

Remotely Operated Surface Vehicle (ROSV) for OSR



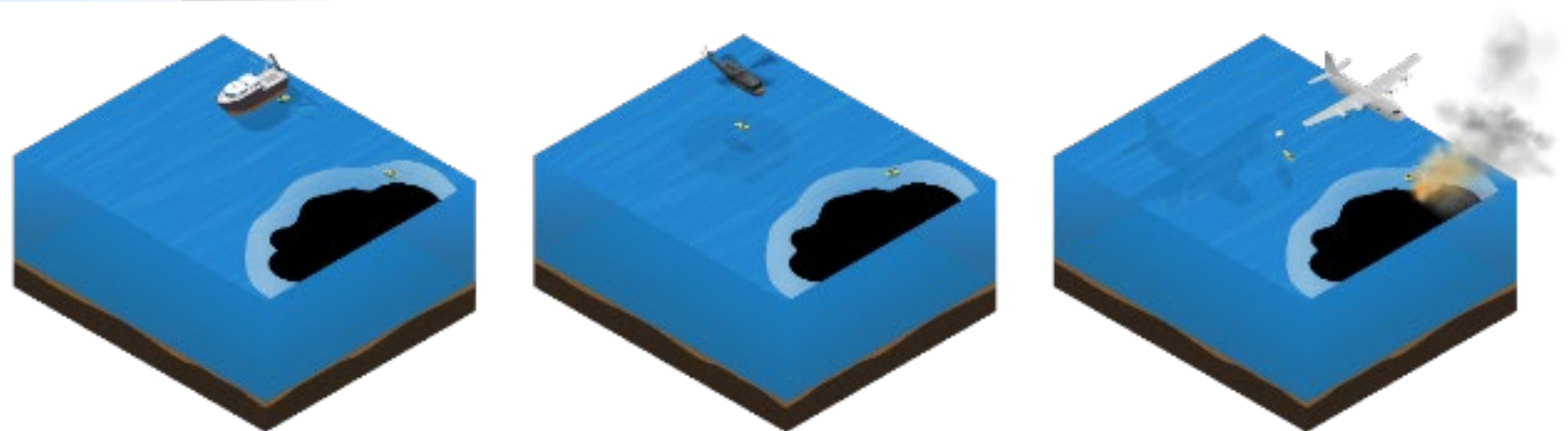
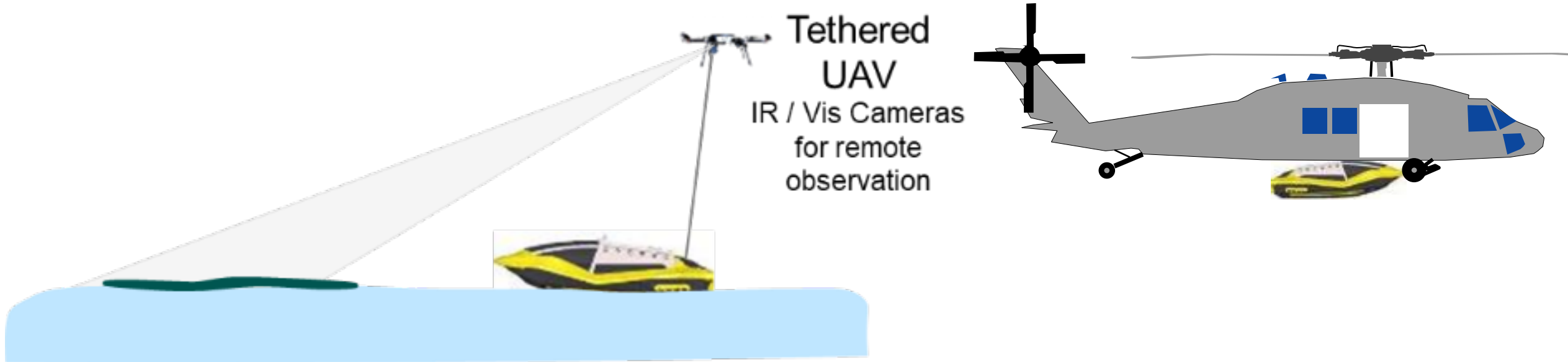
Norwegian oil spill preparedness and response webinar

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Remotely Operated Surface Vehicle (ROSV) for OSR

Consortia is developing a multifunctional ROSV for OSR



Deployable from ship, helicopter, airplane

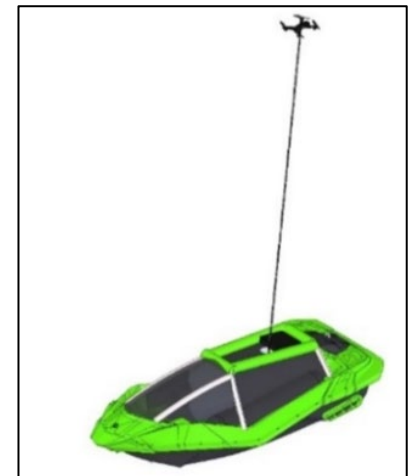
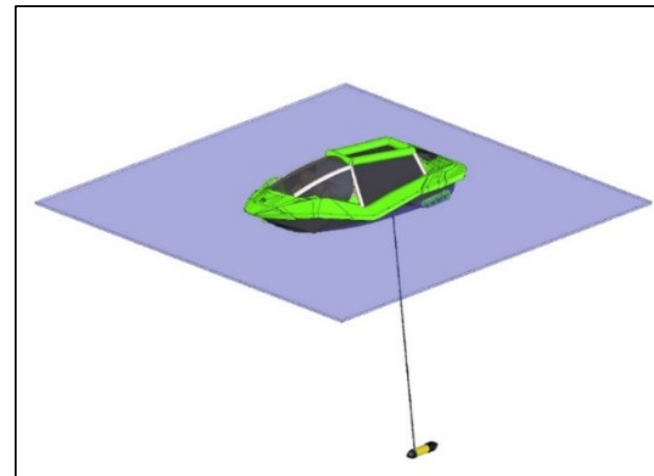
Remotely Operated Surface Vehicle (ROSV) for OSR

Specifications

- 90 HP gasoline motor
- Cargo limit of 450 lbs
- Autonomous operation or remote (virtual reality) operator
 - GPS / long range radio / satellite communications
- Fuel capacity up to 73 gallons
- Speeds up to 50 mph / 1200 mile range / 30+ hrs operation
- Herder application / slick ignition
- Collision avoidance system
- Aerial remote sensing with tethered UAV (visible / IR / other sensor)
- 4 surface / 2 underwater / 1 360°VR cameras
- Underwater Lighting

Modular sensor platform

- VOC monitoring
- Oil slick thickness
- Oil slick sampling
- Smoke plume
- Other?

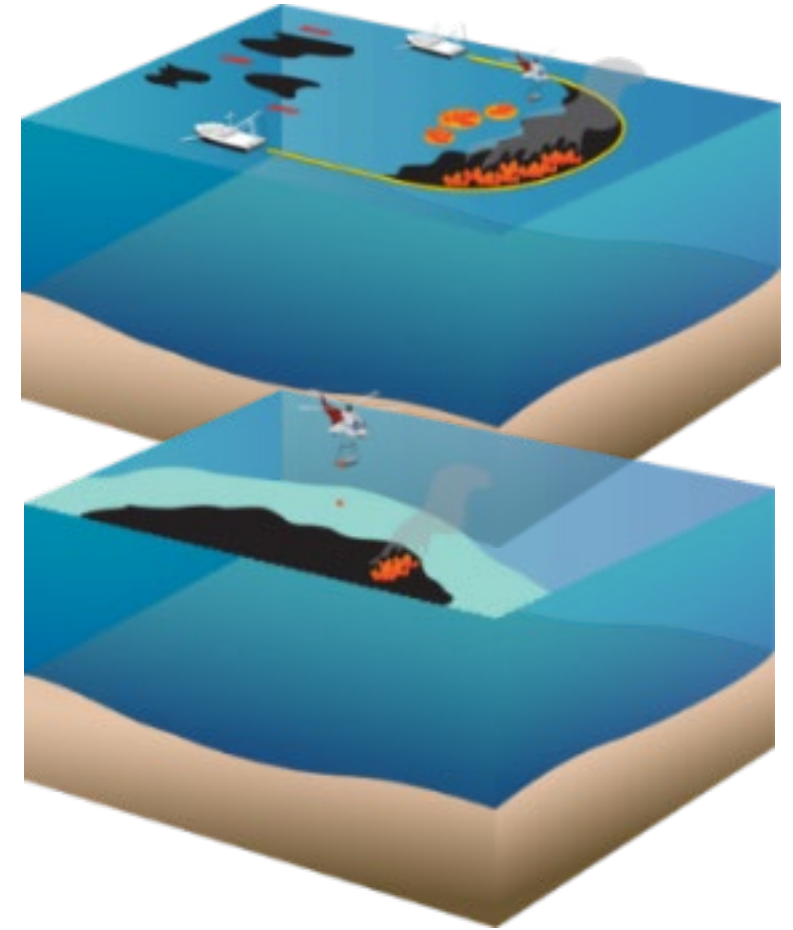
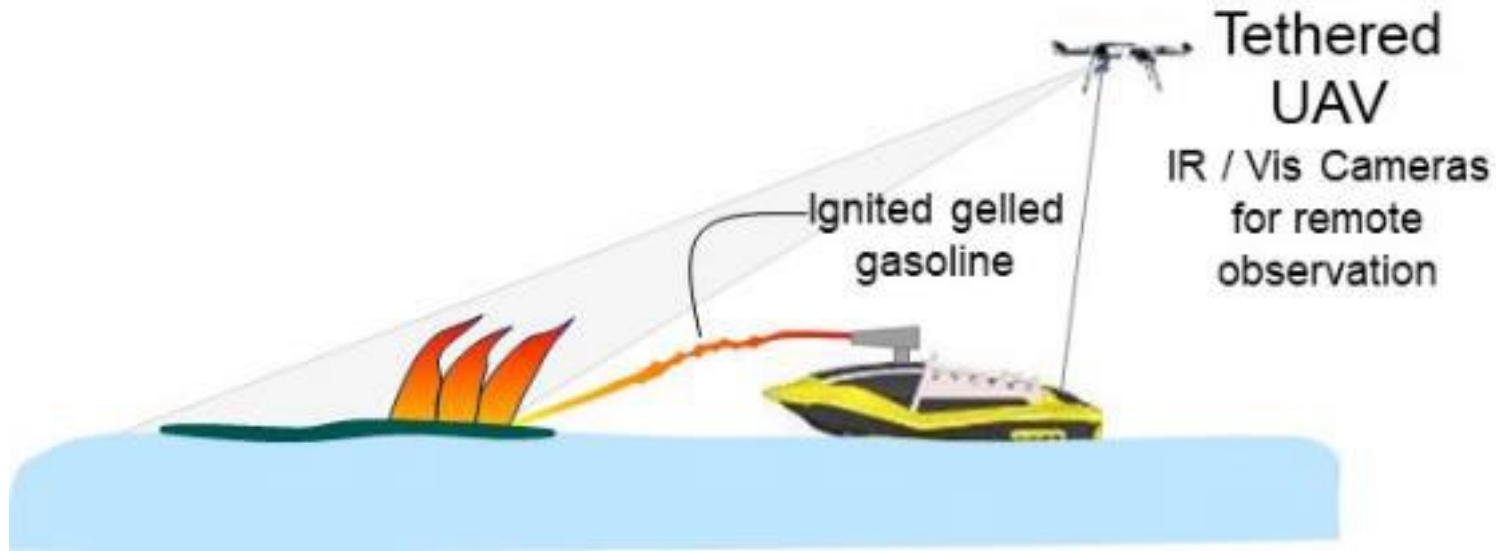


Remote Sensing Capabilities

- Desired capabilities
 - Long-range communications
 - “Virtual reality” operations
 - Rapid detection, characterization & mapping of offshore oil slicks
 - “Eyes in the sky”
 - Slick thickness mapping
 - Air monitoring to identify hazardous environments
 - Autonomous slick tracking (overnight / storms)
 - Autonomous collision avoidance system
- Collaborative joint industry effort to develop
 - OTS Radar collision avoidance
 - Onboard satellite / cellular / radio communications
 - GPS
 - Mounted articulating arm to hold various instruments
 - Tethered UAV / AUV for “eyes in sky / underwater” retracts into onboard hanger
 - IR/UV/Vis camera platform
 - OTS VOC instrument to monitor air / track slick location
 - Onboard 360° camera / bullet cameras above/below water



In situ Burning Capabilities



ROSV Comms System & Trailer



Summary of ROSV Development

- Consortia developing a remotely operated surface vehicle built on a commercial jet ski
 - Remote sensing platform
 - Active response with ISB
- Allows rapid response system that keeps personnel safely off the water
- ROSV herder delivery / ignition system in final development
 - Spring 2023 demonstration in Poker Flats Research Facility burn tank
 - Summer 2023 demonstration offshore St. John's, NL

Questions?