

Autodesk Foundation Impact Report FY22

A better world designed
and made for all

Image courtesy of Collin Hughes



Jean Shia



Christine Stoner

A message from Foundation Leadership

At a time when humanity is reeling—from the pandemic and its aftershocks to the scorching effects of climate change—we find reason to hope in the vision, tenacity, and innovation of the nonprofits and startups supported by the Autodesk Foundation.

Capital provided from Autodesk to the Autodesk Foundation provides early-stage, risk-tolerant and flexible funding along with capacity-building in-kind support to innovations with the potential to transform industries.

Last year the Autodesk Foundation continued investing financial capital, technology, and talent resources across our portfolio of nonprofits and startups. We also saw promising results across our three areas of focus: energy and materials, health and resilience, and work and prosperity. The nonprofits and startups we fund have forged solutions to our most pressing social and environmental challenges—leading the charge in reducing greenhouse gas emissions, improving resilience in communities most vulnerable to climate change, and preparing workers to thrive in an era of automation. Our capital is sparking industries to transition to more sustainable, resilient, and equitable ways of doing business. In this, our first Autodesk Foundation impact report, we share their stories and the measurable results of their work.

Consider construction startup BamCore, which is transforming the market for low-carbon building systems by creating the world's first global supply chain of prefabricated timber bamboo wall systems. By leaning into the Autodesk Foundation's comprehensive support, BamCore has tripled its fabrication rate, reduced installation time by 50%, and raised \$15 million in just two years' time.

For Bridges to Prosperity, a rural communities-focused nonprofit, we provided a working capital loan to equip them with the upfront resources they needed to keep scaling bridge construction in Uganda during the pandemic. This infusion of flexible funding allowed Bridges to Prosperity to overcome disrupted cash flow and build a track record of repayment to position them to tap into larger levels of investment as they grow.

Finally, the Autodesk Foundation's support of these and other organizations is leading to measurable impact. In fiscal year 2022, the Autodesk Foundation's global portfolio mitigated 1.4 million metric tons of CO₂e emissions. The portfolio reached more than 29 million people with resilient solutions in housing and infrastructure, energy access, agricultural productivity, and workforce development. Portfolio organizations placed nearly 14,900+ people in new or improved jobs, including ~90% (13,400) workers with a \$5,000 annual increase in income.

These are substantial successes, and we're excited to invite you to learn more about how we define and measure impact through the work of our portfolio organizations rising to meet the social and environmental challenges we face across the world. Truly tackling these challenges will require a journey of successes and failures from innovators who are relentless in their pursuit of impact. We are honored to play a role as the Foundation leadership team in supporting that journey.

Sincerely,

Christine Stoner

Executive Director, Autodesk Foundation

Jean Shia

Managing Director, Impact Investment and Management, Autodesk Foundation



Philanthropy

Autodesk engages in philanthropy through multiple avenues, driving progress toward a more sustainable, more equitable world.

Funding

\$9.7 million
in strategic philanthropy deployed by the Autodesk Foundation* during fiscal year 2022 to a portfolio of 45 nonprofits and startups globally (see right)

\$8.8 million[†]
in charitable contributions, including \$5.9 million by Autodesk, \$2.7 million Autodesk Foundation match of employee giving, and \$0.3 million Autodesk Foundation contributions for crisis response

Technology

Millions
of students and educators used Autodesk software at no charge to learn design and make skills

\$41.3 million
in Autodesk software donated to more than 2,600 nonprofits and startups worldwide

Talent

\$1.3 million
in employee volunteer hours, including Pro Bono Consulting volunteer hours[‡]

➔ See Autodesk's FY22 Impact Report for more information on education, employee impact at work and performance metrics.

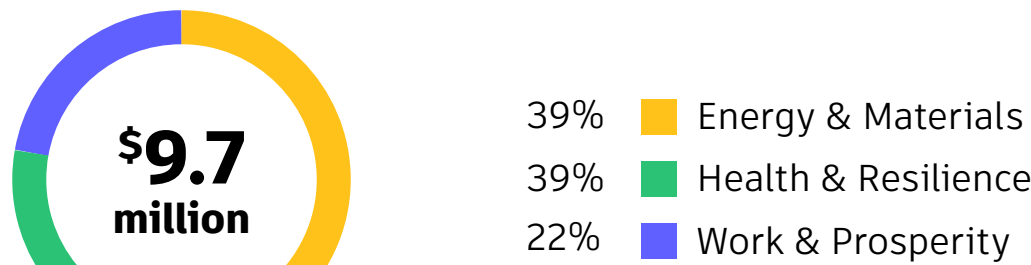
* The Autodesk Foundation funds its portfolio through a donor advised fund (DAF).
† This total does not equal the sum of the parts due to rounding.
‡ Value of volunteer hours aligns with annual valuation from Independent Sector (\$28.54 per hour was indexed in 2021). Value of employee Pro Bono Consulting volunteer hours (also included in this total) is based on hourly rates for various skills cited by [CECP](#).

The Autodesk Foundation: strategic philanthropy de-risking innovation

The Autodesk Foundation supports innovative solutions to the world’s most pressing social and environmental challenges. Through our deployment of catalytic capital, we help de-risk innovations that are transforming industries to be more sustainable, equitable, and resilient. The Autodesk Foundation combines financial capital with in-kind resources to catalyze and scale the next generation of innovations, ranging from direct carbon capture to rapid shelter solutions.

Autodesk’s current goal is to donate 1% of its operating margin to the Autodesk Foundation.

Capital committed to Autodesk Foundation portfolio, FY22



See stories of how our portfolio of nonprofits and startups catalyze innovation in the areas of [Energy & Materials](#), [Health & Resilience](#), and [Work & Prosperity](#).

Autodesk Foundation portfolio impact

In fiscal year 2022, the Autodesk Foundation’s global portfolio achieved the following:

1.4 million+
metric tons CO₂e of GHG emissions reduced

29 million+
individuals reached with resilient solutions in housing and infrastructure, energy access, agricultural productivity, and workforce development (cumulative since fiscal year 2020)

14,900+
people placed in new or improved jobs, including 13,400 (90%) with an annual income increase of \$5,000 or more

These impact metrics rely on data aggregated and sourced from financial reports, annual reports, organizational key performance indicators, and self-reported data from the Autodesk Foundation portfolio.

➔ [Learn more](#) about the Autodesk Foundation's approach to impact measurement and management and how our approach has evolved.



Advance industries

Catalyze innovation

The Autodesk Foundation invests in nonprofits and startups scaling early-stage technologies that have the potential to dramatically reduce GHG emissions and waste within our industries.

We target early-stage (seed to Series A) technology-driven ventures, and de-risk technology and business models with a combination of financial capital and in-kind support. We prioritize sectors where our design and make expertise is particularly beneficial, such as renewable energy, electrification of transportation, low-carbon refrigeration/heating, building and industrial energy efficiency, carbon removal, and materials innovation.

From removing CO₂ out of ambient air to refining critical, low-carbon minerals, the Autodesk Foundation portfolio is helping accelerate the transition to a decarbonized economy.

Who we fund

13

startups and ecosystem partners scaling innovative technologies that reduce GHG emissions

39%

of Autodesk Foundation portfolio funding in fiscal year 2022

Geographic reach



We primarily invest in the United States, where emissions per capita exceed those of most other nations, but we recognize the importance of also enabling sustainable growth of technologies that combat climate change in both emerging and developing markets. In fiscal year 2022, we expanded our Energy & Materials portfolio globally to catalyze climate innovation in developing markets.

We target opportunities with the potential to mitigate at least 500 million metric tons of CO₂e by 2050.

Impact measurement and management

We evaluate the impact of the Autodesk Foundation Energy & Materials portfolio based on GHG emissions abated. We engage third-party experts such as [CEA Consulting](#) and [Rho Impact](#) to calculate and audit CO₂e reductions realized by our portfolio and CO₂e reduction potential. We also support field building efforts to bolster the ecosystem of forward-looking climate impact assessments through initiatives such as [Project Frame](#).

[→ Learn more](#) about Autodesk Foundation impact measurement and management.

Portfolio impact

| Metrics | FY22 |
|---|---------|
| GHG emissions reduced (metric tons CO ₂ e)* | 203,000 |
| GHG emissions reduction potential by 2050, cumulative (metric gigatons CO ₂ e) | 14 |

*This data was audited by a third party.

[→ Read](#) the Autodesk Foundation’s Low-carbon Innovation impact brief.



Vartega

Recycling carbon fiber reduces carbon emissions

Vartega, a recycling technology company that has developed a low-cost grade of carbon fiber through its patented recycling process, was added to the Autodesk Foundation portfolio in fiscal year 2022. The company’s recycled carbon fiber solutions—which have been found to exhibit the same mechanical properties as virgin carbon fiber—can be incorporated into intermediate materials (products that require additional processing), including non-woven fabrics, thermoplastic pellets, and 3D printing filaments.

Recycling carbon fiber is 95% less energy-intensive and 50% less expensive than making virgin carbon fiber. Vartega aims to enable growth of the circular economy by closing production loops across all material composites. Greenhouse gas reduction remains central to the company’s metrics. For every metric ton of carbon fiber recycled, Vartega saves 13.4 metric tons of CO₂ compared to manufacturing virgin carbon fiber.

Vartega’s patented recycling hardware was designed and engineered with AutoCAD, Inventor, and Fusion 360 technology and provides strong, flexible, low-cost composite materials to key industries, including aerospace and automobile.

[→ Learn more](#)



Image courtesy of Vartega



Heirloom

is investing in low-cost, scalable direct air capture to remove 1 billion metric tons of CO₂ by 2035.

[→ Learn more](#)



BamCore, Build Change, and BuildX Studio

are influencing the design and build industries to achieve net-zero carbon.

[→ Learn more](#)



Image courtesy of Closed Loop Partners/AMP Robotics

Closed Loop Ventures Group

is ushering in the circular economy.

[→ Learn more](#)



Image courtesy of Sangam Ventures

Sangam Ventures

is drawing new investors to community-centered solutions in India.

[→ Learn more](#)



Advance industries

Catalyze innovation

The Autodesk Foundation invests in nonprofits and startups scaling technology-based solutions that improve resilience in low resource communities most vulnerable to climate change.

We focus our investments on the built environment, agriculture, energy access, and water and sanitation, where technology and design and make can have the greatest positive impact.

From retrofitting homes in Colombia to better withstand earthquakes to mass manufacturing design-forward handwashing and drinking stations for children in Ethiopia, the Autodesk Foundation portfolio fosters health and enhances community resilience through technological innovation.

Who we fund

25
nonprofits and startups fostering health and community resilience through technological innovation

39%
of Autodesk Foundation portfolio funding in fiscal year 2022



Geographic reach

We focus on regions most vulnerable to climate change, including Sub-Saharan Africa, the Indian subcontinent, Southeast Asia, and South America.

We invest in organizations increasing the health and resiliency of communities impacted by climate change.

Impact measurement and management

We evaluate the impact of the Autodesk Foundation Health & Resilience portfolio based on outcomes related to environmental protection, community health and well-being, and economic advancement as a measure of increased resilience.

[→ Learn more](#) about the Autodesk Foundation’s impact measurement and management.

Portfolio impact

| Metrics | FY22 |
|--|------------|
| Individuals directly impacted (cumulative) | 16,900,000 |
| Product units sold/distributed* | 543,000 |
| Building units and infrastructure projects completed | 16,000 |
| GHG emissions reduced (metric tons CO ₂ e) | 1,200,000 |
| People with improved access to health care and food security | 1,700,000 |
| People who accessed training | 76,200 |
| People placed in new or improved jobs | 1,400 |

* Product units sold/distributed refers to the number of innovations such as greenhouses, irrigation pumps, sensors, etc., deployed by the portfolio in the field.

[→ Read](#) the Autodesk Foundation’s Resilient Communities impact brief.



Build Change

Earthquake-prone city in the clouds needs the cloud to protect homes and families

Densely populated Bogotá, Colombia, is located along the Pacific Ring of Fire, the most seismically active region in the world. It is also home to many informal urban neighborhoods, where houses are often built by those who lack the proper skills or training to ensure structural safety.

Build Change is working to protect these vulnerable houses. The nonprofit organization—which works in emerging nations to reduce deaths, injuries, and economic losses caused by earthquake-related structural collapses—is using innovative technology to identify retrofitting opportunities in this city of 7 million. In collaboration with the Autodesk Foundation, Build Change has developed a cloud-based field-capture tool that can evaluate homes and zero in on structural weaknesses. With this tool, the organization can scale its work rapidly, with the goal of more than 11,000 interventions in 2022.

[Learn more](#)



Image courtesy of Build Change



Image courtesy of Nexleaf Analytics

Nexleaf Analytics, WeRobotics, and Simprints

are using technology and design thinking to bridge vaccine access in emerging markets.

[Learn more](#)



Image courtesy of Kheyti

Kheyti

is revolutionizing business for small farmers in India with Fusion 360.

[Learn more](#)



Image courtesy of Build Change

Build Change

is scaling safe housing with Autodesk technology.

[Learn more](#)



Image courtesy of Sanergy

Sanergy

Sanergy's Matthieu Desvignes is recognized as a leader in the AEC industry with Digital Builder's 40 Under 40.

[Learn more](#)



Image courtesy of The Mortenson Center

The Mortenson Center in Global Engineering

is enhancing access to fresh drinking water in remote communities using Fusion 360.

[Learn more](#)



Advance industries

Catalyze innovation

The Autodesk Foundation invests in nonprofits, startups, and ecosystem partners who prepare workers to thrive in the era of automation. We invest in initiatives and solutions that help workers prosper now—and in the future.

Investments focus on upskilling and reskilling learners, facilitating employment for workers, and changing employer behavior within the construction and manufacturing industries. While we recognize the crucial role that a range of organizations play, including government, employers, and educational institutions, we invest primarily in early-stage technology-enabled startups, nonprofits, accelerators, and funds that help create a more inclusive economy.

Who we fund

12
nonprofits and ecosystem partners that help workers prosper in the era of automation

22%
of Autodesk Foundation portfolio funding in fiscal year 2022



Geographic reach

We invest in organizations in the United States and the UK, and our research also includes Asia Pacific and Europe.

We invest in organizations taking a worker-centered approach to upskilling and career advancement in service of an equitable and prosperous future for all.

Impact measurement and management

We evaluate the impact of the Autodesk Foundation Work & Prosperity portfolio based on outcomes related to skills acquisition and inclusive access to quality jobs. Collecting and aggregating aligned metrics drives accountability across the portfolio and provides us with useful insights to drive toward industry change.

[→ Learn more](#) about Autodesk Foundation impact measurement and management.

Portfolio impact

| Metrics | FY22 |
|---|------------|
| Individuals directly impacted (low-touch,* cumulative) | 12,100,000 |
| Individuals trained (high-touch)* | 17,500 |
| Certifications and credentials facilitated | 13,800 |
| People placed in new or improved jobs | 13,500 |
| Individuals with an annual income increase of \$5,000 or more | 13,400 |

* Low-touch refers to individuals impacted through educational technology or learning platform solutions. High-touch refers to individuals who received formal training, either on the job or through job placement programs.

[→ Read the Autodesk Foundation's Future of Work impact brief.](#)



Pallet

Private shelter that can be built in a day

As part of the Autodesk Foundation Work & Prosperity portfolio, we have made an investment in Pallet, a social purpose company that manufactures rapid-response shelter villages to provide private transitional housing in a community setting, while building a more equitable and inclusive manufacturing workforce. To date, Pallet has served thousands of unhoused people through over 60 shelter villages across 11 states.

Pallet’s panelized cabins can each be built in 30 minutes and require minimal training to install, offering cities, counties, states, and nonprofits cost-effective and high-quality housing units that provide safety, dignity, and community for unhoused people. Each village resident also has access to wrap-around support services, such as meals and case management, provided by local service providers. Pallet cabins are insulated, resistant to mold, rot, and pests, easy to clean, and can last more than 10 years.

[→ Learn more](#)



Image courtesy of Pallet

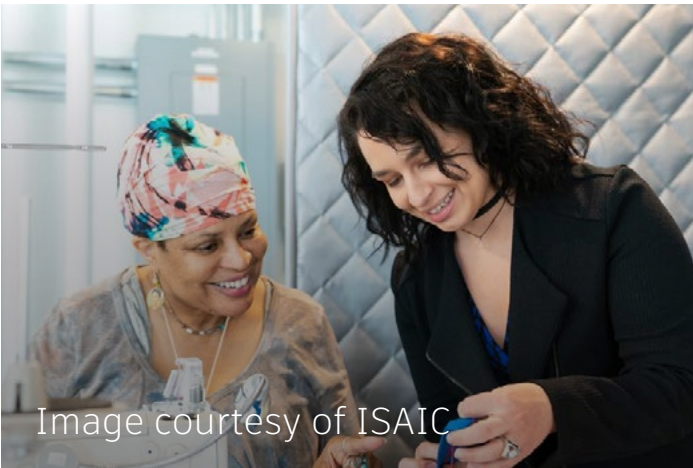


Image courtesy of ISAIC

ISAIC

is developing virtual training and on-demand machine repair in the manufacturing industry.

[→ Learn more](#)



Image courtesy of Revolution Workshop

Revolution Workshop

is building resilience by providing construction job training to Chicago's underserved communities.

[→ Learn more](#)



Image courtesy of Zinc VC

Zinc

is unlocking new opportunities for people hard hit by automation and globalization.

[→ Learn more](#)



Image courtesy of Franzi Charen

The Industrial Commons

is transforming the textile industry in the United States with a worker-centric manufacturing model.

[→ Learn more](#)



Image courtesy of Coalfield Development

Coalfield Development

is facilitating employment and economic transition in Appalachia.

[→ Learn more](#)



Autodesk Technology Centers

Autodesk Technology Centers catalyze new possibilities for making through the power of connection. They bring together a global network of innovation leaders (known as the Outsight Network), data-enabled fabrication workshops, and curated experiences to empower innovators in achieving the new possible. With physical sites in San Francisco, Boston, Toronto, and Birmingham, UK, the Technology Centers are a connection engine where resident teams can combine cross-industry or cross-continent collaboration with hands-on construction and fabrication. From exploring ideas on the future of design to testing new methods of production, industry teams within and outside of Autodesk can conduct speculative and thought-leading work pertaining to design and make technology.

To further enhance the exploration of innovative technologies that can be applied to design and make challenges, the Technology Centers were realigned to sit within Autodesk Research early last year. This shift enabled the Technology Centers and Autodesk Research to deepen their collaborations with Outsight Network residents on mutually beneficial and aligned opportunities that impact communities, industries, and Autodesk customers. By combining Autodesk Research expertise, collaboration across the Outsight Network, and the fabrication and production capabilities of Technology Center workshops, residents have been able to enhance and accelerate project outcomes. This multidimensional approach has made data exchange between Autodesk Research and residents more efficient, knowledge transfer more seamless, and the process to develop forward-thinking solutions more diverse and inclusive.

[→ Learn more](#)

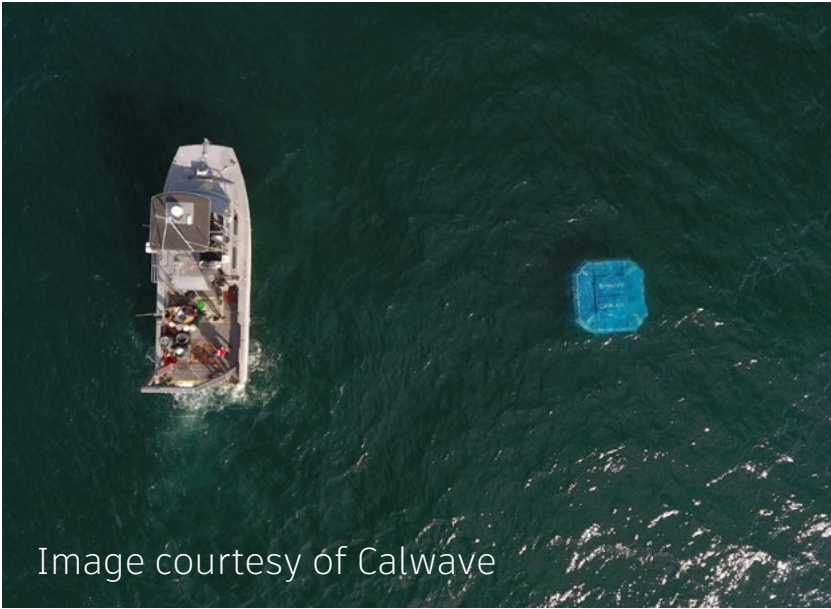


Image courtesy of Calwave



Image courtesy of JDRF



Image courtesy of Nia Technologies Inc.

Heirloom

Heirloom is a growing climate technology company on a mission to capture a billion metric tons of CO₂ from the earth’s atmosphere by 2035. Its “passive air contactor,” now in its third iteration, enhances the natural carbon mineralization process to help minerals absorb CO₂ from the ambient air in days, rather than years. This represents more than a

1,000-fold scale up of the company’s technology in less than 10 months. With the help of the Autodesk Technology Center, Heirloom is building out its capabilities, combining the best of engineering and nature to offer the most cost-effective and scalable direct air capture solution.

[→ Learn more](#)

Calwave

San Francisco–based Calwave harnesses the renewable power of ocean waves and is aiming to help reverse climate change and preserve global biodiversity. The company’s mission is to provide reliable and cost-effective ocean wave technologies for sustainable energy access. Calwave’s proprietary oceangoing device generates renewable energy by converting

wave power to electricity, even under extreme sea conditions. Last September, the team successfully commissioned an open ocean demonstration in California, and in January 2022, it was awarded \$7.5 million by the US Department of Energy to build and deploy a large farm wave energy site in Oregon.

[→ Learn more](#)

JDRF

JDRF Electromag’s mission is to conserve energy by making smart lighting accessible to all commercial buildings. The company’s Autonomy Sensor uses machine learning, edge computing, and data fusion to make smart lighting effortless and affordable, providing the commercial building industry with a universal solution that can reduce lighting-related

energy use by up to 50%. A novel indoor localization technology in the sensor uses near infrared (NIR) light to optimize the lighting arrangement in each room. Equipment and training available at the Autodesk Technology Center enabled rapid iterative development on a variety of NIR transmissive materials and complex geometries.

[→ Learn more](#)

Nia Technologies Inc.

Toronto-based Nia Technologies Inc. develops 3D PrintAbility, a hardware toolchain that enables clinicians to 3D print prosthetics for children in resource-poor countries. NiaFit, Nia’s 3D rectification software, helps users intuitively design custom-fitted assistive devices, and digital scanning and 3D printing speed up the production process. The Autodesk Technology Center supports these efforts by providing access

to expertise and knowledge in Fusion 360 so Nia can develop various mechanical components. A brand-new NiaFit workflow will enable users to digitally design and 3D print ankle foot orthoses, serving a large segment of the population that requires lower limb mobility assistance—and helping more children attend school, play with friends, and participate fully in their communities.

[→ Learn more](#)



Forward-looking statements

This report includes estimates, projections, and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These forward-looking statements generally are identified by the words “may,” “believe,” “could,” “expect,” “anticipate,” “estimate,” “intend,” “strategy,” “future,” “opportunity,” “plan,” “should,” “will,” “would,” and similar expressions. Forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties that may cause actual results to differ materially. We continually review GHG emissions quantification methodologies and are committed to implementing best practice quantification methodologies. We describe risks and uncertainties that could cause actual results and events to differ materially in our reports filed with Securities and Exchange Commission. We undertake no obligation to update or revise publicly any forward-looking statements, whether because of new information, future events, or otherwise.

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