



# HORNET H1

SINGLE-SEAT eVTOL AIRCRAFT

SOFTWARE,  
ELECTRONICS &  
DRONE-SHARING  
PLATFORM

# TECHNICAL SPECIFICATIONS



## AEROSPACE- GRADE ALUMINIUM

And carbon fiber  
composite materials

**120 kg**

Max payload

**30 minutes**

Flight time

**120 km/h**

Max speed

**8**

Electric motors

**400 v**

Electric power system

**1000 m**

Max flight altitude

## Flight safety



Emergency parachute system



Redundant flight-control  
system



Navigation, power-supply and  
onboard-control systems



Six-point Sparco F1 harness

**HORNET**

**180 kg**

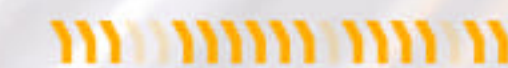
Weight without  
batteries

**280 kg**

Weight with  
batteries

**400 kg**

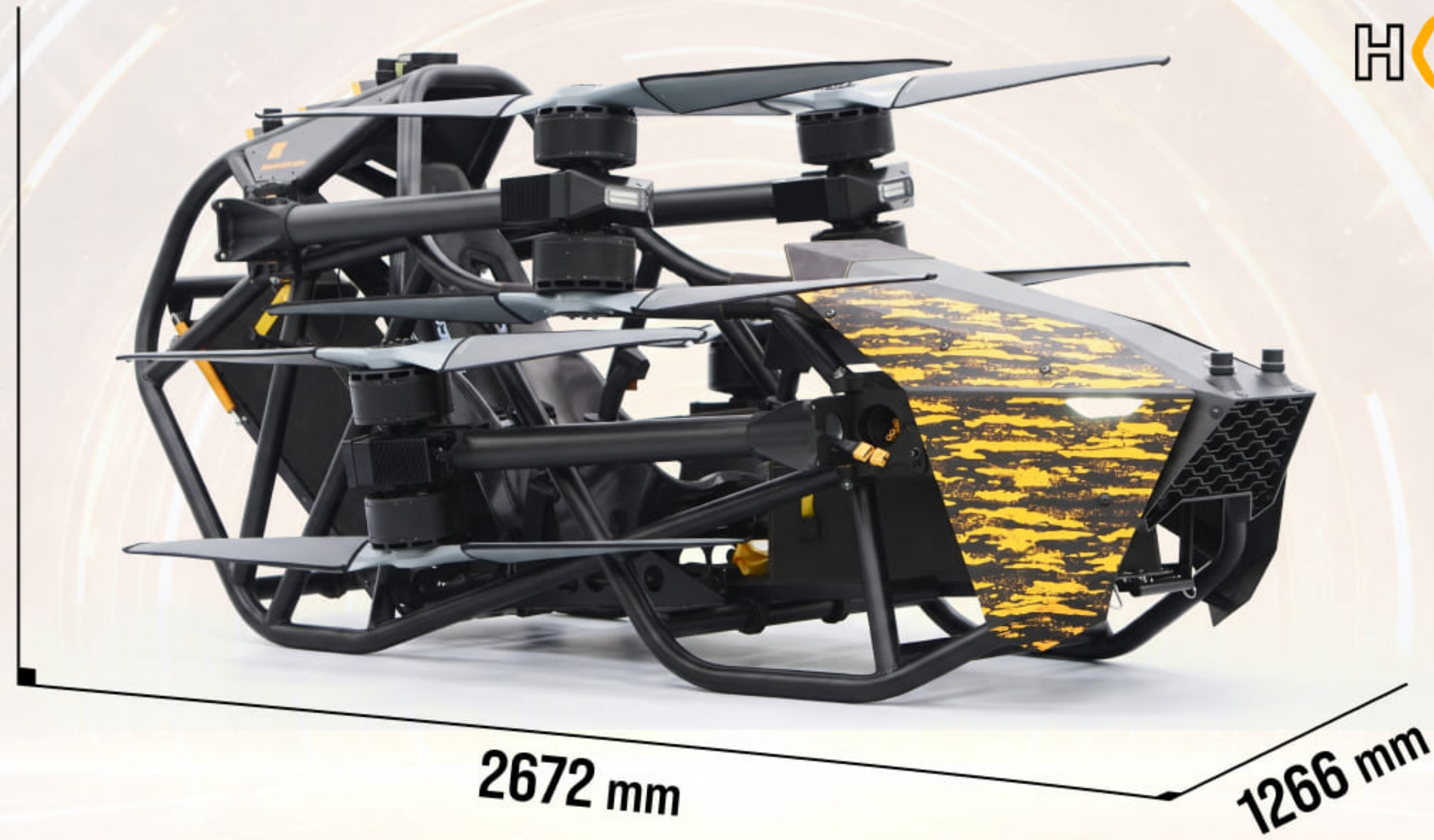
Maximum  
take-off weight



# TRANSPORT CONFIGURATION

 Transport dimensions

1165 mm



HORNET

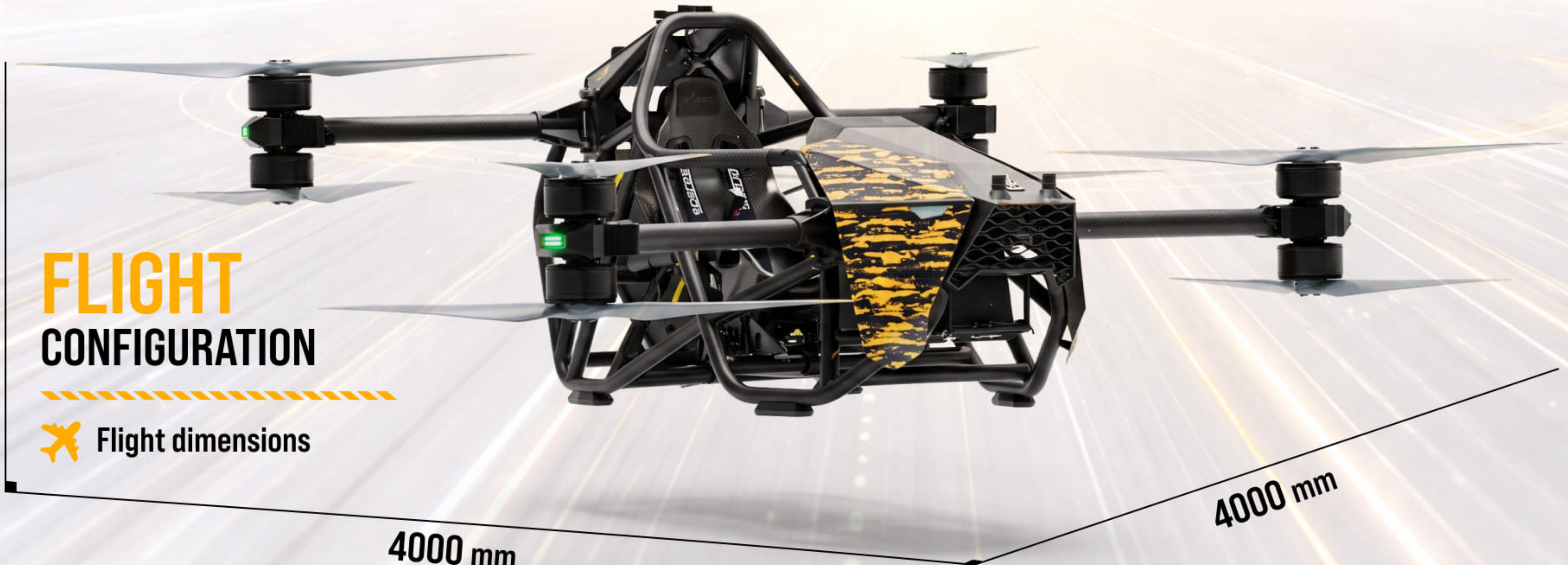
1165 mm

# FLIGHT CONFIGURATION

 Flight dimensions

4000 mm

4000 mm



# TAKE-OFF WEIGHT



**120 kg**



Payload

**400 kg**



Max take-off weight

**280 kg**



Weight with batteries

**180 kg**



Weight without batteries

# ENGINEERED FOUNDATION



## AEROSPACE-GRADE ALUMINIUM

High rigidity with minimal weight



## A LIGHTWEIGHT STRUCTURAL FRAME

Engineered for aerodynamic and vibration loads



## CARBON FIBER BOOMS

Lightweight support for the propulsion units



## STRUCTURE DEVELOPED BY AEROSPACE ENGINEERS



## EIGHT MOTORS

High-efficiency motors engineered for powerful, smooth flight



## OPTIMISED PROPELLERS

Carbon-fibre blades reduce noise and vibration



## MINIMAL VIBRATION

Designed for reliability and wear resistance



# ENGINEERED FOR FLIGHT



# FLIGHT CONTROL SYSTEMS



## EVERYTHING UNDER CONTROL

Speed, altitude, heading, battery and telemetry: all on one screen

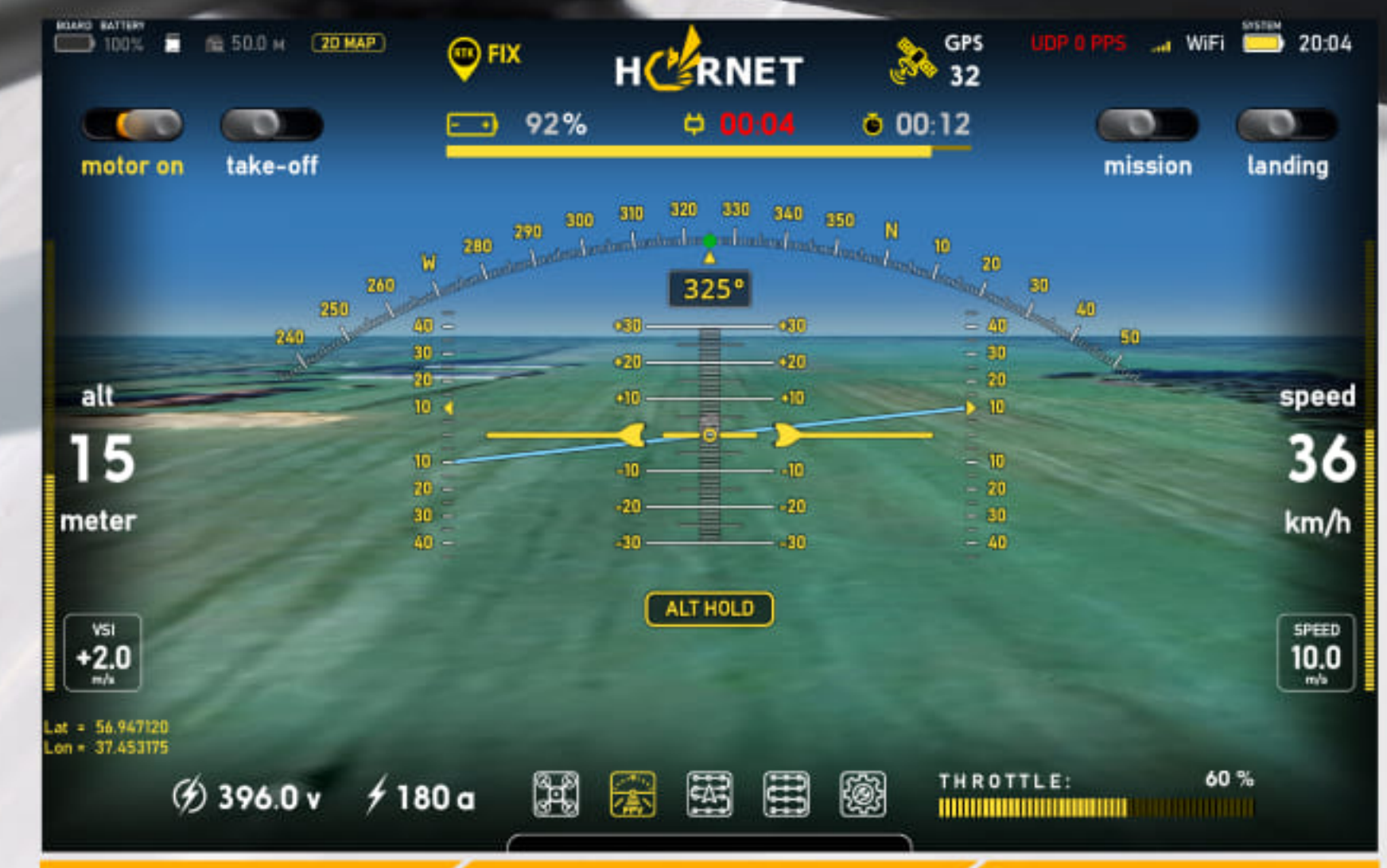
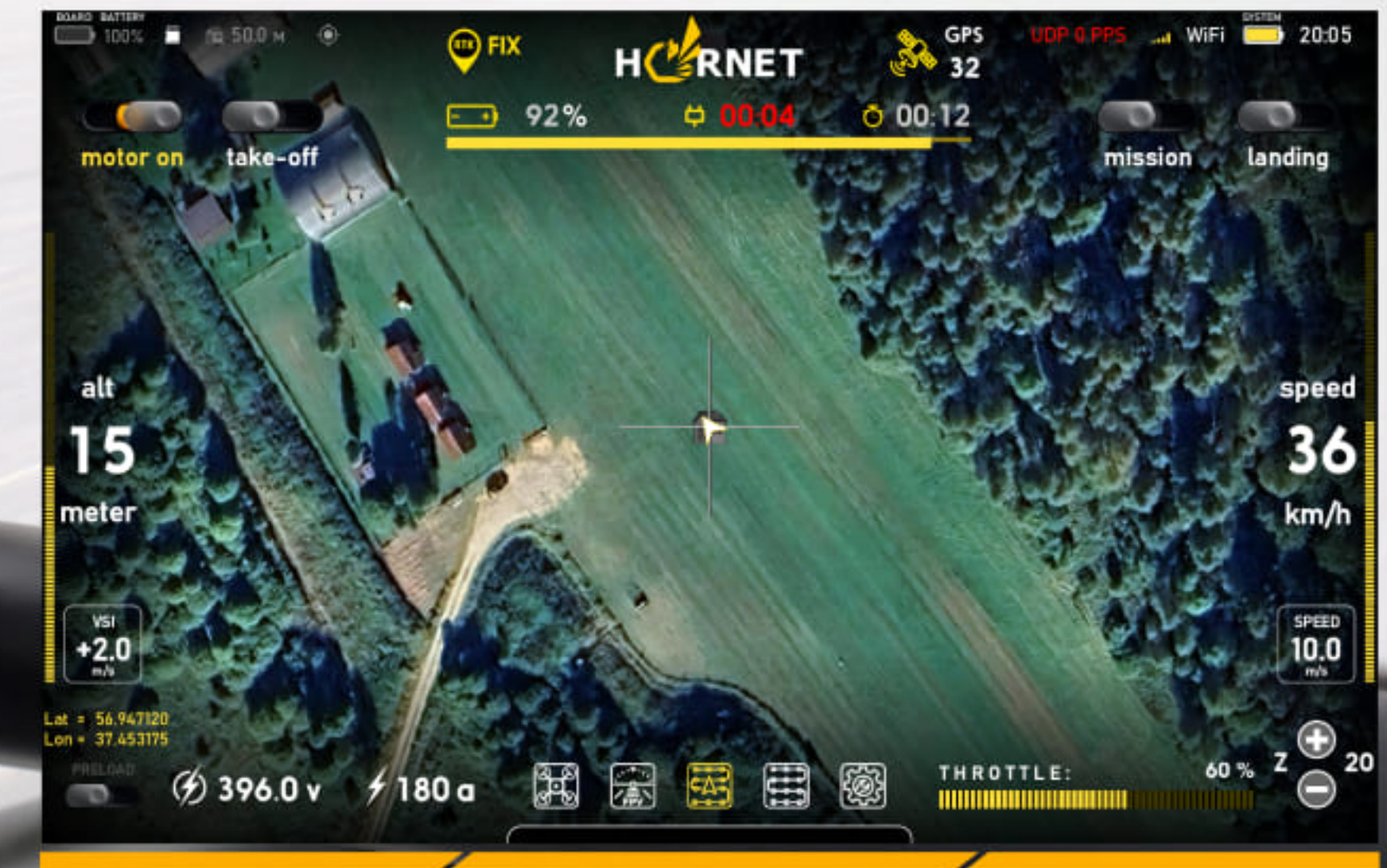


## BUILT AROUND THE PILOT

An intuitive interface designed for use in full flight gear and any lighting conditions



**HORNET**





# DIRECT FLIGHT CONTROL

**TWO ERGONOMIC JOYSTICKS**  
KEEP ESSENTIAL FLIGHT CONTROLS  
AT THE PILOT'S FINGERTIPS



# PROPRIETARY HARDWARE AND SOFTWARE PLATFORM

A series of yellow diagonal stripes at the bottom of the main title.

## FLIGHT DATA PROCESSING

Data processing from accelerometers, gyroscopes, GPS and barometric sensors



## COMMUNICATIONS AND MOTOR CONTROL

2.4 GHz communication channels and individual motor control through ESCs



## STABILISATION AND NAVIGATION

Calculation of aircraft position and trajectory for stable flight



## SCALABLE ARCHITECTURE

Control system adaptation for different types of aerial platforms

# GCS-H1 GROUND CONTROL

## SECURE COMMUNICATIONS, PRECISE POSITIONING AND REAL-TIME CONTROL



### UP TO 20 KM

2.4 GHz radio link for reliable remote operation



### PRECISE POSITIONING

RTK determines the aircraft's position with centimetre-level accuracy



### AUDIO AND VIDEO LINK

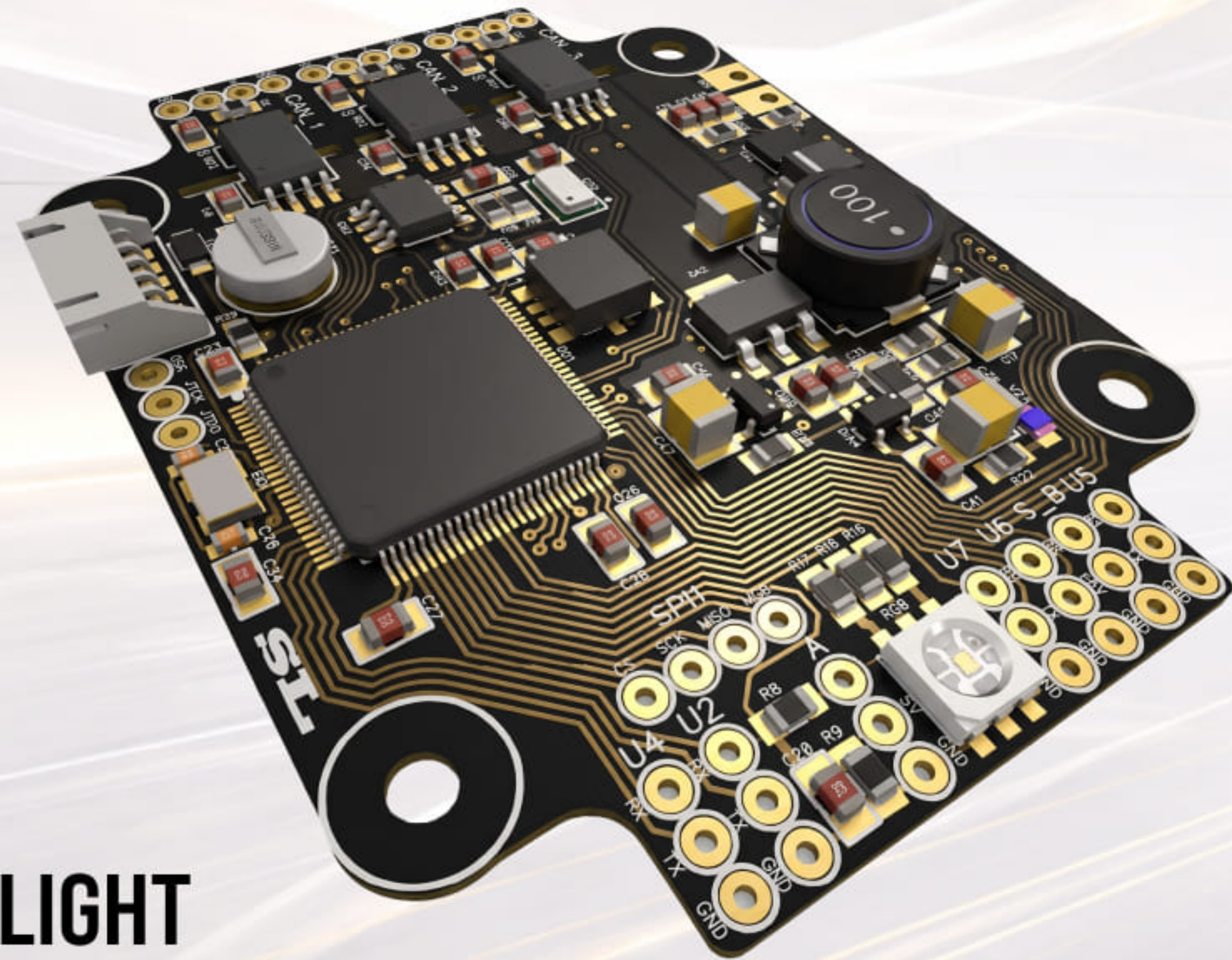
Real-time video streaming and a voice channel for coordination



### BIDIRECTIONAL DATA LINK

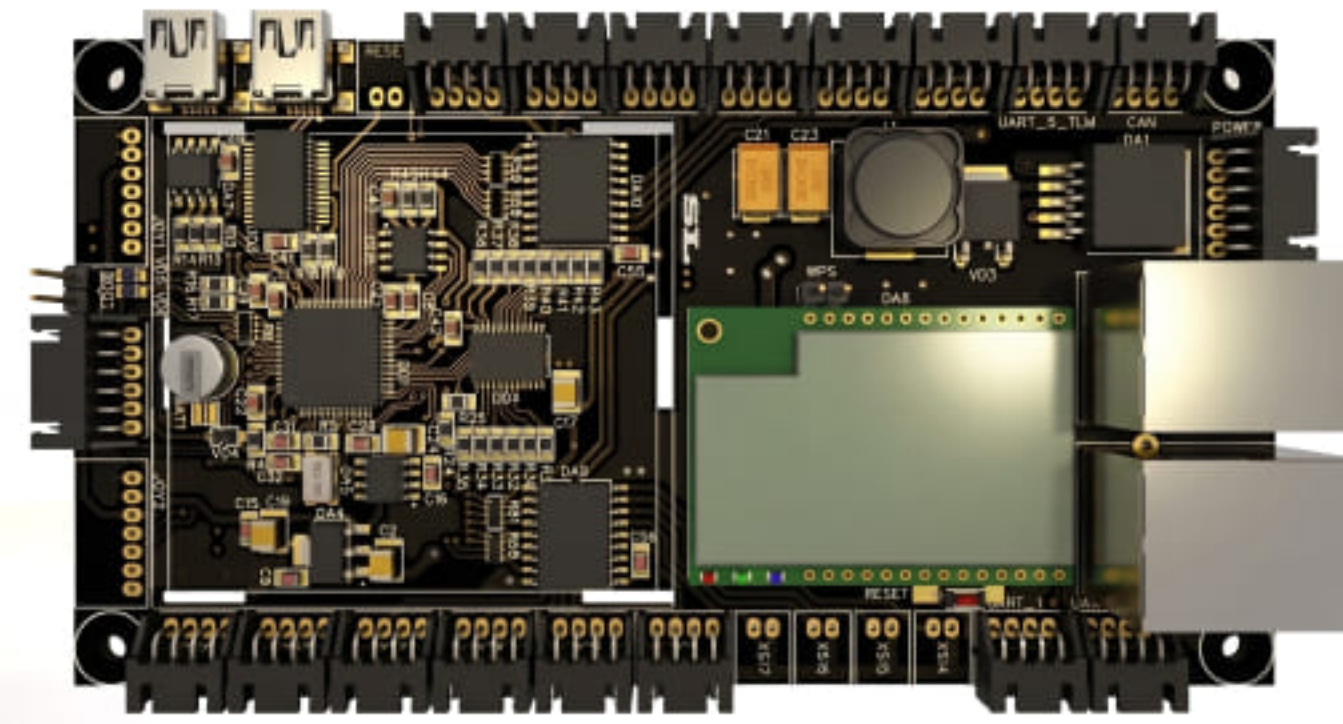
Secure transmission of control commands and flight telemetry

# HORNET ONBOARD ELECTRONICS



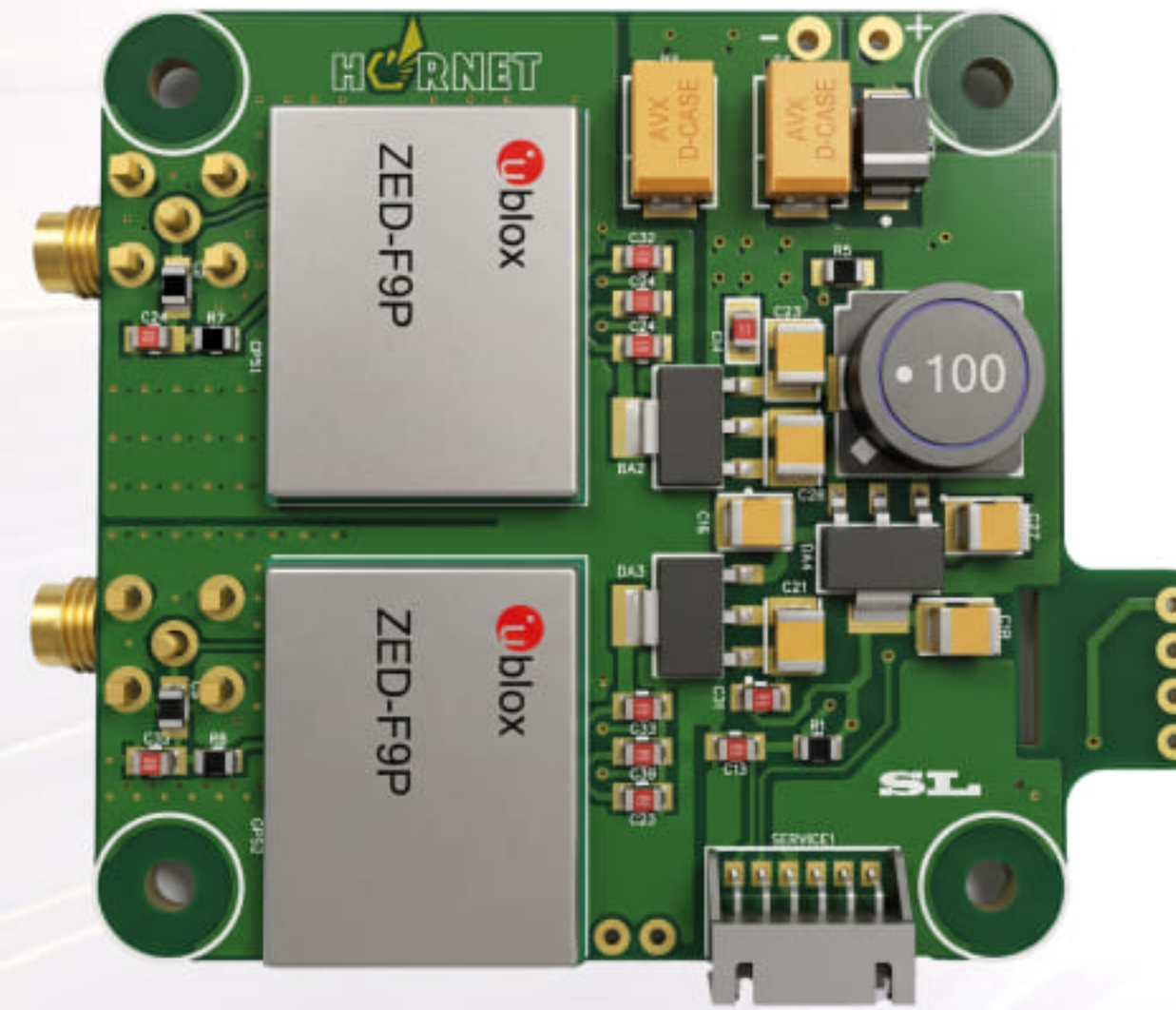
## FLIGHT CONTROLLER

Real-time sensor processing  
provides stabilization and  
responsive aircraft control



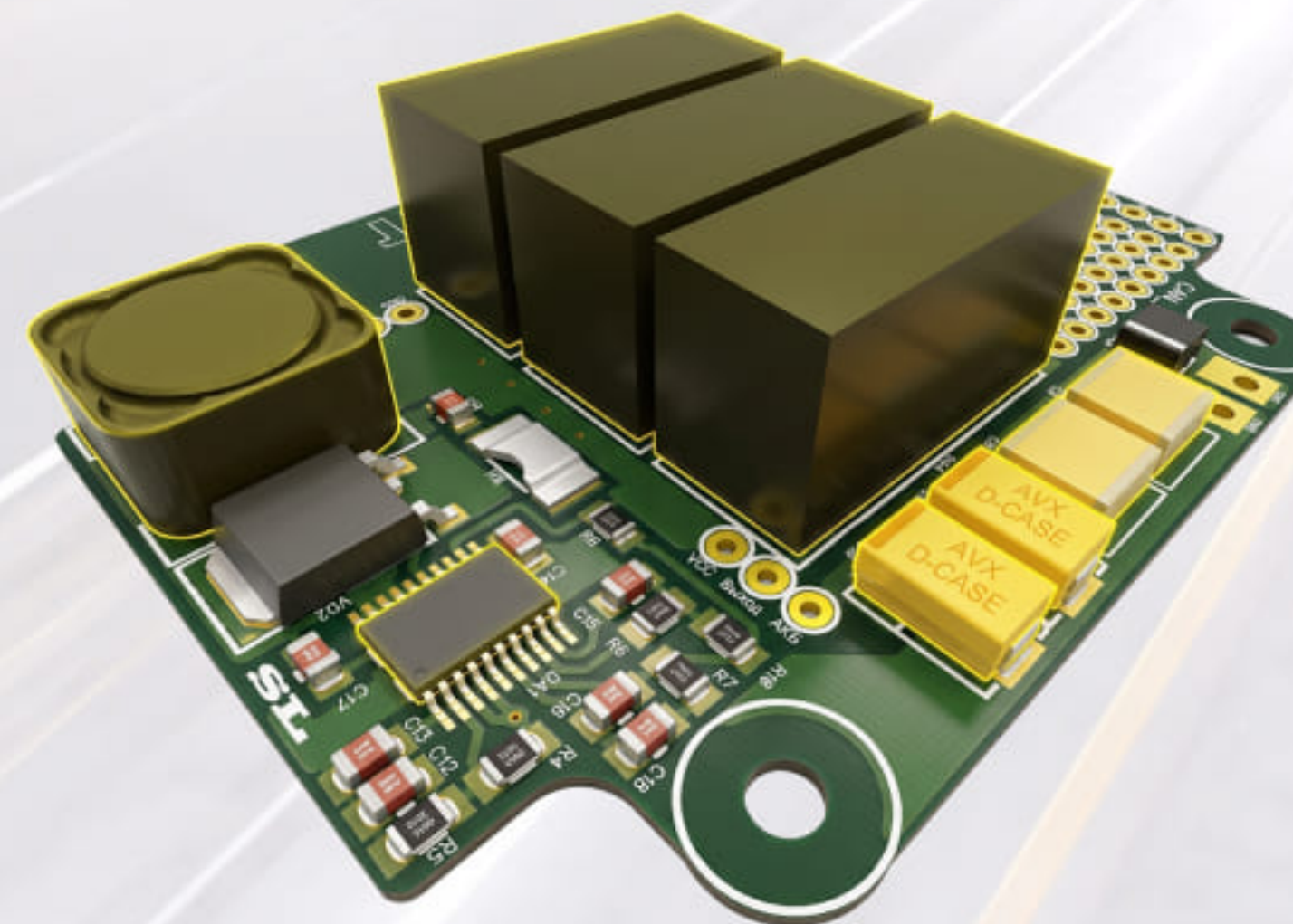
## GROUND STATION CONTROLLER

Reliable two-way  
communication for control  
commands and telemetry



## NAVIGATION MODULE

RTK positioning supports  
accurate routes and precise  
manoeuvring



## SUPPLY BOARD

Stable power distribution  
with voltage and current  
monitoring and onboard  
protection



# HIGH-POWER BATTERIES AND CHARGING



**DUAL POWER.  
STABLE  
PERFORMANCE**

**2 × 400 V  
22.2 V / 6S  
1.5–2 HOURS  
300–500 CYCLES**

DUAL BATTERY PACK  
HIGH-CURRENT OUTPUT  
SIMULTANEOUS CHARGING  
DESIGNED FOR LONG-TERM  
OPERATION



**SMART POWER MANAGEMENT**  
The BMS monitors both batteries and protects them from overheating, overcharging and deep discharge



# GROUND CONTROL & COMMUNICATION

ALWAYS CONNECTED — UP TO 20 KM RANGE



## GCS-H1 GROUND CONTROL STATION

Integrated display, antennas  
and controls for complete  
mission management



## SECURE LONG- RANGE LINK

Protected 2.4 GHz radio link  
connects Hornet H1 with the  
operator at up to 20 km



## PRECISION DATA EXCHANGE

RTK provides centimetre-level  
accuracy, while the two-way link  
transmits commands and telemetry

# DESIGN AND COMFORT WITHOUT COMPROMISE



## PREMIUM ERGONOMICS

Streamlined forms, an ergonomic seat and intuitive controls provide comfort and confidence throughout the flight

## SIGNATURE INTERIOR

Alcantara, yellow stitching and Hornet branding create a luxury cockpit

**BUILT FOR COMFORT.** DESIGNED FOR CONTROL.



# RACING- GRADE COMFORT

Provides lateral support and a comfortable fit for pilots up to 120 kg



## SIX-POINT SPARCO HARNESS

Keeps the pilot securely restrained and protected throughout the flight

# READY FOR ANY CONDITIONS

DAY OR NIGHT.  
RAIN, FOG OR DUST



## PROTECTED ELECTRONICS

Sealed components protect onboard systems from moisture and dust



## WEATHER-READY DESIGN

Designed to operate in rain, humidity, fog and dusty environments





# SAFETY BUILT INTO EVERY SYSTEM

REDUNDANT ARCHITECTURE.  
PREDICTABLE CONTROL



## SYSTEM REDUNDANCY

Redundant control, power and critical sensor systems maintain operation in the event of a failure



## INTERFERENCE PROTECTION

Protected radio channels maintain stable control even in dense signal environments



## AUTOMATED THRUST CONTROL

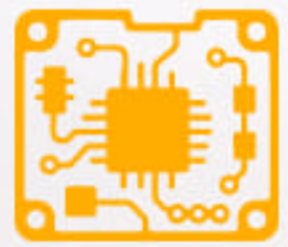
The system continuously monitors power and adjusts propulsion parameters during flight

# ENGINEERED IN-HOUSE



A COMPLETE **IN-HOUSE DEVELOPMENT** CYCLE FOR ELECTRONICS,  
SOFTWARE AND CONTROL SYSTEMS

**SINCE 2012**



## INTERFERENCE PROTECTION

- Circuit design
- Components
- Testing



## SOFTWARE DEVELOPMENT

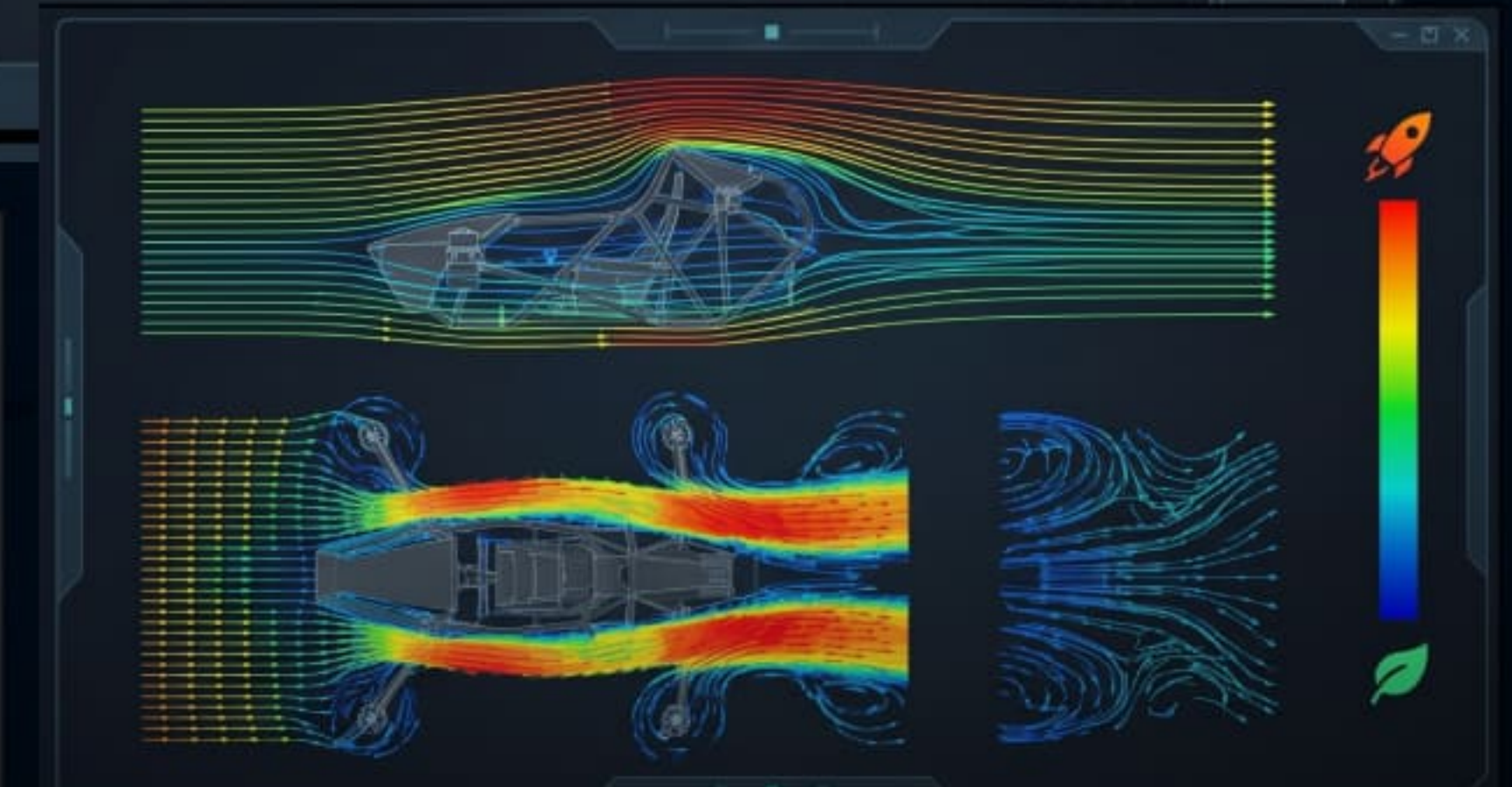
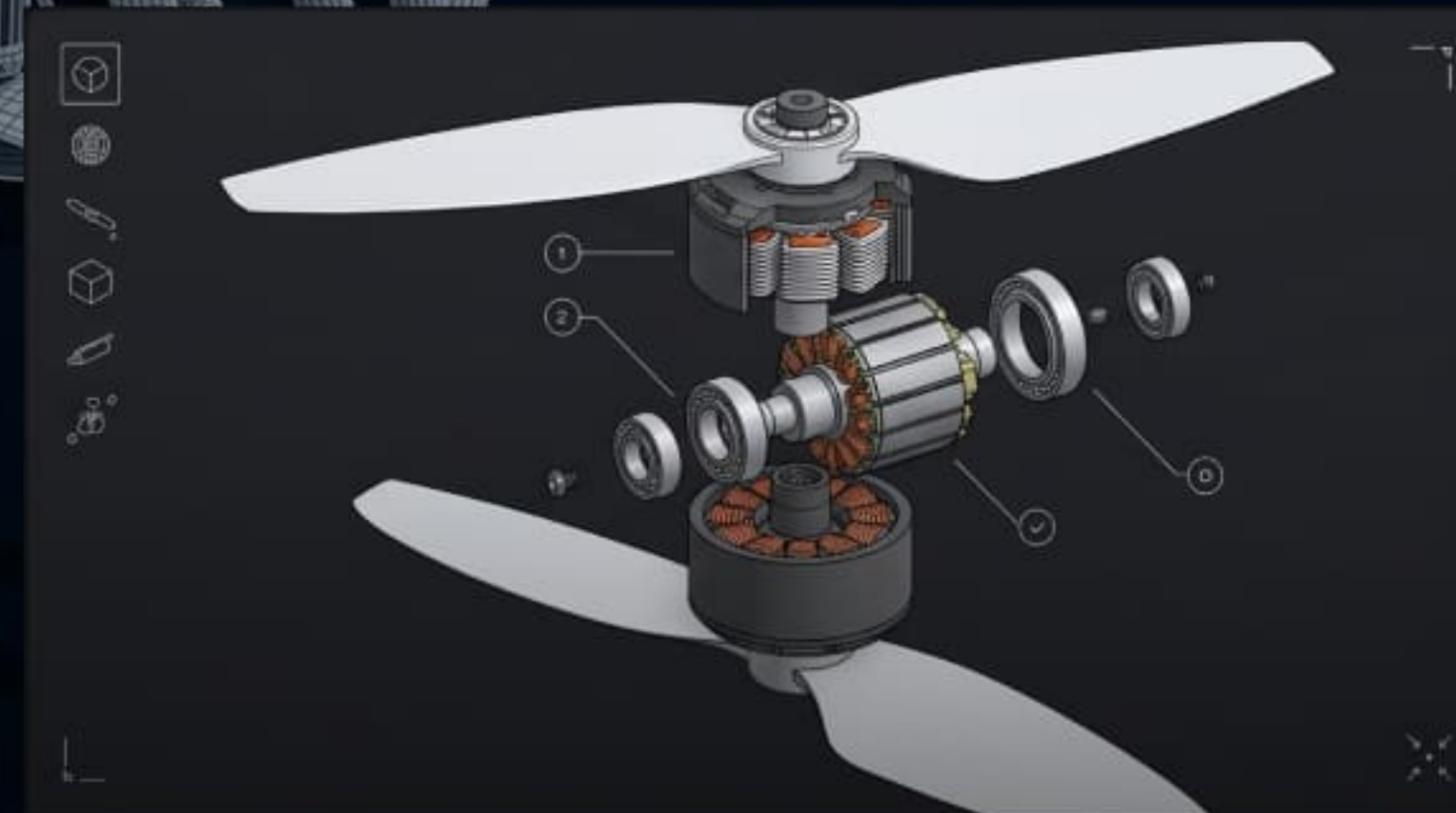
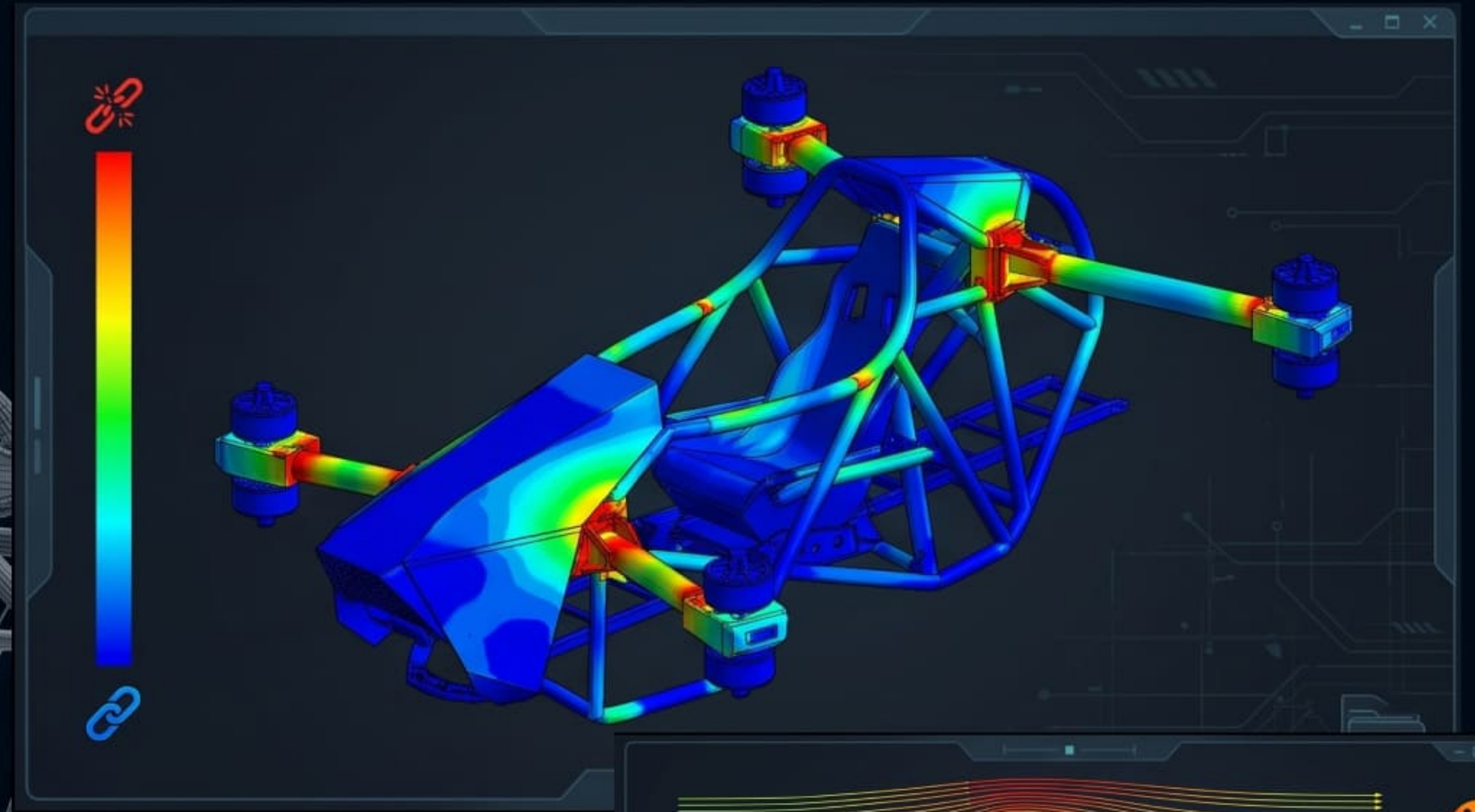
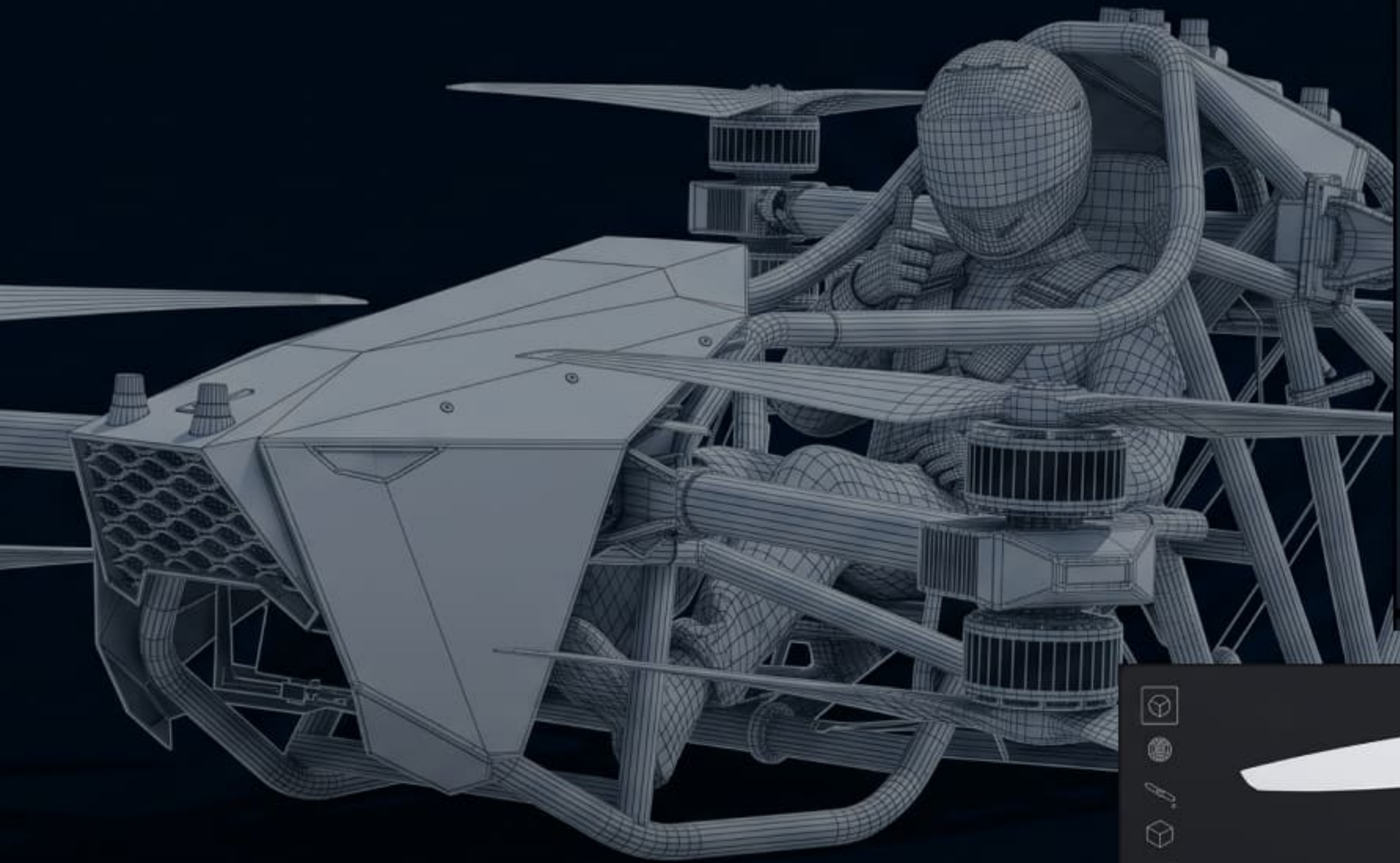
- Flight control
- Telemetry
- GCS interfaces



## FULL-CYCLE EXPERTISE

- Design
- Development
- Integration
- Adaptation





# FROM DIGITAL MODEL TO **FLIGHT- READY** SYSTEM

ENGINEERING, DESIGN AND PRODUCTION  
INTEGRATED WITHIN ONE TEAM



## ADVANCED ENGINEERING

3D modelling, structural  
analysis and aerodynamic  
design ensure strength  
and flight efficiency



## FUNCTIONAL DESIGN



## PRECISION ASSEMBLY

# ONE TECHNOLOGY. MULTIPLE PLATFORMS

Hornet's scalable electronics, software and control systems can be rapidly adapted to new platforms and mission requirements



**GROUND ROBOTICS**



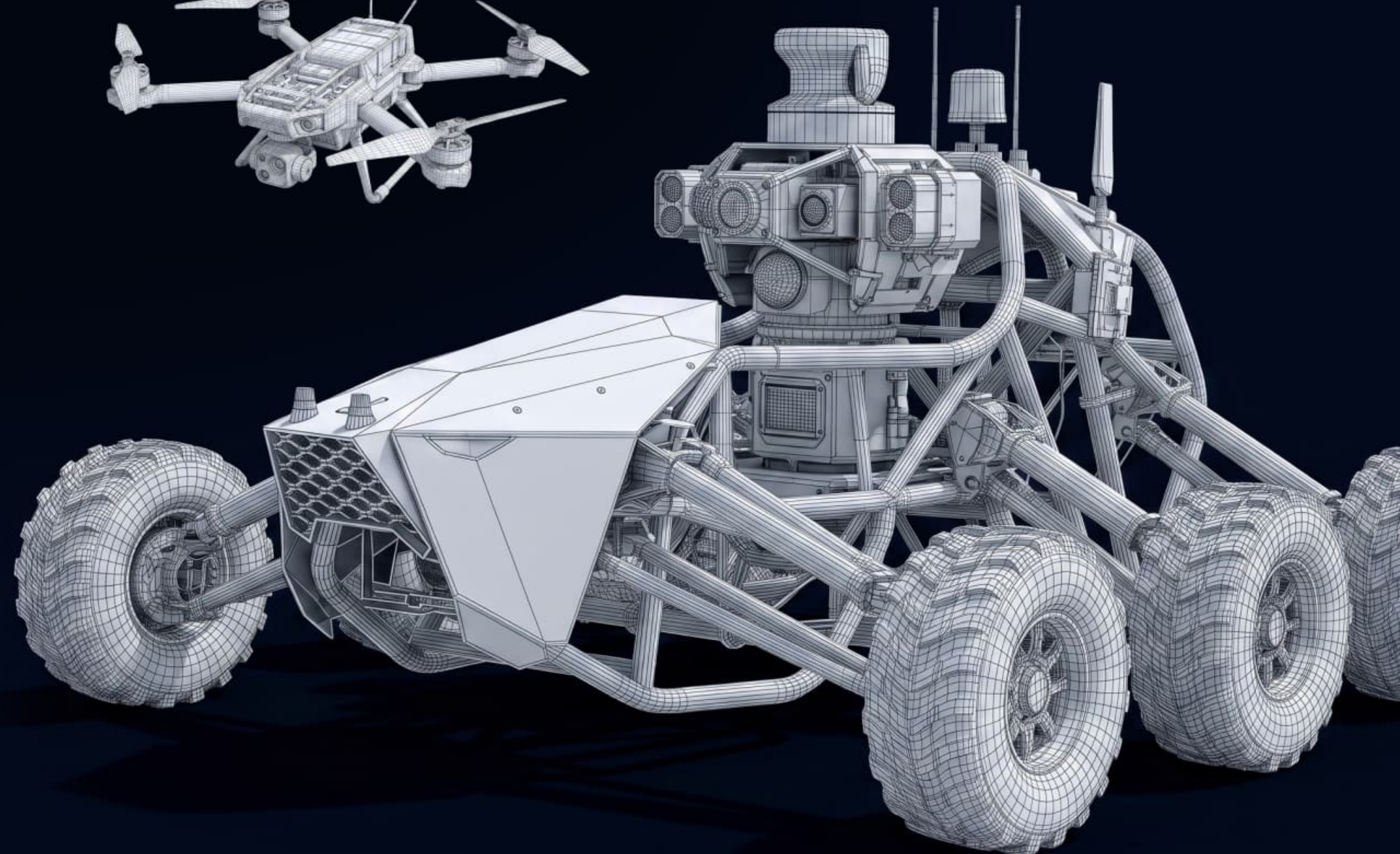
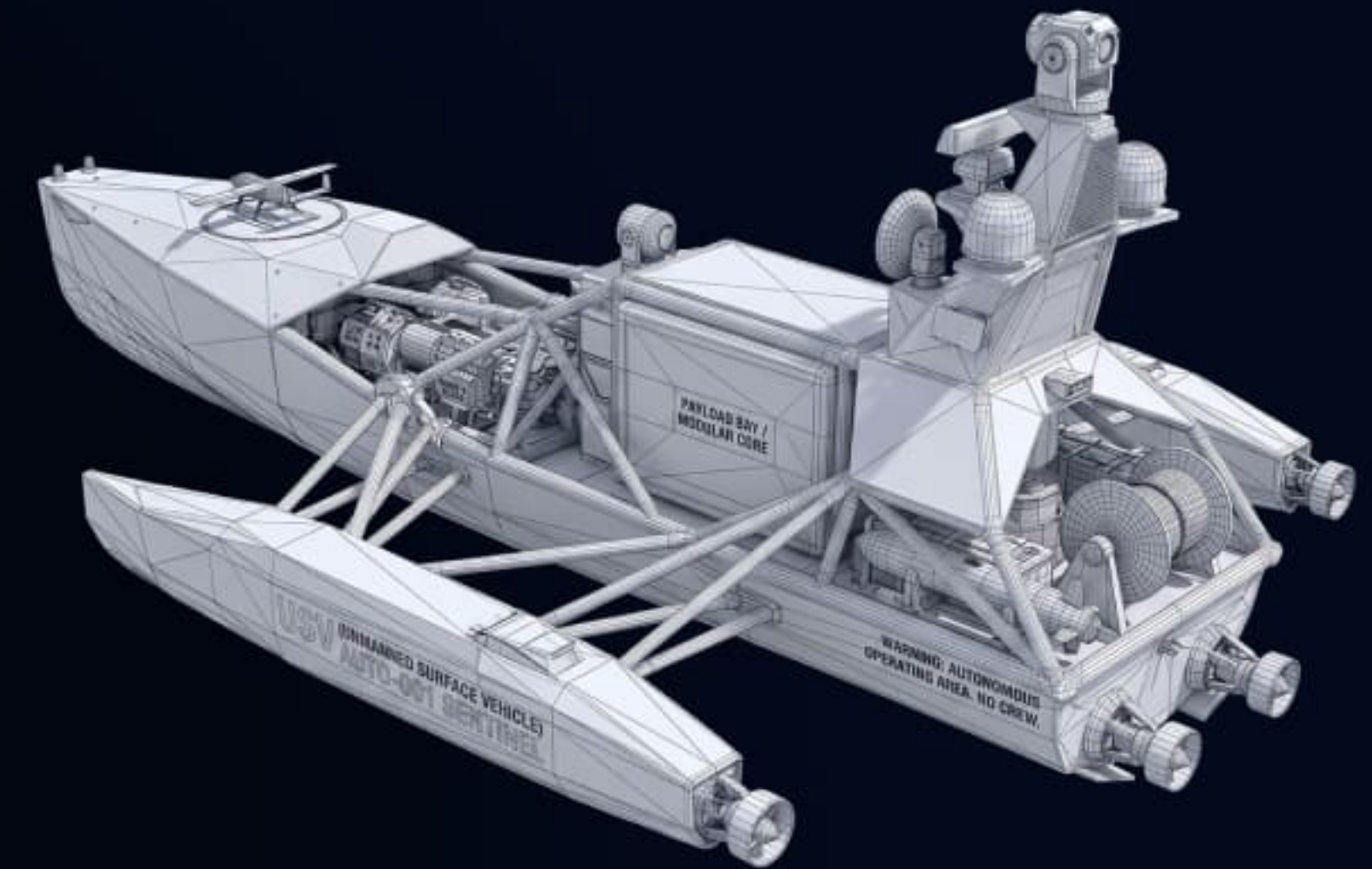
**MARINE SYSTEMS**



**UNMANNED AVIATION**



**PILOTED eVTOL**



# FROM RAW MATERIALS TO FINISHED ASSEMBLY

CNC MACHINING, PRECISION WELDING,  
PLASTIC CASTING AND COMPOSITE FORMING



# BUILT TO SCALE



SCALABLE ELECTRONICS, ADAPTABLE  
SOFTWARE, AND A FAMILY OF AIRCRAFT



## SCALABLE PRODUCTION

Proven processes enable series production of electronics and scalable production volumes



## UNIFIED SOFTWARE PLATFORM

Software adapts to new models and missions with rapid deployment of updates



## EXPANDING MODEL RANGE

The same technology supports aircraft with greater payload, speed and range, plus mission-specific configurations



# DRONE SHARING, AIR TAXIS & LOGISTICS

ADAPTABLE PLATFORM FOR  
PERSONAL FLIGHTS, URBAN  
MOBILITY AND **CRITICAL**  
**DELIVERIES**



HORNET



# SPORT · ENTERTAINMENT · TOURISM

RACING · SPECTATOR EVENTS · SHOWS & FESTIVALS · SCENIC AIR TOURS  
CORPORATE ENTERTAINMENT · AERIAL CONTENT CREATION



# URBAN DRONE-SHARING INFRASTRUCTURE



Hornet solutions combine precision navigation, connected droneports and coordinated airspace management for scalable operations across modern cities



## PRECISION NAVIGATION

GPS/GLONASS, RTK and visual odometry support accurate routing and obstacle avoidance



## CONNECTED DRONEPORTS

Take-off, landing, charging and communication hubs form a distributed urban network



## CONTROLLED AIRSPACE

A unified system coordinates flight zones and routes, supporting drone-sharing and future air-taxi services



# CONTACTS

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