THREOD

SYSTEMS

eOpic6 LD

THREOD
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Improvements over eOpic5/Orca-130

- Improved motors, gyros, motion control and mechanics
- All aluminum design – improved mechanical performance and durability
- 5X improvement in mechanical stabilization performance – use maximum zoom with no shaking & rolling shutter effect
- Sealed and purged with nitrogen – no fogging of windows
- New generation video processor with advanced capability including AI features
- New global shutter visible camera technology for improved visible camera imaging
- Laser target designation capability
- 5X Optical zoom LWIR thermal imager with improved sensitivity
- Improved geo-pointing performance
- Advanced image enhancements

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eOpic-6-ISR-LC

30X optical zoom VIS
Fixed FOV LWIR TIS
Lower cost version

eOpic-6-ISR-Z

30X optical zoom VIS
5X optical zoom LWIR TIS

eOpic-6-ISTAR-VISLWIR

30X optical zoom VIS
30/50mJ LTD
Fixed FOV LWIR TIS

eOpic-6-ISTAR-TIS

5X optical zoom LWIR TIS
30/50mJ LTD
Fixed FOV VIS camera

eOpic-6-ISTAR-VISSWIR

30X optical zoom VIS
30/50mJ LTD
Fixed FOV SWIR C-Spot

THREOD SYSTEMS

LD Characteristics

- Miniature LD
- 30mJ, <0.5mRad divergence OR
- 50mJ, 0.8-1.0mRad divergence

#	SPECIFICATION	VALUE
		Striker M
1.1	Wavelength	1064 nm
1.2	Output pulse energy	>30 mJ
1.3	Pulse repetition rate	8-20 Hz
1.4	Beam diameter @ Output (90% energy)	<30 mm
1.5	Beam shape	Square, multimode
1.6	Beam divergence	< 0.5 mRad
1.7	Beam pointing stability	< 150 µRad
1.8	Polarization	Linear, horizontal
1.9	Thermal output	25 W
1.10	Duty Cycle	30s firing, 35s off; 10 minutes off after three bursts
1.11	Triggering	External
1.12	External trigger inputs	Four discrete inputs with galvanic isolation, logic "1" level +5V...+10V
1.13	Communication interface	RS485 without galvanic isolation
1.14	Communication protocol	As described in chapter "Communication Protocol"
1.15	Power supply voltage	+15...+24 VDC
1.16	Power supply peak power	150 W
1.17	Power consumption	44 W (while designating at max PRF)
1.18	Storage temperature	-49°C~+72°C
1.19	Preliminary Weight	~315 g
1.20	Preliminary Dimensions (L, W, H)	128 x 56 x 39 mm

eOpic-6LD

THREOD SYSTEMS

- Lightweight (1.5kg) electro-optical payload for ISTAR
- NATO STANAG 3733 compatible laser target designator
- Laser power 30mJ beam divergence ≤0.5mRad
- Optional configuration: 50mJ w/ beam divergence ≤0.8mRad
- Designate targets for laser guided munitions
- Designation range up to 8km
- Designate vehicles up to 3km (up to 4km may be possible)
- Day and night operation
- No GPS signal needed for laser designation
- Upgrade for existing Eos C03 VTOL

Artillery fired laser guided munitions

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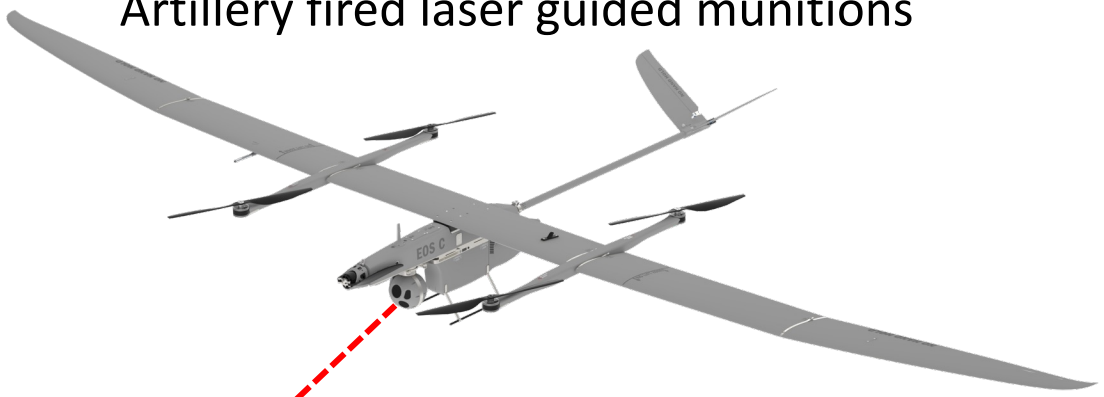
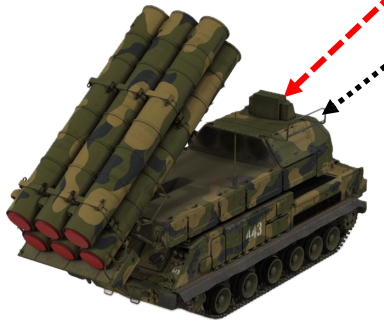


3km



Laser guided ground-to-ground missiles

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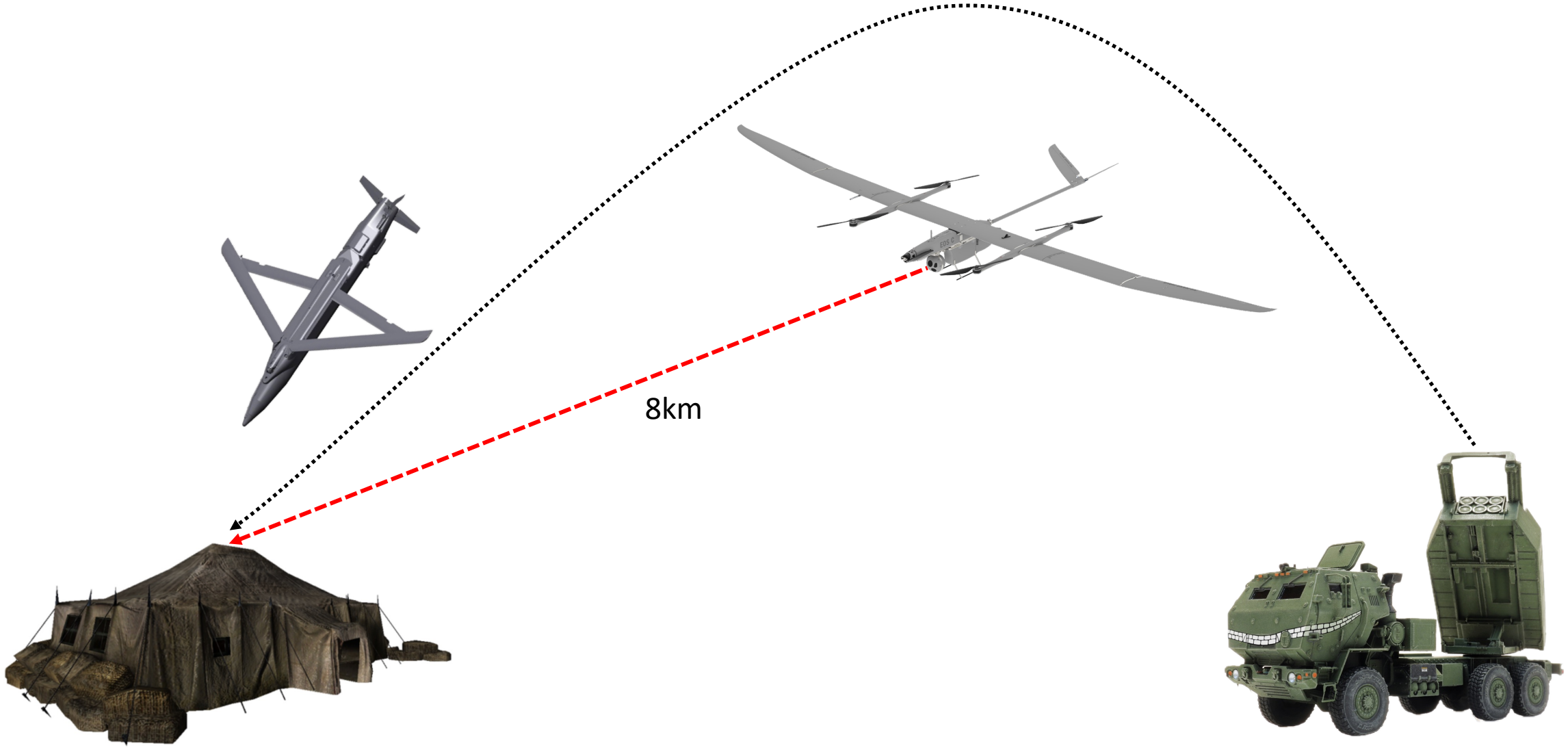
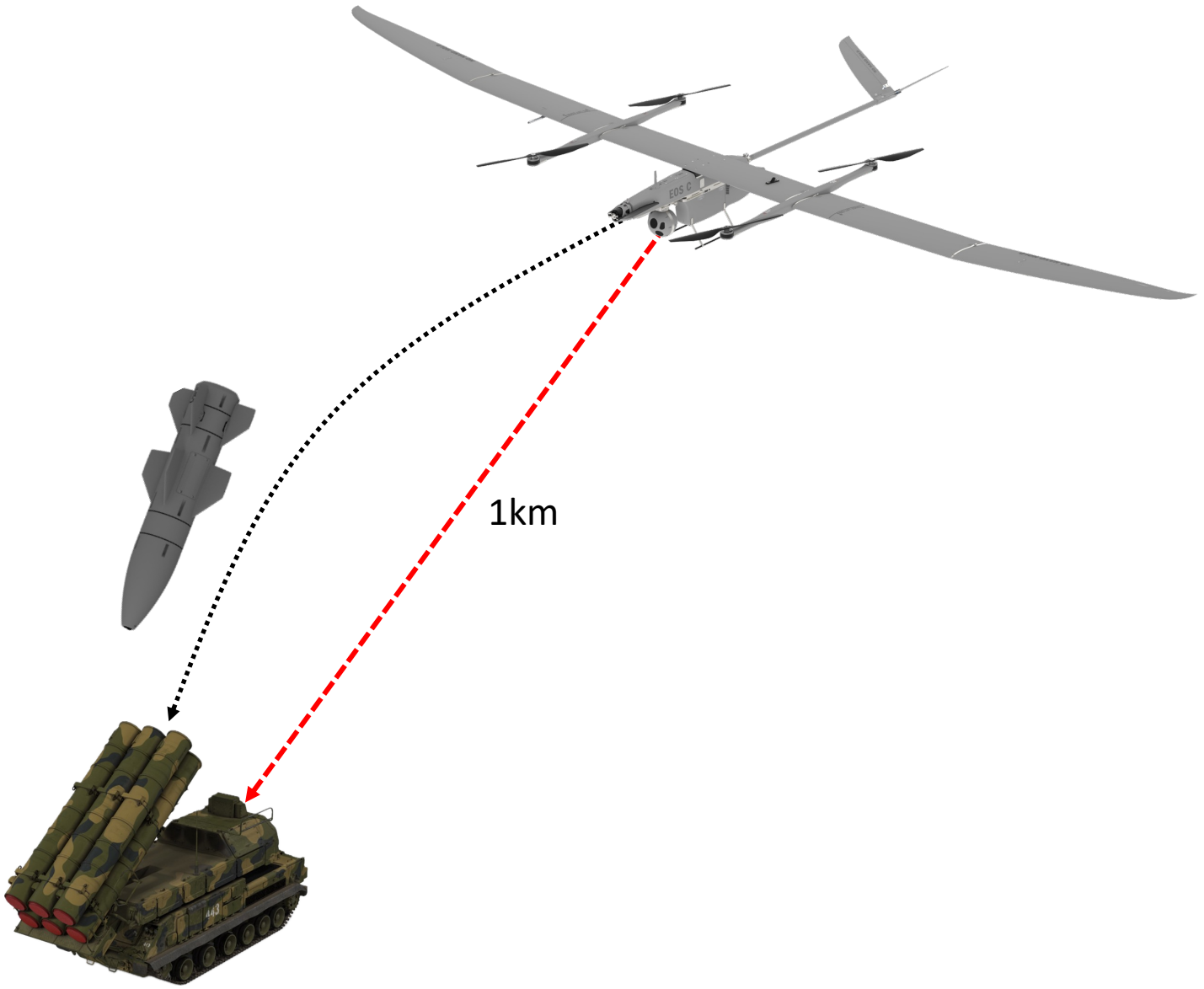


Laser guided gliding munitions



Visible camera improvements

- Global shutter FullHD visible camera provides considerable improvements in quality with no rolling shutter effects
- Improved video processing results in a clearer image and reduced compression artefacts

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Thermal camera improvements

- New 5X Optical zoom thermal camera
- 5˚ NFOV vs 18˚ on previous generation (3.6X improvement in DRI)
- Increased detector sensitivity for higher thermal image quality

Type:	LWIR
Spectral Band:	8 µm – 14 µm
Resolution:	640 x 512 pixels
Fields-of-View:	5˚ to 32˚ continuous zoom
Optical Zoom:	5X
Digital Zoom:	8X
Thermal Sensitivity:	≤20 mK
AI Features:	Super resolution, image enhancements
Focal Length:	14-75 mm
Aperture:	F1.2

THREOD SYSTEMS

Thermal camera improvements

eOpic5/Orca-130

eOpic6

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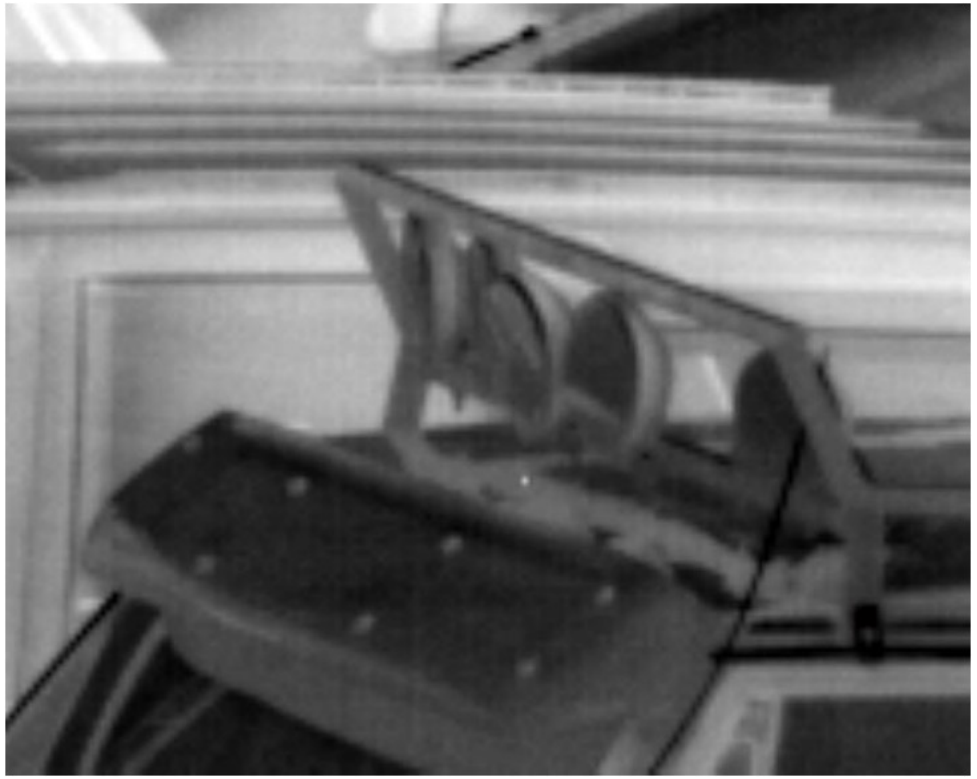
Thermal camera improvements

eOpic5/Orca-130



eOpic6

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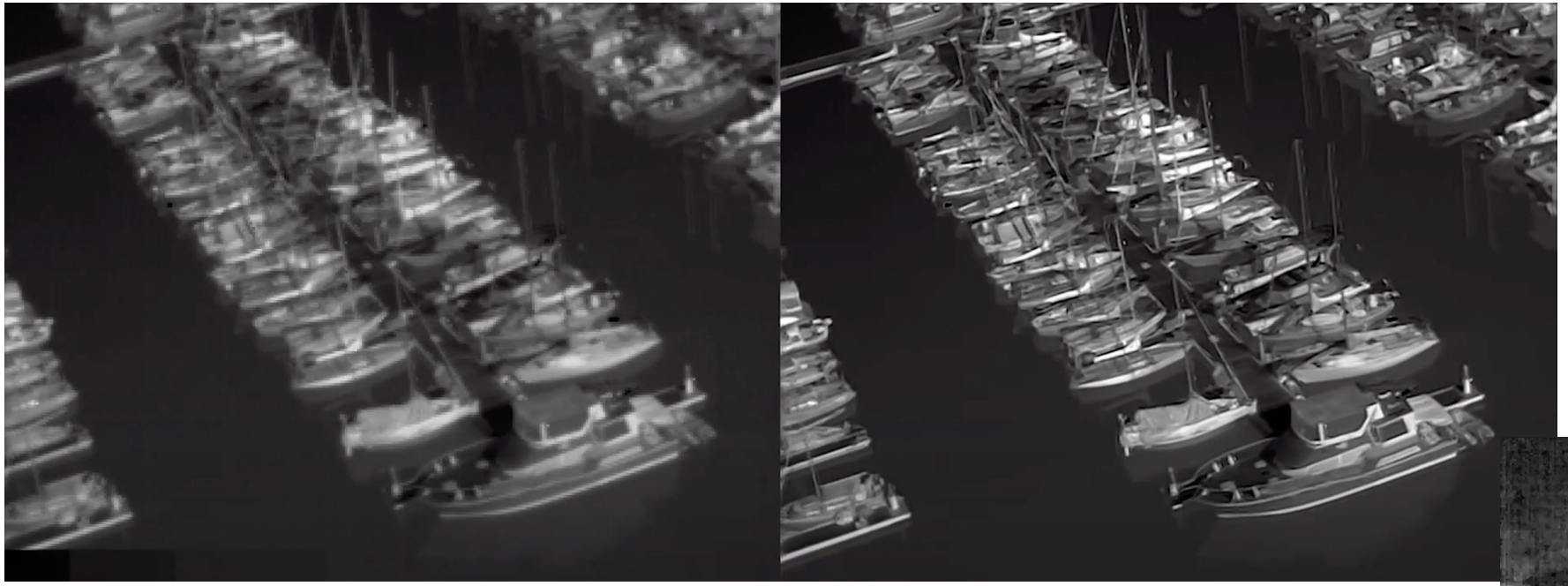
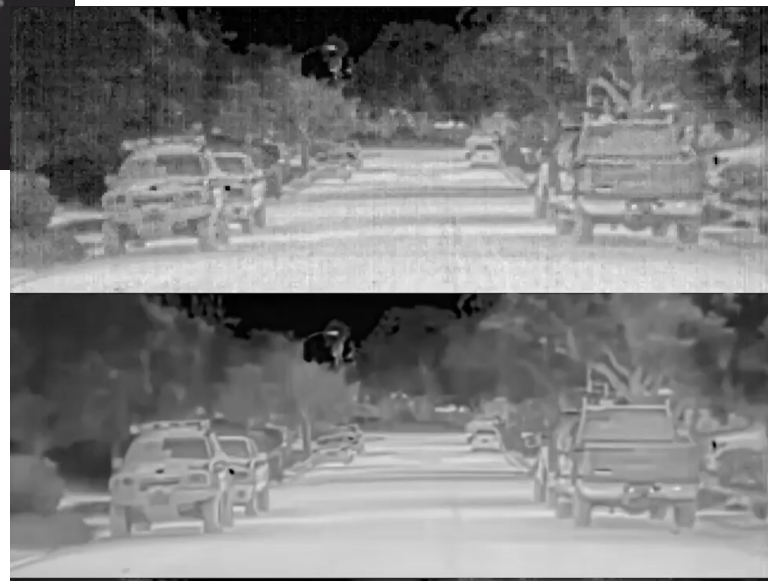
Thermal camera improvements

- Optional super-resolution for near HD thermal image





Specification

THREOD SYSTEMS

SPECIFICATION

Stabilisation and Steering	
Stabilisation:	2 Axes with mechanical Gyro Stabilisation
Azimuth Range	Continuous 360˚
Elevation Range	Elevation Range: +20˚ to - 110˚
Slew Rate	Slew rate > 400 ˚ / s
Maximum Airspeed:	70 Kts
Weight	<1.5kg
Dimensions:	
Power:	

TARGET ENGAGEMENT

Laser Target Designator	
Targeting range:	Up to 6km
NATO Targets:	2.5km
Detection:	> 8km
Moving Target:	Engagement with Autotracker

SENSOR SUITE

LWIR Zoom:	
Type:	LWIR
Resolution:	640 x 512 pixels
Fields-of-View:	5˚ to 32˚ continuous zoom
Optical Zoom:	5X
Digital Zoom:	8X
HD Color Zoom:	
Type:	High Definition 435 nm – 680nm Colour Band
Resolution:	1920 x 1080 pixels detector
Fields-of-View:	2.2˚ to 52˚ continuous zoom (TBD)
Optical Zoom:	30x
Digital Zoom:	4x

Laser Target Designator

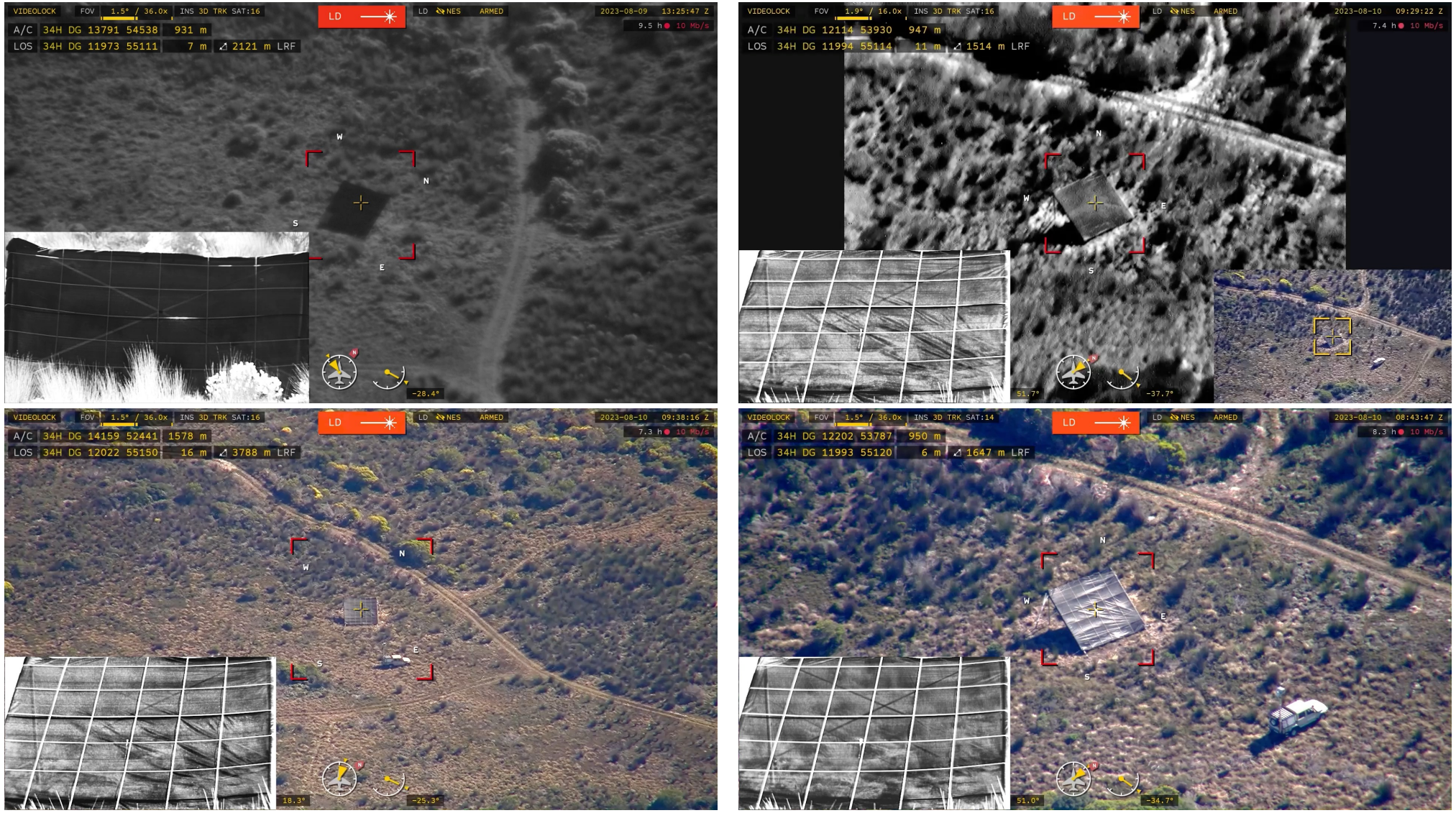
Wavelength:	1064 nm
Power:	30mJ or 50mJ
Beam divergence:	≤0.5mRad or 0.8mRad
Repetition Rate:	8-22 Pulse/sec
Code Compatibility	User defined (Supports NATO STANAG 3733)

This product is still in development, some parameters may change

M712 Copperhead Live Fire Testing

** Example imagery from eOpic8LD testing, VIS sensor type, video processing and control shared between eOpic6 and 8*

Target Designation



** Example imagery from eOpic8LD testing, VIS sensor type, video processing and control shared between eOpic6 and 8*

Target Designation - VIS

** Example imagery from eOpic8LD testing, VIS sensor type, video processing and control shared between eOpic6 and 8*

Target Designation - TIS

** Example imagery from eOpic8LD testing, VIS sensor type, video processing and control shared between eOpic6 and 8*

Target Designation - SWIR

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** Example imagery from eOpic8LD testing, VIS sensor type, video processing and control shared between eOpic6 and 8*