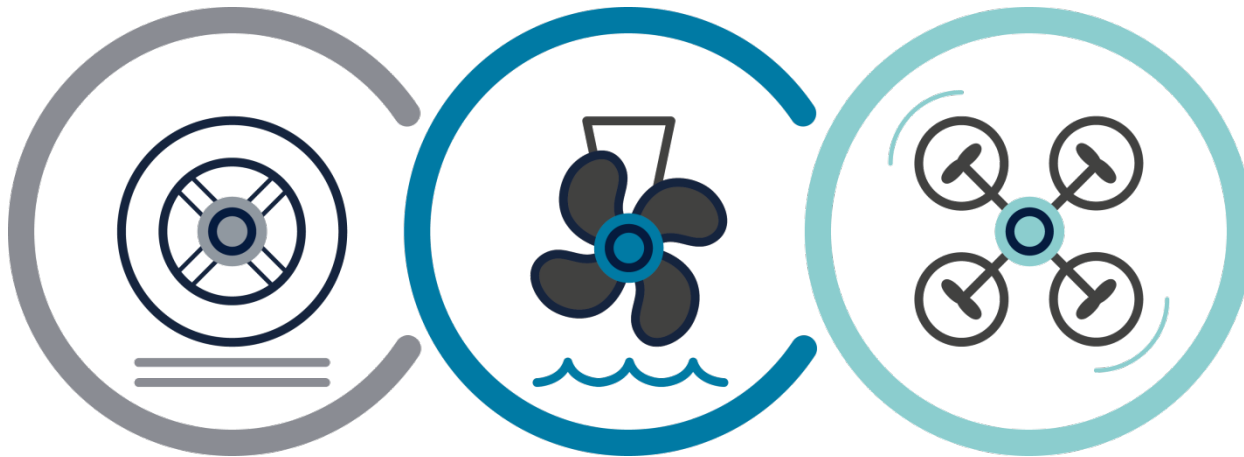


RF Safe-Stop™

LAND.SEA.AIR



Overview

Safe-Stop, the ultimate in target deactivation technology;

- State-of-the-art, non-contact jamming system
- Minimal risk of collateral damage

Temporarily jams the engine management system of vehicles and boats;

- Driver maintains control of steering and brakes (vehicles)
- Safely brings vehicle/boat to a controlled stop
- Vehicle/boat remain static until radio waves are halted

Temporarily jams the control and command systems of Unmanned Aerial Vehicles

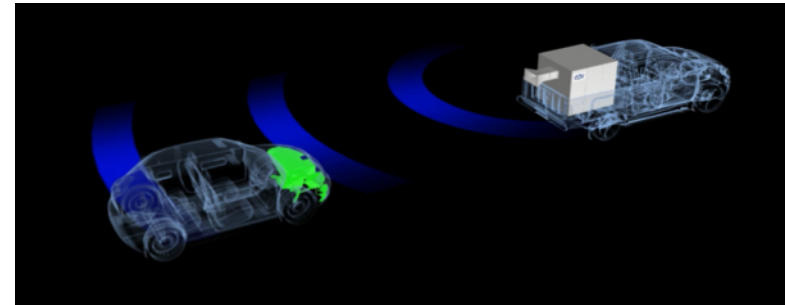
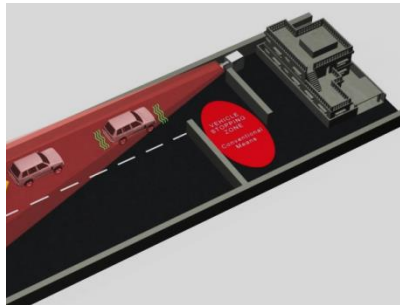
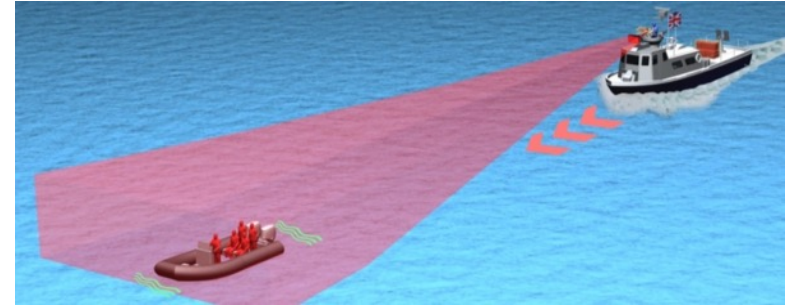
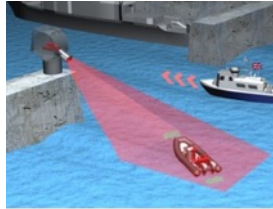
Field trials undertaken with high percentage success rate

- Cars, Trucks, Motorcycles, Outboard, Inboard Engines and UAVs
- Static, dynamic and pursuit scenarios have been demonstrated

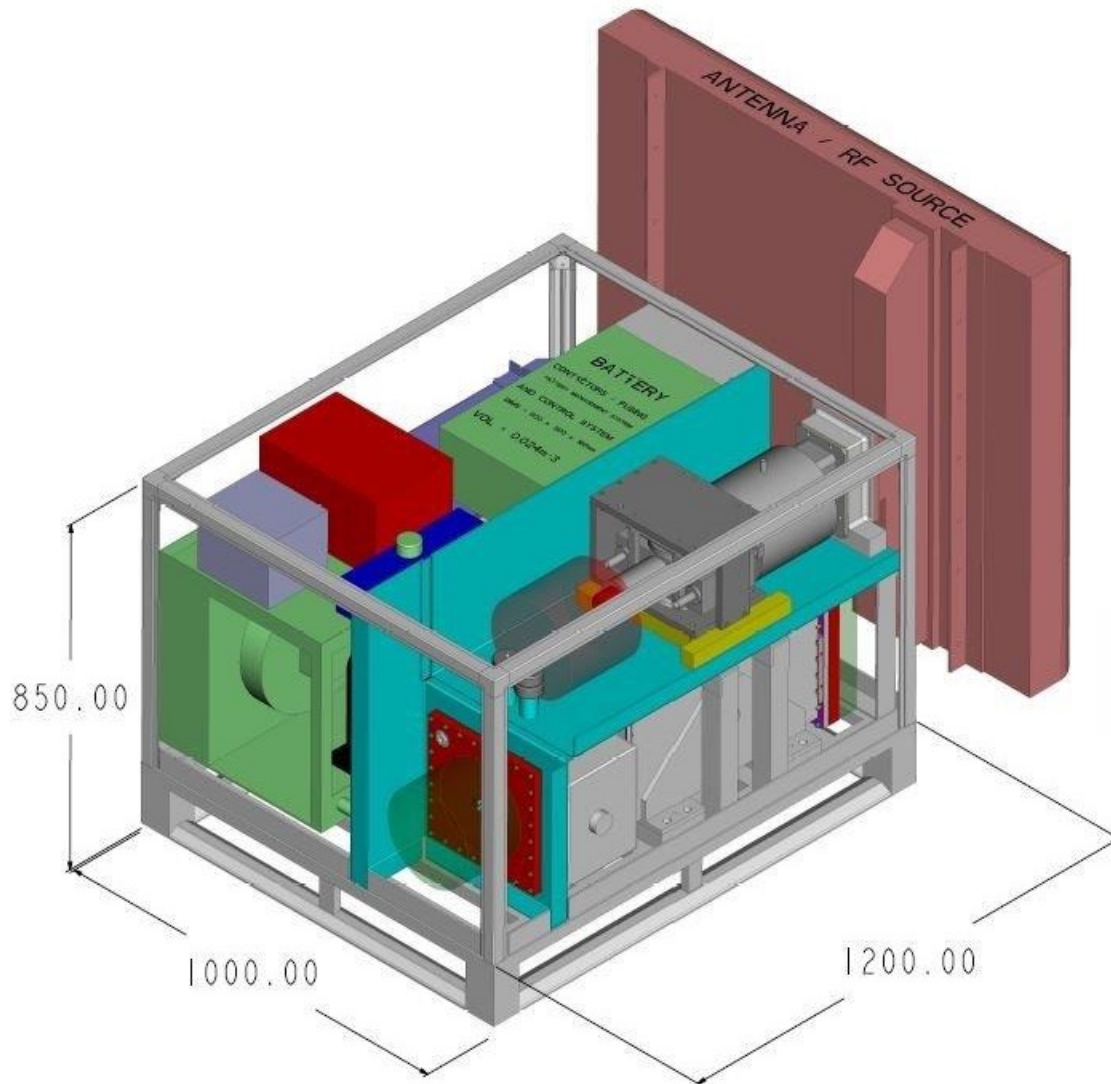


Applications

- Fixed Asset Protection
- Mobile Asset Protection
- Harbour Access Control
- Marine Asset Protection
- Vehicle Apprehension
- UAV Aerial Denial



System Overview



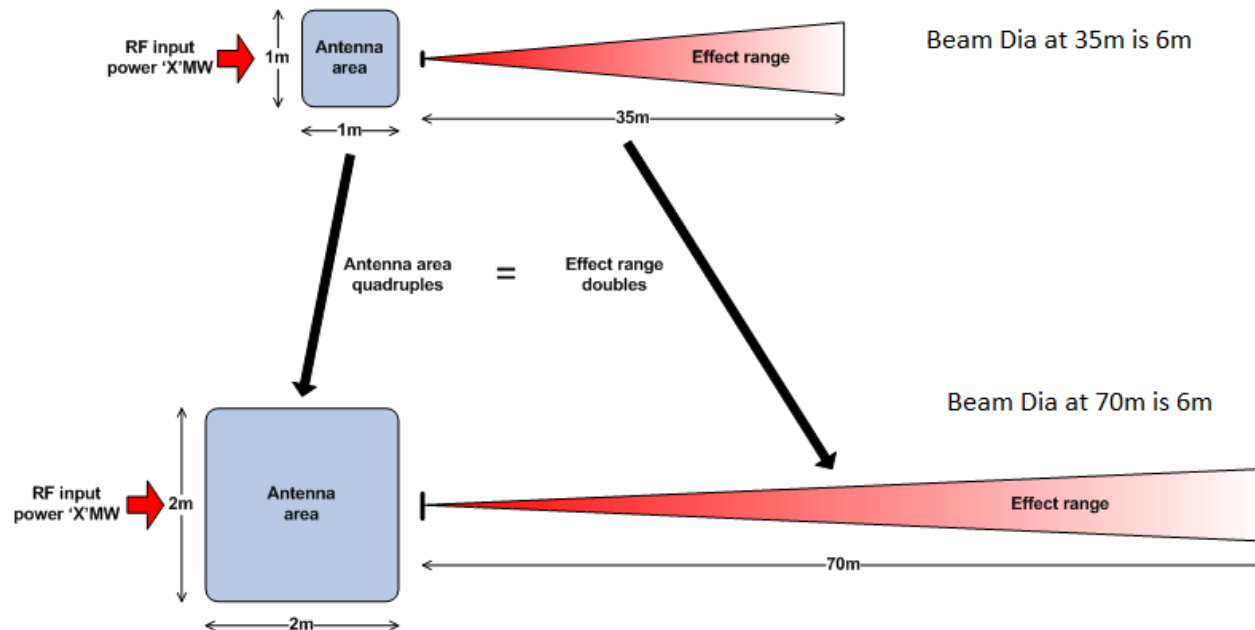
Stopping Range

The stopping range performance of Safe-Stop is strongly influenced by the RF input power and antenna area.

- Typically there is a direct correlation between these factors and system size/weight

For any proposed scenario of use, an assessment would be conducted to carefully consider;

- The balance between system performance
- The acceptable size and weight



Safe-Stop Evolution

Proof of concept

- Demonstration equipment

Integration Prototype

- Flat panel antenna replaces horn
- Significant reduction in volume and weight
- Mobile demonstrations

Custom Solutions

- SEA: Custom boat solution
- Understanding the customer
 - Range, weight and power requirements
- Repackaged product for platform
 - Optimised for boat application



Custom Solution

Land, Sea, Air

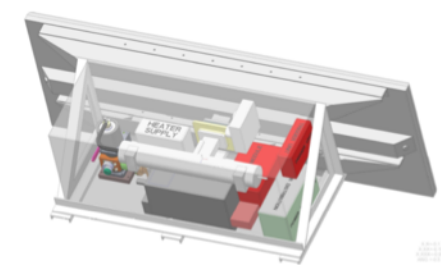
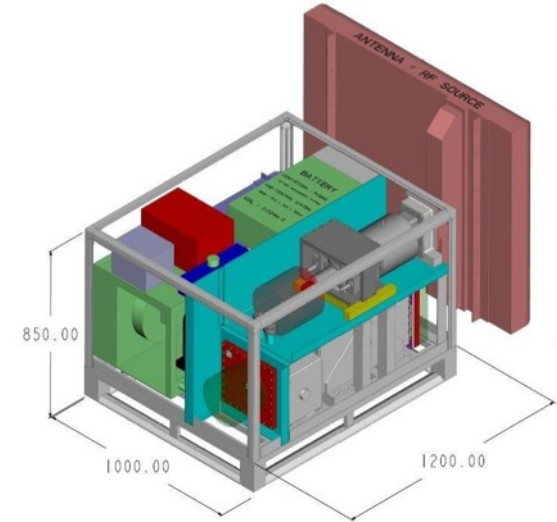
- Integration partners for turn-key solutions
- Size, Weight and Power aligned to requirements
- Custom package available

RF Safe-Stop Lite

- Smaller, lighter for mobile requirements
- Optimised for small boats
- Multiple major development programmes

Customer Engagement

- Engaged with customers around the world;
 - Most of the major European countries
 - Majority of Government Agencies
 - USA
 - Asia
 - NATO



Land Based Testing



Land Based Data Set

69 vehicle types

- 52 cars
- 10 motorcycles
- 7 trucks

32 different manufacturers

- (top right table)

Range of vehicle ages

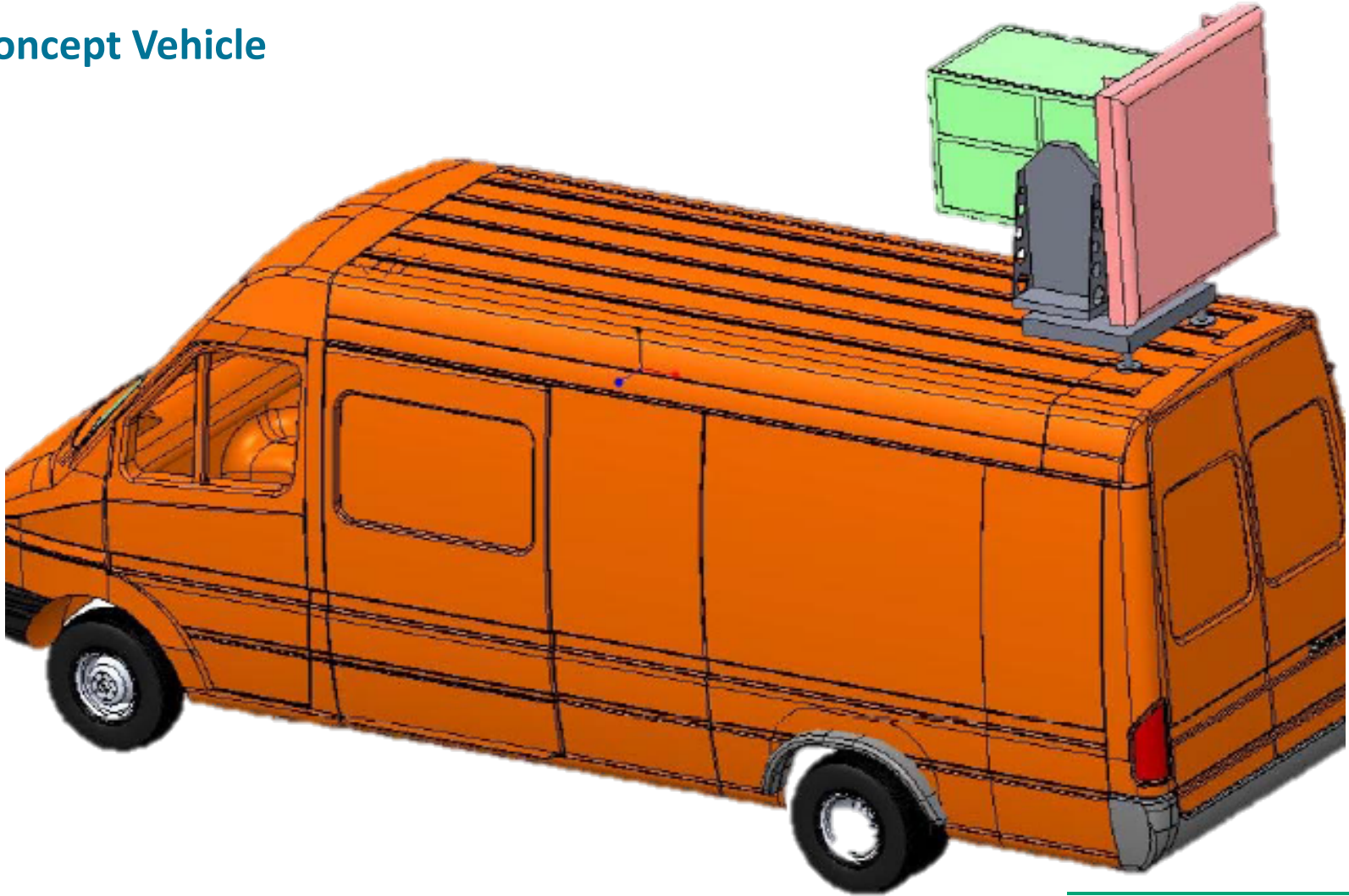
- (bottom left table)

Cross Section of Vehicles tested (Trucks)		
Mitsubishi truck	DAF Trucks	Volvo F40 Truck
Mercedes Trucks	Ford Transit	
Cross Section of Vehicles (Motor Bikes)		
Kawasaki ER5	Kawasaki GPZ305	Kawasaki 600
Yamaha 750	Yamaha 600	BMW 1000 Tourer
Honda Scooter	Triumph 900	

Cross Section of Vehicles tested (Cars)		
Audi A6	Citreon Xsara	Mercedes E Class
Ford Mondeo 56	MG ZT V6	Mazda 6 Auto
Jaguar S Type	Renault Laguna	Volvo S40
Nissan Maxima	BMW 3	Vauxhall Astra N
BMW 735i	Vauxhall Omega	Audi A6
Ford Mondeo V6	Vauxhall Astra V	Nissan 100X
Volvo 940	Mazda 6 man	Seat Leon
Subaru Forrester	Peugeot 406	Hyundi Accent
Vauxhall Omega	Jaguar X type	Vauxhall vectra V6
MG Z	Toyota Landcruiser	BMW 520i
Honda Accord	Volvo V70	Lexus GS300
BMW 330	Nissan Primera	BMW 323i
BMW 730	Alfa 147	Ford Mondeo Diesel
Toyota Celica	Ford Cougar	Audi Q7
BMW X5	Citreon C5	Audi A3
VW Phaeton	Lancia Ypsilon	

UAV Testing

Concept Vehicle



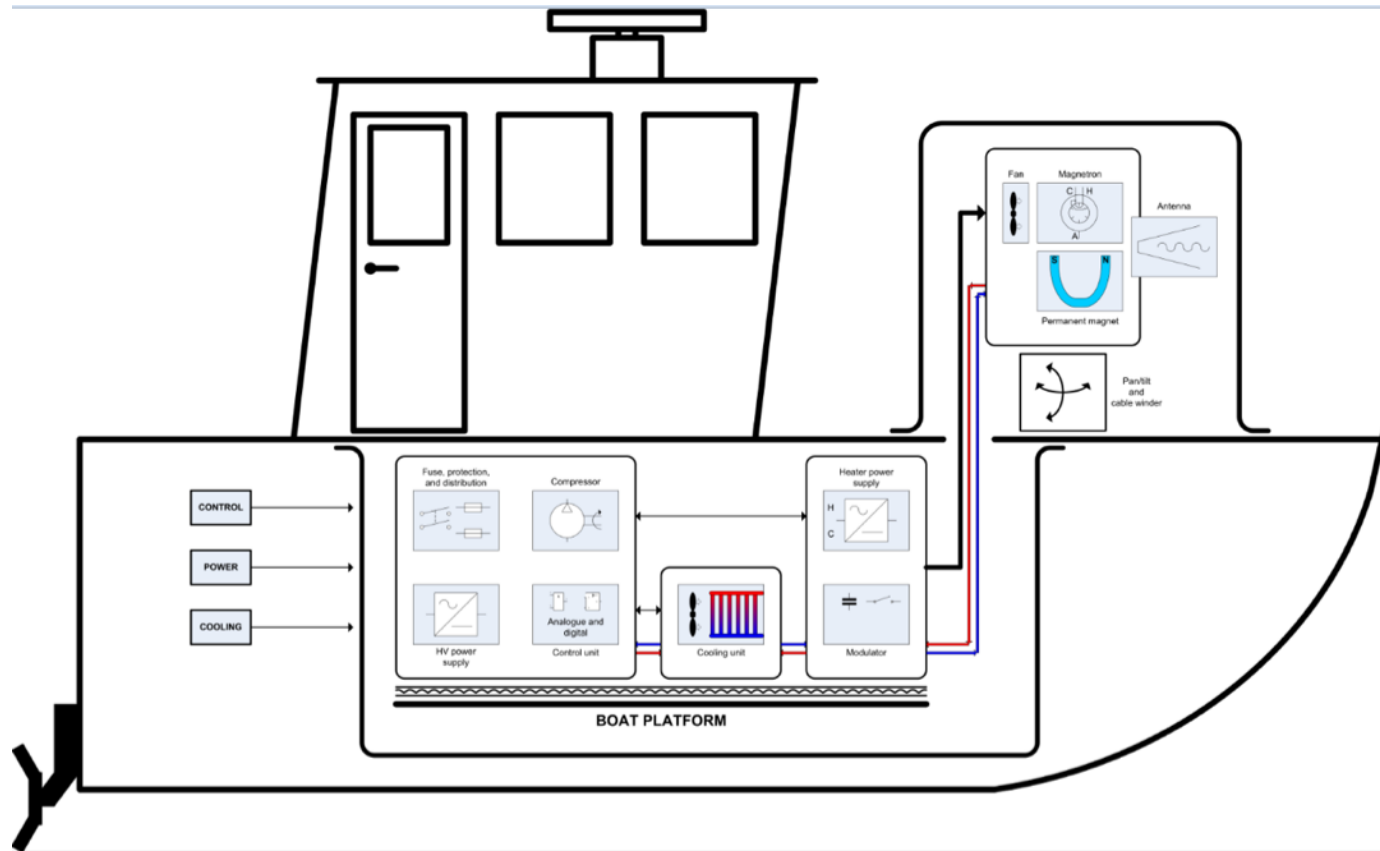
UAV Data Set

Brand	Type
DJI	Phantom 2
DJI	Phantom 2 +
DJI	Phantom 3
Yuneec	Typhoon G
Blade	350 QX3
3DR	Solo SA11A Smart UAV
Dromida	Ominus FPV
Traxxas	TRX37054-1 Rustler
E-flite	APPRENTICE ESP 15E RTF
HobbyZone	Sport Cub S RTF

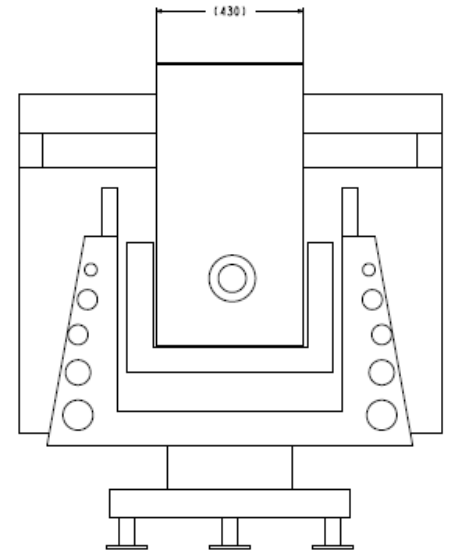
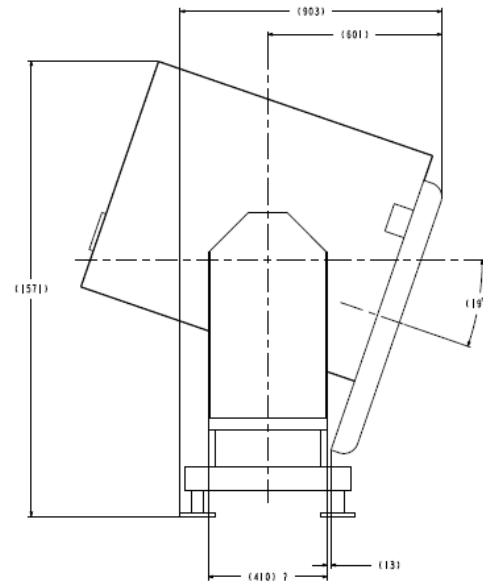
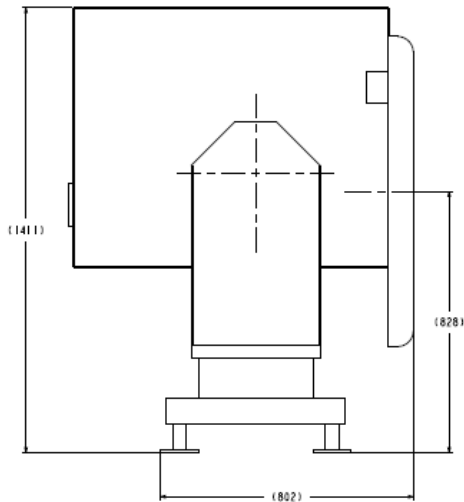


Small Boat Testing

Patrol Boat block diagram



Small Boat Testing



Gyro Stabilized platform with RF Head

Maritime Data Set

Brand	Type
Mercury	115 HP Outboard
	200 HP Outboard
	225 HP Outboard
	300 HP Outboard
	300V HP Outboard
Yamaha	242HP Twin Jet Boat Inboard
	115Hp Outboard
	225 HP Outboard
	250G HP Outboard
	250HP Jet Ski
Jet Ski	C400
Boomerang Inboard	Twin Rolls Royce 500HP Diesel Inboard
Fishing Boat	Twin 550HP Outboard
Suzuki	200 HP Outboard
Tohatsu	115 HP Outboard
Evinrude	75 HP Outboard
	200 HP Outboard



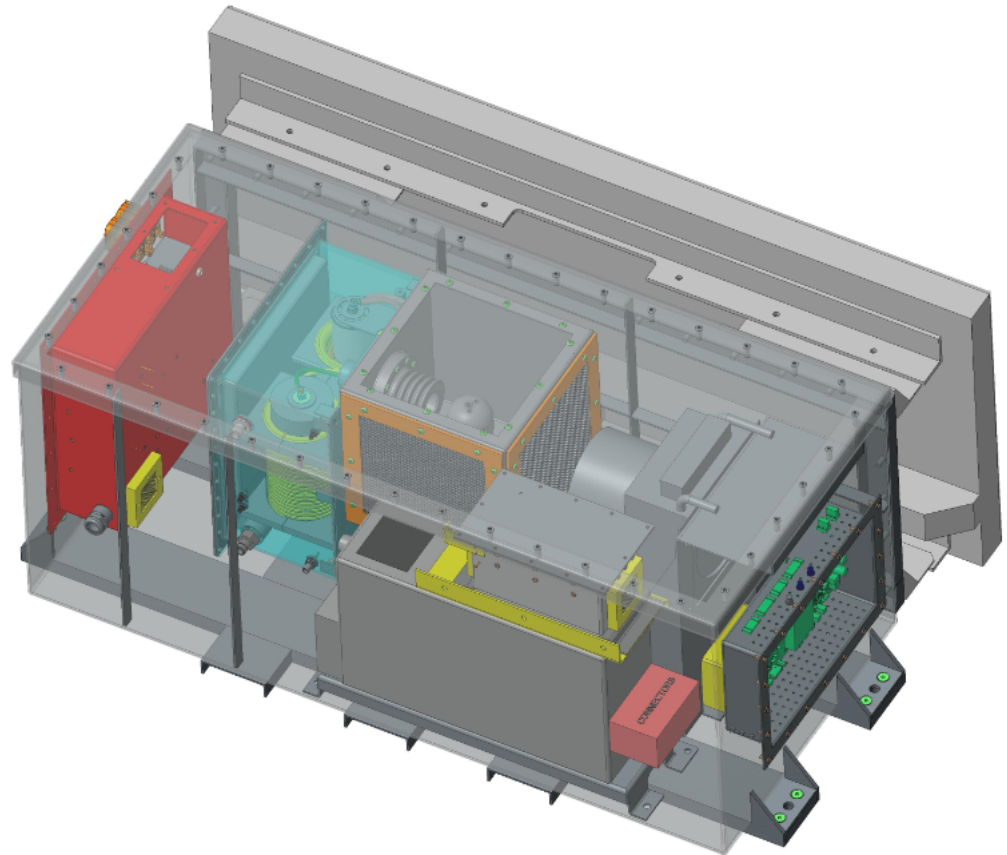
Safe Stop Lite

Small patrol boat Solution 10m

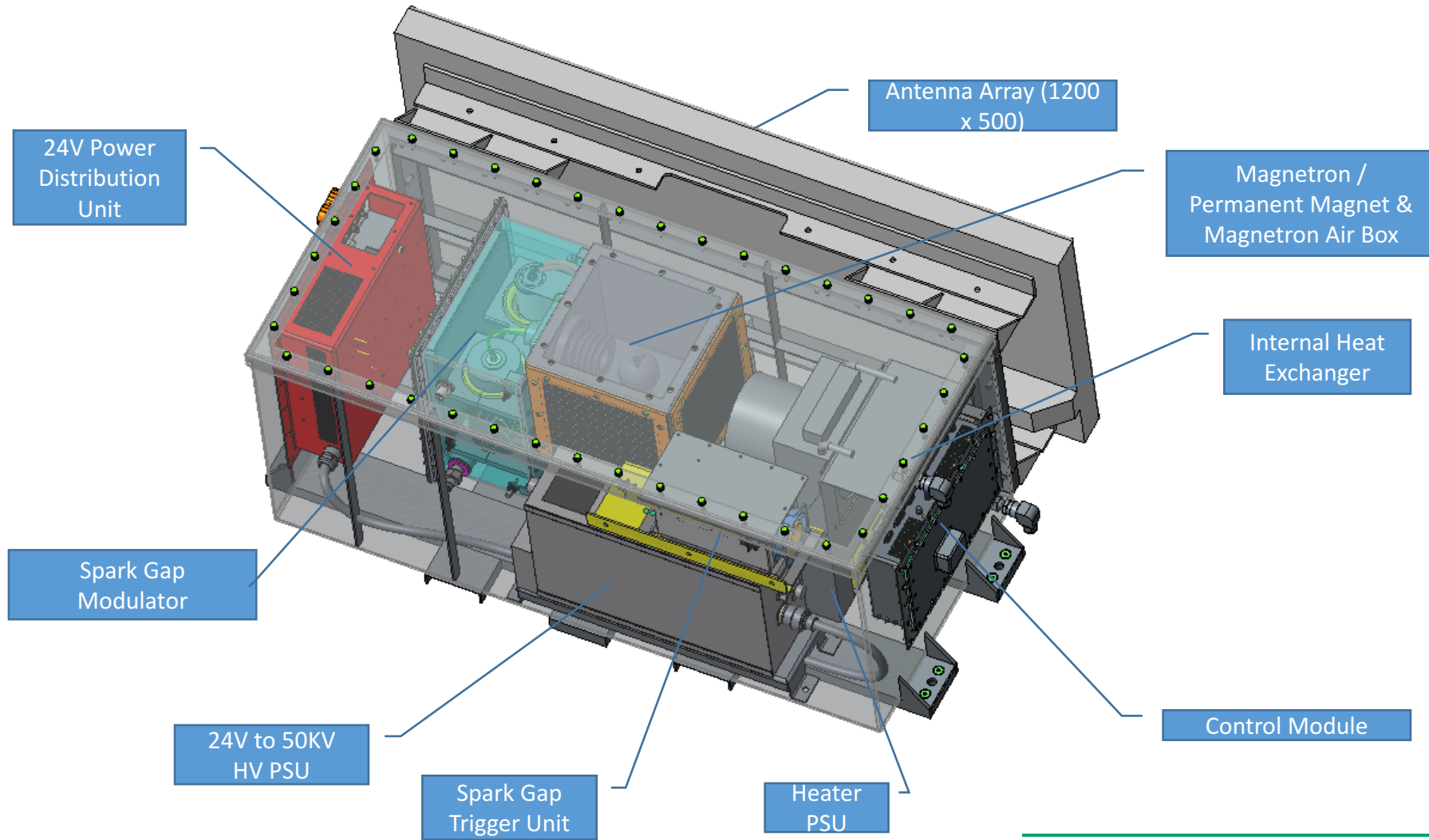
Light weight solution 180kg

Range of 20 to 60m

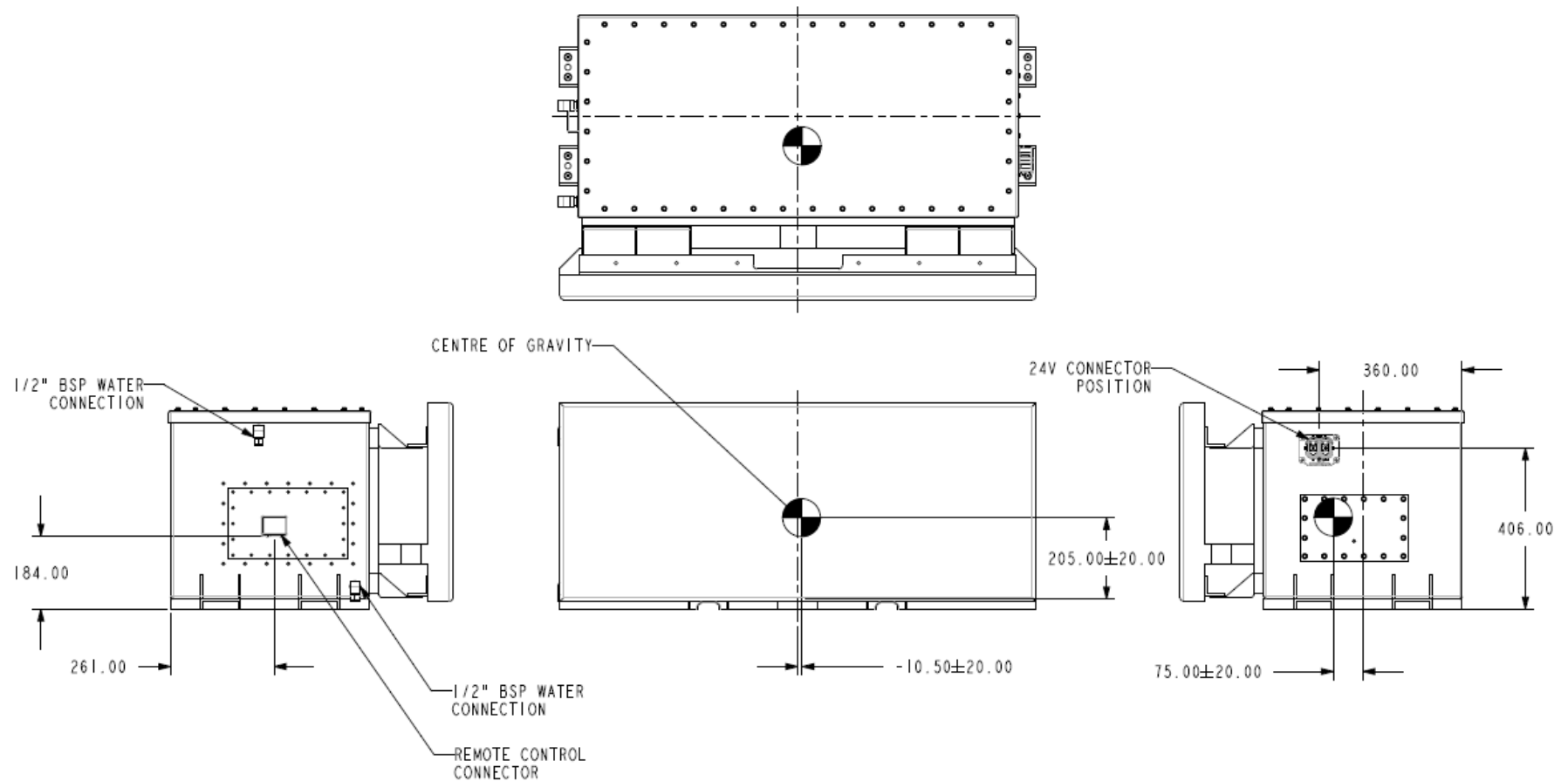
Fully weatherised for a marine
environment



Safe Stop Lite

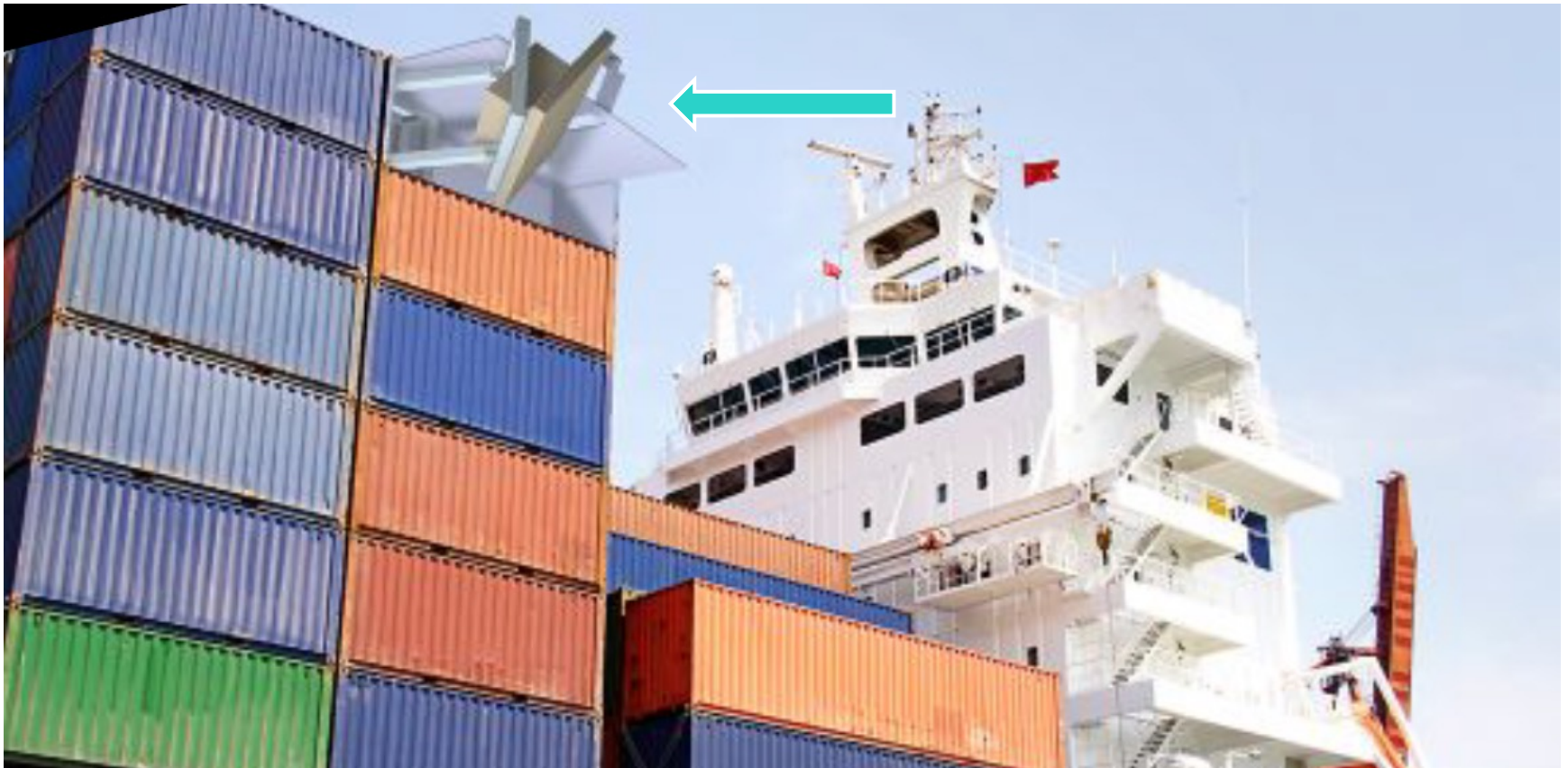


Safe Stop Lite



Large Ship Solution

Counter Piracy Solution



RF Safe-Stop™

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