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Boeing biodiversity efforts are virtual with real impact

Boeing encouraged virtual volunteering for employees during the pandemic, including, Zooniverse — the largest platform for **people-powered research** where over a million volunteers assist professional researchers to amplify their biodiversity, and other work, to advance science and the humanities.

Why it matters: Organizations like Zooniverse accelerate important research by volunteers and professionals making real discoveries together. Boeing volunteers access photos captured in various habitats to identify species and their activities. The goal is to enable

research that would not be possible, or practical, otherwise. 2021 Environment Champion, Kristin Marshall, has organized monthly online Zooniverse events with employees.

Engagement in 2022: In 2022, 186 employees volunteered 420 hours through Zooniverse, spotting and identifying animals, and generating thousands of dollars in gift-matching by Boeing’s gift-match program.

It comes down to this: A wide range of animals, plants and microorganisms create the healthy ecosystems that all living beings depend on for clean air, land and water. This research results in new discoveries, data sets useful to the wider research community and many publications.

“Boeing’s work with Zooniverse underscores two important lessons. Many hands make light work and biodiversity reminds us that we’re part of something bigger than ourselves.”

Chris Raymond, Chief Sustainability Officer



Wildwatch Kenya tracks giraffes in Northern Kenya conservation areas, along with the other animals that share the habitat, like the plains zebra, to better understand the behavior, movements and population numbers of the wildlife found there. (Adobe photo)

Environmental Compliance is Good for Business, People and the Planet

A fundamental element of Boeing’s environmental policy is to maintain **regulatory compliance**. When noncompliance is identified in our environmental management systems, Boeing evaluates and analyzes the incident, implements corrective actions and shares process improvements to build the learning into the organization.

Boeing paid one significant environmental penalty in 2022, where “significant” is determined by a fine greater than \$10,000. At the end of 2021, stormwater samples collected at the Santa Susana Field Lab exceeded the site-specific permit limits for copper, chronic toxicity, iron, manganese, dioxin (TCDD), and biochemical oxygen demand (BOD) at one or more outfalls. The penalty incurred was \$22,000. The site experienced high-intensity rain events in the fourth quarter of 2021 that resulted in higher-than-normal rates of erosion from the site; the excess levels are believed to be attributable to natural sources — such as increased erosion of natural soils, decaying vegetation or waterfowl waste — and nonindustrial sources — such as road runoff and soils adjacent to telephone/utility poles. Excess copper and chronic toxicity were not attributed to an identifiable source and were episodic in nature where laboratory error was suspected.

On July 26, 2022, a significant rainfall event in the St. Louis region caused flooding that impacted the St. Louis site Industrial Wastewater Treatment Plant (IWTP). Floodwaters overtopped the IWTP, resulting in a release of untreated wastewater and associated sludges, as well as approximately 100 gallons of diesel fuel from a ruptured above-ground storage tank. The release was reported to the Missouri Department of Natural Resources, the National Response Center, and the St. Louis Metropolitan Sewer District, and appropriate response actions were completed after the flooding subsided.

Responsible Supply Chain

Responsible supply chain practices are key to advancing industry sustainability standards. It **requires transparency about business processes and supplied goods, meeting stakeholder expectations, addressing regulations, and creating positive environmental and social impact.** Boeing is driving a holistic approach to responsible supply chain practices that align with the Organisation for Economic Co-operation and Development's Due Diligence Guidance for Responsible Business Conduct.

In 2021, we co-founded an industry effort through the International Aerospace Environmental Group (IAEG) to establish a voluntary sectoral framework for ESG engagement, including assessment and awareness, throughout the aerospace manufacturing industry.

Ethical, responsible and sustainable business conduct is at the core of how Boeing operates. These core principles extend to our suppliers. The Boeing Supplier Code of Conduct, based on the International Forum on Business Ethical Conduct for the Aerospace and Defense Industry's model code, provides suppliers with a set of responsible business conduct expectations consistent with our policies, principles and sustainability efforts. [Read our Supplier Code of Conduct here.](#)

Stepping up for sustainability: Boeing deploys supplier assessments

Boeing is taking the next step to advance sustainability efforts by deploying an industry voluntary approach to sustainability assessments established by the IAEG and implemented by EcoVadis. This allows Boeing to address sustainability considerations in procurement processes and manage risk in its supply chain.

Why it matters:

- Boeing has an opportunity to help influence and drive positive sustainability change because of the size of its supply chain with more than 11,000 Tier-1 suppliers around the globe.



“Boeing seeks to ensure that our supply chain operates ethically, sources responsibly and creates economic opportunities for diverse communities. An **industry voluntary approach is key for efficiency and demonstrating ESG maturity to customers, investors and regulators.**”

William Ampofo, chair, Boeing Supply Chain Operations Council, and vice president, Parts & Distribution Services and Supply Chain, Boeing Global Services

- As an IAEG founding member, Boeing played a fundamental role in the selection of EcoVadis, a sustainability rating platform, to power an industry sustainability assessment approach.
- IAEG member companies participating in the sector initiative can access completed assessments to benchmark their suppliers' sustainability performance.
- Boeing's engagement in this industry approach reduces the supplier burden to complete multiple, unique assessment requests. Suppliers also can access educational materials to help drive sustainability improvements.

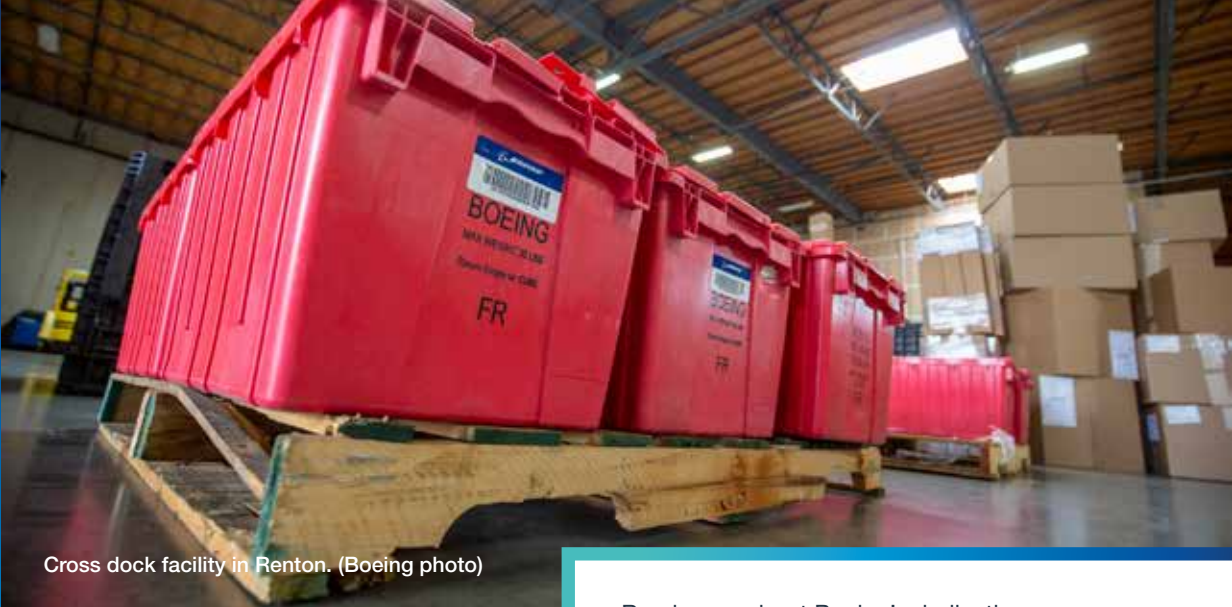
It comes down to this: Boeing is demonstrating its commitment to responsible aerospace in a collaborative manner and will continue to partner with industry associations to advance its responsible supply chain practices and deliver innovative solutions that will usher in the next era of sustainability progress.

Boeing Logistics Analyst Omur Muhittinoglu develops new processes and solutions to streamline the supply chain. (Boeing photo)

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Responsible supply chain: Advancing sustainability together

The big picture: How suppliers operate is just as important as how Boeing operates. Boeing is driving supply chain sustainability awareness and advances by collaborating with its supplier network and promoting responsible business practices.



Cross dock facility in Renton. (Boeing photo)

Read more about Boeing’s dedication to driving sustainability progress in the aerospace supply chain.



Lead through industry

- Founding member of the International Aerospace Environmental Group.
- Demonstrated commitment to collaborate, adopt and amplify industry solutions.



Lead by engagement and education

- Creating understandable, actionable educational materials.
- Driving enduring change by transparently addressing key topics, risks and opportunities.



Lead with commitment and reporting

- Benchmarking through voluntary standard assessments.
- Setting expectations for supplier sustainability performance.

11,000+ Tier-1 suppliers

229 tons of packaging waste diverted from landfill (2022)

114M pounds (51.7M kilograms) recycled aerospace titanium (2013-2022)

Global network and Tier-1 suppliers



Africa:	Asia:	Australia:	Europe:	Middle East:	North America: (Non-U.S.)	South America:	U.S.:
5+	215+	900+	570+	40+	515+	1	8,800+

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Boeing ships, stores and manages parts and supplies sustainably

Why it matters: Getting supplies from point A to point B in a large supply chain takes expertise. Add a passion for **reducing waste, maintaining quality, preventing workplace injuries and saving money**, and you’ve got what motivates Boeing’s Transportation, Warehousing & Logistics (TWL) team.

In 2022, TWL team members:

- **Eliminated packaging waste by converting from single-use and disposable packaging to reusable containers, preventing waste**, which resulted in 234 metric tons diverted from landfills. For example, certain 787 parts previously came in a roughly built, wooden crate that took six people to unload. TWL’s new reusable container is safer, allows faster processing and will prevent damage to parts. These 787 packaging improvements will result in 161 metric tons of crating wood diverted from landfills annually once fully implemented.



- **Repurposed and refurbished containers and carts saved 26 metric tons of containers and packaging materials.**
- **Prevented 18,500 cardboard boxes from being shipped to Puget Sound factories, saving time and eliminating material waste.** Consolidation centers continue to enable the use of generic reusable containers, such as shipping reusable containers through Southern California.
- Boeing also began using cross-docking — a logistics procedure where **products from a supplier or manufacturing plant are distributed directly to a customer with marginal to no handling or storage time.** **Cross-dock benefits include reduced transportation costs, fewer lost or damaged parts, and predictable pickup and delivery schedules.** As a result, 145 suppliers and Boeing sites across Commercial, Services and Defense businesses reduced transportation costs, standardized pickups and optimized transportation routes using cross-docks.
- Reduced GHG emissions — **Regional truck pickups consolidated shipments at the sorting center to better use long-haul trucks while reducing less-than-full shipments and transit time, which reduces GHG emissions.**

What’s next: The team continues to **optimize the Boeing logistics network by analyzing shipment volume, truck utilization, supplier distance from cross-docks, identifying consolidation opportunities and route changes on shipments from overseas suppliers.**

Boeing partners with service provider Universal Logistics at their cross-docking facilities in Renton, Washington; Compton, California; and Charleston, South Carolina, to provide the most efficient pickup and delivery of parts to enable manufacturing and assembly of aircraft. Universal Logistics employee Matthew Chea moves a recyclable wooden crate in Renton. (Boeing photo)



Edison Energy’s Chris Rader (senior Clean Energy adviser) and Julia Berg (director, Business Development) are part of the team that provides strategic sustainability services, energy management and clean energy supply advisory to Boeing. (Edison Energy photo)

2022 Sustainability Supplier of the Year: Edison Energy

Edison Energy received Boeing’s inaugural Sustainability Supplier of the Year award for its demonstrated leadership and partnership to help Boeing achieve its renewable energy and GHG emissions reductions. This partnership:

- Supported Boeing’s renewable procurement strategy, resulting in Boeing using 35% **renewable electricity** in 2022.
- Enabled several **Power Purchase Agreements** that will increase Boeing’s renewable energy use.
- Helped **develop a 15-year purchasing plan for energy purchases — with renewable energy being a requirement.**

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Supplier’s landmark delivery milestone showcases Boeing’s commitment to “Make in India”

Rossell Techsys, a supplier in Bengaluru, India, completed 120,000 deliveries of wire harnesses, electrical panels and modification kits for multiple Boeing defense programs. Boeing’s continued collaboration with suppliers and investment in India’s aerospace and defense ecosystem has helped **build local infrastructure, capabilities, workforce development and partnerships**, while harnessing the strength of Indian talent and its growing network of more than 300 suppliers.

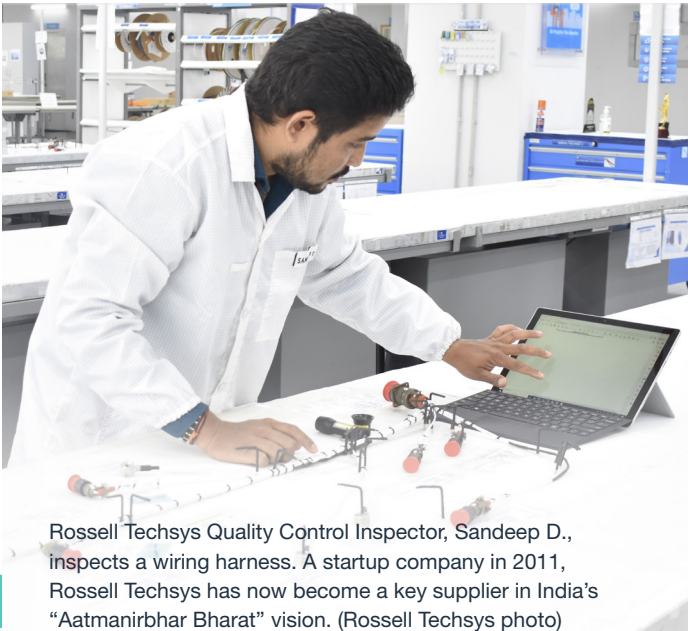
- Why it matters:** It’s producing positive results.
- Diverse suppliers¹ and small businesses² are vital to Boeing; their innovation, agility and ability to provide creative product and service solutions are essential to delivering greater value to customers.
 - Boeing’s partnership with Rossell Techsys demonstrates its commitment to small and diverse¹ businesses.

“Indian suppliers are integral to Boeing’s global supply chain. We work closely with our suppliers in India to support supply chain health, identify new ways to drive innovation and deliver greater value to our customers.”

Ashwani Bhargava, senior director,
Supply Chain Management, Boeing India

- Rossell Techsys, the Aerospace & Defense division of Rossell India Limited, was established in 2011, and is a key supplier in India’s “Aatmanirbhar Bharat” vision, promoting people native to the area and self-reliance in defense manufacturing.
- The company was the inaugural partner for Boeing’s “Skill India” initiative to train and develop Indian workers and students in aerospace skills. They also provide development opportunities for individuals with disabilities.
- Rossell Techsys received a Boeing Supplier of the Year Award in 2016 and 2019.

Next steps: Boeing will continue to collaborate with suppliers around the globe to create **an agile and resilient aerospace supply chain**, and **support a healthy, stable supply base reflective of the company’s global customers and communities**.

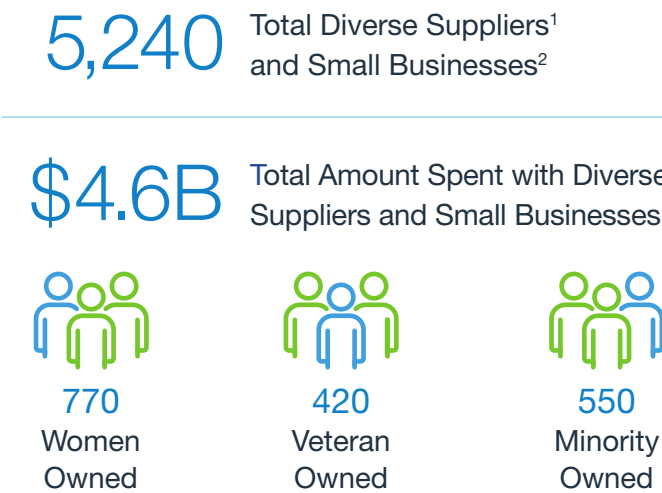


Rossell Techsys Quality Control Inspector, Sandeep D., inspects a wiring harness. A startup company in 2011, Rossell Techsys has now become a key supplier in India’s “Aatmanirbhar Bharat” vision. (Rossell Techsys photo)

Supplier diversity is essential to Boeing

Supplier diversity and small business utilization are key elements in responsible and sustainable supply chain practices. Boeing is committed to collaborating with and providing opportunities to diverse suppliers (including women-owned, veteran-owned and minority-owned businesses) and small businesses.

2022 Highlights



\$4.6B Total Amount Spent with Diverse Suppliers and Small Businesses

560+ New Diverse Suppliers and Small Businesses Onboarded

1. Diverse suppliers refer to women-owned, veteran-owned, minority-owned, LGBT-owned and disability-owned businesses (whether small or large).
2. Small business refers to a business that is independently owned and operated, is not dominant in the field of operations in which it is bidding and meets the North American Industry Classification System (NAICS) size standards and Code of Federal Regulations, Title 13, Part 121.