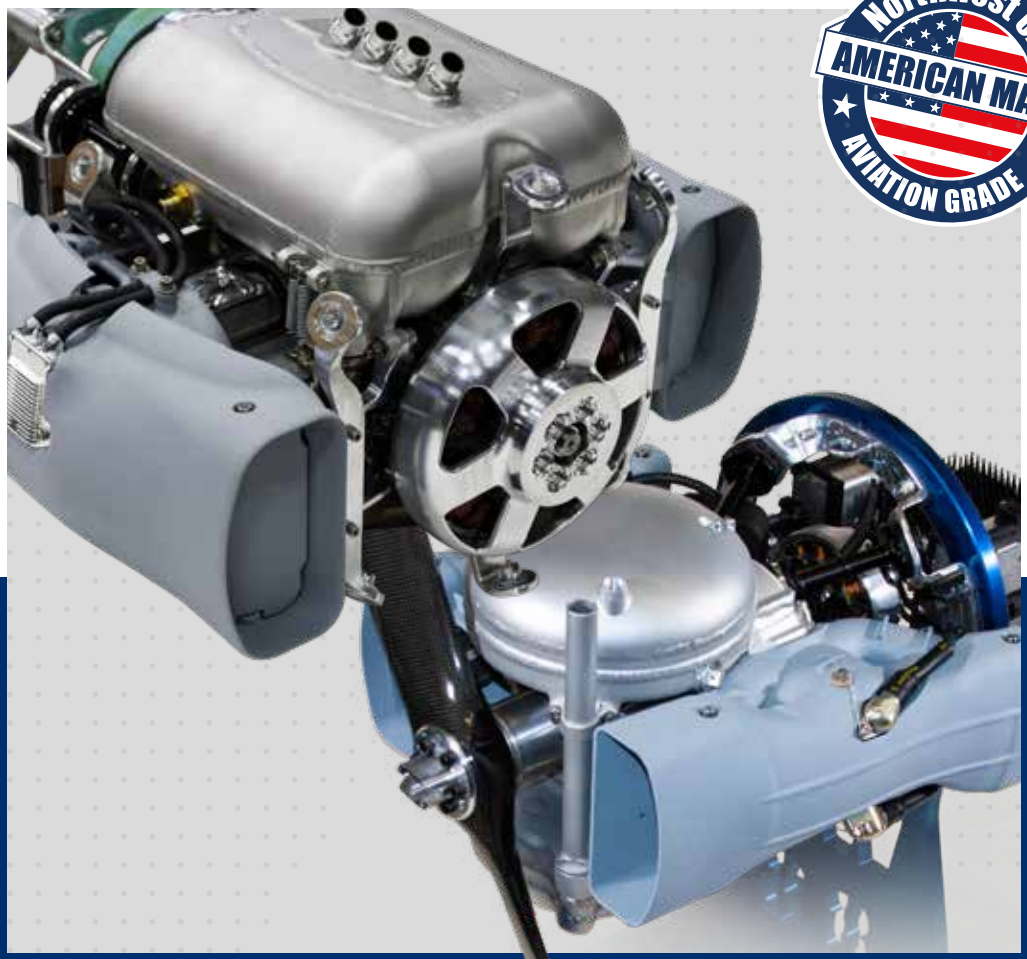
Northwest UAV
A GLOBAL COMPANY

20 YEARS



Northwest UAV AMERICAN MADE AVIATION GRADE

Military Proven Propulsion Solutions

PROPULSION & PAYLOAD INTEGRATION SPECIALISTS

- INTEGRATED PRODUCTION & MANUFACTURING
- ENGINE & ENDURANCE TESTING
- ENGINEERING DESIGN & DEVELOPMENT
- ELECTRICAL WIRING & HARNESS SHOP
- CONUS & OCONUS MAINTAINERS
- DRONE AIRMEN/ REMOTE PILOTS

ABOUT US

Chris Harris, Founder/President, Northwest UAV America's trusted leader in UAV propulsion and integrated solutions, Northwest UAV (NWUAV), continues to engineer the future of unmanned power systems. Through innovation, NWUAV delivers unmatched capabilities to address modern challenges and navigate the harshest environments. For 20 years, our experienced team has equipped customers with reliable, cost-effective propulsion solutions — propelling systems to new heights and unlocking new missions.

From humble beginnings in a small-town Oregon garage to an expansive campus that offers the unmanned industry standard-setting engineering and propulsion — NWUAV is paving the way for the future of unmanned systems in heavy-fuel propulsion, more recently, hydrogen fuel power. After 20 years of business, delivering over 18,000 engines, and over one million flight hours, NWUAV continues to push the unmanned systems industry to expect and exceed aviation-grade standards, both domestically and internationally.

Offering a wide variety of in-house products and services from an experienced team, partner products, and enduring vendor relationships – NWUAV's ecosystem of products and services means customers can seek out a singular product or service from NWUAV or a complete solution without outsourcing. NWUAV's carefully constructed ecosystem includes off-the-shelf products, a machine shop, a 3D printing sister company, access to an FAA-certified UAS Test Range, a CMM machine, an engine run room, a full-stack engineering team, and production and wiring teams manufacturing in an AS9100/ISO9001 certified operation.

As a small business, NWUAV proudly offers American Made Aviation Grade products. In addition, NWUAV continually researches and develops new unmanned propulsion solutions. NWUAV's most noteworthy products are designed and manufactured in-house; the NW-44 Heavy-Fuel Engine and the NW-88 Heavy-Fuel Engine support customers domestically and internationally. Northwest UAV expects the NWFC-1500 hydrogen fuel cell to follow a similar path, with interest already shown domestically and internationally

At Northwest UAV, we seek to propel our customers to new heights with on-time, high-quality, affordable goods and services.

For more information please call or visit www.nwuav.com to download the data sheet for additional details. Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

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AS9100D/ISO9001 AEROSPACE CERTIFICATION

We meet or exceed our AS9100D/ ISO 9001:2015 Quality Management Certification for design, development, manufacture, maintenance, repair, overhaul, and testing of gasoline and heavy-fuel engines.

- DCAA Compliant
- ERP Document Control
- Internal Audits
- Aviation-grade Standards
- Quality Training Programs
- Supply Chain Management

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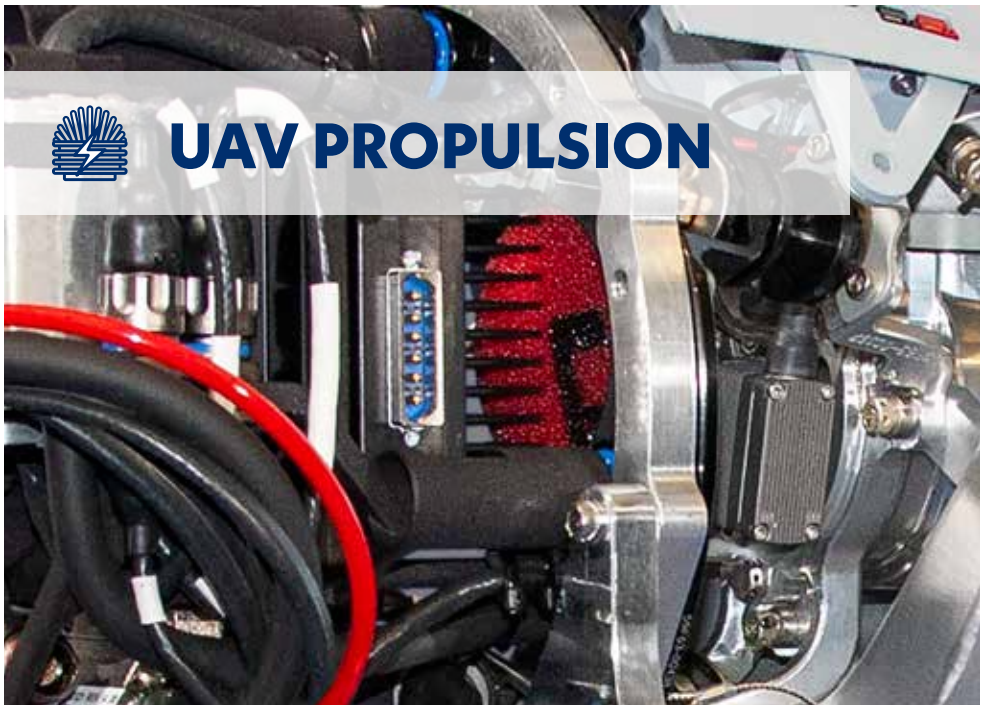


UAV PROPULSION

Professional Grade Small UAV Propulsion Systems

If you need reliability and endurance packed into a small propulsion system for your unmanned project, count on **Northwest UAV**. From our small fuel efficient and quiet combustion and hydrogen fuel cell propulsion systems to the versatile 4-stroke rotary valve **RCV Engines**. At NWUAV, we offer a variety of small multi-fuel UAV propulsion systems and accessories to assist you in choosing your COTS, build-to-print, or custom propulsion system solution that fits your needs.

Northwest UAV 20 YEARS
A GLOBAL COMPANY

PROPULSION SYSTEMS

AS9100 REV D | ISO9001

America's trusted leader in UAV propulsion and integrated solutions, NWUAV continues to engineer the future of unmanned power systems. Through innovation, NWUAV delivers unmatched capabilities to address modern challenges and navigate the toughest environments.

For 20 years our experienced team has equipped customers with reliable, cost-effective propulsion solutions – propelling systems to new heights and unlocking new missions.

28,000+ OPERATIONL HOURS

EXPORT CONTROL CLASSIFICATION NUMBER EAR99

NWUAV NW-44 | 3.5 HP Single-Cylinder Multi-Fuel Engine

The NW-44 is the most configurable small UAV propulsion system on the market today. Designed for aircraft in the 18 to 34 kg (40-75 lb)[1] weight class, this UAV engine is being scaled to larger and multiple cylinder configurations, making this unique technology available on a larger range of aircraft.

- Multiple generator output configurations available to fit customer requirements
- Custom 280-Watt direct drive generator with a 6/12/21 or 28 volt Generator Control Unit (GCU); ~280-Watts available, 30-Watts for engine, 250-Watt for payload and aircraft
- Conformal aerodynamic tuned muffler; lightweight and quiet
- Conformal design mitigates unwanted parasitic drag, which increases net fuel-efficiency
- Manufactured in the USA

Type (Block IV)	2-Stroke/Single-Cylinder
Weights[1]	
Core[2]	3402 ± 100 grams
Avionic (Puck)	933 ± 100 grams
PMU[3]	4335 ± 100 grams
Displacement	43.6 cc
Bore / Stroke	38.99 mm / 36.53 mm
Max. Cont. Speed	7500 rpm
Power Rating	3.5 hp @ 7250 rpm
BSFC[4] @ Cruise 5000 rpm @ Sea Level	384-442 g/kw-hr 0.63-0.73 lb/hp-hr
Ignition	Twin 25kv CDI
Cooling	Air with ACHT Control
Generator Regulator	6/12/21 or 28 VDC, 280 W
Generator	On-Shaft Permanent Magnet Alternator
Fuel System	FADEC with EFI
Fuel Type[8]	Gasoline/Jet Fuel
Fuel to Oil Mixture	32:1 Ratio
Preferred Oil Type	Bel-Ray H1R
ECU Data Storage	1,000 hours @ 1Hz Recording Rate
TBO (estimate)	400-500 hours

NOTE: Actual performance of NWUAV Engines will vary depending on PMU configuration, application, propeller, fuel type, oil, environmental conditions, type of operation, direction of rotation, generator losses, and cowling configuration.

For more information please call or visit www.nwuav.com to download the data sheet for additional details. Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

FLOWN UP TO 18,000FT

NWUAV NW-88 | 7.2 HP Two-Cylinder Multi-Fuel Engine

An aviation-grade, multi-fuel engine for Group II and III UAVs in the 34 to 68 kg (75-150 lb)[1] weight class. As a purpose-built engine, designed ready to fly, the NW-88 is the most efficient and configurable UAV engine on the commercial market, offering the capability to carry larger payloads, and enable low detectability and long endurance.

- RPM hold capable
- Custom 280-Watt direct drive generator with a 6/12/21 or 28 volt Generator Control Unit (GCU); ~280-Watts available, 30-Watts for engine, 250-Watt for payload and aircraft.
- Interfaces with popular autopilots
- Conformal design mitigates unwanted parasitic drag, which increases net efficiency
- Manufactured in the USA

Type	2-Stroke/2-Cylinder
Total Weight[1/5]	7400 ± 200 grams
Displacement	88 cc
Max. Cont. Speed	7500 rpm
Power Rating	7.2 hp @ 7250 rpm
BSFC @ Cruise 5000 rpm @ Sea Level	395-456 g/kWh 0.65-0.75 lb/hp-hr
Ignition	Twin 25kv CDI Per Cylinder
Cooling	Air with ACHT Control
Generator Regulator	6/12/21 or 28 VDC, 280 W Optional 600 W
Generator	On-Shaft Permanent Magnet Alternator
Fuel System	FADEC with EFI
Fuel Type[8]	Gasoline/Jet Fuel
ECU Data Storage	1,000 hours @ 1Hz Recording Rate
TBO (estimate)	400-500 hours

36,000FT DA

NWUAV NW-230 | 15-18 HP Two-Cylinder Multi-Fuel Engine

NWUAV purpose-built NW-230 EFI multi-fuel (heavy-fuel/gas) engine designed, developed, and built for Group III unmanned aircraft systems in the 90 to 160 kg (198-352 lb)[1] range, long-endurance aircraft, and portable power generation.

The NW-230 is the most efficient and configurable UAV engine on the commercial market. With attention to design for increased engine life, improved maintenance cycles, endurance, and reduced fuel burn.

- Scalable for Use in a Broad Range of Aircraft
- Logistic Fuels Compatible
- Best Power-To-Weight Ratio
  - Larger Payloads
  - Higher Climb Rates
  - Faster Cruise Speeds
- Easy Maintenance
- Technical Support Included
- Telemetry Trend Monitoring
- Manufactured in the USA

Type	2-Stroke/2-Cylinder
Weight[1/6]	10 kg ± 200 grams
Displacement	230 cc
Bore	54 mm
Stroke	50 mm
Peak Torque	~15 ft/lbs
Horsepower Range[7]	15-18 hp
BSFC Range	Call for Data
Ignition	Twin 25kv CDI Per Cylinder
Cooling	Air with ACHT Control
Generator Regulator	Customer Specific
Generator	Customer Specific
Fuel System	FADEC with EFI
Fuel Type[8]	Gasoline/Jet Fuel
TBO (estimate)	500+ hours

DEVELOPED & FLIGHT TESTED WITH NRL

NRL/NWUAV NWFC-1500 | Proton Exchange Membrane (PEM) Fuel Cell

Why Use a Fuel Cell?

- Low maintenance
- Low operating cost
- Low audible signature
- Instant-on — remote operation
- Clean power with a low thermal signature
- More energy efficient when compared to other energy sources

Features

- 18 to 25 kg (18-12 lb)[1] weight class
- Lighweight, small envelope (compact)
- Quickstart capability <1s
- Scalable to your power requirements
- System layout is customizable to fit your physical space
- Long term storage capable in fueled condition (1+ years)
- Manufactured in the USA

[1]Depending on mission requirements and aircraft configuration. | [2]Core = EMU and ACHT. | [3]Core weight + avionic weight = total PMU weight. No prop, no prop hardware, no dog drive. | [4]BSFC numbers do not contain oil consumption. | [5]Total Weight = With propeller and interface harness. | [6]Weight does not include Generator, Generator Controller/Rectifier, or Propeller. Includes: ECU, Muffler, Engine Mount, ACHT, and Engine Harness. | [7]Depending on propeller/RPM | [8]Fuel is subject to regional and seasonal variations. The user is responsible for testing, validating, and defining operational limits with their local gasoline source.

UAV PRODUCTS

RESEARCHED. TESTED. PROVEN PRODUCTS FOR YOUR UNMANNED SYSTEMS

Get your unmanned aerial systems flying higher, quieter and faster with **NWUAV** proven products and product lines. From generators to quiet UAV mufflers to **Pegasus** servo actuators, **uAvionix** sense and avoid, and **Veronte** autopilots, each and every one of the products we offer is researched, tested and proven to improve your unmanned systems. Find the improvement you're looking for or chat with our team to find the best fit.

PROPULSION SYSTEMS

AS9100 REV D | ISO9001

NWUAV Battery Backup Module (BBM) | Power Management System

- All-in-one unique combination of automatic Bus transfer and battery charger
- Selectively switches between shes power, shore power, and batter power
- Automatically manages balanced recharging of the LiPo battery pack
- EMI shielded / EMC compatible
- Designed to meet IPC 67
- Scalable for other battery sizes

Input Range		Ship/Shore Power 25-30 V
Normal Output		25-30 V
Output Power	**Ship/Shore**	300-Watts Continuous
Output Power	**Battery**	125-Watts Continuous
Output Power	**Battery Transition**	Up to 5 min 200-Watts
Switching	**Continuous Power**	21 V min and 32 V max
Switching	**Normal Output Voltage Resumed**	No More than 100 µs
6 Ah Dimensions (LxWxH)		7.97 x 5.16 x 3.81 in 202.5 x 131 x 96.7 mm
6 Ah Module Weight		1.7 kg

NWUAV Engine Control Unit (ECU) | SW1.0

- Purpose-built ECU for UAV systems
- Ruggedized to operate in extreme environments
- EMI shielded and fully programmable ignition curve/Alpha-N
- Throttle transition compensation
- Adaptable to most UAV engine systems
- Manufactured in the USA

Compatibility	10 to 30 V
Communication	CAN Bus protocol
Data Recording	Up to 500 hours
Connector	MIL-SPEC 51 Micro-D
Control	Closed Loop with Adaptive Learning
Dimensions (LxWxH)	4.6 x 3.3 x 0.975 in 117 x 110 x 248 mm
Weight	175 grams

NWUAV Fuel Delivery System (FDS)

- Small footprint
- Delivers clean high pressure fuel for EFI solutions
- Fuel filtration with servicable filter
- Bingo level and pressure sensing functions
- Customizable to fit your application
- Manufactured in the USA

Dimensions (LxWxH)	6.7 x 4.04 x 2.65 in 170.21 x 102.64 x 67.39 mm
Fuel Pressure	Up to 60 psi
Priming	Self-priming with Acroatic Fuel Pickup
Empty Weight	410.5 g (dry/no tubing)
Total Weight w/Fuel	726.5 g (fuel wt. 316 g)

For more information please call or visit www.nwuav.com to download the data sheet for additional details. Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

[1]Cooling air may be required based upon integrations and application.

NWUAV Generator | Frameless/Brushless

- Designed to easily fit into your application
- Highly efficient with high-grade magnets and materials
- Compact design
- 90% Efficient

Power Output	310-Watts
High-Grade Permanent Magnets	150 V @ 3000 rpm 400 V @ 8000 rpm
Max Operating Temp	250°F/121.111°C
Rotor Dimensions (THICKxODxID)	0.78 x 2.44 x 1.9 in 20 x 62 x 48 mm
Rotor Weight	144 grams
Strator Dimensions (THICKxODxID)	1.4 x 3.05 x 2.46 in 35 x 77 x 62 mm
Strator Weight	314 grams

NWUAV Generator Control Unit (GCU) | 280-Watt

- For permanent magnet alternators
- Small footprint for it's power
- EMI shielded / EMC compatible
- Designed to meet IPC 67
- Shock and vibration resistant
- MIL grade connectors

Combined Power[1]	280-Watts
Max Amperage	21 or 28 V @ 10 amp / 12 V @ 10 amp / 6 V @ 3 amp
Voltage Droop	1 V no-load to full-load
Communication	CAN Bus / ISO 11898-1
Voltage	3-Phase Input 150 V–400 V
Operating Temp	-40°F–122°F/-40°C–55°C
Dimensions (LxWxH)	4.23 x 2.92 x 1.5 in 107 x 74 x 38 mm
Weight	240 grams

NWUAV Generator Control Unit (GCU) | 600-Watt

- For permanent magnet alternators
- Small footprint for it's power
- EMI shielded / EMC compatible
- Designed to meet IPC 67
- Shock and vibration resistant
- MIL grade connectors
- Firmware is field upgradable

Combined Power[1]	600-Watts
Max Amperage	49 V @ 10 amp Standard
Voltage Droop	5% no-load to full-load
Communication	CAN Bus / ISO 11898-1
Voltage	3-Phase Input 120 V–400 V
Onboard SD Card	10 kHz Recording Rate
Operating Temp	-40°F–122°F/-40°C–55°C
Dimensions (LxWxH)	4.94 x 5.31 x 2.0 in 125 x 135 x 51 mm
Weight	830 grams (board 276 g)

[1]Cooling air may be required based upon integration and application.

NWUAV RFQ UAV Mufflers | Patented Noise Suppression

- Patented design produces lower acoustic signature
- Unique internal design and packing material
- Helps achieve optimal engine performance
- Lower fuel consumption
- Lighweight conformal design

Sizes	Single & Multiple Cylinder
Engineering Details	NWUAV takes into accout the aircraft envelope size and airflow available for the optimal design.

NWUAV Portable Engine Test Cells | Custom and Mobile Testing Solutions

- Custom Engine Test Cell (CETC) fully contained system
- CETC can be housed inside or outside
- CETC with options include side hatches for larger aircraft
- Custom built for your application
- Mobile Engine Test Cell is available
- NWUAV operators available
- For purchase or lease

Measurement Capabilities

Torque	Fuel Flow
Ambient Pressure	Ambient Temperature
Relative Humidity	Exhause Gas Temperature
Cylinder Head Temp.	Engine Speed (rpm)

Horsepower

Brake Specific Fuel Consumption (BSFC)

Custom Options Available

UAV PRODUCTS

Pegasus Actuators GmbH

Exclusive Authorized United States Distributor for UAV Servo Actuators

FOR POWER, PRECISION AND RELIABILITY

Where exceptional precision and reliability are imperative, a Pegasus Servo Actuator could be the game-changer you've been searching for whether your maximum takeoff weight (MTOW) is as little as 30 lbs or as great as 1000 lbs. Our actuators are ready to perform using our COTS or customized solutions. No matter what platform you're flying — unmanned air vehicle (UAV), a remotely piloted vehicle (RPV), or an optionally piloted vehicle (OPV), there's a Pegasus Servo Actuator you can rely on for power and precision built just for you.

German Certification Institute TÜV SÜD Certified according to ISO 9001:2015

Pegasus Industrial Servo Actuators

- Dependable oil bath lubrication improves gear train service lifetime
- Enhanced vibration tolerance
- Actuators are shielded to minimize EMI/RFI susceptibility and magnetic interference
- Incorporated aerospace specified connectors
- IPC-A-600 Class 3 compliant internal pc-board design and manufacturing

Continuous Torque	30 Ncm to 2000 Ncm
Max Torque	>60 Ncm to >3500 Ncm
Operation Voltage	6/12, 12 or 24 V DC
Travel Angle	±90° (Standard PA-ME/ Contactless Angle Sensor), Alternative Angles On Request
PC-Board	Digital (Programmable) with differential and analog sensor feedback
Weight	65 to 1500 grams

Pegasus Redundant Servo Actuators

- Control surfaces requiring servo actuation
- Hi-value target drones – surface control and speed brakes
- Swash plate or flap control
- Utility actuation – throttle control, doors, and spoilers
- HALE with an integrated (redundant) heating system option is available
- PA-ME^3 magnetic deflection angle sensor

Continuous Torque[1]	300 Ncm to 2000 Ncm
Max Torque	>500 Ncm to >3500 Ncm
Operation Voltage	24 V DC
Travel Angle	315° (PA-ME^3/Redundant Contactless Angle Sensor)
PC-Board	Dual Servo Controller with Digital Position Feedback
Weight	480 to 2300 grams

Pegasus Optionally Piloted Vehicles (OPV) Servo Actuator Systems

- Electromechanical OPV Servos with rotary output and magnetic clutch – for safety critical (un)manned systems
- The actuator output shaft moves freely with the electromagnetic clutch disengaged allowing the pilot to control the vehicle
- The clutch can also engage or disengage in any position
- Included in the system:
  - Unique PC-board arrangement
  - Two magnetic clutches

[1]According to Pegasus Actuators GmbH Specification Test (results by request). |

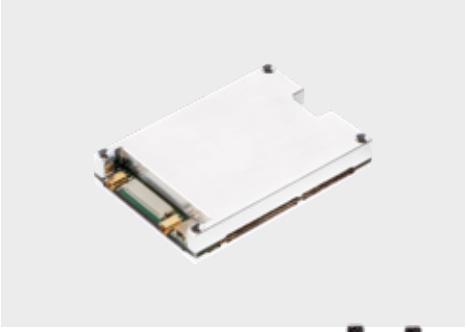
For more information please call or visit www.nwuav.com to download the data sheet for additional details. Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

SILVUS TECHNOLOGIES

Authorized Distributor of StreamCasterMANET Radios and Accessories

THE WORLD'S MOST POWERFUL & PORTAL TACTICAL MANET RADIOS

Silvus Technologies – the world's leading developer of advanced tactical MANET communications systems, is reshaping mesh networking technology for mission-critical applications in the air, on the ground and at sea. The battle-proven StreamCaster family of MANET radios, powered by proprietary MN-MIMO waveform provide the vital communications link for Defense, Law Enforcement and Public Safety agencies worldwide and in the most challenging operational environments.



StreamCaster LITE 5200 | SL5200

Designed for today's leading-edge unmanned systems, the SL5200 delivers the performance of StreamCaster MANET radios. Compact and powerfully versatile, it delivers Group 2 UAV-level performance in an ultra-low SWaP form factor designed for Group 1 platforms.

Providing high bandwidth bi-directional comms for C2, video, sensors and telemetry data in one self-contained module, the SL5200 is purpose-built for integration into unmanned systems operating at the tactical edge.

- Up to 2 Watts Output Power (4W effective, thanks to TX Eigen Beamforming)
- Up 100 Mbps Data Throughput
- Battle Proven MN-MIMO Waveform: 550+ Node Scalability
- Single/Dual Band Frequency Options (L, S, L&S)
- I/O Interfaces: Ethernet, USB, RS232
- Advanced Encryption: AES256; FIPS 140-3
- Weight: 52 g (with Shields)

StreamCaster LITE 4200 | SL4200

SL4200 bends the cost curve without sacrificing performance. This 2x2 MIMO radio is powered by Silvus' proprietary MN-MIMO waveform – available in low-SWaP Handheld and OEM module form factors.

Blue UAS Framework and Green UAS Certified – NDAA and DoD cybersecurity compliant, and is approved for use in conjunction with Blue UAS platforms.

- Up to 1 Watt Output Power (2W effective, thanks to TX Eigen Beamforming)
- Up to 20 Mbps Data Rate
- Single Band (L,S, C)
- I/O Interfaces: USB, RS232
- Encryption: AES256
- Weight: 105 g (OEM Module); 295 g (Handheld)

StreamCaster 4200 Enhanced Plus | SC4200EP

SC4200EP is a 2x2 MIMO radio, delivering best-in-class MANET radio performance and connectivity at the tactical edge. Low SWaP profile makes it ideal for use in portable and embedded applications. Available in Ruggedized Handheld or externally powered Brick versions, in addition to Drop-In Module and OEM Module form factors for integration into unmanned systems.

Blue UAS Framework Certified – NDAA and DoD cybersecurity compliant. Approved for use in conjunction with Blue UAS platforms.

- Up to 10 Watts Output Power (20W effective, thanks to TX Eigen Beamforming)
- Up to 100 Mbps Data Rate
- Single/Dual Band Frequency Options (300MHz – 6GHz)
- I/O Interfaces: Ethernet, USB, RS232, PTT
- Advanced Encryption: AES256; FIPS 140-3 Level 2
- Weight: 137 g (OEM Module); 260 g (Drop-In Module); 425 g (Handheld)

StreamCaster 4400 Enhanced | SC4400E

SC4400E delivers the power of 4x4 MIMO in a ruggedized software-defined MANET radio. Purpose-built for maximum performance in fixed infrastructure, vehicular, long range and airborne applications. Available in Ruggedized externally powered and OEM module form factors.

- Up to 20 Watts Output Power (80W effective, thanks to TX Eigen Beamforming)
- Up to 100 Mbps Data Rate
- Single/Dual Band Frequency Options (300MHz – 6GHz)
- I/O Interfaces: Ethernet, USB, RS232, PTT
- Advanced Encryption: AES256; FIPS 140-3 Level 2
- Weight: 288 g (OEM Module); 861 g (Ruggedized)

SILVUS TECHNOLOGIES *continued next page*

UAV PRODUCTS

StreamCaster PRISM | Network Solutions

The StreamCaster PRISM family of modular integrated antenna radio systems provide long-range sectorized coverage across wide areas of operations. Rapidly deployable with toolless setup and ruggedized construction provides operational flexibility. Deploy a single sector on masts to create a long-range UAV ground control station, or multiple sectors can be permanently installed to create a strategic communications infrastructure.

StreamCaster 4400 Enhanced (SC4400E) 4X4 MIMO Radio

StreamCaster PRISM – Deployment Kit

Dual Polarity Integrated Sector Antennas

		BEAMWIDTH	
ANTENNA	dBi GAIN	HORIZONTAL	VERTICAL
L-Band	12	120°	10°
S-Band	12-15	90° to 120°	8° to 12°
C-Band	12-16	90° to 120°	8° to 12°
S/C-Band	11 / 12	90°	9° / 11°

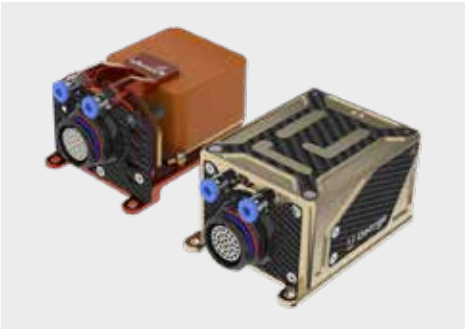
uAvionix

Authorized United States Distributor for the UAV Product Line

FOR COST-EFFECTIVE UAV SAFETY COMPONENTS

uAvionix Transceivers, Transponders and Navigation Position Sources. Offering a dramatic reduction in size and cost, uAvionix has designed transceivers, transponders and navigation to get your unmanned systems flying safer. If you're in the market for the smallest, lightest and lowest power ADS-B and air traffic integration solutions, find out more below about the variety of products uAvionix offers.

LEVITATE. COMMUNICATE. SEPARATE. NAVIGATE.



LEVITATE | George G2/G3 the Most Reliable Enterprise Autopilot

- Basic Configuration: George G2 Autopilot, truFYX GPS. Integrated 2X2 MIMO BVLOS C2 Radio and Dual Band ADS-B Receiver
- Enterprise Configuration: George G3 Autopilot, truFYX-ext GPS, ping200X DAA, microLink Enterprise C2, pingRX Pro ADS-B IN. External C2 and ADS-B Options
- George G2i + skyStation2 Integration Kit. Includes everything early adopters and platform developers need to integrate into an existing platform and start flying out of the box

George G2	
For Group 2 UAS	21-85 lbs
Servo/ESC Outputs	9
RS-232 Seril IO	2
George G3	
For Group 3 UAS	<1,350 lbs
Servo/ESC Outputs	12
RS-232 Seril IO	2.5

COMMMUNICATE | skyLine a Cloud Managed BVLOS C2 Network

- Command and Control (C2) solutions for point-to-point or networked UAS opterations for BVLOS
- Type-certified aviation-grade avionics and ground infastructure
- All-weather network-ready Ground Radio System (GRS)
- Aviation-protected CNPC licensed C-Band radios
- Plug and play with all uAvionix certified solutions

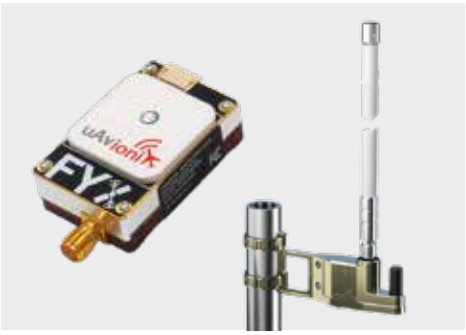
skyLink ARS Radio	**Input Power**	4-6 V / 1.7 W Peak
	Size	31 x 26 x 9 mm
	Weight	16 grams
skyLink GRS Radio	**Input Power**	24 V DC
	Size	42 x 264 x 746 mm
	Weight	225 grams
GRS skyStation 2	**Input Power**	POE / 13 W Peak
	Size	122 x 82 x 55 mm
	Weight	500 grams

For more information please call or visit www.nwuav.com to download the data sheet for additional details. Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

SEPARATE | ADS-B Transponders

- ping200X FAA TSO certified transponder for UAS
- ping200XR Integraded with aviation-grade GPS
- ping200Sr fully functional 250-W Level 2els Class 1 Mode S Extended Squiter (ES)
- ping20Si world's smallest, lightest transponder (not approved for use in the US)
- RT2087/ZPX-A AIMS certified micro "remote"

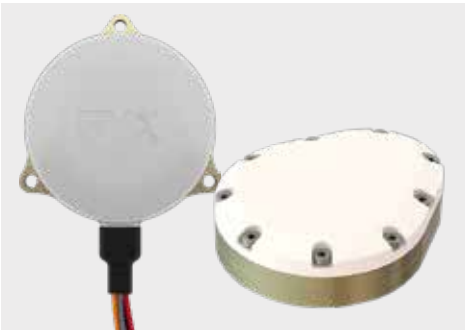
ping200X	**Size**	47 x 54 x 9 mm
	Weight	50 grams
ping200XR	**Size**	47 x 72 x 10 mm
	Weight	52 grams
ping200Sr	**Size**	91 x 57 x 17 mm
	Weight	76 grams
ping20Si	**Size**	50 x 25 x 17 mm
	Weight	20 grams
RT2087	**Size**	44.99 x 9.5 x 59.15 mm
	Weight	45 grams



SEPARATE | ADS-B Transceivers

- ping2020i (US) and ping 1090i (UK+) are the smallest, lightest, and most affordable ADS-B UAT transceivers
- pingRX Pro the only dual-band UAS ADS-B capable of receiving on both 978MHZ & 90MHz
- pingUSB the smallest, lightest, and most affordable dual-band ADS-B traffic receiver
- pingStation 3 is a dual-band, networkable ADS-B receiver with a POE interface; provides ground, surface or low-altitude surveillance

ping2020i	**Size**	25 x 40 x 16 mm
	Weight	26 grams
ping1090i	**Size**	25 x 40 x 16 mm
	Weight	52 grams
pingRX Pro	**Size**	32 x 31 x 9 mm
	Weight	8 grams
pingUSB	**Size**	75 x 121 x 8 mm
	Weight	14 grams
pingStation 3	**Size**	7 x 1.4 x 26.5 in
	Weight	545 grams



NAVIGATE | truFYX GPS for Umanned Aviation Systems

- The world's first TSO certified SBAS GPS specifically for UAS autopilots
- TSO-C145e Class Beta-1 SBAS GPS
- Meeting worldwide compliance requirements for controlled airspace access pre- and post-2020 ADS-B mandates in the US and EU
- GPS receiver and antenna in a waterproof enclosure
- Externally mounted GPS receivers

truFYX-TSO	
GPS L1C/A wSBAS	12 GPS/3 SBAS Channels
Size	47.37 x 8.21 mm
Weight	20 grams
truFYX EXT-EXP	
GPS L1C/A wSBAS	12 GPS/3 SBAS Channels
Size	55.85 x 46.85 x 8.21 mm
Weight	38 grams

VERONTE AUTOPILOTS

Authorized United States Distributor

ADAPTABLE — RELIABLE — AUTONOMOUS

Veronte Autopilots, Control Stations, Software, Payload and Accessories with fully autonomous control for almost any unmanned vehicle, including hybrid VTOL, multirotor and fixed-wing, it's clear why Veronte autopilots are the flight controller's choice for advanced and professional UAV and unmanned vehicle control. From full autopilot kits to individual accessories, Veronte has the autopilot for your unmanned system covered!

For questions on Veronte product prices, capabilities, custom integration, training and support contact David Jackson, David.Jackson@nwuav.com or call 503.434-6845 x 185.

Veronte Autopilot 1x | Control System for Autonomous Vehicles

- Advance Control
- All-in-one Box
- Internal LOS & BLOVS
- External LOS, Satcom, 4G/5G
- Certification: DO178-C, DO254, DAL-B, DO160-G

Internal Sensors	3x IMU, 2x Magneto, 2x Barometer, 1x Pilot
Positioning	2x GNSS, RTK, GNSS Heading
Expandable	Veronte CEX, Up to 32 Actuators
Failsafe	Dissimilar Supervisor, FTS
Power Input	3W, 6.5-36VDC
Weight	198 g | 210 g Incl. ADS-B/ Remote ID

VERONTE *continued next page*

UAV PRODUCTS

Veronte Autopilot 4x | Redundant Flight Control System

- High Reliability
- Redundancy
- Customizable
- Robust, Anodized Aluminum, IP167
- Certification: DO178-C, DO254, DAL-B, DO160-G

Internal Sensors	9x IMU, 9x Magneto, 6x Barometer, 3x Pilot
Positioning	6x GNSS, RTK, GNSS Heading
Expandable	Veronte CEX, Up to 32 Actuators
Failsafe	Dissimilar Supervisor, FTS
Power Input	17-47W, 6.5-36VDC Redundant
Weight	750 g

Veronte CEX Avionics | I/O Expansion & Bus Management Unit

- Extend the I/O Ports in Veronte Autopilot
- Network Optimization
- Bus Protection
- User-friendly Design
- DO178-C, DO254, DO160-G Compliant

Power Input	6-36VDC, Redundant
Buses	2x CAN Bus, 2x RS232, 1x RS485, 1x 12C
Connector	68 PIN, Threaded, Robust to Vibrations
Temperature Range	-40°C to 60°C
Power	3.5W
Weight	115 g

Veronte MEX Avionics | Magnetometer & I/O Expansion Module

- 3-Axis Magnetometer
- CAN Bus Management
- Increases Number of Devics in the System
- Bus Protection
- Software Configurable

Power Input	6-36VDC, Redundant
Buses	2x CAN Bus, 2x RS232, 1x RS485, 1x 12C
Connector	34 PIN, Latch, Robust to Vibrations
Temperature Range	-40°C to 60°C
Power	3W
Weight	100 g | 50 g OEM

Veronte SDL Avionics | RS232 LOS Datalink for Drones

- Radio Module for RS232 Devices
- High Performance and Reliability
- Bidirectional RS232 Communication
- IP67 Protection

- Available in Three Variants:
  SDL04 400 MHz
  SDL09 900 MHz
  SDL24 2.4 GHz

For more information please call or visit www.nwuav.com to download the data sheet for additional details. Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

Veronte LCS Control Station | Rugged Control Station

- Embedded Control Station for UAVs and Drones
- GCS for the Control of Autonomous
- Vehicles Operating in Harsh Environments
- Ready-to-use Veronte Toolbox
- Fully Rugged All-weather MIL-STD-810H & IP66 Design with Magnesium Alloy

OS	Windows 11 Pro, Linux (optional)
CPU	Intel Core i7-1185G7 vPro Processor
Memory	16GB Ram, SSD 512GB
Display	14", FHD 1920-1080, Capacitive Gloved touch
Battery	Li-Ion (18 hours), 3h to Charge
AC Adapter	AC 100V-240V Worldwide Power

Veronte PCS Control Station | RTK & COMMS for Autonomous Vehicles

- For Any Autonomous Vehicle
- Rugged Control Station for Advanced Control, Waterproof IP54
- Embedded Datalink
- Battery Backup
- Enables RTK, Differential GNSS, Relative Missions, Landing on Moving Platforms and Tracking Antenna Control

Embedded Senosrs	RTK, IMU, Barometer, QNH
GCS Computer	Laptop, Tablet, PC
GCS Interface	WiFi, Ethernet, USB
Expansion Bay I/O	RS232, CAN Bus, Ethernet, GPIO, Power
Power Input	14-24VDC
Power	30W (w/o Radio), Up to 80W (w/Radio)

Autopilot Simulators | Hardware (HIL) & Software (SIL) in the Loop

Veronte Hardware In the Loop (HIL) Simulator package is a powerful tool for Veronte Autopilot integration, development and operator training; permitting to extensively operate the system in a safe environment.

- Safe Environment Operation and Testing
- Training and Development
- Real Actuator Movement
- Full Hardware in the Loop Simulation
- Real autopilot hardware and software

The **Veronte Software In The Loop (SIL) Simulator** is contained in a Simulink model that replicates the behavior of the Veronte Autopilot system, permitting to perform advanced UAV and eVTOL simulations without having the physical devices connected.

- Risk Free
- Custom Complexity
- Fast Execution
- Low Computational Load
- Advanced Simulation

Veronte Tracking Antenna T28 | Auto-tracking, Long-range Communications

- Ready for Operation with Veronte PCS
- Real Time Tracking
- Data, Telemetry and Video Link Communication
- Tripod or Telescopic Mast Mount
- Directional & Omnidirectional Antenna Combination
- Compatible with Veronte MCS or Third Party Computers
- 360º Free Rotation

Veronte Motor Controlles MC24 | Inverters for eVTOL Certification

Compliant with the DO178C and DO254 certification standards, controls 60-120V motors, sustaining up to 200A continuous current. Redundant inputs ensure reliability, making it perfect for eVTOL and large UAVs in critical operations.

Veronte Motor Controller MC1100 | Designed for eVTOL and Drones

Motor inverter for eVTOL supporting voltages up to 800V and currents up to 200A for the control of sensored and sensorless electric motors. All this in compliance with aviation standards DO178C and DO254 to ensure high safety and reliability.

SERVICES

Propulsion System Services for Unmanned Systems

Manufacturing, testing, engineering ... That's just a few of the propulsion system and drone services we offer at NWUAV. With our team of professionals and well-equipped facility, we're able to assist you with a variety of services. Talk to us today about your project. We'll help you discover the cost effective, reliable solution you've been searching for. To discover more about our specific services, choose the one that fits below.

AS9100/ISO9001 Aerospace Certification

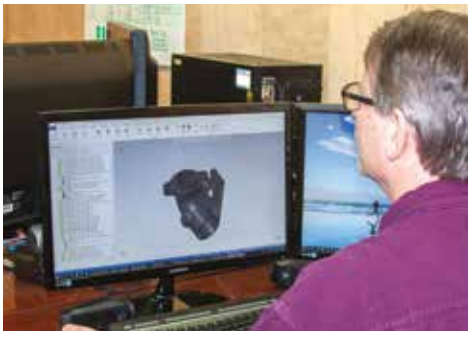
We meet or exceed our AS9100D/ISO 9001:2015 Quality Management Certification for design, development, manufacture, maintenance, repair, overhaul, and testing of gasoline and heavy-fuel engines.

- Aviation-grade Standards
- DCAA Compliant
- ERP Document Control
- Quality Training Programs
- Internal Audits
- Supply Chain Management

UAV Engine & Endurance Testing

Reduced flight risk and save substantial time and resources with our advanced testing, analysis, and controlled testing environment.

- Engine Durability & Endurance
- FAR 33
- Engine Break-in Stations
- In-cylinder Pressure & Fuel Mapping
- Acoustical and Computational Fluid Dynamics
- Test & Control your Engine from Anywhere



Engineering Design & Development

Our team of engineers takes a comprehensive aviation-grade lifecycle approach to engine design and development, well before your unmanned system is in the air.

- Mechanical Engineering
- Electrical Engineering
- Aerospace Engineering
- Heavy-fuel Propulsion
- CONUS & OCONUS Field Service Maintainers
- Hydrogen Power System Design/Development

For more information please call or visit www.nwuav.com to download the data sheet for additional details. Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

Full Service UAS Manufacturing Facility

NWUAV has the expertise within our AS9100D | ISO9001 certified facility to manufacture and assemble UAV engines and components for your unmanned system.

- COTS & Build-to-print
- A&P Mechanics
- CNC/CMS Machine Shop
- 3D Printing Bureau
- Technical Writers
- ERP Product Lifecycle Management

Build-To-Print & Contract-To-Build

At NWUAV, we can develop build-to-print propulsion systems using LEAN manufacturing techniques. We can manufacture large volumes of engines designed and built for your application with strict quality control oversight within our AS9100|ISO9001 certification.

- ERP high-volume production management
- Full scale production capabilities
- LEAN manufacturing
- MORE BULLETS UPDATED/NEEDED...

Electrical & Wire Harness Shop

The NWUAV electrical and wire harness shop has the capabilities to design, build, and test any electrical component for your unmanned system requirements.

- Simple to Multi-leg Complex Harnesses
- Fuel Pumps & Systems
- Timing & Temperature Sensors
- Ignition Coils
- Air Inlet & Lighting Assemblies
- Electrical Component Testing

MRO (Maintenance Repair Organization)

With our engineering team and testing center, our MRO shop has the expertise and equipment at their disposal to get your engine running running like new. Eliminate the extra cost on unnecessary repairs or the purchase of an entirely new engine.

- All levels of engine repairs
- Overhauls
- Custom modifications
- Short turn times
- Cost effective solutions

FAA Approved COA FAST Test Range

Our FAA Certified FAST UAS Test Range is part of the Pan-Pacific UAS Test Range Complex and offers Flight, Analysis, and System Testing (FAST).

- Fly Up To 5,000 Feet
- Fly Within a 5 Nautical Mile Radius
- Part 107 Drone Airmen/Remote Pilots
- Air Traffic Control
- Airfield Operations Management
- Office, WiFi, Power, & Water On-site

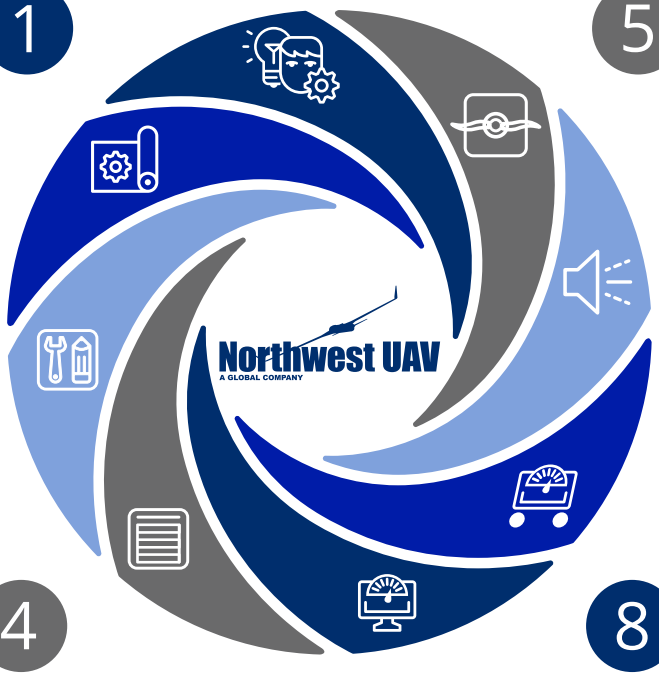
NORTHWEST UAV & THE UAS FAST RANGE YOUR UAV ONE-STOP-SHOP

1 ENGINEERING
Specializing in unmanned propulsion system development & design with a total lifecycle approach.

2 BUILD-TO-PRINT
At our technologically advanced facility we build engines – to your specs or contract to build.

3 TECHNICAL WRITING
We have a full-service team of technical writers, editiors & illustrators – AS9100/ISO9001.

4 MASTER DATA LISTS
Bill of Materials (BOM) management system.



5 CUSTOM OPERATIONS SHELTER
Custom Engine Test Cells (CETC) 20 & 40 ft. containers for your local engine testing.

6 LOW NOISE TECHNOLOGY
Unique solutions in muffler and propeller technology for quieter and faster flights.

7 PORTABLE TEST EQUIPMENT
Small Mobile Test Systems (MTS) developed for engine testing anywhere you can drive a trailer.

8 TEST FACILITY
State-of-the-art Testing Facility. Engine performance & propeller testing on-site, while results can be monitored anywhere with internet access.

FAST FLIGHT, ANALYSIS, & SYSTEM TEST RANGE
A DIVISION OF Northwest UAV

Pan Pacific UAS Test Range Complex

NORTHWEST UAV PARTNERS

SILVUS TECHNOLOGIES · Pegasus Actuators GmbH · EMBENTION · VERONTE AUTOPILOTS · uAvioni · RAPID MANUFACTURING · AUVSI · AUVSI CASCADE

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A GLOBAL COMPANY

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