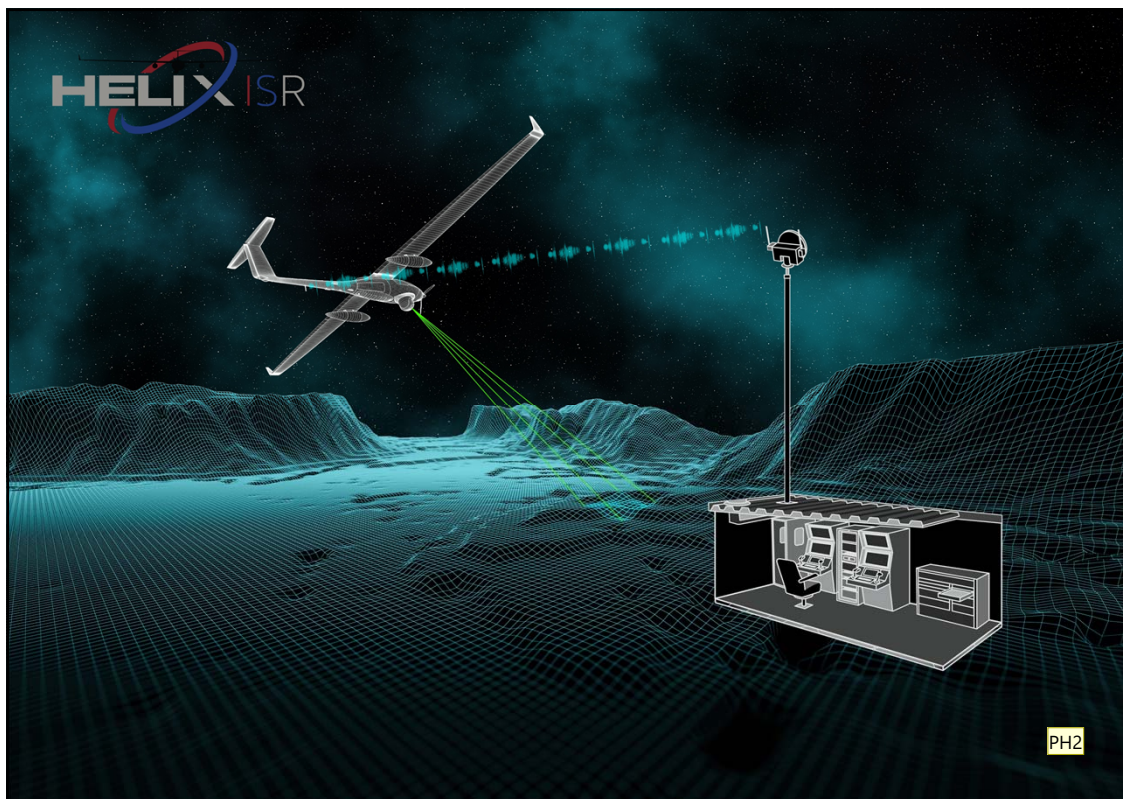




ULTIMATE AIR Background

⚙️ Company Information

- ❑ Global footprint in over 25 countries
- ❑ Ultimate Air specializes in operating in complex and remote areas of Africa, Central Asia and the Middle East.
- ❑ Our fields of expertise include:
 - Fixed Wing aircraft charter/ lease Pax/ Cargo
 - Rotary wing charter / lease
 - ISR
 - Heliport Management
- ❑ Helix adds manned ISR to Ultimate Air's capabilities

The Hardest Jobs.
The Toughest Places.
The Best People.

Areas of Operation

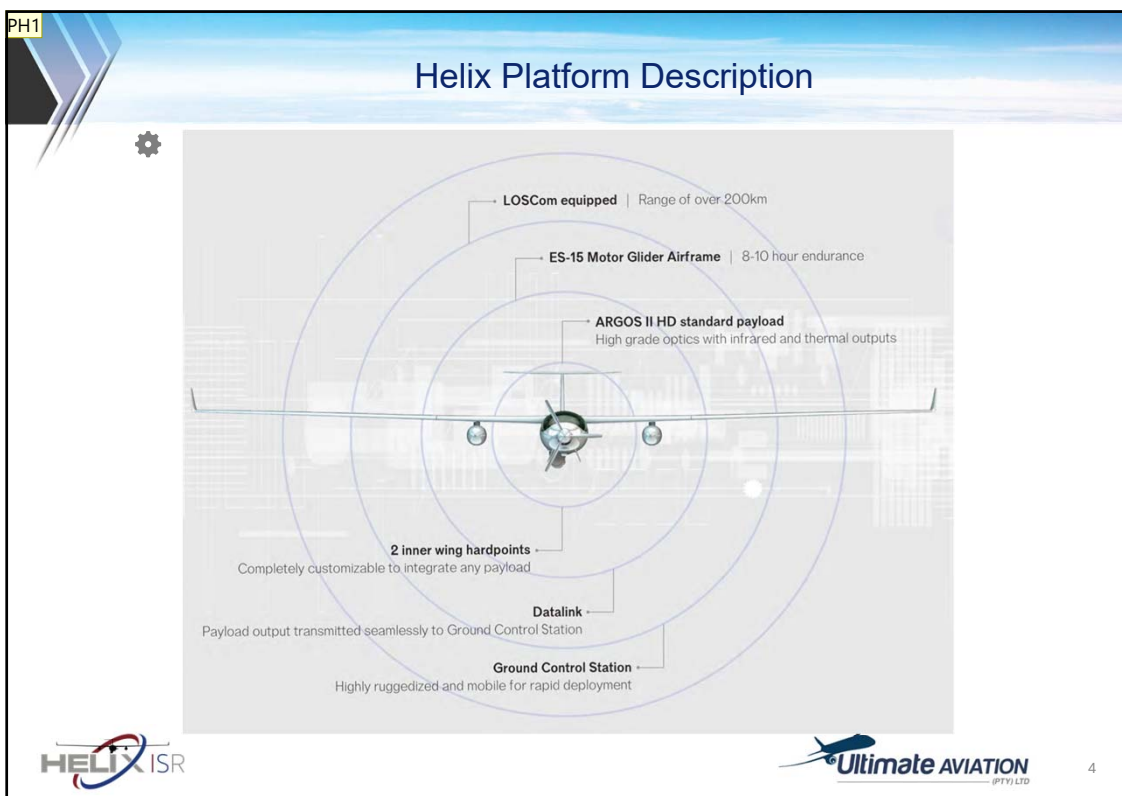
2

Slide 1

PH2

you have a very good selling phrase, I would use it here of somewhere else

PM Helix, 8/19/2019



Slide 3

PH1 the text was a duplication of the text in the picture, and they are contradicting. If the info in the pic is incorrect, it should be removed or redrawn... Updated the range

PM Helix, 8/19/2019

Slide 4

PH1 the text was a duplication of the text in the picture, and they are contradicting. If the info in the pic is incorrect, it should be removed or redrawn... Updated the range

PM Helix, 8/19/2019

Optical Payload: Hensoldt's Argos II HD

⚙️ Payload features & Software

	Best-in-Class 4-Axis Stabilisation
	HD Continuous Zoom 3-5μ Thermal Imager
	HD Multispectral Continuous Zoom Day Camera
	HD Multispectral Spotter Day Camera (Optional)
	Diode-pumped Eyesafe Laser Rangefinder
	Laser Pointer / Laser Illuminator(Optional)
	IMU & GPS for Geo Pointing and Location
	Integral Auto Tracker
	Real Time Video Processing
	Moving Map and Moving Target Interface (Optional)
	Diode-pumped Laser Designator Rangefinder (ARGOS-II HDT)
	In-flight Boresight Unit (ARGOS-II HDT)
	ITAR Free

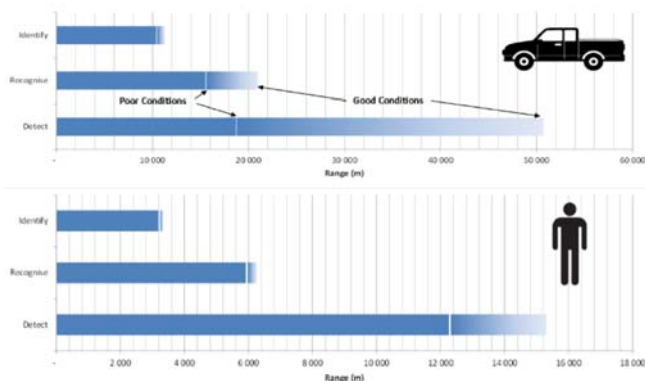


5

Optical Payload: Hensoldt's Argos II HD

⚙️ Thermal Imaging Camera

- Senses radiative properties of features (3 – 5 μm range).
- High Definition: Detection, Recognition & Identification at great distances:



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Use of Thermal Imager: Day vs. Night Operations

Thermal Imaging Camera

Day:



Night:



7

Optical Payload: Hensoldt's Argos II HD

Thermal Imaging Camera: Features

- Different display modes: Black Hot & White Hot
- Pseudocolour Mode – Further enhance contrast resolution

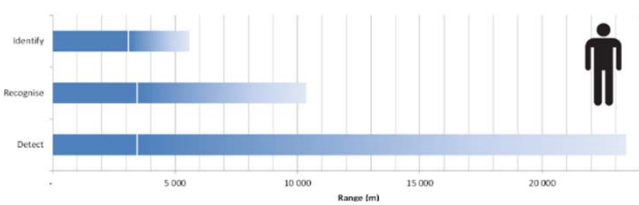


8

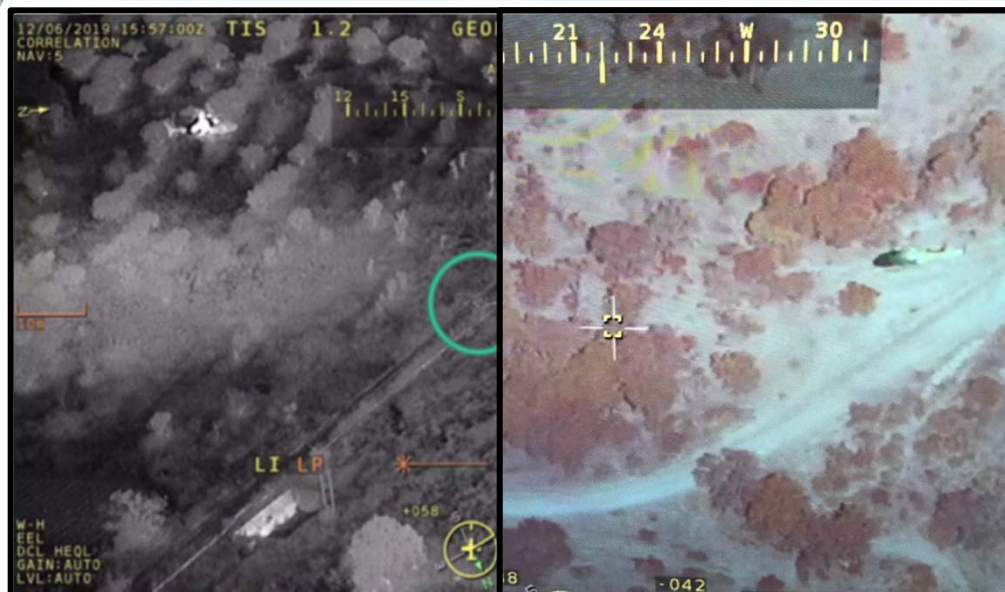
Optical Payload: Hensoldt's Argos II HD

Spot TV Camera

- Increased resolution at high zoom
- Extraction of detail from features (ex. number plate identification)



Night Time Thermal Operation vs Day TV Operations



10

Optical Payload: Hensoldt's Argos II HD

⚙️ LRF, LP, LI

- Eye-Safe Laser Range Finder
 - Accurate Distance;
 - Geo-location of targets.
- Laser Pointer
 - Marking of Targets.
- Laser Illuminator
 - Illuminate Targets.



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Optical Payload: Hensoldt's Argos II HD

⚙️ Automated tracking of targets

- Correlation Video autotracking
 - Small moving objects.
- Scene Video autotracking
 - Tracking of stationary objects in a scene.



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Optical Software

Kestrel Land MTI

- Kestrel Land MTI is a software solution that automatically detects movement in electro-optical (EO) and infrared (IR) full motion video (FMV) from manned aircraft and UAVs.
- Kestrel enhances airborne Intelligence, Surveillance and Reconnaissance (ISR) missions by:
- Quickly transforming raw data into actionable intelligence
- Automatically detecting moving objects too small or slow for fatigued human eyes or radar to detect
- Increasing surveillance mission coverage over wide areas
- Kestrel Land MTI is at TRL 9 with extensive operational deployments.



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Operations

- Helix operational and flying missions
- Maintenance/testing facility based in Potchefstroom, South Africa
- Anti-Poaching aerial surveillance
 - Kruger National Park, South Africa
 - Louis Trichardt National Park, South Africa
- Live demo flights available through video conferencing
- Expressions of interest from Disaster relief, geological surveying, LIDAR mapping industries
- Mobile Ground Station



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Helix UAV/OPV

In Development

- Expected Q1 2020
- Equipped as an Optionally Piloted Vehicle (OPV) this means it can be operated either as:
 - An Unmanned Aerial Vehicle (UAV)
 - A Manned Surveillance Platform (MSP)
- Equipped with Next-Gen Optical Payload
 - Next Gen Argos II HD
 - Wide Aerial Aircraft Surveillance (WAAS)
- Enhanced endurance (12-15L/h)
 - MSP: 8-10 Hours
 - UAV: 25-30 Hours
- Payload Hardpoints
 - 4 x Hardpoints available for customized payload integration



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Mission Requirements



- Helix is an EASA certified aircraft
- Equipped to allow a mesh network of multiple aircrafts to transmit live HD footage to the ground station
- Designed to operate at high temperatures
- Low noise signature
- Low heat signature
- HD real time streaming of up to 120km or unlimited with mesh network
- Satcom equipped and enabled
- Tested and proven ISR platform
- Audio coms between ground station and aircraft
- Rapidly deployed



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