HyperKelp

The Oceanic Mega-Constellation

Notable investor

Techstars

Space Accelerator

Past

techstars_

Customers

Scales Scales Scales Scales

$0 RAISED USD

0% of minimum target: $25,000

0% of maximum goal raised: $400,000

0 investors

$250 min for US investors

PITCH DISCUSSION UPDATES 0

HIGHLIGHTS

U.S. Patent Pending

Detecting hypersonic threats from the ocean's surface

Customers at Northrop Grumman

Awarded contract to host & deploy subsurface sensors

Recipients of $150k NOAA SBIR Grant

Phase I to develop KSB payloads for the blue economy

43,000 buoy hours at sea (and counting)

Sensor fleet deployed under a NOAA Phase II grant since 2020

SUMMARY

PROBLEM Ocean data is the final frontier of the Earth's information age

SOLUTION Ocean surface level constellation of floating sensors persistently gathering data, allowing for more reliable climate and defense predictions

PRODUCT HyperKelp delivers ocean data as a service by deploying sensor-agnostic, hosted payload platforms for maritime awareness

TRACTION NOAA SBIR Phase I and Phase II Grants, TechStars Space Accelerator: $120k Pre-Seed investment, Samuel Lawrence Foundation: $10,000 grant , HyperKelp has customers at Northrop Grumman

CUSTOMERS NOAA, Anonymous 1, Anonymous 2, Northrup Grumman

BUSINESS MODEL Subscription/recurring payment, Transactional, Service

MARKET Approx. Market Size: $42B

COMPETITION HyperKelp's platform subverts its competitors by opening access to any type of ocean data, at high resolutions, for years at a time.

TEAM Experienced entrepreneurs with deep industry knowledge and connections; diverse advisory group with many DoD representatives

VISION HyperKelp is on a path toward becoming the ocean's decisive data company

USE OF FUNDS 50% to hire signal processing/data engineer, 30% to acquire inventory, 20% general operational cost including partial coverage of officer salaries.

MEDIA MENTIONS

Encinitas Startup's 'Smart Buoys' Get Attention
San Diego Business Journal

New Tech Could Help Explore Ocean Warming
Lifewire

HyperKelp joins Techstars
Techstars

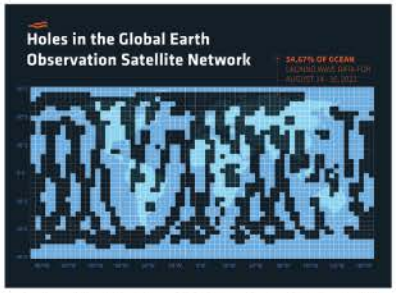
DEAL TERMS

How it works

Deal type	Debt
Valuation cap	$10,000,000.00 USD
Discount	20.0%
Type of security	Crowdsafe
Investment range	$250-$100,000 USD
Funding goal	$25,000-$400,000 USD
Closing date	April 30, 2023, 9:00 PM ET
Carry	0%
Investor Fees	$0

PROBLEM

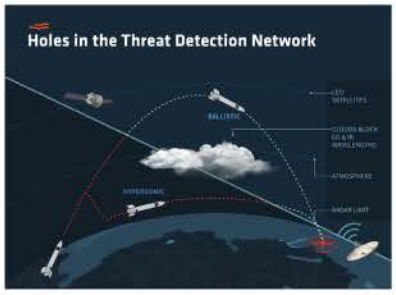
Ocean data is the final frontier of the Earth's information age



We have been in the information age for about two decades, but the actionability of that information relies on accurate, current, and comprehensive data. One area that still suffers a lack in reliability is the surface and sub-surface of our oceans. We know more about the surface of Mars, the Moon and Venus than we do about the oceans [1]. Today, we rely on satellites (some over 35,000 kilometers above the earth's surface) for Earth observation, threat detection and other data collection. While satellites are crucial to many predictions and communication relays, they often lack the precision and persistence necessary to make specialized and actionable models of our oceans. Sensor accuracy and transit times create gaps in commercial datasets and holes in national security.

Missile Defense

Remote sensors, for example, have not yet adapted to address the growing threat of hypersonic weapons systems. Many military satellites use electro-optical (EO) and infrared (IR) wavelengths as a method of missile detection; however, this approach cannot penetrate clouds or smoke [2]. Since incoming hypersonic missiles fly close to the surface of the ocean, something as benign as a cloudy day could hinder the United States and its allies' ability to precisely detect and stop them. Even under perfect observing conditions, hypersonics are 20x dimmer than any missile that's previously been tracked from space [3]. Airborne and surface radars also have problems with these low, fast moving threats. Radars are limited by the horizon, and the plasma blanket that surrounds hypersonic missiles even acts as a 'cloaking device' – absorbing radar signals. EO and IR wavelengths are also used for ocean observation satellites and suffer similar handicaps.



Sea Level

Another example is seen in ocean observation satellites that track sea level. Though these satellites cover large areas at a time, they have problems measuring near the coast – exactly where accurate measurements are needed. Rising waters amplify the impacts of climate change, including storm surges, high tides, coastal erosion, and wetland loss, even absent any changes in storm frequency and intensity. Researchers have estimated that sea level rise could have a roughly $500 billion price tag by 2100 [4]. About 95 million Americans, or about 29% of the total U.S. population, live in coastal counties [5]. Given current data, sea levels are projected to rise 0.6–2.2 m from current levels by 2100, but this range is so large that the action plan for each bookend is dramatically different [6]. Without precise, ongoing, onsite, ocean water level data it is mission impossible to try and develop an action plan to mitigate or prevent these environmental changes. Environmental data is a key part of the ESG framework.

Salinity and Temperature

Salinity (concentration of salt) and water temperature also have profound social impacts. Conditions on the ocean's surface are the most powerful drivers of global weather. Salinity indirectly affects the temperature of ocean water through changes in water density that disrupt the flow of major ocean currents. These currents control how heat is carried around the globe and ultimately help regulate the world's climate [7].

Salinity and temperature conditions also directly impact human health. Diseases such as vibriosis (a form of food poisoning) have been proven to increase dramatically in shellfish when coastal ocean waters are warmer [8] [9]. Temperature data gathered from satellites can be useful for general predictions for when an increase in vibrio may happen, but just like the weather forecasts, they are often not actionable.

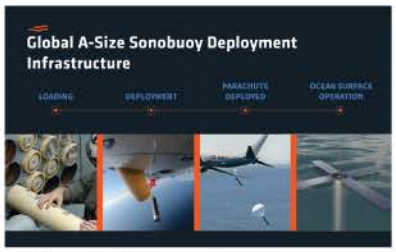
A better way of collecting oceanic data is by being onsite at the ocean's surface. This is essential in providing a more complete picture of national security threats and environmental changes. HyperKelp is developing a robust constellation of data buoys that could potentially solve these problems.

SOLUTION

Ocean surface level constellation of floating sensors persistently gathering data, allowing for more reliable

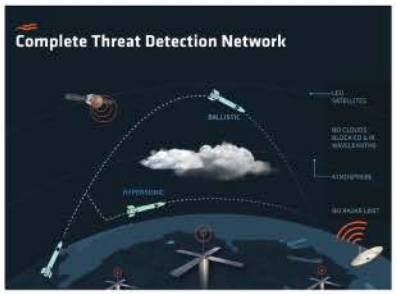
climate and defense predictions

HyperKelp's approach to delivering data to an actionable entity is to provide uninterrupted, onsite measurements of a range of data points using the Kelp Smart Buoy (KSB). KSB is a payload platform that can host any type of sensor package at sea. By being on location, and utilizing the enormous maritime sensor deployment network that exists today, HyperKelp believes that it provides vastly more persistent, accurate data, with lower latency, more frequently. Right now, the Department of Defense (DoD) deploys over 200,000 expendable sonobuoys per year [10]. That's 500 buoys every day, and each lasts an average of 8 hours [11].

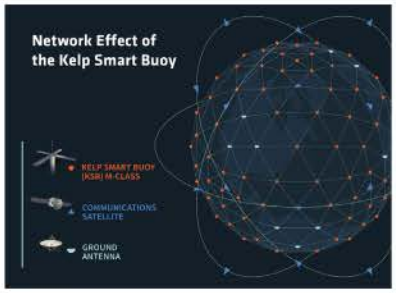


DoD Deployment Network
To scale on the back of that massive deployment infrastructure, HyperKelp has built the KSB M-Class [12]. Using the technology proven in their civilian KSB platform, this buoy fits inside of current DOD deployment tubes. And because the M-Class is outfitted with a solar array, it outlives traditional air deployed buoys by a factor of 1,100 *(1)*. By providing surface-level data access, and hosting powerful, low SWaP (Size, Weight and Power) computers at sea, HyperKelp is designed to sense and identify unique acoustic signals for early detection and tracking of hypersonic threats.

The KSB M-Class is not hindered by weather or weak target signals and gives defenses 17x faster warning for 0.6% of the cost of satellite-based systems *(2)*. This makes it an integral component of a global awareness network that includes LEO and GEO satellites, drones, aircraft, ships, submarines, and ground based stations. These approaches benefit from both the network effect and precision of data which both help to improve the efficacy of the systems.



Network Effects
Persistent buoy platforms that target large scale customers also open access to network effects that other ocean data companies have struggled to access. When KSBs are deployed in true sonobuoy style - hundreds at a time - the network effects quickly become profound. HyperKelp plans to multiply these effects by ridesharing sensors from multiple customers on each buoy - a lot like how PlanetLabs and Spire deploy sensors for multiple customers on hosted payload satellites. Even as HyperKelp deploys buoys with custom payloads for specialized customers, KSBs ride-share standardized sensors to contribute to a growing dataset of commonly needed, real time ocean measurements.



Satellite Synergy
HyperKelp provides far more persistent data than many earth observation satellites, but the company is not designed to be an alternative to space-based observing platforms. Instead, the data products that HyperKelp will ultimately generate are intended to complement satellite-centric products with global scale maritime datasets that are otherwise difficult to access. For example, sea surface temperature measurements and wave maps collected by HyperKelp can be fused with satellite measurements to more accurately monitor and predict the core drivers of weather. This leads to improved weather forecasts well beyond the abilities of those driven by purely remote sensor feeds. On top of that, HyperKelp also works with satellite communication companies to deliver measurements back to environmental management and governance entities on land.

Maritime Domain Awareness
The Kelp Smart Buoy can be equipped with a sensor payload optimized for waterside security. Developed in-house at HyperKelp, it autonomously detects vessels, personnel, aircraft, and ground vehicles under all conditions. The KSB-MDA is self-powered and built to withstand the ocean's toughest conditions. Each KSB collects and processes imagery on-site. Once it autonomously classifies nearby intrusions, insights are delivered to the customer's ODaaS dashboard. There, security teams make the final call on how to handle potential intrusions.

HyperKelp's data acquisition on location could help to make global networks more robust and agile in a changing world. Ultimately, these aggregated measurements will power a global scale data product that generates recurring revenue from customers far beyond those with a need to host hardware at sea.

Footnotes
(1) The typical air deployed buoy lasts 16 hours. HyperKelp systems have been running for over 2 years continuously.
(2) Based on missile speeds, potential launch sites, and our own internal calculations.

HyperKelp delivers ocean data as a service by deploying sensor-agnostic, hosted payload platforms for maritime awareness

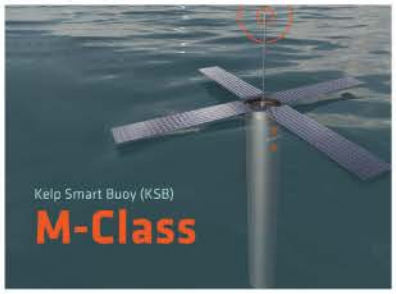
The Kelp Smart Buoy (KSB) A-Class was the first buoy developed by HyperKelp and pioneered the satellite connected hosted payload platform.

The Kelp Smart Buoy (KSB) A-Class
The Standard KSB is built to host any payload at sea, and guarantee data delivery from any point on the Earth's surface. Each KSB features a rugged solar array that generates power for indefinite operations from 70°N to 70°S. A minimum of 48 Watt-Hours of energy per day is budgeted exclusively for payload use, and a variety of onboard communications pathways - including satellite communications, LoRa, 4G Cell, and WiFi - ensure maximum possible bandwidth for data and system access in any deployment situation. Costas Soler, HyperKelp's CTO, likens it to "a pickup truck for the ocean" because of its ability to host other third-party payload sensors [13].

With a combined 58,000 hours at sea (and counting) *[1]*, HyperKelp's deployed fleet of KSBs have delivered over 4.2 million measurements from over 37 sensor payloads *[2]*. These range from complete weather stations for NOAA, to barometers that captured the 2022 Tonga eruption from 5,300 miles away, and hydrophones for tracking overhead jets.

KSB's lifetime is designed to be years, with multiple units currently deployed for over 20 months *[1]*. The solar charging array provides sufficient power to keep onboard batteries charged year-round in most locations *[3]*. For operations in extreme northern or southern latitudes, Kelp-OS's versatile power management software can throttle communications and payload power consumption to survive even Arctic and Antarctic winters.

KSBs are a turnkey system that can be deployed by hand off the side of a ship. At 35 inches in diameter, they can be deployed by a single person. For complex payloads, KSBs can be rapidly tailored to fit most mission needs.



The KSB M-Class has all the same core features of the KSB A-Class but its size is designed to take advantage of the vast DoD buoy deployment network.

The Kelp Smart Buoy (KSB) M-Class
Built for any deployment scenario, the KSB M-Class delivers all core features of the standard KSB in an A-Size sonobuoy form factor. Compatible with aircraft, unmanned underwater vehicles (UUV), unmanned aerial vehicles (UAV), boats, and submarine deployments, the M-Class hull is already familiar to the US Military sonobuoy deployment network. Deploying the KSB M-class on this network will allow for a rapid leap in oceanic data resolution.

The KSB M-Class employs low-SWaP measurement and signature intelligence (MASINT), signals intelligence (SIGINT), and electronic warfare (EW) payloads to any contested environment.

KSB M-Class has been used to deploy acoustic payloads, as well as computer vision payloads to extract signals of interest, and classify the source vehicles in real time. Insights, raw data, and system health metrics are transmitted to customer dashboards via onboard WiFi, 4G Cell, LoRa, and/or SatCom uplinks.

M-Class is outfitted with a lightweight Lithium Polymer battery which offers 110 Watt-Hours of energy storage. Expansions are also available, including increased storage capacity, solar charging arrays, and wired power sources for demonstration purposes.

The customizable ODaaS Dashboard delivers persistent data from the KSB buoy network for ease of viewing and actionability.

network for ease of viewing and scalability.

Ocean Data as a Service (ODaaS) Dashboard
With an ODaaS Dashboard, you can visualize data and download it from any device with a browser and an internet connection. HyperKelp has already tested the ODaaS dashboards with the delivery and storage of over 4.2 million measurements from its deployed KSB fleet.

The superpower of the dashboard is that, after 300 KSBs or more are deployed, ODaaS generates recurring revenue with a series of maritime data products.

ODaaS dashboards display data from a single KSB unit, as well as aggregated datasets from entire fleets. Customers don't need to own a KSB to access oceanic information. This enables subscription models for environmental monitoring, defense, and marine domain awareness:

- **Environmental Monitoring:** Displays data for customers in marine research, security, and weather forecasting. Data archives are stored in easily ingestible formats that allow rapid integration into other enterprise software systems and instant access.
- **Defense:** Rapid cloud-based analysis scans fleetwide data for high-value events. Automatically sends alerts to C3 systems, and maintains historic measurements in its database.
- **Maritime Domain Awareness (MDA):** Supports data-intensive streams - including video and acoustic - displayed in real time on the customer's dashboard. Imagery is enhanced by on-edge analytics, with annotations to help customers instantly recognize and assess vehicles and people along their perimeters.

Footnotes:
[1] Initial buoys were deployed in December of 2020 (1), March 2021 (2,3) May 2021 (4).
[2] Data pulled from our Data Aggregation service monthly over the past two years.
[3] Based on internal calculations and assuming sufficient sunlight.

TRACTION

NOAA SBIR Phase I and Phase II Grants

TechStars Space Accelerator: $120k Pre-Seed investment

Samuel Lawrence Foundation: $10,000 grant

HyperKelp has customers at Northrop Grumman

NOAA SBIR Phase I & II grant (2021)
The Small Business Innovation Research (SBIR) program seeks to stimulate business growth through targeted investments in mission-relevant technologies. Swift Engineering was given $150K in Phase I of 2021 and was chosen based on technology for Phase II to develop their KSB. **HyperKelp** was spun out as an independent company from the success of this project. These funds were used to develop:

- More categories of data (pH, Dissolved Oxygen, Water Temperature, Salinity) than any competitors.
- Modular software and hardware layouts that allow for the addition of 3rd party data sensors.
- The ability to manage multiple data channels, accessible via a laptop or smartphone.
- Deployment of 5KB units that only requires a single person.
- Reliability of data transmission using existing communication channels (WiFi, Lora, and Satellite).

The outcome from this grant was the version one KSB.

TechStars Space Accelerator Program (Class of 2021)
Techstars is a highly competitive accelerator with less than 1% acceptance rate. HyperKelp joined the Techstars Space accelerator in June of 2021. Joining Techstars was especially impressive, since HyperKelp was less than a month old at the time. **They were drawn to our business model because it applies Spire and Planet Labs' approach to Earth imagery to maritime data.** HyperKelp's payloads also address some of the most pressing defense aerospace problems.

Grant from Samuel Lawrence Foundation (SLF) (April, 2022)
The Samuel Lawrence Foundation awarded a $10,000 grant to HyperKelp. Sea level rise, coastal flooding, and tsunamis are of particular concern to the Samuel Lawrence Foundation, a Del Mar-based advocacy group challenging the storage of nuclear waste 100 feet from the ocean at San Onofre. The Foundation's grant focuses on improving the tracking of "sea surface heights" — the elevation of the ocean once the "noise" of the tides, waves, and atmospheric pressure is removed. President of The Samuel Lawrence Foundation, Dr. Bart Ziegler said:

"HyperKelp is applying science where it's needed most. At Southern California Edison's nuclear waste dump, where the utility and government regulators are sitting on their hands, accurate ocean monitoring and predictions could be the driver of long-overdue action."

Project Glacier Watch - Northrop Grumman (Summer 2022)
HyperKelp has partnered with Northrop Gruman on Project Glacier Watch to deploy a subsurface profiling payload to probe the rates of undersea glacial melt in environments that can't be measured from space or aircraft. The campaign deployed critical Conductivity, Temperature, and Depth (CTD) sensors in California as a proof of concept, and intends to bring the same technology to the Arctic using the KSB.

KSB's also enhance operations and connectivity for cooperating systems by acting as a communications and power hub. Standard KSB platforms were used to deploy and remotely operate subsurface profiling vehicles during this project. This project is part of Northrop Grumman's Tech for Conservation initiative [14].

CUSTOMERS

NOAA
SALES

Anonymous 1
SALES

Anonymous 2
SALES

Northrup Grumman
SALES

HyperKelp has secured customers in multiple markets including Defense, Climate, Weather Forecasting and Tsunami Warning. These contracts total over $250,000. Because their KSB platform can host custom sensors, it appeals to a wide range of customers. In addition to their current customer base, HyperKelp anticipates it can secure contracts in the Harbor Security, Aquaculture, Science, Shipping and Renewables markets.

Northrop Grumman
Developed and deployed a subsurface profiler for Project Glacier Watch as a way for Northrop Grumman to vet HyperKelp as a company that can work with defense primes. "HyperKelp passed with flying colors" - Tony Long said.

NOAA
NOAA awarded HyperKelp with a $150,000 contract to deploy 9 different payloads to address key markets over 6 months. This includes a data sale to NOAA on an ongoing basis. The data that NOAA is targeting are as follows:

- Atmospheric dust
- Atmospheric CO2
- Real time water level
- Comprehensive weather station
- Surface level situational awareness
- Dissolved oxygen at depth
- Tracking oil slicks

Due to the defense-relevant nature of the projects below, the following customers have requested to remain anonymous.

Anonymous Company 1
This company has committed to leasing KSBs for the purposes of tracking earthquakes, overhead threats and maintaining defense readiness.

Anonymous Company 2
Another company has agreed to buy data from HyperKelp for the purposes of tracking airplanes and helicopters using infrasound sensors at sea.

2022 Q3/Q4 Pipeline
HyperKelp believes it has another $4.9 million in pilots and customers in the pipeline. Many of these will be signed in the September-October timeframe.

BUSINESS MODEL

Subscription/Recurring Payment
Selling a product or service that customers pay on a recurring basis, usually month to month, or annually

Transactional
A one-time sale of goods or services

Service
The company provides a service to the customer, paying for time or expertise

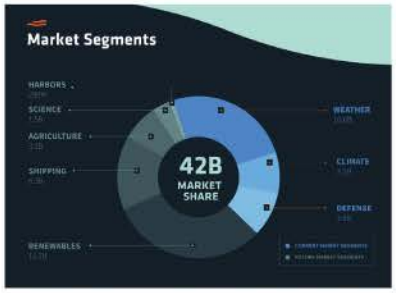
Each of HyperKelp's products is a source of recurring revenue. DoD customers who use KSB missile detection sensors to defend carrier battle groups will pay $11,000 per KSB unit, and $1,000 per month for data access. Commercial raw data customers will pay $0.30 per measurement package for each buoy in our fleet. At rollout, there will be close to no data sales to the commercial customer group, and most revenue will come from hardware sales to enterprise and government customers with a need for distributed sensor networks. After fleet size exceeds 2,000 buoys, the team will be able to serve weather forecasters and

ocean logistics companies with industry-leading dataset resolutions.

While it looks like a hardware play at first glance, our plan is to follow in the footsteps of other Earth-observing platforms like Spire and Planet Labs. In the near term, we're deploying our sensor infrastructure, but this ultimately lets us offer comprehensive ocean data as a service.

MARKET

$42B
Approximate Total Market Size



Surface ocean data is critical to a wide range of market segments. By ridesharing payloads for multiple customers at a time, our platforms support high value customer segments like defense hypersonics and weather forecasting simultaneously with the same asset.

Go-to-Market Strategy
HyperKelp is partnering with their initial customer base to help deploy their KSB buoy fleet. The M-Class KSB is specifically designed to take advantage of the deployment network from the DoD that has been traditionally utilized to deploy sonobuoys that last less than 48 hours. Once HyperKelp has deployed a critical mass of buoys, they will be able to sell the data collected to the end user without overhead.

Defense - $3.8B
If HyperKelp were able to secure a contract with the DoD that was 1/25th the size of ERAPSCO's contract with DoD (in terms of number of buoys purchased), we believe we would generate $88 million a year in recurring dataset sales [15]. The DoD currently deploys 200,000 sonobuoys every year to track maritime threats. HyperKelp can achieve a fleet growth rate of 7,000 buoys per year using this deployment network. Once we have a fleet of over 1,000 buoys deployed (this would take two weeks after a single mid-sized DoD contract), ODaaS dashboards will be used to resell datasets to commercial customers in weather forecasting, ocean freight, marine research, and offshore energy.
Potential Customers: DoD, Navy, MDA, NORTHCOM*, USAF, USSF, USCG, International: Aus, Norway, Canada, UK, Israel (*=in discussion)*
Main Payload: CLASSIFIED
Ridesharing Payload: Ultrasonic Anemometer, Barometer, Thermometer
Ridesharing on DoD systems has precedent in Spire and PlanetLabs operations. Anonymizing source and protection of sensitive information is built into this model.

Climate - $3.5B
Multiple commercial consultants are addressing a growing market for climate change mitigation strategies. With focus areas in logistics, real estate, construction, and ocean freight, strategic consultancies like AT Kearney, Blue Skye, and ICF International are addressing increasing commercial needs for climate insights. Already boasting a market size of $5.3B, climate consultancy is expected to top $8B by 2026 [16]. As commercial needs for climate preparation and mitigation grow, so too will the requirements for dataset resolutions. Climate consultants need to establish more granular baselines to describe region-scale climate dynamics. For these customers, HyperKelp anticipates being able to generate and maintain datasets both from aggregated fleet data, as well as from customer funded fleet deployments.
Potential Customers: AT Kearney, Blue Skye, ICF International, Tomorrow.io, Accuweather*
Main Payload: Atmospheric CO2 sensor, GPS Sea Level Tracker

Weather Forecasting - $10.6B
Weather forecasters use in-situ measurements to ground-truth and support models based on satellite observations. By measuring waves, winds, and water, temperature atmospheric models are improved, providing increased weather forecasting accuracy.
Potential Customers: Tomorrow.io, Weather Extreme*, Weather.com,*
Main Payload: IMU Wave Sensor, Ultrasonic Anemometer

Tsunami Forecasting - $290M
Current tsunami detection buoys rely on failure-prone, submerged hardware. By hosting novel sensors above the surface, HyperKelp is developing a unique and robust approach to measuring tsunami events without the need for expensive and unreliable underwater instrumentation.
Potential Customers: Port of LA, Port of SD, Dana Pt*, NOAA Tsunami Research**
Main Payload: L5 GPS, Barometer, FFT and Signal Processing

Ship Routing - $6.3B
A shipping company saves fuel and time by routing ships around storms and areas with high waves. By deploying free floating KSBs from their own vessels, and along shipping routes, the company gains access to real time wave height/steepness, wind speed/direction directly in the path of the following ships. This data can also be sold to other shipping companies.
Potential Customers: Maersk, MSC, COSCO*
Main Payload: IMU Wave Sensor, Anemometer

Port/Harbor Security - $6.3B
Agencies such as the Department of Homeland Security need to monitor vessels entering and exiting harbors, but they struggle to maintain persistent maritime domain awareness. Harbors are often poorly-monitored entrances for tracking foreign nationals. HyperKelp's systems can provide agencies with real-time 24/7 records of vessel transits and can cross reference with other datasets like AIS ship tracking.
Potential Customers: CBP, USCG, DHS, Port of LA, Port of SD, Port of Long Beach*, MSC*
Payload: Camera, Microphone, RF Sensor

Marine Science - $1.5B
Scientists can use KSBs to monitor any environmental variables they seek to study. One group of leading climate scientists at JPL are using KSBs to monitor salinity and temperature at depth off the coast of Greenland. This will help improve models predicting glacial melt and sea level rise.
Potential Customers: JPL, NOAA*, SW Fisheries*, Merkel & Associates*, TRNERR**
Payload: Conductivity Temperature Depth (CTD) Sensor

Aquaculture - $3.1B

Fish Farmers use KSBs to maintain livestock health. By monitoring Do2, salinity, pH, and temperature, farmers can prevent disease, adjust feeding schedules, transport livestock, and improve farm yield.
*Potential Customers: Pacifico, Kvaroy, Seaworld Hubbs***
Payload: Do2, Salinity, Ph, Temp

Renewables - $13.2B
Monitor wave heights and direction around wind farms and wave energy facilities. Offshore facilities need to know incoming wave and wind conditions to schedule servicing. Offshore energy facilities can ingest HyperKelp data streams to track and respond to wave and wind conditions in real time. Wave data is also useful for tuning wind and wave generation facilities. High resolution, surface level wind and wave datasets represent critical tools for surveying areas for new energy sites as we become more reliant on renewable energy.
Potential Customers: Ceres, Pacifico, Siemens, GE
Payload: IMU Wave Sensor

COMPETITION

HyperKelp's platform subverts its competitors by opening access to any type of ocean data, at high resolutions, for years at a time.

HyperKelp stands apart from other marine data platforms like Sofar, Sparton, Argo and Pacific Gyre. Each of these buoy companies leads the market in their respective field of sensing, while HyperKelp offers a hosted payload platform. Each KSB can ride-share payloads for a combination of government and commercial customers. HyperKelp's KSB platform excels in three of the most challenging areas of ocean data: sensor deployment, comprehensive data access, and platform lifespan.

Sofar
Sofar Spotter buoys only support one or two highly specialized sensors at a time. Because of Spotter's efficient form factor, multiple buoys can be stored and deployed from a single customer's vessel at a time, but even these buoys are too large to be deployed at scale.

Sparton
Sparton is the expert on air-deployable sonobuoy gear. We have no intention of competing with them in Anti Submarine Warfare (ASW). They've been mastering this field since the 70's. However, while their sensors are always improving, their platform really hasn't changed much since then. Data processing is done by nearby fixed and rotary wing aircraft, which raises the deployment cost significantly. They also lack the processing muscle and the power budgets that we have to do on-edge signal recognition, which is why their systems only run for hours, not years.

Argo
Argo produces some of the world's most reliable subsurface profiling buoys. They're rugged, accurate, and last years at a time. That said, Argo floats aren't able to provide real time insights. That's because they spend the overwhelming majority of their time parked on the seafloor - out of range of any communications pathway that could deliver their data to customers on land. They also run on exceedingly strict power budgets, with onboard powertrains tailored to support only a select few sensors. They're great at what they do, but there's no room for adaptability, and they can't support comprehensive, specialized, or real time ocean data products.

Pacific Gyre
Pacific Gyre has a fantastic fleet of sea surface temperature buoys. They make incredibly elegant gear, and it can last years off a single battery. But the problem is that their power budgets are so tight, there's no room for sensor versatility.

With this round of financing, HyperKelp will complete the development of its KSB M-class - an air-deployable sonobuoy form factor with flexible solar array. This means KSBs can be deployed by large scale customers (ie companies and government groups that deploy 100+ buoys at a time) who can scale us in a matter of days. And because HyperKelp will carry its solar powertrain over into a sonobuoy form factor, every single HyperKelp platform that is deployed will represent a persistent source of maritime data that lasts. Gone are the days of expendable maritime data infrastructure.

TEAM

Experienced entrepreneurs with deep industry knowledge and connections; diverse advisory group with many DoD representatives

Dr. Graeme Rae
CEO
Graeme has a PhD in Ocean Engineering/AI and Acoustics and 30 years of experience pushing the limits of marine engineering. He created the world's most accurate surf and marine forecasting models with Surfline. Graeme has served as a marine consultant for the Environmental, Military, Oil & Gas, Aquaculture and Space industries. Graeme most recently founded the Marine systems group at Swift Engineering developing advanced underwater robotic sensor platforms. Graeme also served as an officer in the British Royal Navy, and developed the first generation of autonomous underwater vehicles while teaching at Florida Atlantic University and Florida Tech.

Costas Soler
CTO
Costas started out at NASA's Space Sciences Laboratory at UC Berkeley. He's worked on multiple research teams where he contributed to spacecraft flight hardware, developed robotic control software, and remotely managed observatory operations for the University of California Observatories (UCO). Costas has published multiple research papers in stellar astrophysics and planetary physics. He holds BAs in Marine Science and Astrophysics. Before HyperKelp, Costas also founded and ran Blue Dot Underwater Drones, delivering vehicles to pilots throughout the Pacific, Atlantic, and the Mediterranean Sea.

Lisa Flower-Rae
Operations
As our Operations Director, Lisa is tasked with making sure the trains run on time at Hyperkelp. Passionate about environmental sustainability in the Ocean Blue Tech industry, Lisa's interests lie at the intersection of marine conservation science and technology; ocean advocacy, and customer relations. Coming from a 25-year background in healthcare, operations, marketing, and project management, Lisa prides herself on being innovative and solutions focused. She oversees our HR & communications efforts, and spends her free time giving back to society by helping implement sustainable visions, developing social impact innovations.

VISION

HyperKelp is on a path toward becoming the ocean's decisive data company

"We know more about the surface of the Moon and about Mars than we do about [the deep sea floor], despite the fact that we have yet to extract a gram of food, a breath of oxygen or a drop of water from those bodies."

– Paul Snelgrove, Oceanographer [16]

Until now, humanity's approach toward understanding the oceans has been piecemeal because we have lacked the tools necessary to gather persistent data. This parallels, nearly line by line, our species' expansion into space.

Up until about 10 years ago, the only serious operators in space were a handful of the world's most powerful governments, and the half dozen defense primes that built rockets for them. It was only after the advent of reusable rockets that the cost barriers to entry were lowered enough for a real economy to exist in space.

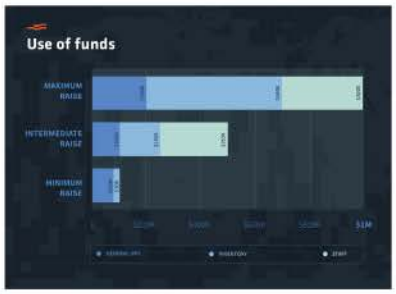
While we've traversed the seas for millenia, the technology used to support seafarers, and the four billion people who live under the direct influence of marine conditions, has plateaued. Compared to aviation, space, or even ground logistics, maritime space has been neglected in the information age.

HyperKelp aspires to expand their KSB platform into a global constellation of

interconnected, data collecting buoys to enhance maritime security and understanding. They would like to be the purveyor of maritime data for all associated markets and customers looking to learn more about our oceans. With these tools, HyperKelp will expand the scope and scale of human knowledge and help to usher in a digital age across the remaining 70% of the planet.

USE OF FUNDS

50% to hire signal processing/data engineer, 30% to acquire inventory, 20% general operational cost including partial coverage of officer salaries.



HyperKelp is already building off its own mature and deeply established data collection infrastructure. Now, the team is raising funds to deploy its KSB platforms and build its initial oceanic data products. Your investment will help us build the inventory and bring on the business development specialists and signal processing engineers we need to make that happen.

COMPANY

HyperKelp Inc.

Sat Applications/Earth Observation

HyperKelp is building a global network of satellite connected smart buoys used for taking persistent measurements on the oceans surface. HyperKelp's Kelp Smart Buoy has hosted payload capabilities making it customizable for each use case.

Website	hypezkelp.com
Employeee Count	5 People
Founding yeaz	2021
Company type	Private

View Company Profile

RISKS & DISCLOSURES

Risks and disclosures that are specific to our business and its financial condition.

The SEC requires that we identify risks that are specific to our business and its financial condition. The Company is still subject to all the same risks that all companies in its business, and all companies in the economy, are exposed to. These include risks relating to economic downturns, political and economic events and technological developments (such as hacking and the ability to prevent hacking). Additionally, early-stage companies are inherently more risky than more developed companies. You should consider general risks as well as specific risks when deciding whether to invest..

Risks Related to the Company and our Business

Our financials were prepared on a "going concern" basis.

Our financial statements were prepared on a "going concern" basis. Certain matters, as described below and in Note I to the accompanying financial statements indicate there may be substantial doubt about the Company's ability to continue as a going concern. Our revenue has been less than our expenses to date. Our ability to continue operations is dependent upon our ability to generate sufficient cash flows from operations to meet our obligations, and/or to obtain additional capital financing.

We are a new company and have very little history that you can draw from.

For the fiscal year ended December 31, 2021, we incurred a net loss of $92,617. There can be no assurance that we will ever achieve profitability. Even if we do, there can be no assurance that we will be able to maintain or increase profitability on a quarterly or annual basis. Failure to do so would continue to have a material adverse effect on our accumulated deficit, would affect our cash flows, would affect our efforts to raise capital and is likely to result in a decline in our value.

Voting control is in the hands of a few shareholders including members of management.

Voting control is concentrated in the hands of the Company's CEO and Director, Graeme Rae, CTO and Director, Costas Soler, and Swift Engineering who collectively hold approximately 94% of the outstanding shares of common stock of the Company. Subject to any fiduciary duties owed to owners or investors under Delaware law, the above named officers and directors may be able to exercise significant influence on matters requiring owner approval, including the election of directors, approval of significant company transactions, and will have unfettered control over the Company's management and policies. You may have interests and views that are different from our management. For example, management may support proposals and actions with which you may disagree with. The concentration of ownership could delay or prevent a change in control of the Company or otherwise discourage a potential acquirer from attempting to obtain control of the Company, which in could reduce the price potential investors are willing to pay for the Company. In addition, the above named officer and directors could use their voting influence to maintain the Company's existing management, delay or prevent changes in control of the Company, or support or reject other management and board proposals that are subject to owner approval.

The Company is vulnerable to hackers and cyber-attacks

As an internet-based business, we may be vulnerable to hackers who may access the data of our investors or our customers. Further, any significant disruption in service or in its computer systems could reduce the attractiveness of our products and result in a loss of investors and customers interested in using our products. Further, we rely on cloud providers to provide back-up for some of our data. Any disruptions of services or cyber attacks either on our technology provider or on our systems could harm our reputation and materially negatively impact our financial condition and business.

The Company depends on key personnel and faces challenges recruiting needed personnel.

The Company's future success depends on the efforts of a small number of key personnel. In addition, due to its limited financial resources and the specialized expertise required, it may not be able to recruit the individuals needed for its business needs. There can be no assurance that the Company will be successful in attracting and retaining the personnel the Company requires to operate and be innovative.

We operate in a highly competitive industry that is dominated by multiple very large, well-capitalized market leaders and is constantly evolving. New entrants to the market, existing competitor actions, or other changes in market dynamics could adversely impact us.

The level of competition in the marine data industry is high, with multiple exceptionally large, well-capitalized competitors holding a majority share of the market. Currently, we are not aware of any direct competitors of the Company able to offer our main technological offering. Nonetheless, many of the companies in the marine date industry have longer operating histories, larger customer bases, significantly greater financial, technological, sales, marketing, and other resources than we do. At any point, these companies may decide to devote their resources to creating a competing technology solution which will impact our ability to maintain or gain market share in this industry. Further, such companies will be able to respond more quickly than we can to new or changing opportunities, technologies, standards, or client requirements, more quickly develop new products or devote greater resources to the promotion and sale of their products and services than we can. Likewise, their greater capabilities in these areas may enable them to better withstand periodic downturns in the marine data industry and compete more effectively on the basis of price and production. In addition, new companies may enter the markets in which we compete, further increasing competition.

We believe that our ability to compete successfully depends on a number of factors, including the type and quality of our products and the strength of our brand names, as well as many factors beyond our control. We may not be able to compete successfully against current or future competitors, and increased competition may result in price reductions, reduced profit margins, loss of market share and an inability to generate cash flows that are sufficient to maintain or expand the development and marketing of new products, any of which would adversely impact our results of operations and financial condition.

There are existing companies in the marine data space that could introduce similar or enhance existing services.

Other competitors that have significant funding may be able to cross sell products and services to its customers. If a larger, better funded company markets or creates a comparable service at a lower price point or with better features, the Company could be negatively impacted

If we do not respond to technological changes or upgrade our hardware, software and technology systems, our growth prospects and results of operations could be adversely affected.

To remain competitive, we must continue to enhance and improve the functionality and features of our technology infrastructure. As a result, we will need to continue to improve and expand our hardware and related software capabilities. These improvements may require greater levels of spending than we have experienced in the past. Without such improvements, our operations might suffer from unanticipated system disruptions, slow application performance or unreliable service levels, any of which could negatively affect our reputation and ability to attract and retain customers and employees. Furthermore, in order to continue to attract and retain new customers, we are likely to incur expenses in connection with continuously updating and improving our hardware and the ODaaS user interface and experience. We may face significant delays in introducing new services, products and enhancements. If competitors introduce new products and services using new technologies or if new industry standards and practices emerge, our existing hardware, software and our proprietary technology and systems may become obsolete or less competitive, and our business may be harmed. In addition, the expansion and improvement of our systems and infrastructure may require us to commit substantial financial, operational and technical resources, with no assurance that our business will improve.

If the Company cannot secure a significant contract with Department of Defense our business operations and profitability could be materially impacted.

As part of its business plans, the Company intends to secure government contracts for the sale of our products and services. A contract with the Department of Defense represents a significant amount of our projected revenue in our future operations, especially in the early stages of our operations. If we are unable to secure such a contract, our ability to carry our goals will be substantially impacted and may be in doubt.

If the Company cannot protect, maintain and, if necessary, enforce its intellectual property rights, its ability to develop and commercialize products will be adversely impacted.

The Company's success, in large part, depends on its ability to protect and maintain the proprietary nature of its products. The Company must prosecute and maintain its existing patent and obtain new patents. Some of the Company's proprietary information may not be patentable, and there can be no assurance that others will not utilize similar or superior solutions to compete with the Company. The Company cannot guarantee that it will develop proprietary products that are patentable, and that, if issued, any patent will give a competitive advantage or that such patent will not be challenged by third parties. The process of obtaining patents can be time consuming with no certainty of success, as a patent may not issue or may not have sufficient scope or strength to protect the intellectual property it was intended to protect. The Company cannot assure you that its means of protecting its proprietary rights will suffice or that others will not independently develop competitive technology or design around patents or other intellectual property rights issued to the Company. Even if a

patent is issued, it does not guarantee that it is valid or enforceable. Any patents that the Company or its licensors have obtained or obtain in the future may be challenged, invalidated, or unenforceable. If necessary, the Company will initiate actions to protect its intellectual property, which can be costly and time consuming.

We are dependent on general economic conditions.

Our business model is dependent on national and international economic conditions. Adverse national and international economic conditions may reduce the future interest of our target customers, which would negatively impact our revenues and possibly our ability to continue operations. These fluctuations may be significant and could impact our ability to operate our business.

If the Company cannot raise sufficient funds, it will not succeed.

HyperKelp is seeking to raise up to $400,000 in this offering, and may close on any investments that are made after reaching its target of $25,000. Even if the maximum amount is raised, the Company is likely to need additional funds in the future in order to grow, and if it cannot raise those funds for whatever reason, including reasons relating to the Company itself or to the broader economy, it may not survive. If the Company manages to raise only the minimum amount of funds sought, it will have to find other sources of funding for some of the plans outlined in "Use of Proceeds."

Risks Related to the Securities and the Offering

Any valuation at this stage is difficult to assess.

The valuation for the offering was established by the Company. Unlike listed companies that are valued publicly through market-driven stock prices, the valuation of private companies, especially startups, is difficult to assess and you may risk overpaying for your investment.

There is no guarantee of return on investment.

There is no assurance that a purchaser will realize a return on its investment or that it will not lose its entire investment. For this reason, each purchaser should read the Form C and all Exhibits carefully and should consult with its own attorney and business advisor prior to making any investment decision.

This offering involves "rolling closings," which may mean that earlier investors may not have the benefit of information that later investors have.

We may conduct closings on funds tendered in the offering at any time. At that point, investors whose subscription agreements have been accepted will become our beneficial noteholders. We may file amendments to our Form C reflecting material changes and investors whose subscriptions have not yet been accepted will have the benefit of that additional information. These investors may withdraw their subscriptions and get their money back. Investors whose subscriptions have already been accepted, however, will already be our beneficial noteholders and will have no such right.

This investment is illiquid.

There is no currently established market for reselling these securities. If you decide that you want to resell these securities in the future, you may not be able to find a buyer.

Our management has discretion as to the use of proceeds.

The net proceeds from this offering will be used for the purposes described under "Use of Proceeds." The Company reserves the right to use the funds obtained from this offering for other similar purposes not presently contemplated which it deems to be in the best interests of the Company and its investors in order to address changed circumstances or opportunities. As a result of the foregoing, the success of the Company will be substantially dependent upon the discretion and judgment of management with respect to application and allocation of the net proceeds of this offering. Investors will be entrusting their funds to the Company's management; upon whose judgment and discretion the investors must depend.

The value of your investment may be diluted if the Company issues additional options, convertible securities or shares of its capital stock.

The SAFE notes in this offering will convert at a conversion price based on the per share price of the Company in the future, or a capped valuation relative to the number of outstanding shares. As we issue more shares, this may result in the reduction in the value of the shares that you may receive upon conversion of the SAFE notes.

The non-voting stock into which the notes will convert has not yet been authorized by the board of directors.

The SAFE notes in this offering will convert into shares of non-voting stock. The SAFE notes provide that the shares can be either preferred or common depending on the type of security that is sold in a subsequent financing. Those shares have not yet been authorized under the Company's certificate of incorporation, and there are insufficient shares available to convert the SAFE notes into the Company's existing capital stock. Should the Company fail to authorize the non-voting stock into which the notes convert, investors may not receive the equity interests to which they would be entitled.

You will not be investing directly into the Company, but into a special purpose vehicle.

Changes to the securities laws that went into effect March 15, 2021, permit us to use a "special purpose vehicle" or "SPV" in this offering. That means that you will invest in HyperKelp CF SPV, LLC, becoming a member of the SPV, and that investment purchases our SAFE notes. A condition to using an SPV is that the SPV passes on the same economic and governance rights that are set out in the SAFE notes. However, it may not always be possible to replicate those rights exactly, because the SPV is an LLC formed under Delaware law, as opposed to a Delaware corporation. This sort of arrangement has not been used for investing before, and there may be unforeseen risks and complications. You will also be relying on us, as the Manager of the SPV, to make sure the SPV complies with Delaware law and functions in accordance with securities law. The structure of the SPV is explained further in "Securities Being Offered". The SPV will terminate and distribute the securities it holds to you, so that you may hold them directly, in certain circumstances. Again, this has not been done before, so there may be delays, complications and unexpected risks in that process.

The subscription agreement has a forum selection provision that requires disputes be resolved in state or federal courts in the State of Delaware, regardless of convenience or cost to you, the investor.

In order to invest in this offering, investors agree to resolve disputes arising under the subscription agreement in state or federal courts located in the State of Delaware, for the purpose of any suit, action or other proceeding arising out of or based upon the agreement, including those related federal securities laws. Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. We believe that the exclusive forum provision applies to claims arising under the Securities Act, but there is uncertainty as to whether a court would enforce such a provision in this context. Investors will not be deemed to have waived the Company's compliance with the federal securities laws and the rules and regulations thereunder. This forum selection provision may limit your ability to obtain a favorable judicial forum for disputes with us. Alternatively, if a court were to find the provision inapplicable to, or unenforceable in an action, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition or results of operations.

Investors in this Offering may not be entitled to a jury trial with respect to claims arising under the subscription agreement, which could result in less favorable outcomes to the plaintiff(s) in any action under the agreement.

Investors in this Offering will be bound by the subscription agreement, which includes a provision under which investors waive the right to a jury trial of any claim they may have against the Company arising out of or relating to the agreement, including any claims made under the federal securities laws. By signing the agreement, the investor warrants that the investor has reviewed this waiver with his or her legal counsel, and knowingly and voluntarily waives the investor's jury trial rights following consultation with the investor's legal counsel.

If we opposed a jury trial demand based on the waiver, a court would determine whether the waiver was enforceable based on the facts and circumstances of that case in accordance with the applicable state and federal law. To our knowledge, the enforceability of a contractual pre-dispute jury trial waiver in connection with claims arising under the federal securities laws has not been finally adjudicated by a federal court. However, we believe that a contractual pre-dispute jury trial waiver provision is generally enforceable, including under the laws of the State of Delaware, which governs the agreement. In determining whether to enforce a contractual pre-dispute jury trial waiver provision, courts will generally consider whether the visibility of the jury trial waiver provision within the agreement is sufficiently prominent such that a party knowingly, intelligently and voluntarily waived the right to a jury trial. We believe that this is the case with respect to the subscription agreement. You should consult legal counsel regarding the jury waiver provision before entering into the subscription agreement.

If you bring a claim against the Company in connection with matters arising under the agreement, including claims under the federal securities laws, you may not be entitled to a jury trial with respect to those claims, which may have the effect of limiting and discouraging lawsuits against the Company. If a lawsuit is brought against the Company under the agreement, it may be heard only by a judge or justice of the applicable trial court, which would be conducted according to different civil procedures and may result in different outcomes than a trial by jury would have had, including results that could be less favorable to the plaintiff(s) in such an action.

Nevertheless, if the jury trial waiver provision is not permitted by applicable law, an action could proceed under the terms the agreement with a jury trial. No condition, stipulation or provision of the subscription agreement serves as a waiver by any holder of the Company's securities, or by the Company, of compliance with any substantive provision of the federal securities laws and the rules and regulations promulgated under those laws.

In addition, if the SAFE notes are transferred, the transferee is required to agree to all the same conditions, obligations and restrictions applicable to the SAFE notes or to the transferor with regard to ownership of the SAFE notes, that were in effect immediately prior to the transfer of the SAFE notes, including but not limited to the subscription agreement.