EHS program, driving operational engagement, building robust EHS policies, and implementing systemic solutions.

“Putting safety first requires that all of us at GE Aerospace create and uphold a strong safety culture. That means one where employees are encouraged to raise concerns and feel comfortable doing so. It’s in this spirit that we seek to continuously improve our products, processes, and operations.”



Chris Lorence
Chief Engineer,
GE Aerospace

Environment: Accelerating smart innovation



Rendering of CFM International's Open Fan engine architecture being developed as part of the RISE technology demonstration program for next-generation commercial engines.

Our ambition is to achieve net zero by 2050 for Scope 3 carbon emissions from the use of sold products for commercial engines.

- **Current technologies:** With advances in engine architecture, aerodynamics, and advanced materials, today's commercial aircraft engines consume 40% less fuel and emit 40% less carbon emissions than engines manufactured in the 1970s and 1980s.
- **Future technologies:** CFM International's³ Revolutionary Innovation for Sustainable Engines (RISE)⁴—one of the largest technology demonstration programs in company history—will mature and develop a range of disruptive technologies with several goals in mind. These include more than 20% better fuel efficiency and 20% lower carbon emissions compared to the most efficient commercial engines in service today, as well as compatibility with alternative energy sources such as Sustainable Aviation Fuel (SAF).
- GE Aerospace supports initiatives for the wider near- and long-term adoption of SAF. GE Aerospace and partner engines can operate on 100% drop-in SAF once approved for commercial use.

- We have established an Aerospace Carbon Solutions (ACS) team to catalyze progress in SAF and high-quality carbon removal technologies, which will be essential to the industry achieving its decarbonization goals.

Our roadmap for the future of flight—2023 progress includes:

- Simulated Open Fan engine architecture performance using the world's fastest supercomputer
- More than 250 tests completed for CFM's RISE program, including first test of next-generation high-pressure turbine airfoils
- Awarded next phase of NASA contract for advanced engine compact core development
- Avio Aero launched the AMBER⁵ hybrid electric technology program to demonstrate an aviation propulsion system coupling a turbine engine with a fuel-cell powered electric motor
- Supported in-flight testing to evaluate SAF benefits on emissions and contrails

CFM RISE program

Advanced technologies and materials

Open Fan engine architecture

- Advanced architecture
- Step-change in propulsive efficiency compared to ducted fans
- Targeting lower noise levels compared to current engines

Compact engine core

- Next-generation compressor and high-pressure turbine technologies and materials
- Supercomputing-enabled aerodynamic design

Hybrid electric propulsion

- Developing megawatt-class hybrid electric powertrain
- Advancing higher power density/lower weight components

Alternative fuels

- RISE technologies being designed to be 100% SAF compatible
- Developing key building blocks for hydrogen fuel capability

³ CFM International is a 50/50 joint venture that produces CFM56 and LEAP engine families.

⁴ Revolutionary Innovation for Sustainable Engines (RISE) is a program of CFM International. CFM RISE is a registered trademark.

⁵ AMBER is a project funded under Clean Aviation Joint Undertaking, a successful public-private partnership between the European Commission and the European aeronautics industry.

250+
tests complete

20%
better fuel efficiency
target vs. today

2,000+
engineers worldwide across GE Aerospace
and Safran Aircraft Engines

Environment: Optimizing operations and compliance

Our goal is to achieve net zero carbon for Scope 1 and 2 operational emissions by 2030⁶ with an initial focus on energy efficiency and acceptance testing fuel efficiency, carbon-free electricity, and exploring low-carbon fuels. While we are focused on driving absolute reductions to achieve net zero, where necessary, we plan to balance remaining emissions with high-quality carbon credits.

23%

reduction in Scope 1 and 2 CO₂e emissions vs. 2019 base year

Reducing operational emissions



Improving efficiency

In 2023, GE Aerospace introduced a Carbon KPI focused on reducing carbon emissions at more than 60 sites across 15 countries.⁷



Carbon-free electricity

Our efforts focus on infrastructure investments and lean operations to improve energy efficiency and move toward sourcing more carbon-free electricity. The most recent installation, a 1 MW system delivering directly to our site in Brindisi, Italy, became operational in May 2024 and is expected to produce 1,860 MWh a year.



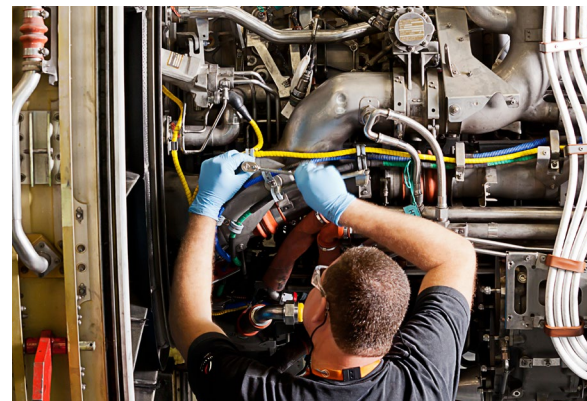
Low-carbon fuels

In 2024, GE Aerospace has been working toward procuring 250,000 gallons of blended SAF to be physically delivered to Peebles Test Operation and sustainable fuel certificates for 400,000 gallons of SAF, through book-and-claim.

Driving circularity

Circularity principles exist throughout a GE Aerospace engine's lifecycle: design, sourcing, manufacturing, product maintenance, repair, and overhaul (MRO), and end of life.

- Our circularity approach revolves around repairing and recovering metal within our value chain to the fullest extent possible to reduce waste across the product lifecycle.
- Optimizing use of repaired parts and reverting or recycling metal that cannot be repaired is key to reducing the upstream carbon footprint of our products and reliance on virgin materials.



GE Aerospace's repair business helps restore engine parts meeting airworthiness requirements.

⁶ Locations within GE Aerospace's operational control as defined by the GHG Protocol.

⁷ Sixty sites account for ~88% of our Scope 1 and 2 emissions attributable to site-specific operations. Excludes fleet, SF₆, jet fuel used for product testing, and de minimis amounts.

Empowering people and communities

We believe diverse teams and perspectives are essential to inventing the future of flight.

- Our Diversity, Equity, and Inclusion framework brings our vision to life. It focuses on building a workforce, fostering a culture that allows each person to reach their fullest potential, and equipping our people leaders to build the inclusive community we all aspire to work in.
- At GE Aerospace, we are proud of our long-standing commitment to fair and competitive pay practices. Our goal remains 100% pay equity and we achieved that in 2023.

Respecting human rights is a core part of our focus on integrity, with policies and standards embedded across our operations and value chain.

- Our Human Rights Statement of Principles reflects our commitment to respecting all internationally recognized human rights, including fundamental labor rights, by striving in good faith to identify and address human rights risks across our value chain.
- All suppliers and business partners must contractually commit to the [GE Aerospace Integrity Guide for Suppliers, Contractors, and Consultants](#).
- Lifting up local communities, the GE Aerospace Foundation was launched in May 2024 with \$22 million in new investments to support workforce development, disaster relief, and Next Engineers, a global college and career readiness program.

We are focused on attracting, developing, and retaining the best talent, by making learning and development opportunities available to all employees, wherever they are in their career.

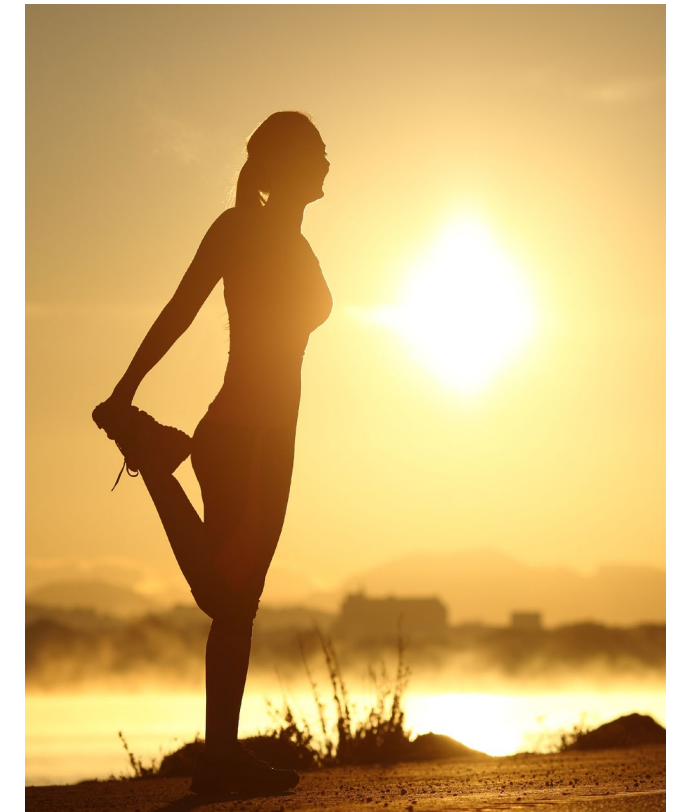
- Our development programs are two-year rotational programs dedicated to career-shaping experiences to grow talent in critical functions. These programs provide the primary path for university graduates into GE Aerospace careers.
- In 2023, we launched our [Leaders Innovating Flight for Tomorrow \(L.I.F.T.\) Summit](#) to widen our reach to diverse university talent across the United States.

“We are immensely proud to oversee this next chapter of philanthropic support with a focus on a stronger future workforce, disaster relief, and amplifying employee giving. We look forward to expanding our work supporting communities around the globe and advancing the development of a more diverse and skilled industry.”



Meghan Thurlow

President,
GE Aerospace Foundation



Governance: Operating responsibly and ethically

GE Aerospace is committed to maintaining a world-class compliance program with the goal of operating with compliance and unyielding integrity wherever we do business.

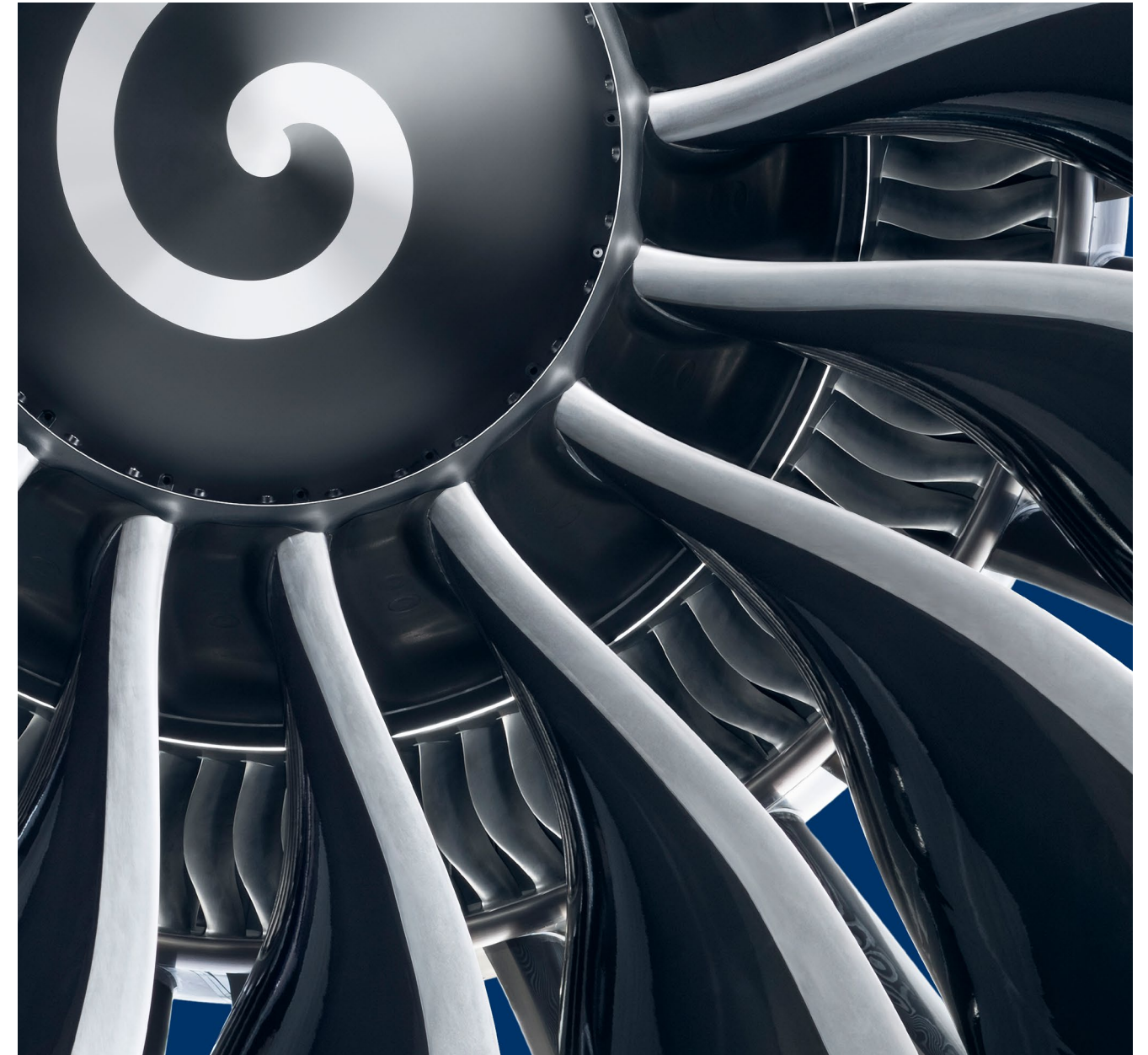
The GE Aerospace Board of Directors oversees the company's sustainability priorities and initiatives as an integrated part of our overall strategy and risk management. Because matters related to sustainability often span multiple functional categories and areas of oversight, they therefore involve discussion at the full Board level, as well as by individual committees, including the Governance and Audit Committees. The company's senior leadership team is responsible for developing our sustainability strategy and for the company's sustainability performance. It also reports to the Board and its committees on GE Aerospace's sustainability activities. Our sustainability function, which coordinates day-to-day sustainability-related activities, is led by the CEO of Aerospace Carbon Solutions and Sustainability.

- [The Spirit & The Letter](#) (S&L) is the company's Code of Conduct and is a key enabler of our commitment to compliance and integrity. Each policy contains clearly defined rules that all GE Aerospace employees are required to follow.
- GE Aerospace manages enterprise risk using a defined process, active leadership involvement, and robust governance practices. Our enterprise risk management framework includes a multi-tiered holistic review, performed quarterly, that is intended to inform our annual long-term strategy planning.

“The Spirit & The Letter serves as our compass for ethical conduct, reflecting our core values and supporting our long-standing tradition of unyielding integrity. These guiding principles and policies set forth our expectations of all employees and lay the foundation for sound decision-making, ensuring that we act in a compliant manner that is consistent with our Code of Conduct. By adopting these policies and behaviors, we create an environment where everyone can thrive and deliver the very best of GE Aerospace to our customers and partners.”



Melissa Kelly
Vice President & Chief Compliance Officer,
GE Aerospace



GE9X engine.