

|| FIREFLY - Suppression Drones

the challenge

Shipboard fires (shipping container fires, petroleum fires, engine room fires...) are difficult to suppress due to factors such as isolated location, cargo containment, limited shipboard firefighting capabilities and limited trained firefighting personnel.

Suppressing shipboard fires is subject to weather conditions, pitching/rolling vessels. And confined spaces, and below deck firefighting is subject to intense smoke heat and flames.

the innovation

Our FireFly Drone is truly innovative, it flies with Hydrodynamic Vektored Thrust, (Water pressure) rather than propellers or batteries. It jets its flight thrust from water pressure supplied from a fire hose.

Our drone is small (1 cubic foot / .3 cubic M) in size and weighs 45 Lbs / 20 Kg.

The drone can fly directly to a fire and suppress a fire at very close range .5m and can be on station suppressing the fire as long as water is supplied to the drone via the fire hose,

The drone can supply a continuous water or foam suppression of up to 750 Gpm / 2800Lpm from the tethered 2.5' 64mm) fire hose.

The drone is fireproof with 5 layers of fireproofing including water cooling, and also waterproof with a positive buoyancy, The drone would have the ability to float. And the drone will have onboard colour cameras, thermal cameras, LIDAR and thermal temperature sensors, and two way verbal communications (speaker and microphone).

The drone has the ability to see its ongoing suppression of the fire, and react by moving and increasing its suppression as needed.

We have designed the drone for one purpose...to fight fires, either topside or below deck on a ship. This capability can be done remotely from the safety of the bridge or other safe remote location.



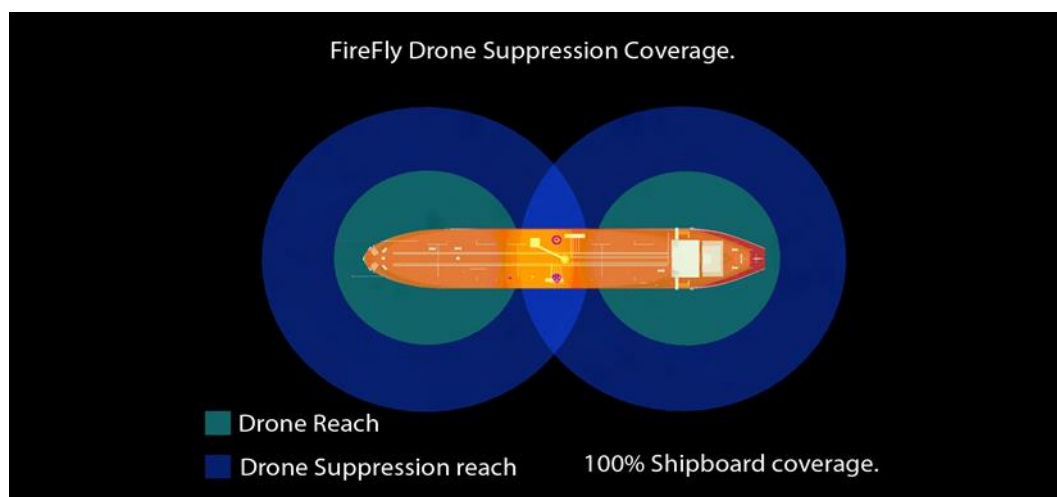


The drone is supplied from the ships fire suppression system, or an onboard diesel/electric skid pump.

- Minimum pressure 200 Gpm (750Lpm) @ 30 Psi (2 Bar).
- Hose size is either 2.5" (64mm) or 4" (102mm).

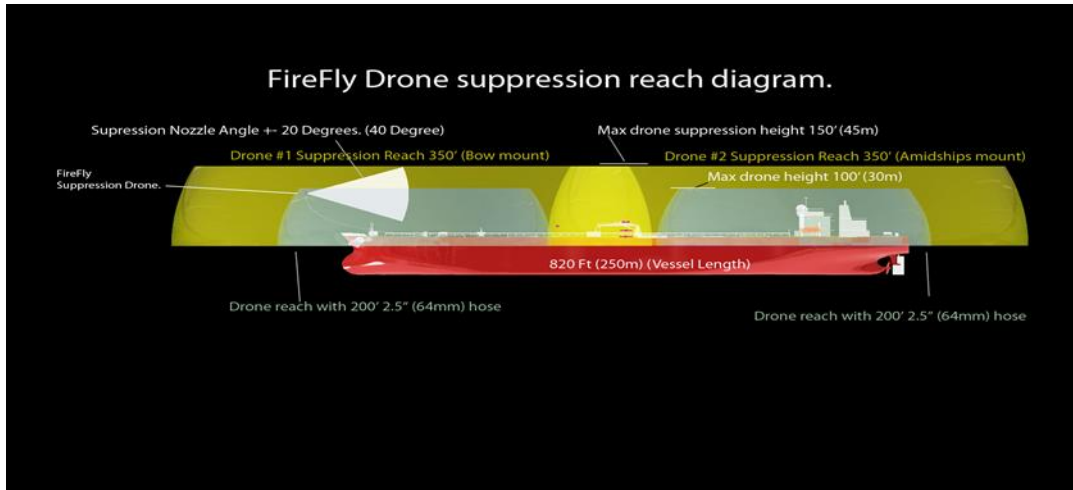
how it was implemented

Our FireFly "Maritime version" is currently being developed as a prototype pilot project. We are defining the role of our drone in shipboard fire suppression. We are consulting with various agency's to evaluate our preliminary capabilities, and further define the drones role in shipboard fire suppression.



We are utilizing modern development and manufacturing tools, such as DDM (Direct to Digital Manufacturing) (CAD/3D Design/Modelling/Engineering/Simulation), and additive manufacturing, 3D printing. We also extensively use COTS/MOTS (Common/Modified off the shelf components).

We are currently seeking funding to produce a production ready prototype.



result

We have vetted our drone design, through engineering, extensive research of the core technology, and interviews with trained firefighting personnel. We believe our drone will be able to perform as a frontline firefighting apparatus for fire teams and companies on the fire line. We are producing "Digital Twins" of our different versions of our drones.

conclusion

Our fire suppression drone will change the way fires are fought. Our drone can save lives and assets by suppressing volatile & dangerous shipboard fires, and volatile involving dangerous toxic chemicals and volatile petroleum products.

Our drone is designed to directly replace firefighters in these situations, so firefighters are not exposed to hazardous situations which are inherently dangerous to life (IDTL).

