



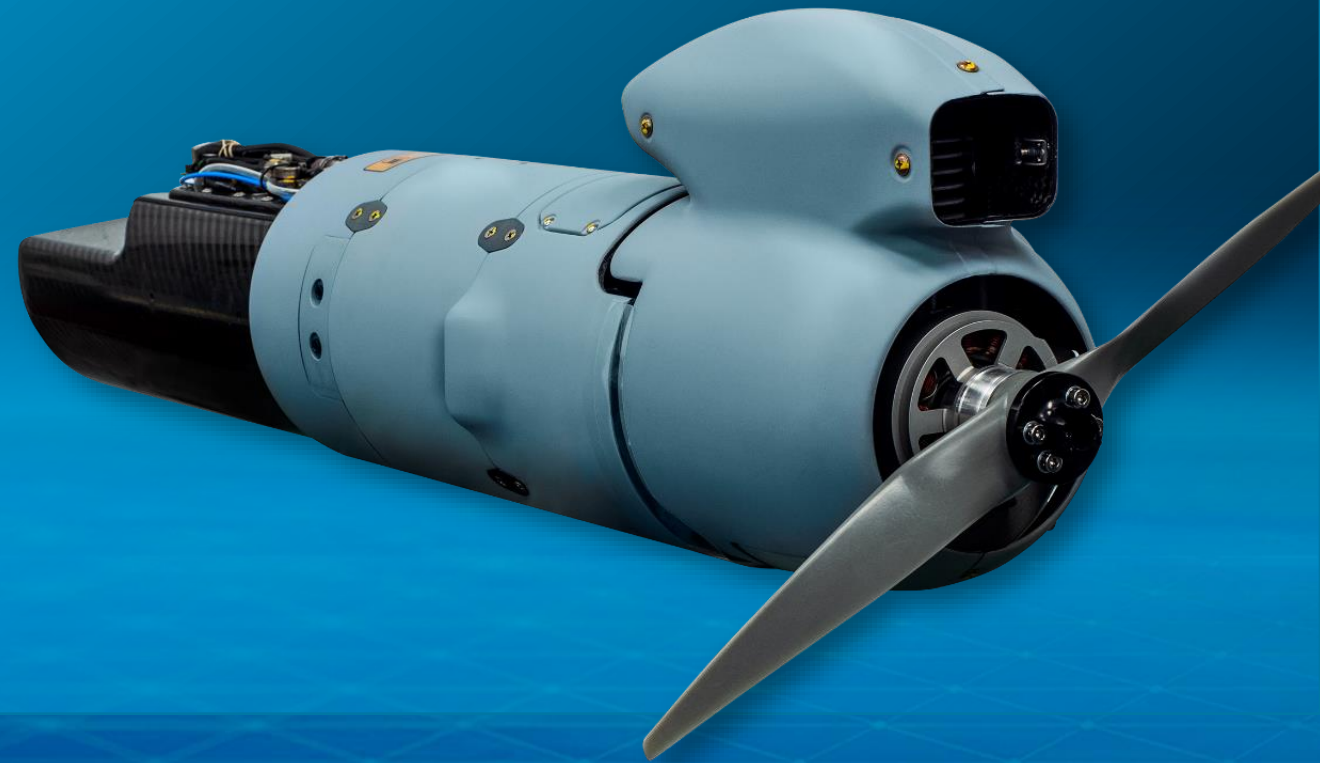
ORBITAL[®]
UAV

Company Presentation

2023 Annual General Meeting

16 November 2023

World leader in the design
and manufacture of
integrated engine systems
for military drones*



(* Tactical Unmanned Aerial Vehicles 'UAVs')

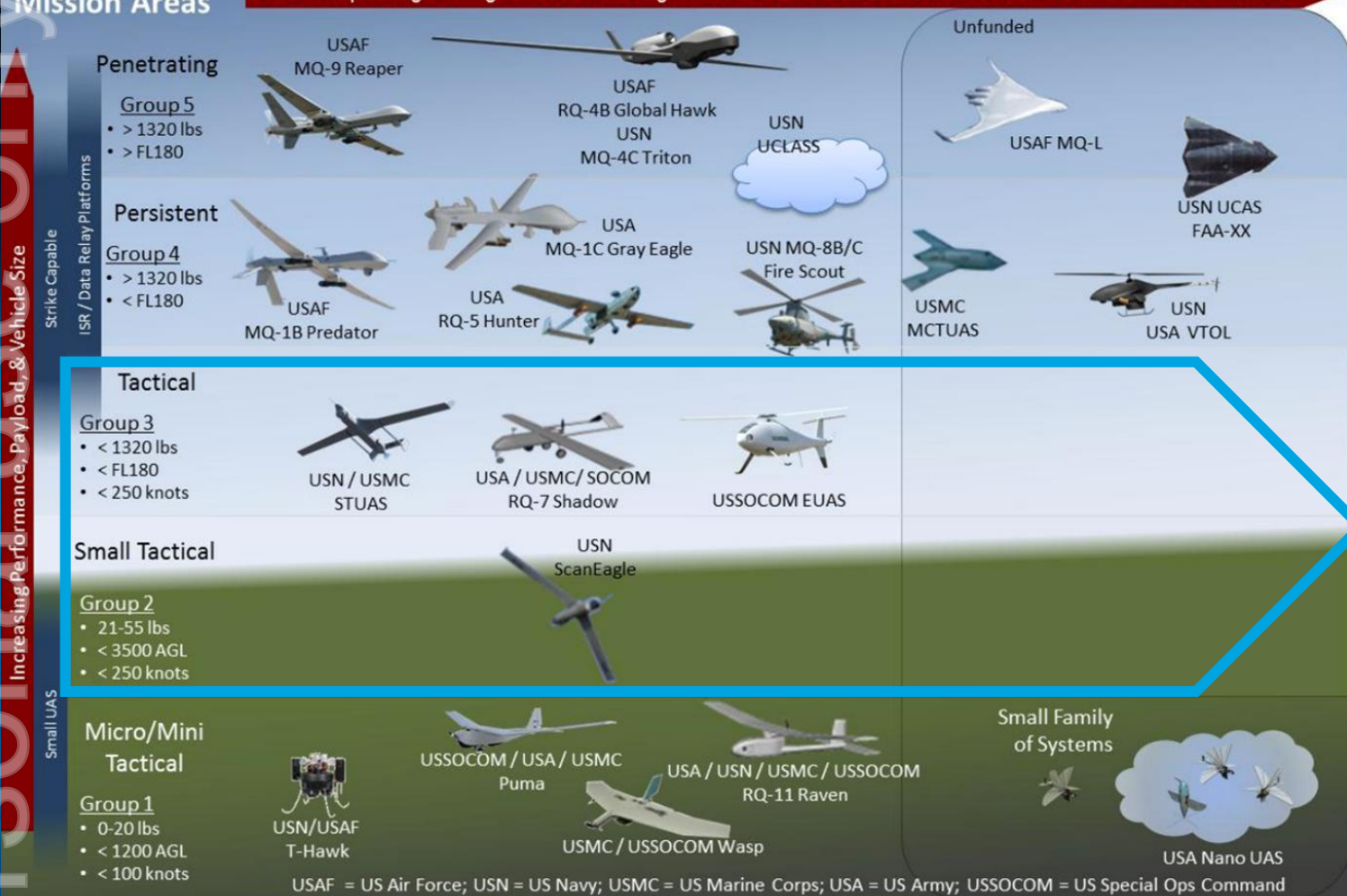
The UAV landscape

Addressing multiple mission profiles



Mission Areas

2013 Expanding Strategic Focus from Irregular Warfare to Include Anti-Access Area Denial/Near Peer 2035+



- The military UAV landscape consists of five groups:
 - Group 1: Micro & Mini (Tactical)
 - Group 2: Small Tactical
 - Group 3: Tactical
 - Group 4: Persistent
 - Group 5: Penetrating
- Groups are classified according to maximum gross take off weight, size, operating altitude and airspeed
- Orbital's current competitive advantage is focused within Group 2 & 3 Tactical UAVs

What is a tactical UAV?

Intelligence, Surveillance, Reconnaissance



Tactical UAVs are used by global defence forces for intelligence, surveillance and reconnaissance (ISR) missions

- Field operated by military units
- \$600K - \$6 million per system
- State-of-the-art electronic payloads (e.g. day/night cameras)
- Wingspan 3 – 7 metres
- Flies at up to 20,000 ft
- Endurance up to 24 hours



Naval vessel-based



Launch & capture



Runway dependent



Vertical take-off & landing

A global defence solution

Heavy fuel and UAVs



Heavy Fuels

(eg JP-5, JP-8, Jet-A1)

One fuel for defence forces around the world.

SAFETY
LOGISTICS
ACCESS



Orbital's technical differentiator

Heavy fuel 2-stroke IP and know-how



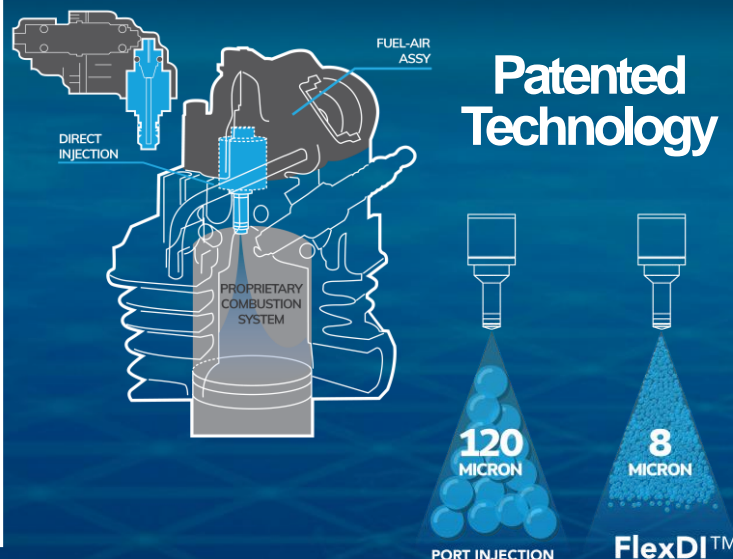
40years developing innovative engine solutions

15years as a global leader in spark ignited heavy fuel propulsion

The Challenge

- JP-5 & JP-8 (aka, 'heavy fuels') are the preferred fuel for defence across all equipment
- Heavy fuels offer safety & logistical benefits
- Preferred engines for tactical UAVs are 2-stroke & rotary
- Running heavy fuel in 2-stroke & rotary engines is highly unreliable

The Solution



The Benefits

Orbital UAV's heavy fuel propulsion systems provide the world's best performing UAV engines

	Orbital UAV	Others
Time between overhaul	500 hrs	~50 hrs
Cold start to launch	2 min	>20 min
x3 U.S. FAR33.49 endurance test	Yes	No

Up to 40% more fuel efficient

Significant Orbital UAV engine benefits

Industry leading performance



Orbital UAV's heavy fuel solutions provide the world's best performing UAV engines

	Orbital UAV	Others
Time between overhaul	500 hrs	~50 hrs
Cold start to launch	Instant	>20 min
x3 U.S. FAR33.49 endurance test	Yes	No



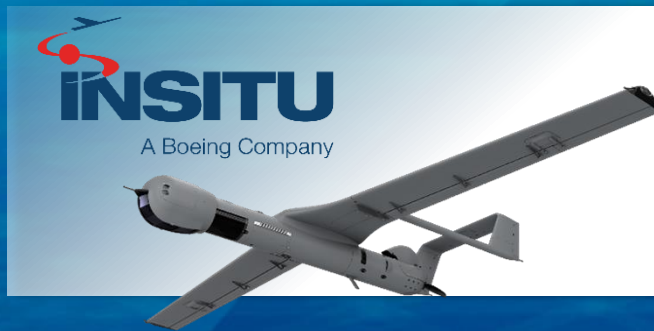
Orbital UAV export revenues

Sovereign capability and export revenue



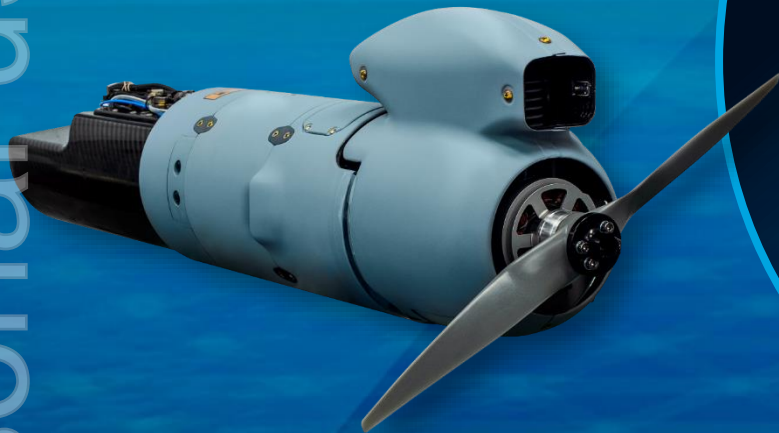
Exporting
~\$20m p.a¹

To customers including:



Engine production contracts

Existing engine production contracts



Production
Engines x 2



Engine development to Production

Existing engine developments entering production



TEXTRON Systems



TEXTRON Systems



**Development
Programs**
X3



US Army's FTUAS Program

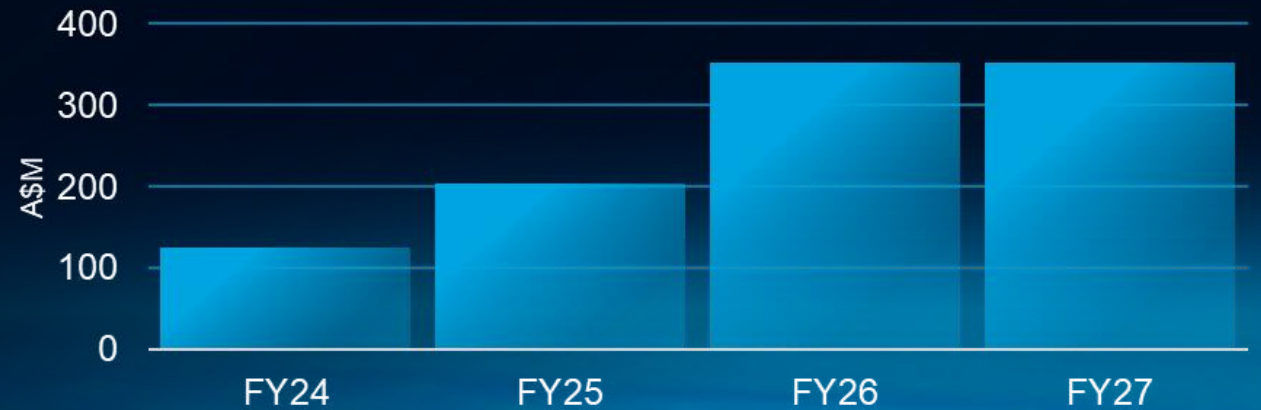
Replacement of the +15yr old Shadow UAV



US SPENDING REMAINS DOMINANT

The US Army Future Tactical Unmanned Aircraft System (FTUAS) Program is one of the largest global UAV programs currently underway

FTUAS Program Forecast Procurement Spending



**Textron
Shadow
replacement**



**Griffon Aerospace
Valiant**



**Textron
Aerosonde HQ**

Current market focus

Engines – a critical sub-system

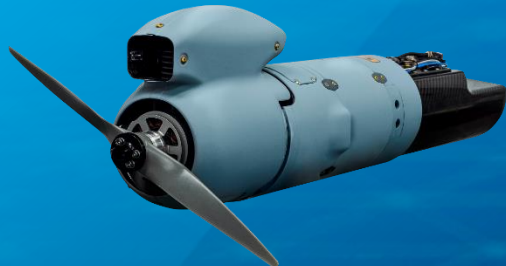


Integration /
Build Labour: 10%



UAV Bill of
Materials: 10%

Engines: 10%



Mission
Management
Systems: 30%



Training: 10%



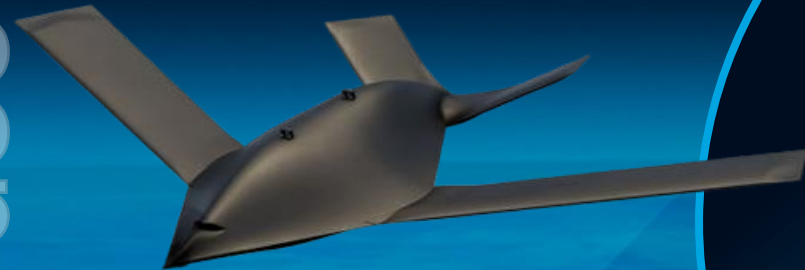
Payloads: 20%



Ground Support
Equipment: 10%



Engine development opportunities



Opportunity Pipeline



Orbital UAV snapshot

Orbital UAV (ASX : OEC)



Targeting sales growth within a \$3 billion market

Two engine production lines built for Boeing Insitu

Average revenue (last 3 years) ~\$20M p.a.

Two additional engine production lines scheduled for FY24

Further revenue expansion through new engine development strategy



ersonal use only



*Ready to fly*TM

www.orbitaluav.com

