

THE AMERICAN DYNAMISM 50: AI EDITION

AI companies advancing the national interest.

From the last mile to low Earth orbit, solar fields to the battlefield, artificial intelligence is redefining our barometer for progress. Thus, this year's American Dynamism 50 — a16z's annual spotlight on 50 groundbreaking tech companies advancing the national interest — all harness AI to fulfill their missions. Whittling this contingent down to 50 companies was a challenge; of course, there are many more AI companies than the 50 featured below that are contributing to a more prosperous America. In addition, many hugely consequential **American Dynamism companies** didn't fit neatly into this project's particular AI focus. The AI companies highlighted below are tackling some of the country's most pressing problems across aerospace, defense, energy, transportation, manufacturing, and more. Ultimately, we hope the ambitions of the American Dynamism 50 spark conversation and inspire optimism in America's future.



127

FOUNDERS



20,250+

JOBS

31

CITIES

AERODOME

MISSION

Deploying automated, video-equipped drones for faster emergency response

FOUNDERS

Rahul Sidhu (CEO) and Kenaniah Cerny (Chief Architect)

HEADQUARTERS

New York, NY

JOBS CREATED

Former police officer Rahul Sidhu developed the concept for Aerodome during the pandemic, when labor shortages and **increased demand** hampered consistent emergency response. The company's automated drone system aims to reach incidents within 3 minutes and can live-stream video to emergency personnel. The drones are equipped with ground-based radar, radio frequency sensors, and remote ID data, giving them improved visibility and agility over traditional helicopter-based air support. After rolling out to police departments this year, the company sees **additional applications** in wildfire detection and search and rescue missions.

AGILITY ROBOTICS

MISSION

Building highly perceptive robots that can work in various environments alongside people

FOUNDERS

Damion Shelton (CEO), Jonathan Hurst (Chief Robot Officer), and Mikhail Jones (Vice President of Software)

HEADQUARTERS

Tangent, OR

JOBS CREATED

Late last year, Agility unveiled RoboFab, a new 70,000-square-foot robot factory in Salem, Oregon with the capacity to produce more than 10,000 robots a year. At 5'9" and 141 pounds, Agility's **bipedal robot**, Digit, is designed to work alongside humans in a blended workforce. The bot can walk across unstructured and inclined terrain, as well as turn, crouch, catch its balance, and more. Currently, the robot's main function is to lift and move — it can carry

variously sized objects of up to 35 pounds — but eventually, its founders envision Digit taking over last-mile deliveries. In October 2023, Amazon **announced** it would begin testing Digit for use in its operations.

AIR SPACE INTELLIGENCE

MISSION

Optimizing flight routes and airline operations with AI-powered software

FOUNDERS

Phillip Buckendorf (CEO), Kris Dorosz (CTO), and Lucas Kukielka (VP Product Engineering)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

The airline industry is bogged down by manual processes and outdated software. Air Space Intelligence's Flyways platform uses AI to forecast and map air traffic, optimize routes, and monitor flights in real-time, leveraging data from government and U.S. National Airspace System databases. In 2021, the company **partnered** with Alaska Airlines to provide data-driven route recommendations for its dispatchers and pilots — like Google Maps for air traffic — which shaved an average of **5.3 minutes** off the airline's flights and saved millions of pounds of fuel.



AMBIENT.AI

MISSION

Using computer vision intelligence to proactively prevent security incidents

FOUNDERS

Shikhar Shrestha (CEO) and Vikesh Khanna (CTO)

HEADQUARTERS

Palo Alto, CA

JOBS CREATED

Ambient.ai cofounder Shikhar Shrestha first became interested in improving security systems as a teenager when he and his mother were robbed at gunpoint. After studying computer vision at Stanford, he incorporated AI into existing camera and sensor technology to create a system that continuously monitors surroundings, identifies threats in real time, and automatically dispatches human responders when warranted. Ambient's advanced computer vision intelligence analyzes the visual world to provide a layer of situational context. (Notably, the tech does not use facial recognition or identify potentially bias-inducing traits.) Today, the technology is **used** by companies such as Adobe, VMWare, and Impossible Foods.

AMP ROBOTICS

MISSION

Applying AI-powered automation to make recycling more efficient and less costly

FOUNDERS

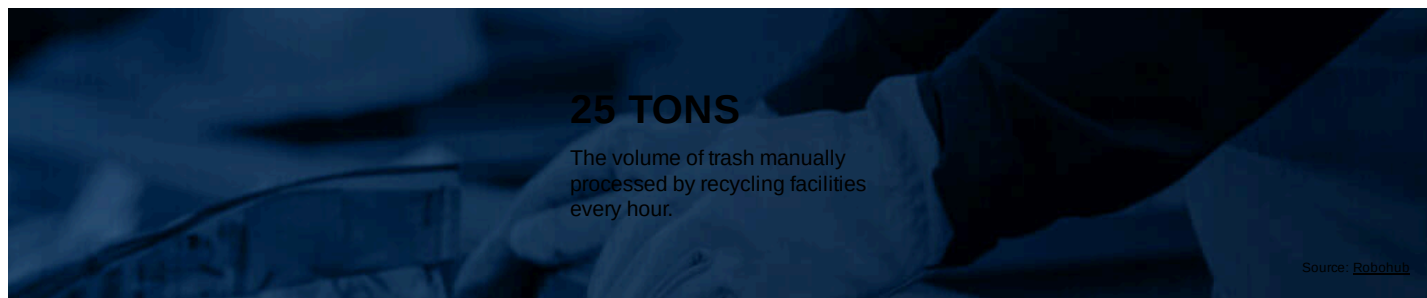
Matanya Horowitz (CEO)

CATEGORIES HEADQUARTERS

Louisville, CO

JOBS CREATED

Materials recovery facilities process an estimated **25 tons** of garbage an hour. Today, human sorters still do much of the dirty work of separating recyclables from the waste stream. AMP Robotics' AI-guided system combines computer vision and robotics to identify, sort, and pick recyclable materials up to **4 times** faster than hand-sorters with up to **99%** accuracy. The **AMP Cortex** recognizes more than 75 billion objects and can be programmed to prioritize valuable materials like aluminum cans, cardboard, and PET water bottles. In November 2022, AMP opened a new **84,000-square-foot** headquarters in Louisville, Colorado, which includes an engineering lab, R&D hub, and demonstration center.



AMPERON

MISSION

Providing accurate, real-time grid demand forecasts to electricity providers

FOUNDERS

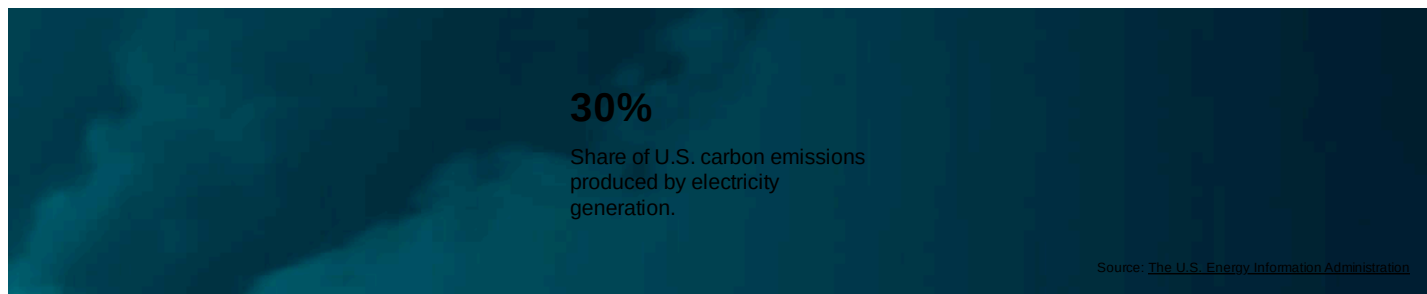
Sean Kelly (CEO) and Abe Stanway (CTO)

HEADQUARTERS

Houston, TX

JOBS CREATED

America's energy grid has become increasingly taxed by extreme weather events and unpredictable consumption patterns. Amperon applies advanced machine learning to help energy companies more precisely forecast demand, analyze their operations, and manage risk in real-time. The technology is currently used by more than a dozen global grids, with millions of meters under management. In June 2023, Amperon announced a **partnership** with WattTime to incorporate hourly marginal carbon emissions data into its model, enabling energy providers to more accurately measure and reduce their carbon footprint.



ANDURIL INDUSTRIES

MISSION

Transforming U.S. and allied military capabilities with advanced technology

FOUNDERS

Brian Schimpf (CEO), Palmer Luckey (CTO), Matt Grimm (COO), Trae Stephens (Executive Chairman), and Joseph Chen (Cofounder)

HEADQUARTERS

Costa Mesa, CA

JOBS CREATED

Anduril applies AI, computer vision, machine learning, and other advanced technology to drones, weapons systems, submersibles, and border protection towers to bolster U.S. national security. In recent years, Anduril has **provided** drones and AI software to the Ukrainian Armed Forces in the country's ongoing war with Russia. The company's recent **technological advances** include a software system that integrates drone and satellite data to help Air Force pilots locate targets and next-generation autonomous drones capable of intercepting and averting overhead threats.

APPLIED INTUITION

MISSION

Providing simulation and software tools for autonomous vehicle development

FOUNDERS

Qasar Younis (CEO) and Peter Ludwig (CTO)

HEADQUARTERS

Mountain View, CA

JOBS CREATED

Applied Intuition's software makes developing autonomous vehicles for agriculture, trucking, defense, and the automotive industry faster and more efficient. In 2022, Applied Intuition was **selected** by the Army and Defense Innovation Unit (DIU) to create an autonomy software development and testing platform for the Army's robotic combat vehicle program. Late last year, the company won a contract to develop a "**virtual sensor optimization solution**" for the Air Force, enabling faster sensor selection, configuration, and experimentation for its aerial systems.

BUILT ROBOTICS

MISSION

Automating the construction of utility-scale solar farms

FOUNDERS

Noah Ready Campbell (CEO) and Andrew Liang (Lead Robotics Engineer)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Built Robotics cofounder Noah Ready Campbell grew up building homes by hand with his father, a carpenter. The experience inspired him to apply technology to existing construction tools. Today, Built focuses on the production of solar farms, an imperative in meeting the U.S.'s clean energy goals. Built's **Exosystem** technology transforms commercial excavators into a largely autonomous trenching robot. In 2023, the company introduced an autonomous pile-driving robot that can carry up to **200** of the heavy steel beams that support photovoltaic panels at a time. The robotic pile driver, dubbed RPD 35, can sink a 15-foot pile into the ground **every 73 seconds**, on average, with an accuracy of less than an inch.

CHEF ROBOTICS

MISSION

Automating industrial food manufacturing to reduce labor and food costs

FOUNDERS

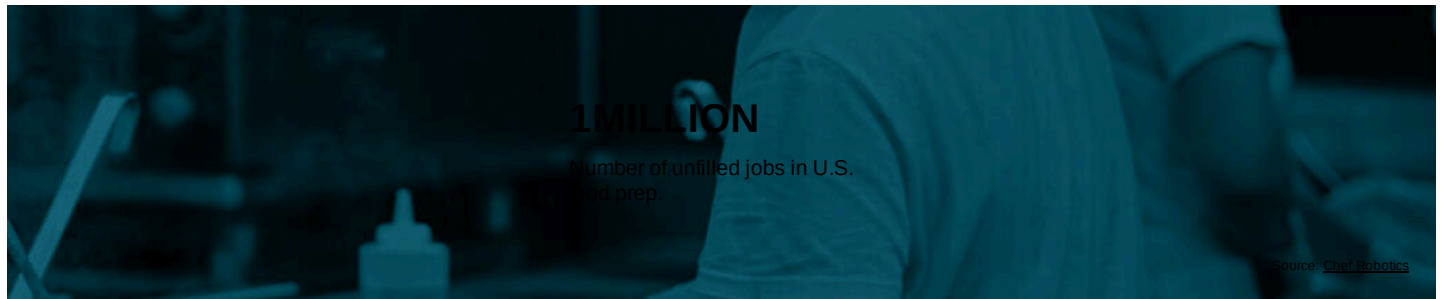
Rajat Bhageria (CEO)

CATEGORIES HEADQUARTERS

San Francisco, CA

JOBS CREATED

Food companies are routinely short-staffed by **20% to 50%**. Chef provides its AI-powered technology to aid in industrial food manufacturing. The **robot chefs**, which use AI sensors to pick up and place food and trays, are offered “as a service” to businesses and can be reconfigured with interchangeable utensils to accommodate various ingredients, portion sizes, containers, and plating orientations. As of late 2023, chef had robots in five cities across the U.S. and Canada.



COVARIANT

MISSION

Building a universal AI for robotic automation

FOUNDERS

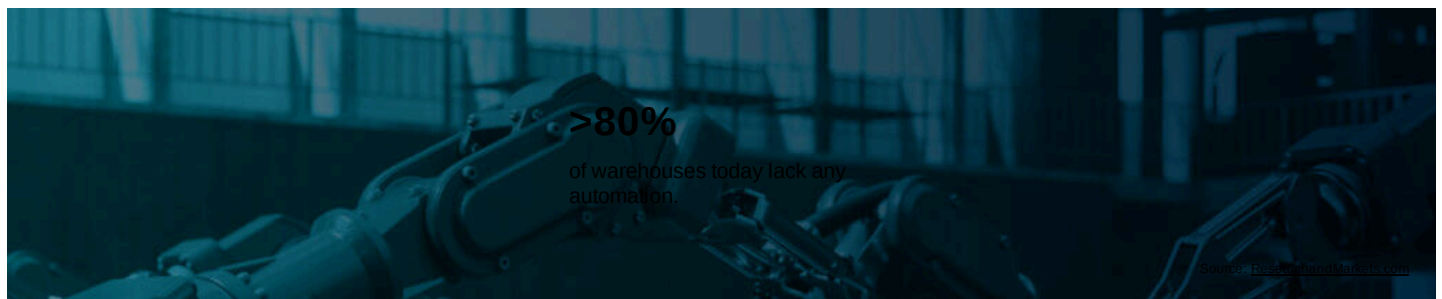
Peter Chen (CEO), Pieter Abbeel (Cofounder), Rocky Duan (Cofounder), and Tianhao Zhang (Cofounder)

HEADQUARTERS

Berkeley, CA

JOBS CREATED

Former OpenAI engineers Pieter Abbeel, Rocky Duan, and Peter Chen set out in 2017 to build the “Covariant Brain,” a universal AI built on a single foundational model that can adapt to robots across industries and uses. The technology focuses on warehouses and logistics operations — with applications in pharmaceuticals, groceries, retail, and beyond — and is trained on **millions** of picks from **Covariant robots** around the world. The robots are capable of sorting, batch-picking (applicable in returns processing), depalletizing, induction, and “kitting” for assembly needs like subscription services or meal kits.



DATABRICKS

MISSION

Enabling companies to effectively analyze internal data and develop generative AI models

FOUNDERS

Ali Ghodsi (CEO), Matei Zaharia (CTO), Ion Stoica (Executive Chairman), Reynold Xin (Chief Architect), Patrick Wendell (VP of Engineering), Andy Konwinski (VP of Product Management), and Arsalan Tavakoli-Shiraji (SVP of Field Engineering)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Powered by deep learning, Databricks' core data management tool allows businesses to better analyze internal data and derive actionable insights. In 2023, the company revamped and expanded its Lakehouse AI platform, which enables companies to develop and deploy generative AI models while preserving data security and governance. Databricks also announced a series of acquisitions last year, including the enterprise data company **Arcion** and the large language model (LLM) training platform **MosaicML**. The company is used by more than **10,000** organizations to build analytics and machine learning tools, including **Bloomberg**, **Comcast**, **Adobe**, **Shell**, and the **USPS**.

DEXTERITY

MISSION

Designing agile, autonomous robots for logistics, warehousing, and supply chain operations

FOUNDERS

Samir Menon (CEO)

HEADQUARTERS

Redwood City, CA

JOBS CREATED

Dexterity builds AI-guided, autonomous robots with applications in warehousing, manufacturing, logistics, retail, and supply chain operations. In 2023, the company **doubled** its number of robots in the field and **tripled** the number of items its robots fulfilled. It also developed a two-armed robot **for FedEx** named **DexR**, which uses generative AI, cameras, force-feedback, and lidar sensors to quickly load and stack variously sized boxes into delivery trucks and trailers, maximizing space. Dexterity's underlying machine learning platform means the robots become more efficient and capable of handling a wider range of challenges and variables over time.

FARM-NG

MISSION

Advancing sustainable farming practices with multi-purpose electric robots

FOUNDERS

Ethan Rublee (CEO)

HEADQUARTERS

Watsonville, CA

JOBS CREATED

Former Google roboticist Ethan Rublee relocated from Silicon Valley to rural California during the pandemic and founded Farm-ng to democratize automation for farms of all sizes. The company's **Amiga kit** is an all-electric micro-tractor that can be modified for an array of cropping and harvesting jobs, including mowing, seeding, compost spreading, cultivation, plant breeding, and more. In 2022, Farm-ng released the Amiga Brain, which offers additional features such as object recognition, crop data collection, and autonomy. The company's spin-off business unit, Space-ng, applies its integrated hardware and software to autonomous spacecraft operations — Firefly Aerospace's **Blue Ghost Lunar Lander**, for example, uses its vision navigation system.

FIGURE

MISSION

Building an electromechanical humanoid robot to fulfill unsafe and undesirable jobs

CATEGORIES FOUNDERS

Brett Adcock (CEO)

HEADQUARTERS

Sunnyvale, CA

JOBS CREATED

There are currently **7 million** unfilled job openings for essential roles in retail, warehouses, and transportation. Figure is building a general-purpose **AI humanoid** to fill that gap. The company's 5'6", 132-pound robot can run up to 5 hours at a time and can carry a payload of up to 44 pounds. Ultimately, Figure's vision is a humanoid powered by advanced AI that can take on dangerous and undesirable tasks while working alongside humans. In January 2024, the company announced a partnership with BMW to introduce its robots into automotive manufacturing facilities, starting with a plant in Spartanburg, South Carolina. Since its founding, the company has focused on retail, manufacturing, and warehouse tasks, but founder Brett Adcock **envision**s broad uses for the technology, from at-home care for the elderly to space exploration.



FLOCK SAFETY

MISSION

Installing license plate-reading cameras to apprehend criminals and reduce crime

FOUNDERS

Garrett Langley (CEO) and Matt Feury (Cofounder)

HEADQUARTERS

Atlanta, GA

JOBS CREATED

Flock Safety's advanced cameras capture photos of passing vehicles and run their license plates through a national crime database. Using computer vision and machine learning, the cameras can identify the color, make, and model of individual cars, as well as unique markings like bumper stickers. Within the past year, the company has expanded its product offerings to include **Raven**, an audio detection system designed to reduce gun violence-related offenses; **Condor**, a live and recorded video subscription service; and **FlockOS**, a software platform that consolidates community cameras, evidence detection devices, and third-party data to provide real-time intelligence for law enforcement agencies. Flock's technology is in use in more than **4,000** communities, including over 100 universities and school districts throughout the country.

FLOODBASE

MISSION

Using satellites and AI to track and map floods in near real-time

FOUNDERS

Bessie Schwarz (CEO), Beth Tellman (Chief Science Officer), and Colin Doyle (Principal Scientist)

HEADQUARTERS

Brooklyn, NY

JOBS CREATED

CATEGORIES

As severe flooding becomes increasingly common, Floodbase's technology continuously monitors flooding worldwide and creates real-time maps to optimize flood policy and improve insurance recovery response and relief measures. The company partners with reinsurers and humanitarian organizations to design, underwrite, and monitor parametric flood insurance products. By combining decades of historical flood data with near real-time monitoring, Floodbase is able to cover large corporate and public sector clients against previously uninsurable economic loss from flooding. The company's products have also been **used** by the U.N. and several national governments to improve disaster response.

GECKO ROBOTICS

MISSION

Building inspection robots to maintain infrastructure for the energy and oil and gas industries

FOUNDERS

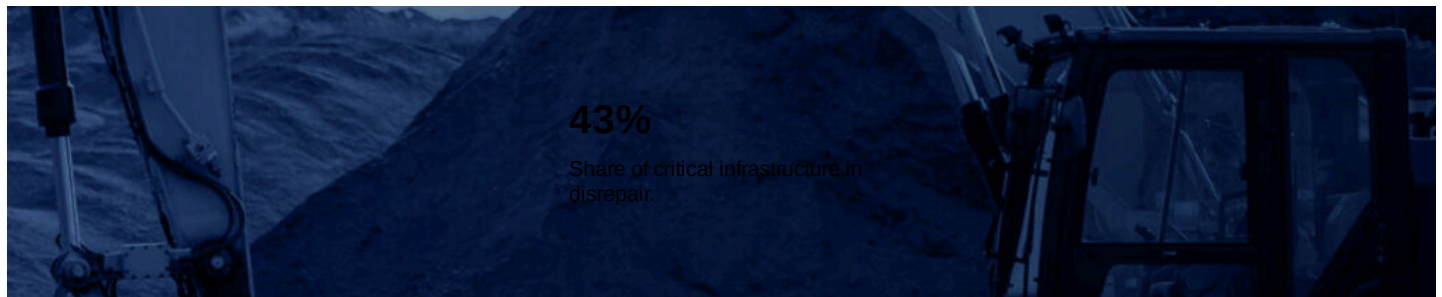
Jake Loosarian (CEO) and Troy Demmer (Chief Product Officer)

HEADQUARTERS

Pittsburgh, PA

JOBS CREATED

Gecko produces agile, remote-controlled **inspection robots** that check equipment for signs of degradation and gather detailed data. The technology is used to evaluate critical infrastructure for energy providers, as well as to track maintenance cycles and identify necessary repairs for **U.S. Navy** ships. The company's small-scale robots are outfitted with ultrasonic transducers, location sensors, lasers, and HD cameras to safely provide detailed inspection reports. In 2023, the company introduced **Cantilever**, a software layer that integrates data from Gecko's robots, drones, fixed sensors, and partner systems into one AI-powered analysis platform to calculate valuable metrics like a vessel's corrosion rate or estimated remaining life.



HIVE AI

MISSION

Using AI to identify and remove harmful digital content

FOUNDERS

Kevin Guo (CEO) and Dmitriy Karpman (CTO)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Hive's cloud-based AI helps companies like **Walmart**, **BeReal**, and **Reddit** automate content moderation and identify, remove, or block harmful outliers. The company's AI-powered APIs can automatically identify images, words, and phrases across images, text, and streamed audio. Hive's technology, which was trained on crowdsourced contributions from 2 million people worldwide, aims to reduce burnout among human moderators and make the digital realm a safer, more civil place.

KOBOLD METALS

CATEGORIES

MISSION

Discovering new deposits of valuable minerals with artificial intelligence

FOUNDERS

Kurt House (CEO), Jeff Jurinak (COO), and Josh Goldman (President)

HEADQUARTERS

Berkeley, CA

JOBS CREATED

Mineral exploration is a predominantly manual process in which geologists use heuristics to identify patterns in maps and subsurface data. As a result, searches are often inefficient and imprecise. Using statistical modeling, geoscience data aggregation, computer vision, and machine learning, KoBold's digital prospecting tool algorithmically predicts the location of new sources of nickel, copper, cobalt, and lithium. These materials are essential for meeting the U.S.'s growing demand for electric vehicles, as well as its **plan** to reduce its dependence on China for battery components by 2030.

LABELBOX

MISSION

Unlocking generative AI applications for healthcare, manufacturing, and other industries through large language models

FOUNDERS

Manu Sharma (CEO), Brian Rieger (President), and Daniel Rasmuson (Cofounder)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Labelbox's training data platform helps businesses like **Walmart**, **P&G**, and **Genentech** to build high-quality computer vision models, LLMs, human-in-the-loop workflows (e.g., image moderation), and intelligent generative AI applications. The company provides automated tools for data labeling and annotation, generating human preference data sets, fine-tuning LLMs, and modeling reinforcement learning from AI feedback (RLAIF). The platform has applications for businesses across healthcare, manufacturing, financial services, and retail.

he Field

ds, restaurant kitchens, recycling facilities, and more.

CATEGORIES

LEOLABS

MISSION

Tracking satellites and debris in lower Earth orbit with technology

FOUNDERS

Daniel Ceperley (CEO), Edward T. Lu (CTO), John Buonocore (Chief Engineer), and Michael Nicolls (former CTO)

HEADQUARTERS

Menlo Park, CA

JOBS CREATED

As the cost of launching payloads to orbit has dramatically decreased, space is becoming increasingly crowded. LeoLabs provides automated satellite tracking, collision avoidance alerts, on-console support for newly launched payloads, and comprehensive risk assessment for insurers, investors, and fleet operators. The company is currently building a network of **radar systems** that track and catalog objects as they orbit — they currently have **sites** in Alaska, Texas, Costa Rica, New Zealand, Australia, and Azores, Portugal. The company intends to expand to more than 20 locations in the next several years.

LIMINAL INSIGHTS

MISSION

Combining machine learning and ultrasound technology to provide intelligence for battery manufacturers

FOUNDERS

Andrew Hsieh (CEO), Shaurjo Biswas (CTO), Barry Van Tassell (Advisor), and Daniel Steingart (Advisor)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Increased demand for electric vehicles has put pressure on the battery industry to keep apace while lowering costs. Liminal's inspection and analytics platform uses ultrasound technology and machine learning to provide visibility into the physical properties of batteries throughout the manufacturing process in real-time. The service allows manufacturers to catch design flaws or defects quickly and better predict batteries' performance. Liminal is **supported** by the National Science Foundation and the Department of Energy and received a **\$2.75 million** grant from the California Energy Commission in 2023.

LOCUS ROBOTICS

MISSION

Automating warehouse logistics with robots

FOUNDERS

Bruce Wely (former Chairman and CEO) and Al Dekin (CRO)

HEADQUARTERS

Wilmington, MA

JOBS CREATED

Bruce Welty previously cofounded Quiet Logistics, an ecommerce fulfillment company that utilized Kiva Systems robots in its warehouses to complete orders. When Amazon acquired Kiva in 2012, Welty set out to improve upon that technology by building an autonomous “picking” robot of his own. The result was Locus Robotics, maker of **autonomous mobile robots** that work alongside warehouse workers in logistics and fulfillment. AI optimizes the robots’ travel path to pick up merchandise, enabling faster and more accurate picking. The robots, which are offered “as a service,” are currently used in more than **200 sites** to fill orders for clothing, housewares, home improvement products, and more. **Locus Park**, the company’s new 200,000-square-foot headquarters in Wilmington, Massachusetts, is slated for completion this year.



LUMAFIELD

MISSION

Applying CT scan technology to products to speed design and manufacturing processes

FOUNDERS

Eduardo Torrealba (CEO), Andreas Bastian (Head of Product), Kevin Cedrone (Head of R&D), Ric Fulop (Chairman), and Scott Johnston (Head of Engineering)

HEADQUARTERS

Cambridge, MA

JOBS CREATED

Previously, when a manufacturer wanted to figure out the design flaws in their product, they'd have to physically **cut it open**. The Lumafield Neptune is an industrial CT scanner that gives engineering teams real-time X-ray vision into their products. Lumafield designed and built the 6-by-6 foot, 2,600-pound machines from scratch and rents them to teams building medical devices, batteries and electronics, automotive components, consumer packaging, and more. Each scanner has a rotating pedestal that twirls the object inside while blasting it with up to **190,000 volts** of X-rays. The resulting 3D and CT data can be run through Lumafield's AI-powered analysis software, Atlas, which allows for digital zooming, slicing, dicing, and measuring at a granular scale.

MODERN INTELLIGENCE

MISSION

Developing AI for defense, starting with maritime domain awareness and surveillance

FOUNDERS

John Dulin (CEO), Joseph Cieslik (COO), and Tristan Tager (Chief Scientist)

HEADQUARTERS

Austin, TX

JOBS CREATED

Modern Intelligence builds AI-based perception products that combine sensor fusion, 3D extrapolation, model compression, and more to serve America's defense forces. Its initial offering, Cutlass, uses real-time sensor fusion to track, analyze, and learn about maritime targets with a high degree of accuracy. The technology is compatible with existing military hardware, software, sensors, and command and control systems. Though the company has initially focused on maritime missions, it anticipates far-reaching applications for its proprietary advances in hierarchical neural network topologies and training.

MYTHOS AI

CATEGORIES

MISSION

Advancing maritime commerce through automated marine shipping and highways

FOUNDERS

Geoff Douglass (CEO), John Houston (CTO), and Allen Flick (Chief Autonomy Testing Officer)

HEADQUARTERS

West Palm Beach, FL

JOBS CREATED

Mythos was founded in 2020 by a team of self-driving technology experts; collectively, they've produced more than 40 unique autonomous and unmanned marine craft, including vessels for the U.S. Navy. The company aims to speed the movement of goods through our bottlenecked ports by developing automated marine highways, self-driving vessels, and AI-powered maritime mapping. In November 2023, Mythos announced a pilot program in **partnership** with Newlab, an innovation platform for tech, to map the port berths and anchorages of Michigan's Port of Monroe, advancing the machine learning that will play a key role in the development of self-driving shipping vessels.

OSARO

MISSION

Piece-picking robots for warehouse automation

FOUNDERS

Derik Pridmore (CEO) and Michael Kahane (CTO)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Osaro's adaptable piece-picking robots can be retrofitted to complete a variety of repetitive warehouse tasks for ecommerce, including bagging, kitting, depalletizing, induction, and picking. The bots are powered by Osaro's AI-driven vision and motion control software, which allows them to continuously update their knowledge and become increasingly precise and capable of identifying new SKUs. In 2023, the company announced new partnerships with

Mission Design, **FANUC**, and **Cognex**, among others.



OUTRIDER AI

MISSION

Pioneering autonomous, electric freight trucks to enhance the safety and efficiency of yard operations

FOUNDERS

Andrew Smith (CEO)

HEADQUARTERS

Golden, CO

JOBS CREATED

CATEGORIES

Since its founding in 2017, Outrider has pioneered autonomous, electric yard trucks that can hitch and unhitch trailers; technology to back the trailers; and robotic systems to connect and disconnect air lines unassisted. In 2023, the company **introduced** a new cloud-based trailer inventory technology that uses computer vision and deep learning to manage one's fleet and track misplaced semi-trailers and containers in distribution yards in real time. The company trials all its technology at its own 200,000-square-foot distribution yard-turned-testing facility in Brighton, Colorado before bringing it to market.

PANO AI

MISSION

Detecting wildfires quickly and providing actionable data for first responders, government agencies, and utility providers

FOUNDERS

Sonia Kastner (CEO) and Arvind Satyam (Chief Commercial Officer)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

When a wildfire ignites, the initial response time is critical. Pano's AI system leverages satellite and other data feeds, field sensors, and imagery from its proprietary network of high-definition, 360-degree cameras to detect fires in real-time and deliver actionable information. The resulting intelligence gives fire departments, government agencies, utilities providers, and insurers immediate, accurate insights (and accompanying high-res images) on a region's threat, including the fire's size and exact location. The company's strategically located Pano Stations, which house its cameras, pinpoint any wildfire activity within **10 miles** and automatically alert first responders.

PARALLEL SYSTEMS

MISSION

Reinventing the rail industry while decarbonizing freight

FOUNDERS

Matt Soule (CEO), John Howard (VP of Hardware), Ben Stabler (VP of Software), and Brian Ignaut (former CTO)

HEADQUARTERS

Los Angeles, CA

JOBS CREATED

Parallel Systems wants to shift the **\$700 billion** freight trucking industry to railways, making use of existing rail infrastructure. The company's autonomous, battery-powered rail cars are designed to be **faster and more cost-effective** than typical trains and trucks and produce no emissions. Parallel's cars can move independently, be loaded autonomously, and flexibly reassemble themselves for immediate departure. They will travel directly to their destination, avoiding typical switchyards, and are capable of braking for hazards up to **10 times** faster than traditional trains.

PREPARED

MISSION

Modernizing 911 response with text, photos, live stream video, and GPS tracking capabilities

FOUNDERS

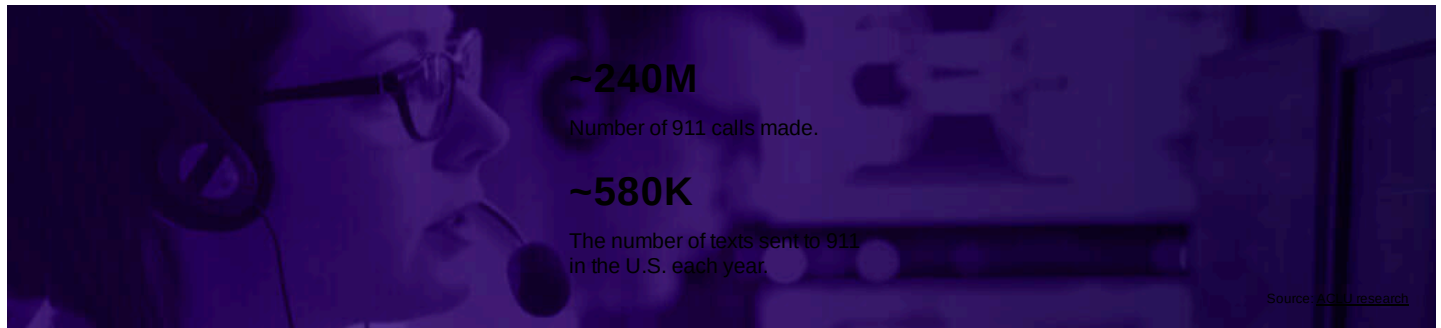
Michael Chime (CEO), Dylan Gleicher (Cofounder), and Neal Soni (Cofounder)

HEADQUARTERS

New York, NY

JOBS CREATED

Seventy percent of 911 calls are now made with wireless phones. But all that potentially valuable smartphone data — GPS location, phone/video access, **CATEGORIES** text capabilities, and more — has historically been inaccessible to 911 operators and emergency responders. Prepared provides operators with real-time data during emergency calls by giving callers a web-based link to share live video, pictures, texts, and GPS location data. The system provides real-time translation in more than 140 languages and a quick AI transcription of calls so operators can seamlessly communicate with the caller while documenting important information. Nearly **15%** of all 911 centers use Prepared's technology.



PRIMER AI

MISSION

Improving threat detection and response through AI-powered data collection and analysis

FOUNDERS

Sean Gourley (CEO)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Primer's AI tools give analysts and operators tools to detect, understand, and analyze threats in real-time. Leveraging both open-source and proprietary data, the company's suite of products aims to improve response time and informed decision-making. Primer Command provides early threat detection gleaned from social media and news data, including text, images, and audio data; Primer Delta structures, securely stores, and analyzes troves of messy data; and the company's LLMs enable semantic search, summarizing, and insight-generating analytics. The technology is used by **government agencies** such as the U.S. Air Force and the Joint Interagency Task Force South, as well as Fortune 500 **companies** like Walmart and Microsoft.

RAIN AERO

MISSION

Battling wildfires with automated aerial containment technology

FOUNDERS

Maxwell Brodie (CEO), Bryan Hatton (CTO), and Ephraim Nowak (Chief Engineer)

HEADQUARTERS

Alameda, CA

JOBS CREATED

The Rain Aero team includes former incident commanders, EMTs, and search and rescue members. Its founders understand firsthand how important that initial response is to containing a wildfire's destruction. Rain's technology leverages a combination of smoke sensors, **more than 1,000** fire watch cameras, lightning detectors, and satellite data so responders can quickly detect and understand the threat. Rain's autonomous helicopters — which are configured from existing military and autonomous aircraft — launch remotely, fly directly to the site's coordinates, and can design an optimal suppression strategy using thermal cameras and computer vision.

RAPID ROBOTICS

CATEGORIES

MISSION

Eliminating labor shortages in American manufacturing with automation

FOUNDERS

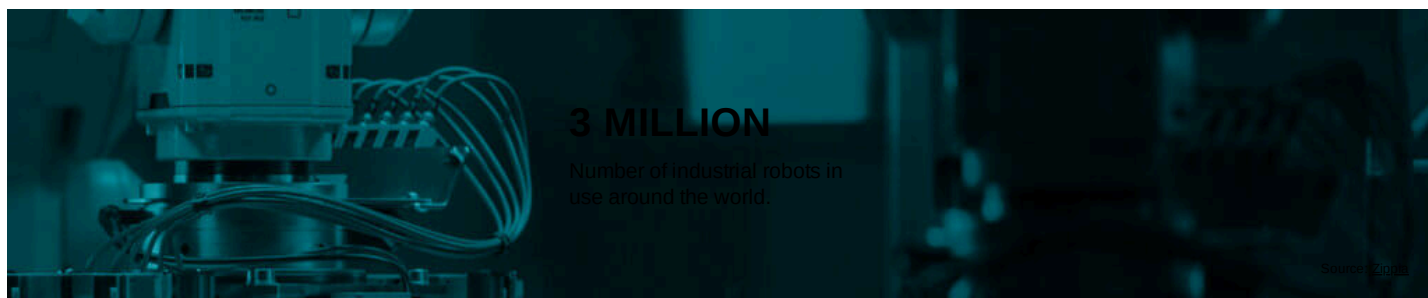
Jordan Kretchmer (CEO) and Ruddick Lawrence (CTO)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Robotic automation can be often costly and complicated to integrate into a live manufacturing floor. In contrast, Rapid touts its robots' affordability, scalability, and "out of the box" simplicity. The company designs and delivers automated Rapid Machine Operators (RMOs) within weeks, and the robots are typically up and running 4 to 6 hours after delivery. The cloud-connected robotic arm is pre-trained by AI and computer vision to execute a variety of simple machine tasks, including case palletizing, loading and unloading, or applying adhesives. The company's robots have been utilized by manufacturers of products ranging from automotive parts to medical supplies.



RRAI

MISSION

Innovating autonomous vehicles

FOUNDERS

Alberto Lacaze (CEO) and Karl Murphy (VP and Senior Engineer)

HEADQUARTERS

Clarksburg, MD

JOBS CREATED

The founders of RRAI have been working on applications in autonomy for more than 20 years — they previously worked together in the Intelligent Systems Division of the National Institute of Standards and Technology. RRAI provides autonomous driving systems for defense and commercial use. Open architecture allows users to build their own autonomy models on top of the technology; their platform-agnostic Autonomy Kit is used in **more than 10 countries**. The company's AutoDrive product allows autonomous vehicles to tackle the most challenging environments, including unstructured, off-road, and rural sites; locations that are GPS-denied; high-density pedestrian environments; and low-light and weather-impaired settings. RRAI has automated more than **two dozen** Department of Defence (DOD) vehicle platforms.

SAILDRONE

MISSION

Collecting ocean data in real-time with a fleet of wind- and solar-powered uncrewed surface vehicles

FOUNDERS

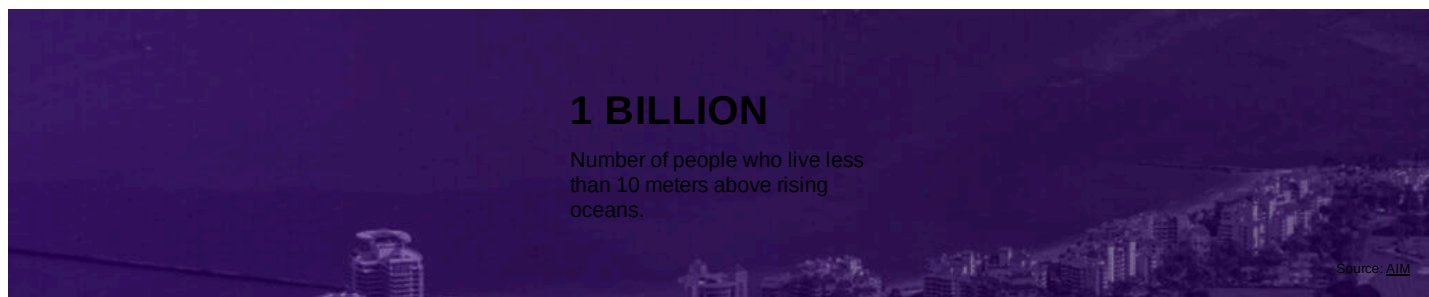
Richard Jenkins (CEO)

HEADQUARTERS

Alameda, CA

CATEGORIES JOBS CREATED

Saildrone's wind- and solar-powered vehicles collect real-time, high-resolution ocean data and use proprietary software to translate it into intelligence for climate, mapping, and maritime security. Last summer, the drone **recorded** video and images from inside Hurricane Idalia, where it weathered tropical-storm-force winds and waves topping 30 feet in pursuit of data that will improve hurricane forecasting. And in November 2023, Saildrone's Voyager became the first-ever commercial uncrewed surface vehicle (USV) to receive **classification** from the American Bureau of Shipping, a designation that will allow the drone to deploy its ocean mapping systems in a greater number of ports and waterways around the world.



SARONIC TECHNOLOGIES

MISSION

Providing unmanned surface vehicles for maritime security and domain awareness

FOUNDERS

Dino Mavrookas (CEO), Rob Lehman (CCO), Vibhav Altkar (VP of Software), and Doug Lambert (Head of Engineering)

HEADQUARTERS

Austin, TX

JOBS CREATED

Saronic builds unmanned surface vehicles for naval and maritime forces that can be launched from small craft, fleet assets, beachheads, or airdrops. The company's three ASV models — Spyglass, Cutlass, and Corsair — combine hardware, software, and AI to autonomously perform tasks such as identifying and tracking other surface craft, conducting launch-and-recovery missions at sea, and deploying loitering munitions. The modular vehicles' flexible architecture enables a range of mission-specific payloads and sensors to be integrated.

SCALE AI

MISSION

Helping enterprises build and deploy customized LLM applications.

FOUNDERS

Alexandr Wang (CEO)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Scale offers high-quality training and validation data for AI applications, as well as a platform for reinforcement learning from human feedback (RLHF). The platform gives enterprises the ability to customize generative AI models to fit their needs, as well as tools to evaluate and optimize those models. In November 2023, Scale announced a **collaboration** with Microsoft to deliver its enterprise generative AI platform on Microsoft Azure. The data platform is **used** by the U.S. Army and the U.S. Air Force, as well as generative AI providers such as Open AI, Anthropic, and Cohere.

CATEGORIES

10%

of enterprises currently have AI models in production.

Source: [Gartner](#)

SHIELD AI

MISSION

Enabling swarms of military drones and aircraft to operate autonomously

FOUNDERS

Ryan Tseng (CEO), Brandon Tseng (President and Chief Growth Officer), and Andrew Reiter (Technical Fellow)

HEADQUARTERS

San Diego, CA

JOBS CREATED

Cofounded by Brandon Tseng, a former Navy SEAL, Shield develops advanced AI and hardware capable of powering government aircraft, drones, ships, and submarines. The company's "Hivemind" AI pilot can function autonomously — without GPS or communications — to protect service members and civilians. One of Shield's early products, a small drone called Nova 2, was **used** by Israel Defense Forces in the aftermath of the Hamas attacks to search for civilians and barricaded shooters inside targeted buildings. The drone can conduct surveillance in multistory buildings and underground complexes without a human pilot.

~1,500

U.S. police departments operate drones

~12%

of U.S. police departments operate drones in some form

Source: [ACLU research](#)

SKYDIO

MISSION

Building autonomous drones for public safety and government use

FOUNDERS

Adam Bry (CEO), Abraham Bachrach (CTO), and Matt Donahoe (Cofounder)

HEADQUARTERS

San Mateo, CA

JOBS CREATED

Skydio develops autonomous, camera-equipped drones that are agile enough to assist in complex environments, including rescue missions, law enforcement response, war zones, and severe weather events. In 2023 Skydio introduced the **X10** drone, which serves a variety of public safety applications. The drone, which can fit in the trunk of a police car, flies at up to 45 miles per hour, can follow a vehicle from a distance of 3 miles, and has infrared sensors that enable it to fly autonomously at night. The X10's high-powered camera can read a license plate from 800 feet away.

CATEGORIES

SLINGSHOT AEROSPACE

MISSION

Tracking satellites and building AI-powered space simulations

FOUNDERS

David Godwin (President), Melanie Stricklan (Cofounder), and Thomas Ashman (Cofounder)

HEADQUARTERS

El Segundo, CA

JOBS CREATED

Drawing on heavy data streams from satellites, ground-based sensors, and more, Slingshot Aerospace offers a digital space training environment for agencies to build domain awareness, reduce on-orbit risks, and optimize missions. In addition, the company provides advanced satellite tracking, monitoring, and collision avoidance technology, which automatically alerts stakeholders when it detects abnormal satellite activity. In October 2023, for example, Slingshot **reported** data that indicated spy activity by the Russian satellite Luch-2. Former White House Space Policy official Audrey Schaffer **joined** the company last year to develop policies for safer space operations.

SURGE AI

MISSION

Providing advanced human data to train and analyze LLMs

FOUNDERS

Edwin Chen (CEO)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Surge CEO Edwin Chen previously led machine learning and content moderation teams at Google, Facebook, and Twitter. Surge AI's human data platform trains and evaluates large language models on the critical stage of reinforcement learning with human feedback (RLHF). By combining humans, software, and AI, the platform can train, measure, and analyze model performance in a continuous data flywheel. Surge's AI data platform is used by **companies** like OpenAI, Anthropic, Cohere, and more to teach their LLMs and generative AI models to code, write, classify, reason, and solve tasks at superintelligent capabilities.

SWARM AERO

MISSION

Supplying thousands of affordable, autonomous UAVs for military use

FOUNDERS

Danny Goodman (CEO), Oliver Palmer (COO), and Peter Kalogiannis (Chief Engineer)

HEADQUARTERS

New York, NY

JOBS CREATED

Swarm cofounder Danny Goodman previously built the AI intelligence platform Vannevar Labs (see below), which was leveraged by the DOD. With this latest company, founded in 2022, he aims to build the largest swarm of uncrewed aerial vehicles in the world. These low-cost UAVs are part of the military's strategy of "affordable mass" — deploying thousands of small, weapons-laden aircraft that can execute human-directed tasks remotely. These AI-driven swarms incorporate sensors that can collect and analyze battlefield data in real-time, allowing for greater precision, lower cost, and, most importantly, minimized risk for soldiers.

SYNTHESIS

CATEGORIES

MISSION

AI-powered learning and digital tutoring for kids

FOUNDERS

Chrisman Frank (CEO) and Joshua Dahn (Cofounder)

HEADQUARTERS

Los Angeles, CA

JOBS CREATED

Synthesis cofounder Joshua Dahn developed the curriculum for Ad Astra (Latin for “to the stars”), the private school originally designed for Elon Musk’s and other SpaceX employees’ kids. Based on research gleaned from SpaceX and DARPA, he and cofounder Chrisman Frank built AI-powered software that teaches kids math and science concepts through online strategy games. The curriculum prioritizes critical thinking, decision-making, communication skills, and informed problem-solving over the memorization of rote facts. In addition, the company developed a digital tutor that gives personalized guidance when a student doesn’t understand a concept. The online school has over 10,000 students around the world.

TRUE ANOMALY

MISSION

Building technology at the intersection of spacecraft, software, and AI to strengthen our space security

FOUNDERS

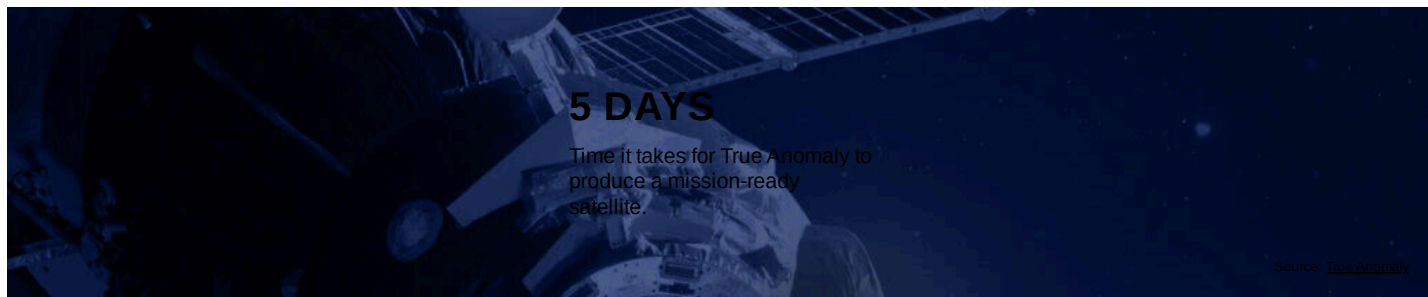
Even Rogers (CEO), Tom Nichols (Chief Product Officer), Kyle Zakrzewski (Chief Engineer), and Dan Brunski (Electrical Engineer)

HEADQUARTERS

Centennial, CO

JOBS CREATED

True Anomaly approaches satellite manufacturing like an automobile assembly line — using software and AI, it can build a mission-ready satellite every **5 days**. The purpose of this rapidly scalable satellite fleet is to enhance the U.S.’s capabilities in space, maintain our standing in the global race for space domain, and bolster our security. In addition, True Anomaly provides AI-simulated assets and scenarios for testing and training virtual spacecraft. In 2023, the company received **authorization** from the National Oceanic and Atmospheric Administration and the Federal Communications Commission to perform rendezvous and proximity missions with its Jackal vehicle, as well as to collect imagery of the space environment with its onboard sensors.



VANNEVAR LABS

MISSION

Applying AI, machine learning, and natural language processing to critical national security problems

FOUNDERS

Brett Granberg (CEO) and Nini Moorhead (President)

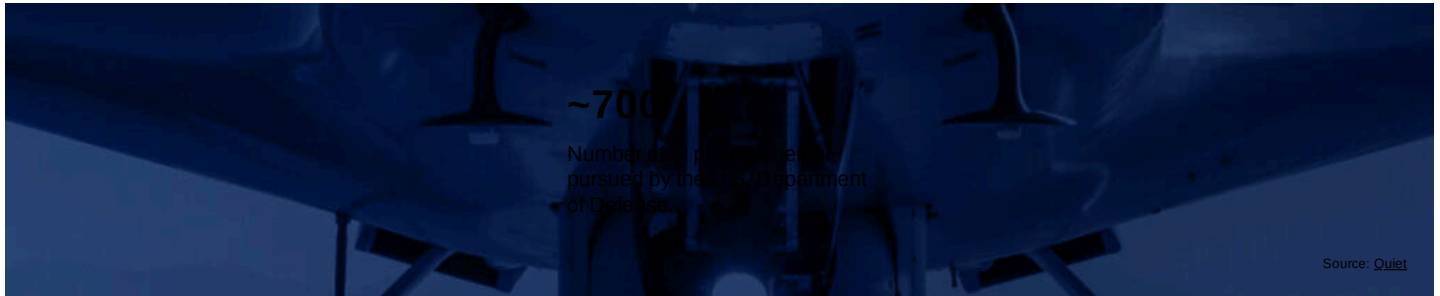
HEADQUARTERS

Palo Alto, CA

JOBS CREATED

CATEGORIES

After working as a counterterrorism officer in the intelligence community for 7 years, Nini Moorhead was familiar with the red tape involved in attempting to adopt new technologies. Her cofounder, Brett Granberg, was a former intelligence investor who had worked with the CIA, NSA, and the Department of Defense. The pair recognized the value in building a better tech platform in the interest of national security. Their product, Vannevar Decrypt, incorporates natural language processing and computer vision to translate and interpret foreign language text and generate counterterrorism insights.



WEAVEGRID

MISSION

Using machine learning and predictive software to more intelligently integrate EVs into energy grids

FOUNDERS

Apoorv Bhargava (CEO) and John Taggart (CTO)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

WeaveGrid's software helps utility companies to better integrate electric vehicles into their grids by using machine learning and predictive analytics. The company works with utilities, automakers, electric vehicle supply equipment providers, and electric vehicle owners to intelligently connect grids, forecast high-power needs, and introduce smart EV-charging programs. In 2022, WeaveGrid introduced a smart charging **pilot program** in California for PG&E customers at risk of having their power shut off due to wildfires or extreme weather events. And in 2023, the company **launched** its managed charging system in Detroit, which coordinates charging times to optimize grid capabilities.

ZANSKAR

MISSION

Discovering new sources of geothermal power using AI

FOUNDERS

Carl Hoiland (CEO) and Joel Edwards (CTO)

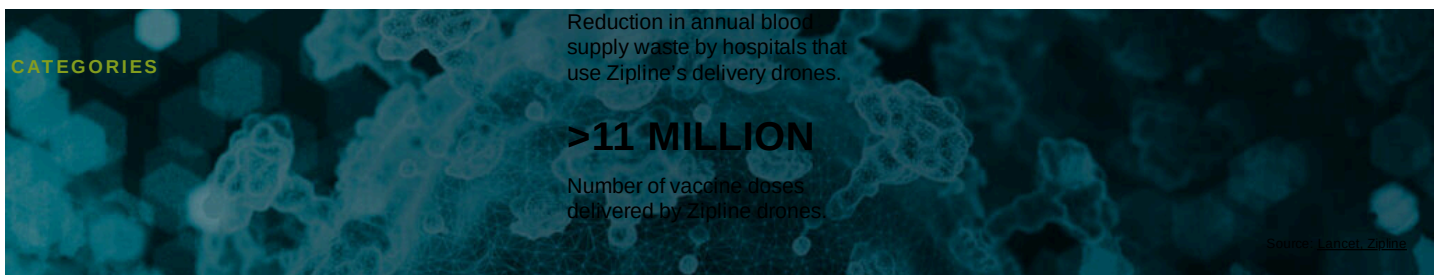
HEADQUARTERS

Salt Lake City, UT

JOBS CREATED

Geothermal energy is affordable, widely deployable, and carbon-free. Unfortunately, it's also challenging to locate and develop. Zanskar uses data science and AI to uncover new electric-grade geothermal resources with greater speed and precision. The company partners with geothermal developers to accelerate subsurface technology and drive down the costs of geothermal site development.





ZIPLINE

MISSION

Streamlining the supply chain for healthcare and retail through an autonomous drone delivery service

FOUNDERS

Keller Rinaudo Clifton (CEO), Keenan Wyrobek (CTO), and Will Hetzler (Cofounder)

HEADQUARTERS

San Francisco, CA

JOBS CREATED

Zipline is perhaps best known for delivering blood and vaccines to hospitals throughout Africa by autonomous drone. Throughout the pandemic, however, the company also began delivering prescriptions in Salt Lake City, Utah, medical supplies in North Carolina, and health and wellness products from Walmart in Arkansas. In 2023, Zipline introduced a new autonomous drone, the **P2 Zip**, that will supercharge its delivery capabilities. The drone can carry 8 pounds of cargo within a 10-mile radius, accurately land a package on a doorstep, and recharge itself. This year, the company is expanding its services into **Ohio, Michigan, Washington**, and other states through **partnerships** with Sweetgreen, Michigan Medicine, and other health systems.

The American Dynamism 50: How We Selected the Companies Featured

The American Dynamism 50 highlights compelling companies supporting the national interest in the fields of aviation and space, climate and energy, construction, defense and public safety, education, food and agriculture, manufacturing and robotics, software, and transportation and logistics. Bio- and health-focused companies are not included. (Read more about our extensive investments in those areas [here](#)). This project is meant to represent a snapshot of AI companies advancing American innovation, across industries. The list is ordered alphabetically — not ranked — and is not exhaustive.

To be considered for this project, companies must be private, U.S.-based, and VC-funded. Those selected were based on a variety of factors, including mission, momentum, innovation, and estimated job creation (via LinkedIn). Companies are not chosen based on company size or funding.

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