S-PLANE

Versatile | Proven | State-of-the-art | Certification-ready

X-KIT

Pilot Optional

The S-PLANE X-KIT is a comprehensive certification ready solution that offers a means to rapidly convert a manned aircraft into an Optionally Piloted System (OPS) or Unmanned Aerial System (UAS). Built on S-PLANE's proven and rugged X-SERIES technology, the X-KIT can be readily applied to fixed- or rotary- wing aircraft. Seamlessly integrating the X-KIT (including Airborne Control, Communication, Ground Control, and Simulation solutions) with ISR sensor payloads and aircraft, brings state-of-the-art, versatile autonomous airborne ISR systems of the future to today.

X-KIT

Enabling Optionally Piloted Systems

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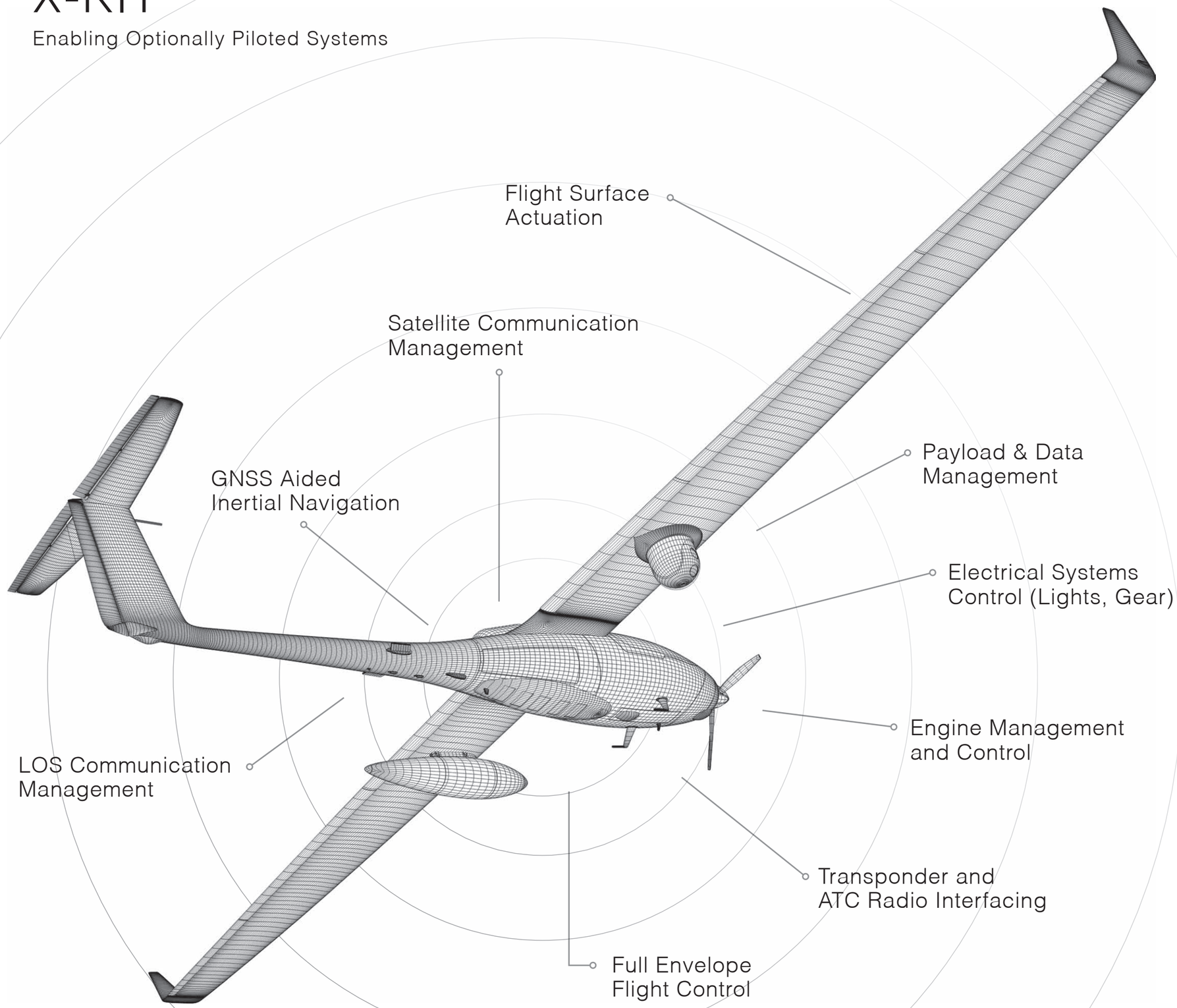

The OPV

A highly versatile platform

The OPV is an ideal merger of the benefits of manned and unmanned aircraft. As a manned aircraft it can execute missions that demand human judgement and control. As an unmanned aircraft (UAV) it can operate with extreme endurance and in dull, dirty and dangerous conditions. The OPV can rapidly and easily be ferried in manual piloting mode and then, when arriving at the operational location, be switched over to unmanned operation.

The X-KIT

The UAS/OPS conversion solution

The X-KIT enables comprehensive system-level control and automation. The X-CUBE and X-ADT serve as the core X-KIT airborne equipment: The X-CUBE is a redundant flight control, power distribution, and IO concentrator unit. In turn, the X-ADT is a combined mission computer, IO concentrator, HDI-SDI video capture and data storage unit.

Comprehensive UAS functionality

- Fully automated flight, take-off and landing (ATOL)
- LOS and BLOS communications management
- ISR payload interface, control, and automation
- Extreme duration flight

Safety critical design

- Certification-ready
- Comprehensive system-wide redundancy
- Airspace integration systems (transponders, ATC radio)
- Programmed actions for contingencies

Flexible architecture

- Supports fixed-wing and rotary-wing aircraft
- Applicable to almost any manned or unmanned airframe
- Accommodates a wide range of third party systems

Use existing airframes

- Cost-effective alternative to bespoke development
- Low risk development path
- Preserve certification status

Ease of installation

- Rapid conversion for quick time to market
- Use existing maintenance resources
- Revert to original aircraft on removal

X-KIT Key Equipment

X-CUBE

- The X-CUBE is the core avionics unit of the X-KIT for UAS/OPS conversion
- Function: Flight Control Unit (FCU), Power Distribution Unit (PDU) and Input/Output (I/O) Concentrator
- Support SCP, DFR and TFR internal redundancy with dedicated voting
- Further supports dual X-CUBE external redundancy with failover architecture

X-ADT

- Airborne Data Terminal (ADT)
- Function: Mission Computer, I/O Concentrator, HD-SDI Video Encoder, Data Storage, Ethernet Switch
- Supports S-PLANE's mission software and third-party or custom containerised software
- Interfaces with and manages and controls mission payloads (RADAR, EO/IR, SIGINT, AIS and Direction Finder)

X-RPU

- Remote Piloting Unit (RPU)
- Function: Safety-critical Command & Control Computer, and I/O Concentrator
- Interfaces to Primary Flight Controls (PFC), GCC MFD, Hard I/O (buttons and switches with parallel redundancy) and to data links/tracker

TRACKER+

- Stand-alone GNSS-based antenna tracker for UHF, L-, S- and C-bands
- Function: Long-range Line of Sight Communication (LOSCom) between aircraft and Ground Control Stations (GCS)
- Mesh network enabled

GCC and Paragon

- Ground Control Console (GCC)
- Configured as a Remote Piloting Station, Payload Operating Station, or Engineering Station
- Function: HMI for Paragon, PFD with HUD, and MFD (touch display) for Remote Piloting

Equipment Chains & Products

	AIRBORNE CONTROL	GROUND CONTROL	COMMUNICATION	SIMULATION
NX-FCU	Automation & ISR Mission		Automation & ISR Mission	
X-CUBE	Automation		Automation	
X-ADT	ISR Mission		ISR Mission	
X-RPU		Automation		
GCC		Automation & ISR Mission		
Paragon	Automation & ISR Mission			
X-GDT		ISR Mission	Automation & ISR Mission	
TRACKER+			Automation & ISR Mission	
XSIM-HILS				Automation & ISR Mission
XSIM-Workbench				Automation & ISR Mission
XSIM-Video				Automation & ISR Mission

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Information provided on this brochure is subject to change without notice.