

COMPANY

OffWorld, Inc. www.offworld.ai

CONTACT

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STATUS

- ▶ Customer contracts with 2 of the top 5 mining companies for deployment of a Swarm Robotic Mining system (novel excavation, directed energy preconditioning and processing technologies)
- ▶ Major Space Agency contract for robotic lunar propellant processing
- ▶ Industrial grade Robotics-as-a-Service (RaaS) platform development
- ▶ Task-agnostic machine learning (ML) architecture to create teachable robots in progress
- ▶ First deployments in underground mining campaigns

REVENUES TO DATE

- ▶ \$23M customer revenues

UPCOMING 2022 CONTRACTS

- ▶ Mining industry contracts \$8M+
- ▶ Space agency contracts \$12.5M

CORPORATE STATUS

- ▶ Incorporated January 2016
- ▶ Investment: \$4m (Sep 2021)
- ▶ Engineering facilities: 70,000 sqft
- ▶ Team: 60+ staff

MINING EQUIPMENT TAM

- ▶ \$200B+ in 2026

FUNDING ROUND

- ▶ \$50m Series A
- ▶ Lead Term Sheet for \$35m signed
- ▶ Remaining \$15m in Q1, 2022

USE OF FUNDS

- ▶ Engineering & Manufacturing
- ▶ Acceleration of IP Development
- ▶ BD for adjacent markets
- ▶ New Sector Penetration

IMMEDIATE MILESTONES

- ▶ Robotic stoping squad development contracts
- ▶ Robotic microwave mining core module kickoff
- ▶ Additional mining company onramping

INVESTOR EXIT OPTIONS

- ▶ Growth Investment Rounds
- ▶ SPAC or IPO

AI-POWERED ROBOTIC INDUSTRIAL WORKFORCE**Problem**

The global metals mining industry is faced with an existential challenge: find a radically new technological approach to mining or face an irreversible decline in profitability. As high-grade ore deposits are being exhausted, the mining industry has been battling declining ore grades with a brute force solution: make mining equipment bigger to be able to excavate, move, and process more of what is increasingly dirt for a decreasing payoff in useful metals. The increased cost of required mining infrastructure and operations, make it impossible to economically mine smaller Tier 2 and Tier 3 deposits, and the economics of mining large Tier 1 deposits is now extremely sensitive to commodity price fluctuations. The metals mining industry is in an urgent need of a new technological paradigm that can reset mining economics.

Solution

For several decades, our team has been devising approaches to mine resources on the Moon. Our aerospace engineering heritage has uniquely positioned us to solve the problem of mining on Earth. Instead of going big, heavy, brute force, and human-operated, our approach is to achieve precision mining by going small, light, highly redundant, and increasingly autonomous. Our concept of operations relies on a swarm robotics ecosystem that consists of species of small bots, working together to perform the mining process end-to-end with minimum human intervention augmenting physical breaking of rock with directed energy fragmentation. The key to enabling this architecture is the development of a task-agnostic Machine Learning framework applicable to any number of industrial tasks. Preliminary estimates validated by a world's top 5 mining company show that our Swarm Robotic Mining (SRM) approach has the potential to dramatically reduce the total cost of mining within 5 years with a 3x increase in NPV. Furthermore, SRM will not only make large Tier 1 mines more profitable, it could also make smaller deposits economically viable, thereby unlocking currently idle reserves. The promise of OffWorld's system will lead to the mining industry adopting SRM system for deeper underground precision mining, expanding initial deployments into a full mining process chain deployment within three years.

Business

Our immediate goal is to disrupt the \$200+ billion mining equipment industry with not just a radically different technological approach but also a different business model. To enable our customers to stay asset-light, we can operate our robotic fleets on a Robotics-as-a-Service model to enable our customers to eliminate conventional CAPEX in place of fully accountable OPEX operations (avg. unit price of \$95K resulting in ~35% gross margins for early deployments, driving the unit price down to <\$35K and 45% gross margins for end-to-end SRM with 3-year lease periods) and then add value by operating these fleets for our clients on "mining-as-a-service" contracts. The total sales to our first mining client alone has the mine potential to utilize 200,000 robots. In parallel, we are pursuing synergistic adaptations of the swarm for other higher-value applications and license our IP to interested developers and operators. The first mine deployment campaigns completed exceeding all KPIs. Having also recently engaged a major Space Agency contract for robotic lunar propellant processing, OffWorld is the first company in the world to secure mining development contracts on two planetary bodies.

Scaling Opportunity

Our standardized modular swarm robotic platform can be adapted to perform similar tasks outside the mining sector. These include smart cities plus urban infrastructure maintenance and repair, urban tunneling de-blocking of underground water and sewage tunnels, underground breaching and urban support, robotic ocean plastic and debris cleanup and ultimately mining and construction in space. We intend our machine learning robots, embodied in a ruggedized modular platform configurable to a variety of extreme environments, to become the standard robotic workforce for heavy industry on Earth, before we move offworld and take on industrial jobs of civilization building in the inner Solar System. We are currently engaging the space, construction and government sectors in addition to mining. The robotic tooling intelligence, modular hardware and standardized platform are able to meet any industrial task.

Team

- ▶ Highly technical founding team with a mix of systems engineering and business backgrounds (prior careers at ESA, NASA, CERN, Reaction Engines, SSL/MDA, ATK, Surrey Satellites, multiple patents and track record of invention in rocket engines, aerospace and robotic systems)
- ▶ 50+ high-performing AI & robotics engineers from UC Berkeley, Stanford, Johns Hopkins, ASU, Georgia Tech, NYU across three engineering facilities.
- ▶ Unlimited access to mining experts and heavy engagement with our customer base
- ▶ Actively engaged Advisory Board including world's leading experts on ML & Robotics