ASTRAL AUTOMATION

Business Outline

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VISION

Astral is an early-stage start-up focused on optimizing delivery logistics in regions where transportation is limited. Our platform optimizes supply routes across a network of vehicles ranging from ground vehicles to autonomous drones, providing an end-to-end delivery solution that saves our users time and money.

EXISTING CHALLENGES

Currently, a lack of automated logistics has proven to be a barrier towards effectively transporting goods. In Peru for example, local doctors report an average of 45 snake bites per month with no rapid access to anti-venom. In situations such as these, road access takes over 6 hours but can be done via drone in under half an hour. Even regular shipments can be delayed by days or weeks due to a lack of coordination between clinics and suppliers.

BUSINESS OVERVIEW

Our platform optimizes vehicle allocation and route planning. Users enter the supply destinations, amounts, priorities, and other criteria into an intuitive interface which provides real-time tracking for the entire fleet and automatically adjusts delivery routes in response to changing conditions and vehicle availability. Technology in perception, planning, and automated controls enables us to connect isolated areas with the supplies they need.

For small quantities of time-critical medicines, current ground transportation options are economically infeasible and too slow. Astral coordinates ground transportation with autonomous drones, enabling remote clinics to get the supplies they need quickly, reliably and at a lower cost.

TEAM

The Astral team brings together a diverse background in autonomous robotics, computer science, mechanical engineering, and business. We're passionate about improving health accessibility for communities around the world.

PARTNERS + MENTORS

Astral has been through two cycles of the MIT Sandbox Innovation Fund Program which provides seed funding, mentorship, and a broad network of committed partners. Astral also participated in the MIT IDEAS Global Challenge having been invited to move forward to the Final Round. Through the MIT Innovation Initiative, Astral was also able to partner with Flux, an on-campus accelerator.

We have had the opportunity to receive feedback on our goals and engineering solution with influential mentors such as Dr. Waitz, vice-chancellor of the MIT Aero/Astro Department and with Mick Mountz, founder of Kiva Systems acquired by Amazon Robotics.

PROGRESS + FUTURE TIMELINE

By September 2018 our Minimum Viable Product (MVP) will be done to showcase a retrofitted drone prototype that is able to autonomously navigate between waypoints while actively avoiding any possible obstacles.

In January 2019, we will be running strategic pilot tests in Central Asia with the Aga Khan Agency for Habitat.

Our one-year goal is to run larger scale pilot tests and implement a fully autonomous fleet of vehicles which can effectively fulfill orders.