# Skydio For All Annual Report 2022

By Mira Marquez, Skydio For All Lead, and Jeremy Crowley, Wildlife Conservation Lead; Autonomy Engineer

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# Introduction


# Mission Statement

Skydio For All engages with local and global communities on youth STEM education, cultural and historical preservation, and wildlife conservation. We aim to bring awareness and resources promoting accessibility, education, and inclusion within Skydio, the greater tech community, and our local community to nurture a lasting positive impact for future generations.

# 2022 at a Glance

2022 was a critical year for Skydio for All. Skydio's Social Responsibility Program doubled our outreach and impact efforts, while achieving unprecedented employee engagement. We donated hundreds of drones and provided training to support Ukraine's defense, hosted our largest youth STEM event, supported outreach events across the country, discovered new use cases for our products while working with wildlife preservation teams in Kenya, and set a new record for the oldest structure 3D scanned by a drone.

In 2023, we will continue to grow Skydio For All and accelerate the positive impact our products have in the world. Our 2023 goals include:

- Expand community outreach through Veteran programming and public access to drone education
- Double the number of students with hands-on flights through our Youth STEM programs
- Increase the number of culturally and historically significant sites scanned
- Support wildlife conservation through product testing and innovation

# Origins of Skydio For All

In the midst of COVID, a handful of Skydio employees started brainstorming how to support communities in need with Skydio's products and core competencies. The team was diverse in every measure, bringing a rich tapestry of experience across different fields. What we shared in common was empathetic hearts, open ears, strong communication, and a drive to create change. From those early conversations we established the foundation for what would become Skydio For All.

Skydio's mission is to make the world more productive, creative, and safe with autonomous flight. We are uniquely positioned to develop and work with amazing technology--defined by advanced AI capability--that will revolutionize the drone world. However, as technology advances at an accelerated pace, even dramatically changing within a single year, we are cognizant of communities that may not have access to these advances. Education, outreach, and building trust, are fundamental pillars of elevating the communities around us in parallel to technological advancements. We are shaped by core values of accountability, transparency, and the protection of privacy and civil liberties in order to create a lasting, positive impact that benefits future generations. We look forward to leading by example and hope to inspire others.

# Letter from our CEO, Adam Bry

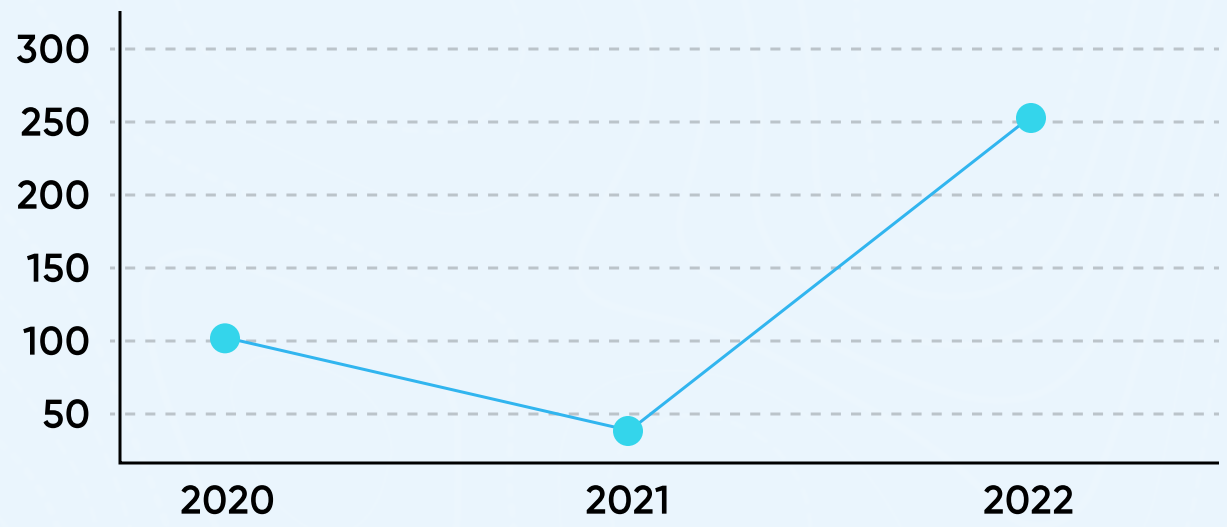
At Skydio, it's our mission to make the world more productive, creative, and safe with autonomous flight. We started Skydio in 2014 because we saw the potential for drones to have a positive impact. As our products have matured, so has our focus on the holistic impact our products have on the world. We believe companies have a role to play, alongside governments, customers, and the communities they serve, in shaping how new technology is deployed and the impact that it has.

Skydio is democratizing access to cutting edge aerospace and we see great opportunity for continued education in communities who may otherwise not be exposed to this technology. Through our Skydio For All program, we aspire to build trust and awareness through community outreach, STEM education, supporting veterans, and further product development in areas like wildlife research and historical preservation. We strive to nurture a lasting impact for future generations and are committed to furthering our investment in programs that enrich the world around us.

As someone who was exposed to engineering for the first time through drone technology, I am personally passionate about finding ways for Skydio to inspire future generations of innovators with the Skydio For All Program.

# Measuring Impact

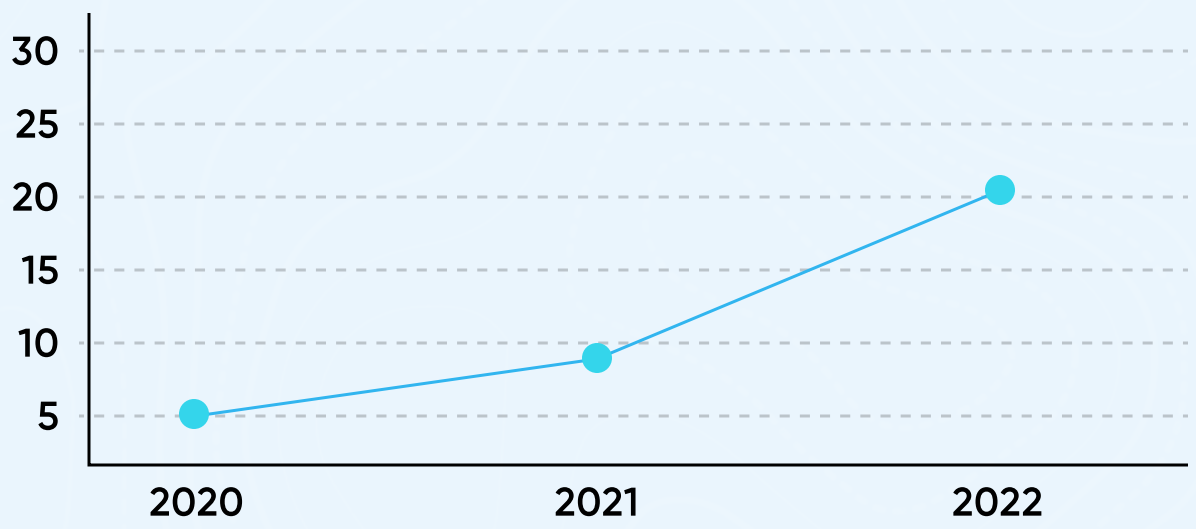
Vehicle Donations




**394+**

Est. Vehicles Donated to Date

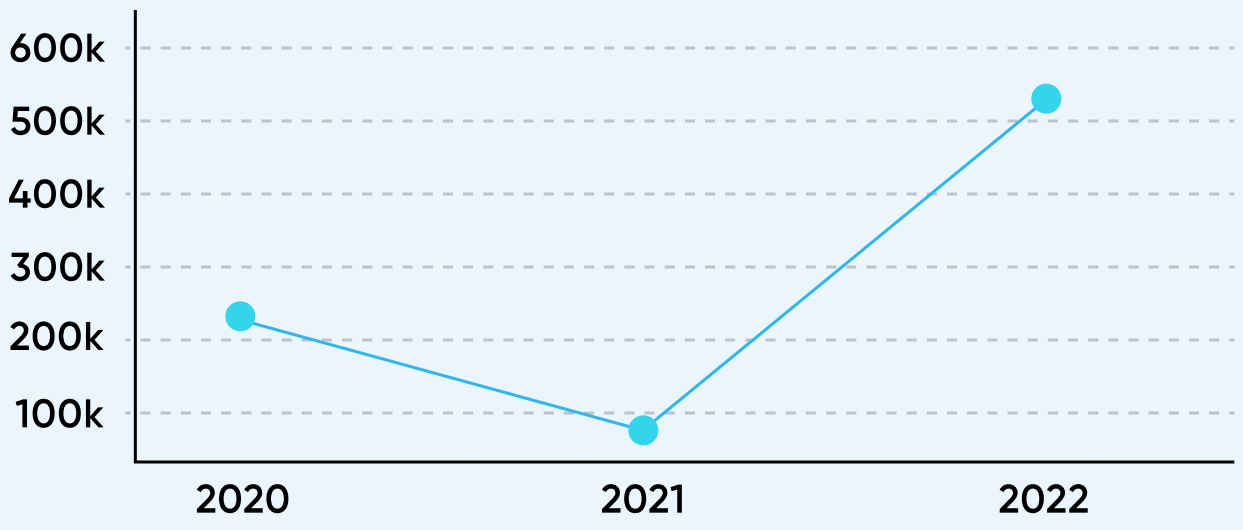
Nonprofits Supported




**35**

Total Nonprofits Supported to Date

Program Investment

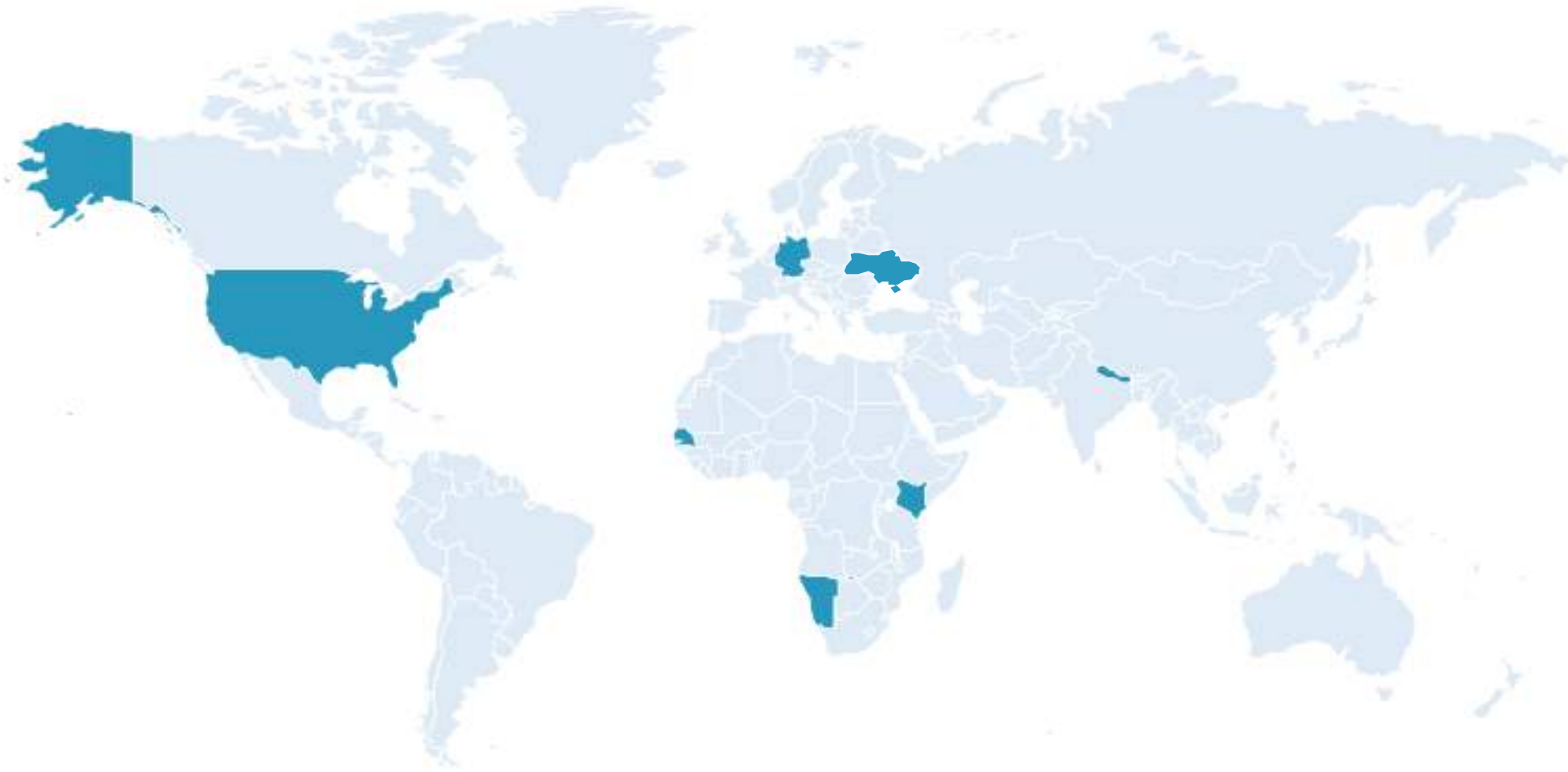



**$824k**

Est. Program Investment to Date

**Year over year growth is expected to fluctuate in the face of global events (e.g., COVID pandemic, support for Ukraine, etc)*

## Countries Supported



# Areas of Impact

# Youth STEM Education

We aim to inspire youth to become the next generation of pilots, engineers, and creators by educating and exposing them to hands-on activities and flight experiences. We focus on non-profit and educational programs engaged in supporting underserved communities, providing critical opportunities for youth who may otherwise lack access to STEM education.

**2,000+**

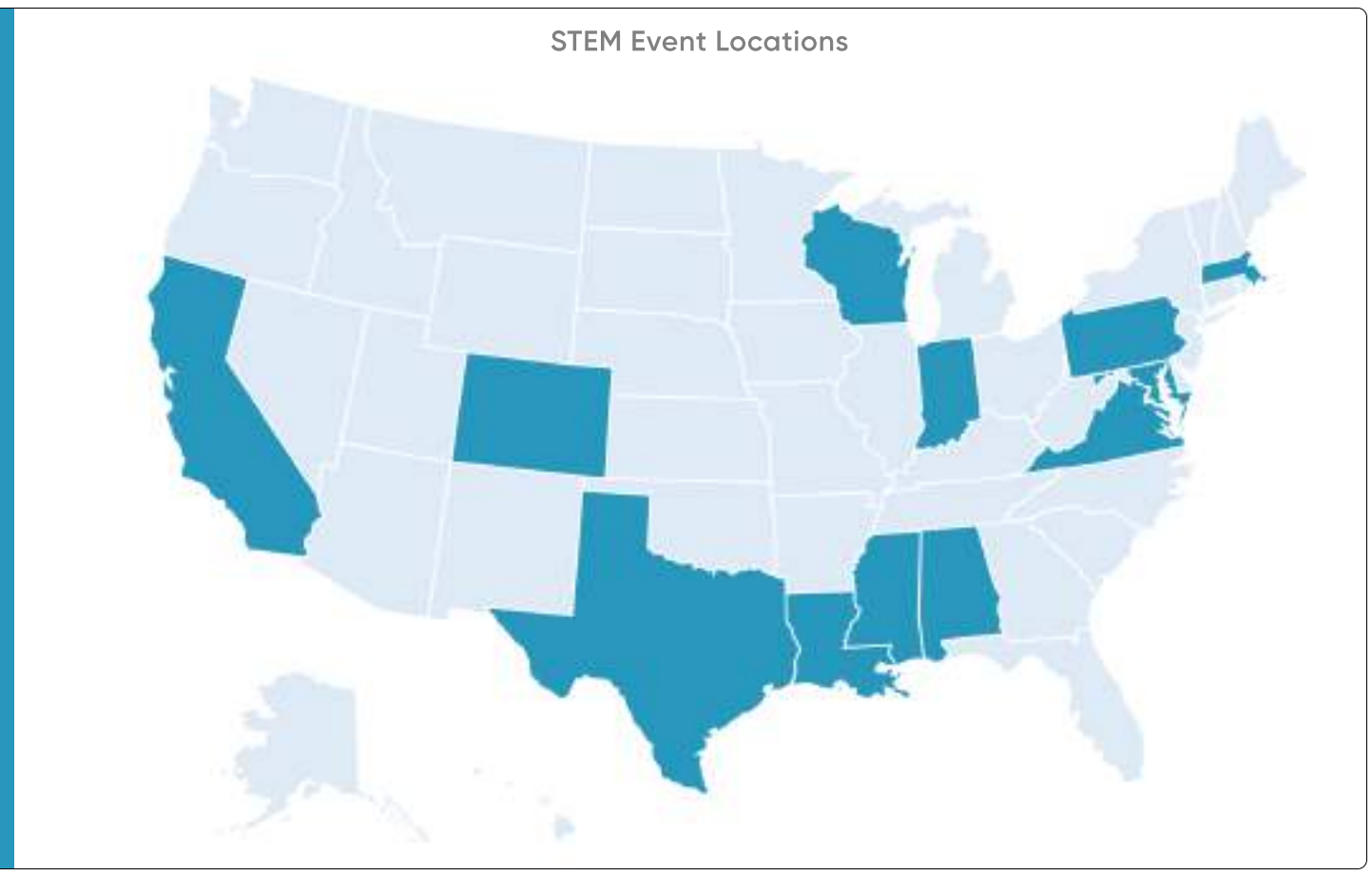
Students with hands-on flights

**77**

Vehicles for STEM to Date

**16**

Nonprofits




## Partners

U.S. Space & Rocket Center

THE BEANPATH
CULTIVATE TO SPROUT. DETERMINE YOUR ROUTE.

GLOBAL AIR DRONE ACADEMY

UAS4STEM

girl scouts of northeast texas

ICA CRISTO REY ACADEMY EST. 1883

STEM CAMP

We Robotics
THE POWER OF LOCAL

# Youth Fly Day with ICA Cristo Rey Academy

In April 2022, Skydio hosted a Youth Fly Day, bringing together 75 Freshman students from ICA Cristo Rey All Girls Academy of San Francisco for a day of hands-on drone education. ICA Cristo Rey Academy is a Dominican Catholic college preparatory that empowers girls from underserved communities to become confident young women able to realize their full potential. According to the Federal Aviation Administration's annual statistics, women comprised only 7.6% of registered licensed drone pilots at the end of 2021. Although that number has increased slightly in recent years, it is clear that the drone industry has more work to do to close the gender cap.

Youth Fly Day helped students learn about the physics of flight, how Skydio drones use photogrammetry with 3D Scan, and how to make professional-grade films with KeyFrame. The afternoon concluded with an extensive career Q&A with women of Skydio sharing their experience. It was an exciting opportunity for the Skydio team to help inspire the next generation of women pilots and engineers.

# UAS4STEM

Skydio was proud to sponsor and support the Academy of Model Aeronautics' UAS4STEM (Uncrewed Aircraft System for Science, Technology, Engineering, and Mathematics) competition in July 2022 as part of EAA Airventure. UAS4STEM is AMA's national STEM program. It is designed to enable students to learn, practice, and demonstrate professional uncrewed aircraft system (UAS) knowledge, mission planning, flight skills, data collection, analysis, and safety practices in a competitive environment. The Academy of Model Aeronautics, established in 1936, is a world-class association of modelers organized for the purpose of promotion, development, education, advancement, and safeguarding of modeling activities.

The UAS4STEM challenge had student teams carry out a simulated missing person search and rescue. Using a home-built drone/UAS, students created waypoints to direct the drone to locate three different caches of water bottles--picking up the bottle, and delivering it to a specified target area. Bonus points were awarded for autonomy. To achieve the mission, students learned how to design, build, and program a UAS in addition to operating it safely and effectively as a team. As part of this process, students completed a virtual ground school where they learned about safe operating procedures, flight mechanics, airspace, and pilot communications. They gained hands-on experiences that lead to enhanced career readiness and an increased likelihood of pursuing STEM and aviation careers. Skydio employees participated in the judging process for each of the national teams at EAA Airventure in Oshkosh, and were impressed with the thoroughness, creativity, and technical abilities of each team. The top three winners received Skydio 2+ Pro Kits.

G3 Drones national team

McIntosh Aeronautics team members setting-up UAS

Judges evaluate team presentations

# Cultural & Historical Preservation

Skydio's unparalleled autonomy, obstacle avoidance, and 3D Scan, empowers communities to create digital twins of aging, historic infrastructure more easily than ever. Skydio 3D Scan allows for pilots to get closer to structures than traditional drones and requires less training that enables faster project completion. Digital twins allow equity of access to virtually tour these sites by anyone and empower communities to preserve and rebuild structures before they are gone forever, whether erased from natural or man made disasters.

**8**

Individuals Trained

**6**

Vehicles for Preservation to Date

**4**

Nonprofits


**325 A.D.**

Changu Narayan Temple, Nepal

**1600-1800**

Hessenpark structures, Germany

**1984**

Windhoek Central Hospital Water Towers, Namibia

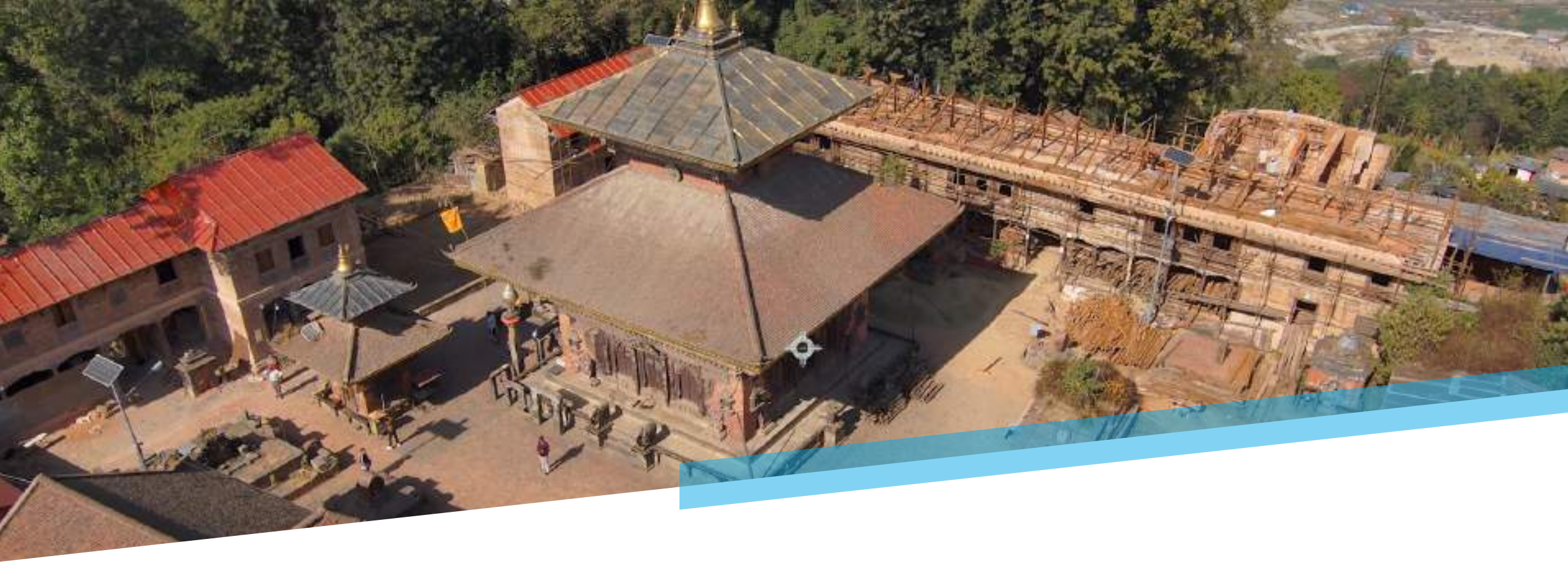
## Partners

Namibia FlyingLabs

Nepal FlyingLabs

Senegal FlyingLabs

We Robotics
THE POWER OF LOCAL

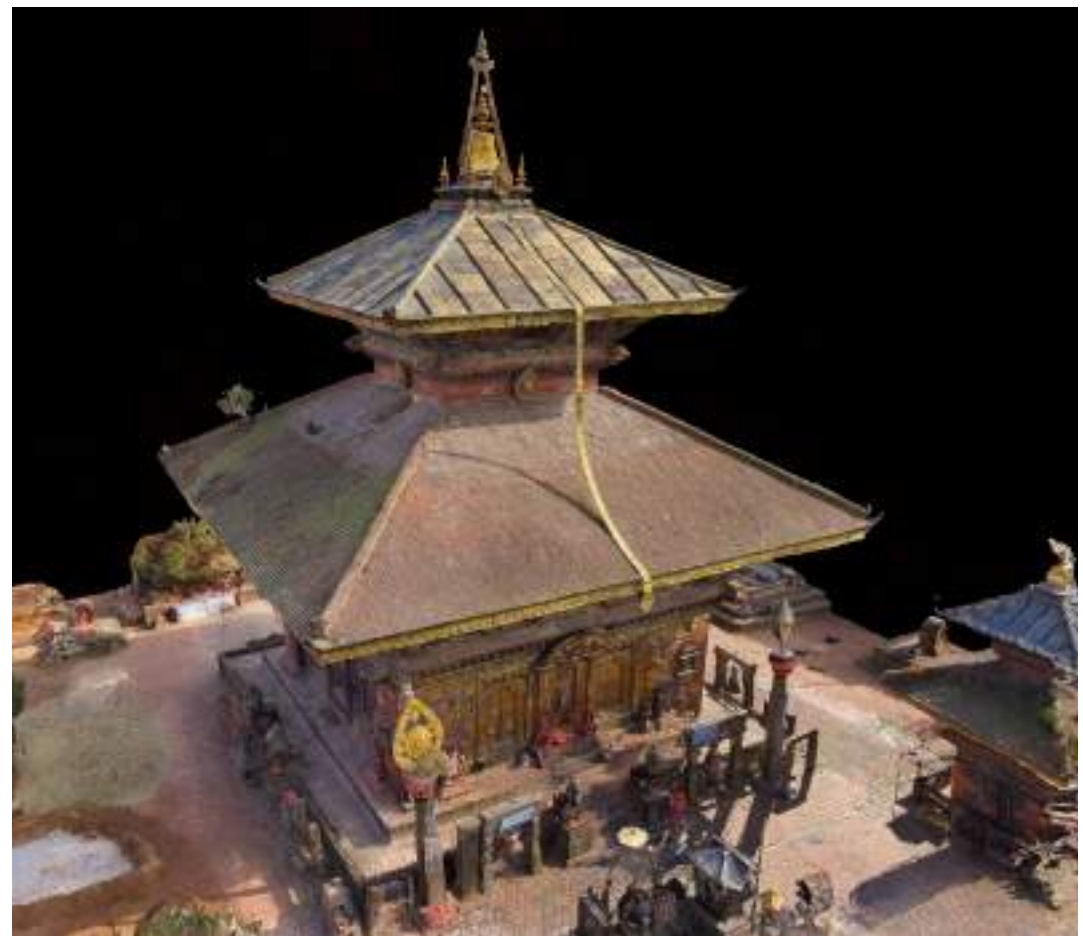


# Changu Narayan 3D Mapping - Nepal Flying Labs

Dating back to the 5th Century, ChanguNarayan Temple is one of seven UNESCO world heritage sites in Kathmandu Valley in Nepal.  The region suffered devastating loss of life and injury from the 2015 earthquake that claimed 9,000 lives, injured more than 22,000, and damaged and destroyed more than 750,000 homes. Dozens of culture sites were completely destroyed with hundreds incurring significant damage. Due to frequent earthquakes and subsequent aftershocks, historical buildings are consistently vulnerable to disappearing.

Through the donation of a fleet of Skydio 2+ Pro Kits, training, and Skydio 3D Scan the Nepal Flying Labs, a local innovation hub that excels in application of drones in disaster management and humanitarian action, outlined a mapping project of the ChanguNarayan Temple to create a high resolution 3D model that will enable them, the Department of Agriculture, and local municipalities to build a digital inventory of heritage sites. In addition, 3D models enable one of a kind access for educators and students to visit these historic sites virtually. Digital twins enable local teams to identify damaged and fragile areas of the structure without placing a human at risk. Routine scans provide insight to how the historical structures change over the course of weather, disaster, renovations, and time.

Changu Narayan Temple



3D Model stitched together in NIRA

# Windhoek Central Hospital Water Supply Towers - Namibia Flying Labs

Built in 1975, the twelve water supply towers of Windhoek Central Hospital are nearing their design half life and showing signs of corrosion and deterioration. Structural steel is one of the materials used to support the water towers for water supply systems, emergency storage or fire protection. The water towers are constructed high enough to supply water under hydrostatic pressure which requires the tanks to be propped by steel members. Problems occurs when the leaking water and steel (under the presence of oxygen) start to chemically react resulting in corrosion, threatening the structural integrity of the water tower. Tower infrastructure assessment is no longer as easy or safe to conduct manually due to the state of the structures. As a result, the Namibia Flying Labs outlined and executed a proposal to assist the Windhoek Central Hospital and the Khomas Region Ministry of Works and Transportation in creating a thorough assessment of the state of the water towers that can inform action to maintain and repair the structures. Skydio trained and equipped the Namibia Flying Labs with a fleet of Skydio 2+ Pro Kits and Skydio 3D Scan to complete their inspection project. Hundreds of images were collected for each structure and stitched together to create 3D models that will be used to create drawings and identify areas to repair.

3D Model stitched together in DroneDeploy

Images of corrosion previously documented

# Wildlife Conservation

Our automated workflows provide valuable assistance to researchers and organizations as they work to protect and preserve endangered species and their habitats. Through tight collaboration, we support those who play a crucial role in the fight to preserve the earth's wildlife. We focus on supporting the initial stages of a project by sending interested employees to participate in conservation field work with the non-profit to ensure integrating drones goes smoothly. Wildlife conservation stands to benefit immensely from drones through increasing field worker safety, reducing data acquisition time, and improving accessibility to wildlife and landscape features.

**9**

Individuals Trained

**5**

Vehicles for Preservation to Date

**5**

Nonprofits

### Biomes Supported

- Semi Arid Desert
- Grass Savanna

### Known Supported Species

- Black Rhino
- Masai Giraffe
- Southern Giraffe
- Ostriches
- Secretary Bird
- Springbok
- Eland
- Antelope
- Impala
- Oryx

## Partners

# Animal Counting with The Wildlife Foundation and Kenya Flying Labs

Nairobi National park shares its northern border with Nairobi, the rapidly growing capital of Kenya. Conservation efforts are largely driven by non-profits like The Wildlife Foundation Kenya, which recently helped prevent the fencing of the open southern border of the park. Skydio helped foster a working partnership between The Wildlife Foundation Kenya and Kenya Flying Labs to support a bi-monthly wildlife count with drone operations to improve safety, accuracy, and efficiency. The wildlife count, driven by The Wildlife Foundation, provides crucial wildlife data to the government organization Kenya Wildlife Services for conservation purposes. Skydio donated two drones to Kenya Flying Labs and Skydio supported the initial stages of the project with two autonomy engineers. In addition to the wildlife count, human-lion conflict mitigation via thermal night operations and giraffe unique identification via high quality imaging were explored with promising initial results.

Daniel, The Wildlife Foundation Ranger

Masai Giraffe herd captured on Skydio 2+

The Wildlife Foundation Rangers, Kenya Flying Labs team, and Skydio team

# Rhino identification from footprint images with WildTrack and Kuzikus Wildlife Reserve

Namibia holds approximately one third of Africa's black Rhino population and shows strong support for conservation efforts through the government-led black rhino custodianship program. Kuzikus Wildlife Reserve is a part of this custodianship program and participates in a range of important conservation research. In October 2020, they hosted WildTracks and Skydio to support a project involving rhino identification from footprint images. Skydio donated to WildTracks, a US based non-profit working on the footprint identification algorithms. The initial stages of the project was supported by one autonomy engineer and the drone was used to capture images of rhino footprints for training and validation.

Kuzikus Staff training on Skydio 2

Kuzikus Staff


Kuzikus team with Skydio's Jeremy Crowley

# Community

# Veterans Support

**Disabled Veteran Vehicle Scholarship - Semper Fi & America's Fund and Wounded Eagle UAS**

Veterans play an incredibly important role in America's workforce, but for many injured veterans who undergo ongoing medical treatment, working a traditional 9-5 job can be difficult. Drones offer veterans with disabilities, injuries, and invisible scars the opportunity to create a new professional path where they can work at a cadence conducive to their needs. With more than 10% of Skydio's workforce being Veterans, Skydio created a Veteran Vehicle Scholarship that provides Veterans the chance to win a Skydio 2+ Pro Kit to aid them in starting their own business, growing their careers, and improving their lives. Skydio's Veteran Community selected winners across the country, many of them combat veterans, and hand delivered the kits to ensure quality training time with a fellow Veteran.

After a successful launch in 2021 in partnership with Sempre Fi & America's Fund and Wounded Eagle UAS with a focus on disabled Veterans, we are proud to announce that the program will continue this year and is open to all Veterans across the country. To apply, Veterans can submit a personal essay sharing their story and how they plan to use the vehicle to improve their lives and further their careers. Applications are open through March 31, 2023 and can be submitted online.

Reuben Burton
Sergeant
U.S. Marine Corp.

James Ouderkirk
Lance Corporal
U.S. Marine Corp.

Melanie Brown
E-4
U.S. Army & National Guard

Walter Brown
Staff Sergeant
U.S. Army

Richard Hursh
Sergeant E5 Combat Engineer
Army National Guard

Ricardo Aguiar
Sergeant
U.S. Marine Corp.

# Partners

# Supporting Ukraine

Within days of Russia's invasion of Ukraine, Skydio launched a company-wide effort to support Ukraine's defense. Skydio donated hundreds of vehicles to Ukrainian partners and provided training, resources, and aid. The value of that initial effort exceeded $300,000.

Skydio's federal team played a key role in the effort. More than half of the federal team are military veterans, including many combat veterans. Leveraging that experience, Skydio employees deployed to Poland to provide in-person training and enablement on our platforms. In addition to support overseas, Skydio provided a 24/7 support hotline for Ukrainian partners and translated manuals and training materials into Ukrainian--an unprecedented step unequaled in the industry. Skydio also gave orders and donations bound for Ukraine top priority in the manufacturing process, in a sign of the priority the company placed--and continues to place--on standing with Ukraine.

We are proud of our work to support Ukraine and look forward to continuing to support our partners on the ground.


# Part 107 Education

According to the 2022 U.S. Civil Airmen Statistics, only 7.9% of remote pilot licenses are held by women. At Skydio, 20% of female employees hold a Part107 License. Part 107 refers to the FAA rules that govern the operation of commercial drones in the United States. It is also used to refer to the certification drone pilots must have before they can legally offer professional drone services. As the largest drone manufacturer in the United States, Skydio believes it is vital that employees understand the legal guidelines and best practices for how our products can be operated. Skydio offers Part 107 training to employees, covering the cost of testing fees and renewals.

## ABOUT THE AUTHORS

### Mira Marquez

**Skydio For All Lead**

Before Skydio, Mira spent nearly a decade in the video game industry focusing on User Interface and Experience Design for mobile and VR platforms. At Skydio, she has worked as a Product Designer, building a range of products from Skydio 2 and the Skydio Enterprise Controller to multiple software applications such as KeyFrame and 3D Scan. In addition to design, she conducted multiple research initiatives at Skydio that contributed to developing the Skydio For All program. Mira is a trained pastry chef and enjoys confectionary recipe development.

### Jeremy Crowley

**Skydio For All Wildlife Preservation Lead; Autonomy Engineer**

Jeremy is an autonomy engineer at Skydio developing customer facing features in cinematics and remote operations. He went to University of California Santa Cruz for his Bachelor of Science in Computer Engineering and Stanford University for his Master of Science in Aeronautics and Astronautics. Jeremy enjoys all activities that get him outside and has a particular interest in using drones to support wildlife and environmental conservation efforts.

# About Skydio

Skydio is the leading U.S. drone manufacturer and world leader in autonomous flight. Skydio leverages breakthrough AI to create the world's most intelligent flying machines for use by consumers, enterprises, and government customers. Founded in 2014, Skydio is made up of leading experts in AI, robotics, cameras, and electric vehicles from top companies, research labs, and universities from around the world. Skydio designs, assembles, and supports its products in the U.S. from its headquarters in San Mateo, CA, and manufacturing facilities in Hayward, CA, to offer the highest standards of supply chain, manufacturing and data security. Skydio is trusted by leading enterprises across a wide range of industry sectors and is backed by top investors and strategic partners including Andreessen Horowitz, Linse Capital, Next47, IVP, Playground, and NVIDIA.

Skydio

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