PH-LORA

PHEROMONAL LOCALIZED OVERPOPULATION REGULATION AIRCRAFT

REDUCING THE USE OF TOXIC INSECTICIDES BY MAKING PHEROMONAL PEST CONTROL FEASIBLE IN COMMERCIAL AGRICULTURE

ENVIRONMENTAL IMPACT

Pests can become resistant to insecticide over time, an issue with long term sustainability as larger quantities and increasingly toxic substances would be needed for crop protection.

Long term expose to chemical pesticides cause cancer, asthma, endocrine disorders, neurobehavioral disorders, and congenital defects.

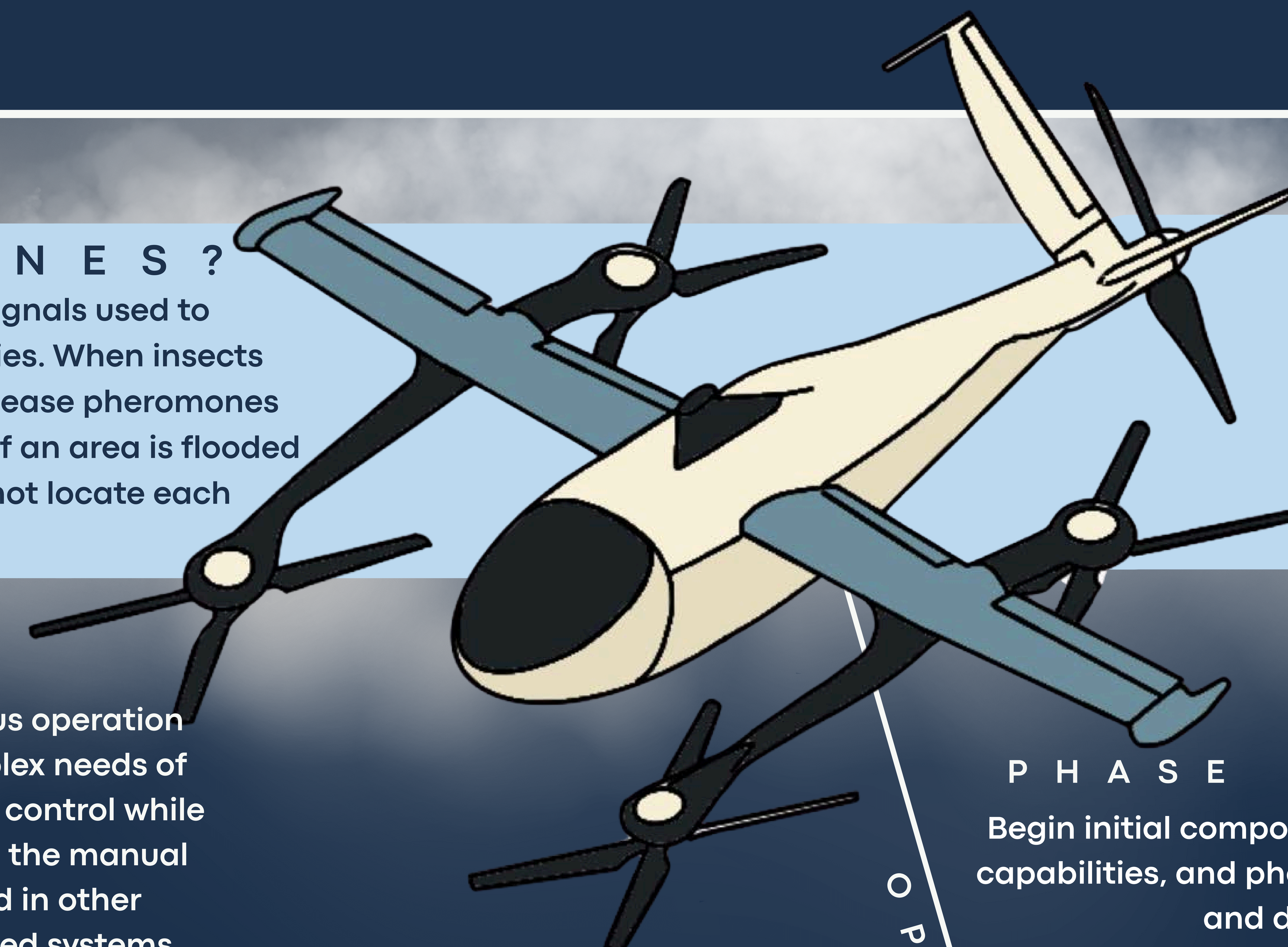
As chemical insecticides leech and accumulate in soil, crucial bacteria is killed, contributing to soil infertility.

Traditional pesticides do not discriminate what insects are eliminated, killing critical insects like pollinators. Chemical pesticides are notably harmful to marine life.

Contributes to ocean acidification and coral bleaching as chemical runoff finds its way into water ways. Contaminates ground water, often used as drinking water.

PHEROMONES?

Pheromones are chemical signals used to communicate within a species. When insects are sexually mature, they release pheromones to help mates locate them. If an area is flooded with pheromones, they cannot locate each other and mate.



PHLORA

- Autonomous navigation
- Collision avoidance
- Species-specific pre-set flying conditions
- High altitude flying for minimal pest disturbance

24h

24/7 autonomous operation meets the complex needs of pheromonal pest control while cutting down on the manual labor required in other pheromone based systems.

CHALLENGES

The introduction of this solution would disrupt the pesticide market and garner industry resistance.

Public populations can be slow to accept methods they do not understand.

Pheromonal solutions are more likely to breakdown in extreme weather conditions.

Rural communities may face connectivity issues with their current reach, hindering PH-LORA use.

REGION + CLIMATE

Our AI predictive planning models are able to accommodate region specific terrain and climate needs for anywhere in the US, reducing overall insecticide use.

OPERATIONAL TIMELINE

PHASE 1 - 2025

Begin initial component testing, enhancing AI capabilities, and pheromonal solution research and development.

PHASE 2 - 2027

Systems integration and prototype demonstrations, increasing public awareness and comfortability with pheromonal solution.

PHASE 3 - 2030

Comprehensive flight validation to achieve operational readiness and field-testing efficacy of the platform with developed pheromones.

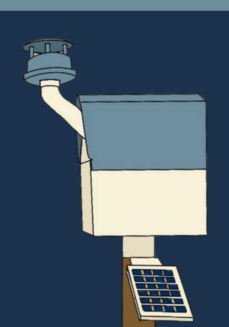
PHASE 4 - 2032

Final preparations, including regulatory compliance and farmer training, phased operational deployment.

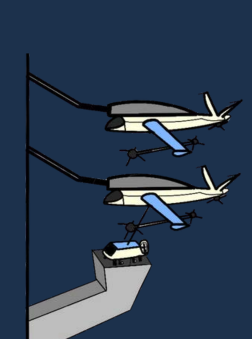
PHASE 5 - 2035

Full-scale system implementation, ensuring operational sustainability, and continued expansion of pheromonal species coverage

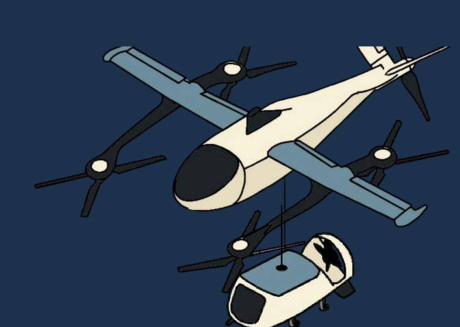
DEPLOYMENT



ORACLE:
Identify pests, detects sexual maturation indicators, uses AI for predictive pattern recognition, sends location data to docked PH-LORA.

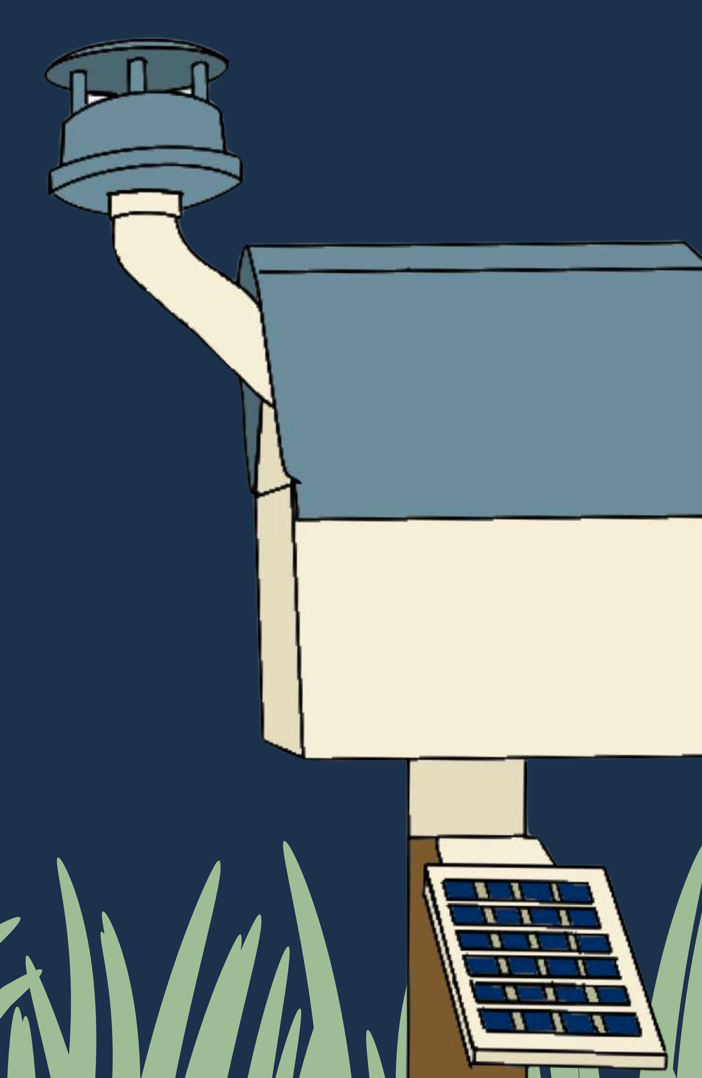


NOSTOS:
This electric powered charging station also acts as the loading station for the species-specific pheromonal treatments.

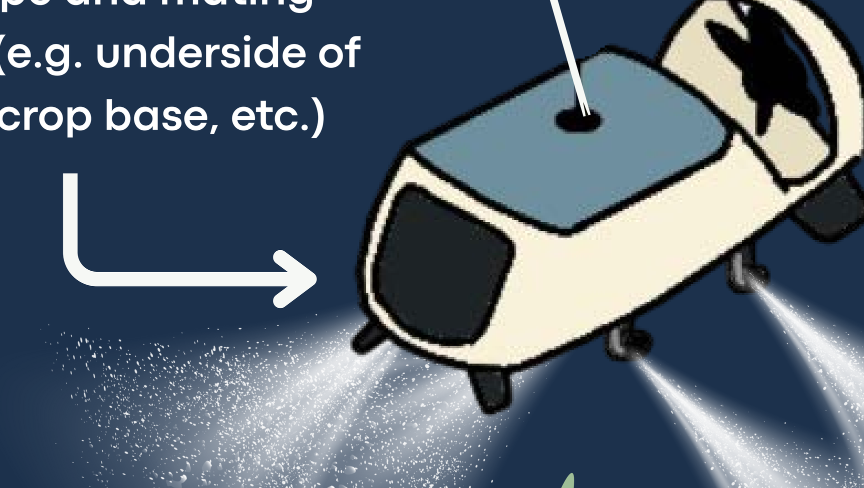


PH-LORA:
Navigates to the pinged pest location. Preset flying conditions such as time of day and how low the droid lowers to the ground depends on species-specific needs.

GAIASCOPE
Data on targeted species, predictive data, future deployments, and operational needs will be communicated to user via GAIASCOPE.



Droid can lower to target species needs depending on crop type and mating location (e.g. underside of leaves, crop base, etc.)



GATEWAYS TO BLUE SKIES

COLUMBIA UNIVERSITY