

Dive Deeper, Discover More.

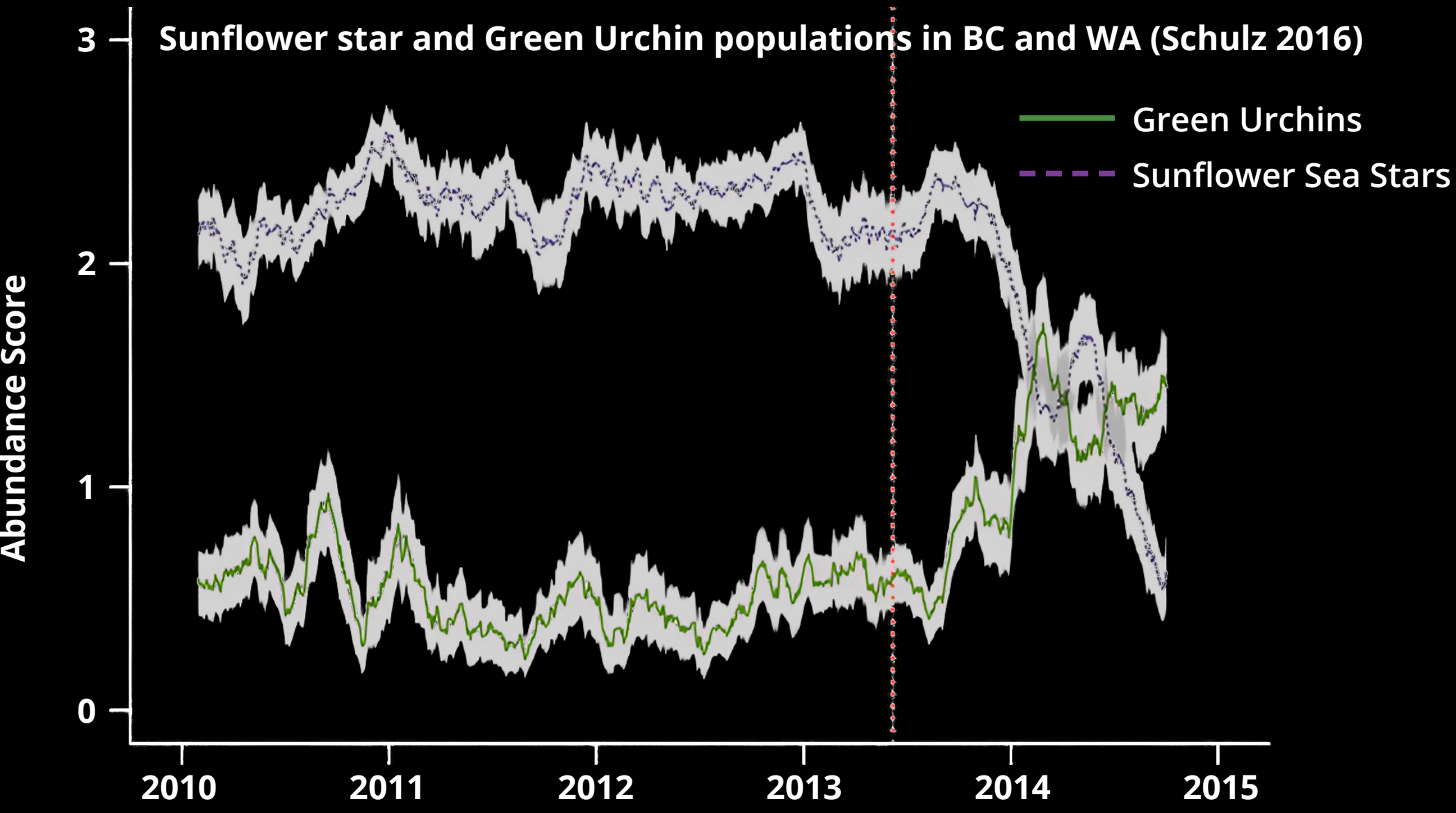


5.75 Billion Sunflower Stars Died

90.6% Population Decline since 2013

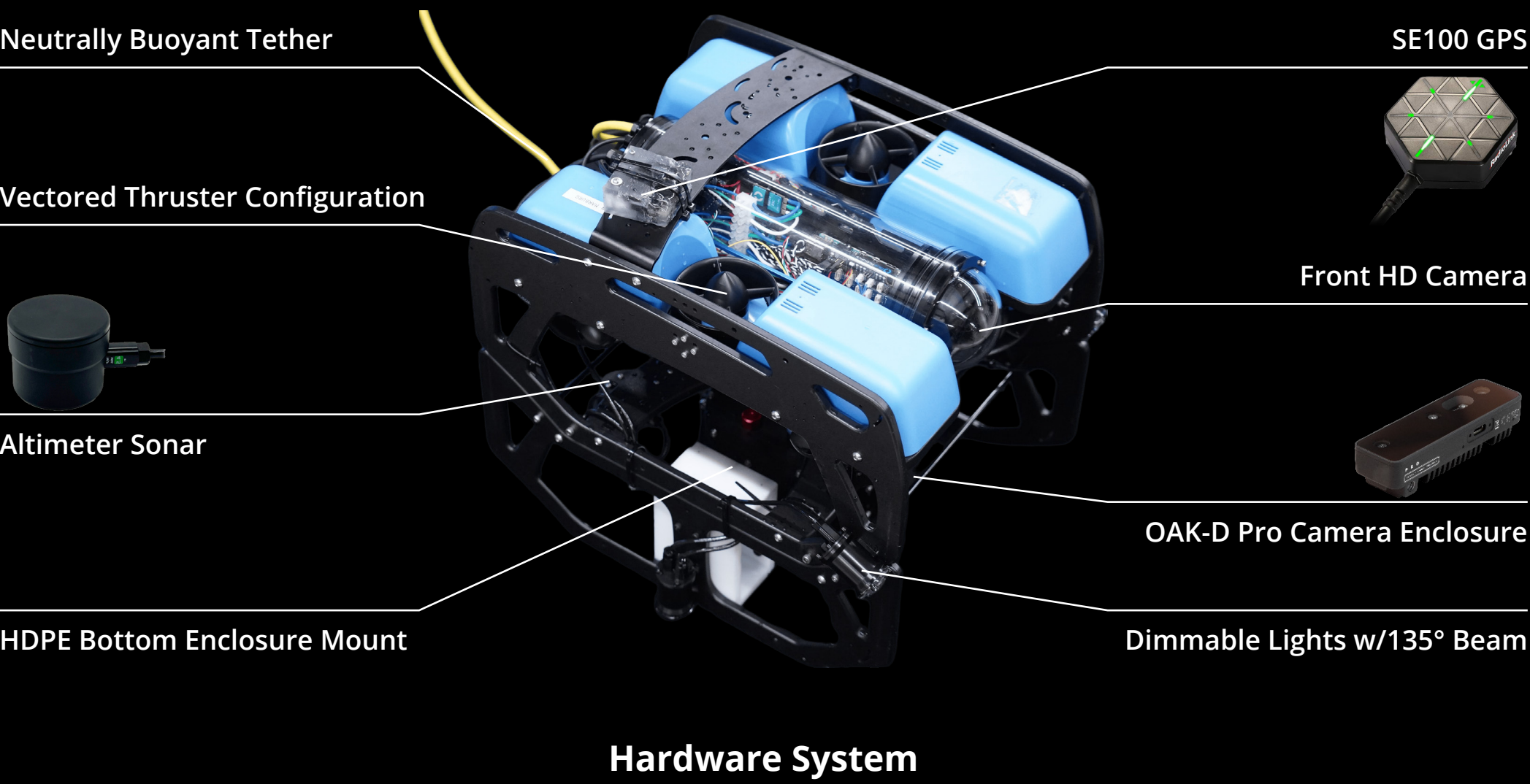
Problem Statement

- 1**Sunflower Sea Star Extinction Crisis:** Sea Star Wasting Disease (SSWD) has wiped out 90.6% of sunflower sea stars since 2013, leading to unchecked sea urchin growth and kelp forest destruction.
- 2**Depth Limitations of Human Divers:** Recreational divers are limited to 40m (130ft), and even technical divers max out at 90m (300ft). These restrictions prevent effective research in deep-sea ecosystems.
- 3**High Costs of Hiring Divers:** Hiring divers costs \$200–\$2,000 per day (\$50 / person * hour, 4 hours minimum), making long-term, large-scale marine research financially unsustainable.
- 4**Inefficient & Time-Consuming Data Collection:** Diving at depths exceeding 40 meters, requires staged descents and decompression (Usually takes hours), significantly slowing data collection. Limited underwater time further reduces research efficiency.

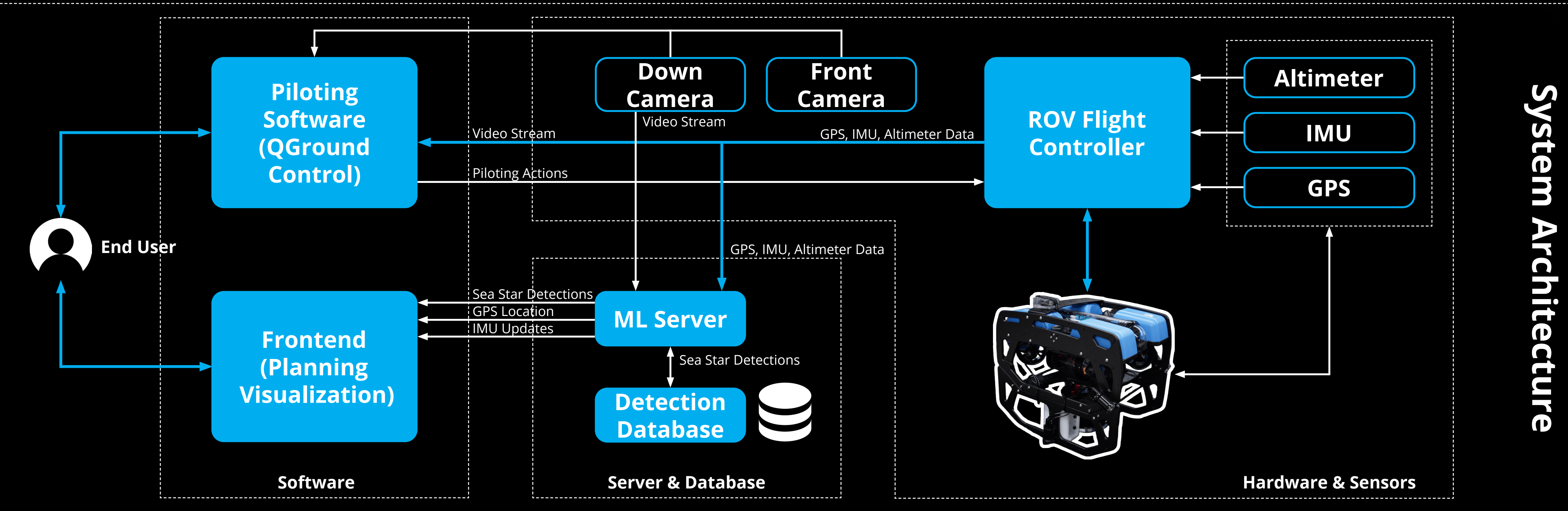


Solution

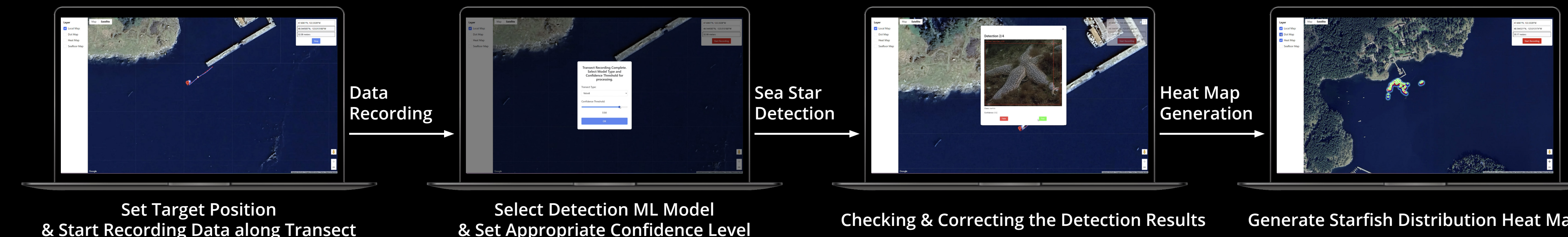
DeepBlue is a cost-effective underwater ROV (remotely operated vehicle) system designed to support marine ecological monitoring and underwater data collection. Equipped with high-resolution cameras, GPS, sonar, and AI-driven detection, it enables researchers to efficiently survey echinoderm populations and generate accurate species distribution maps. The system automates sea star detection, reducing manual effort while improving precision and repeatability. With real-time data visualization and automated transect navigation, DeepBlue makes deep-sea research more accessible and affordable.



Process



Software Interface & User Flow



Sea Star Detections with ML Models

