
bright ascension
DESIGN & BUILD SPACE SOFTWARE
WITH HELIX®
Build missions faster. Scale further. Evolve without limits.

WHAT IS SLOWING DOWN YOUR MISSION?

Satellite builders are under constant pressure to deliver increasingly capable missions in shorter timescales.

Yet many organisations still rebuild the same foundations for every mission, creating unnecessary complexity, increasing cost and slowing down innovation.

DO THESE CHALLENGES SOUND FAMILIAR?

- Developing custom software from scratch for every mission.
- Repeating integration work across different platforms and suppliers.
- Redesigning software as missions evolve.
- Spending time rebuilding infrastructure instead of delivering capability.
- Struggling to scale software across diverse spacecraft and constellations.
- Surrendering control over IP and value generation as infrastructure becomes increasingly outsourced.

TIME TO MOVE BEYOND STANDALONE TOOLS.

The next generation of space systems needs more than standalone software tools. It needs a shared foundation and a common mission infrastructure that connects flight systems, ground operations and mission applications into one integrated ecosystem.

DISCOVER HELIX®

- Build space systems faster.
- Simplify integration throughout the mission lifecycle.
- Build on proven capabilities instead of starting again.
- Reduce complexity across flight and ground systems.
- Introduce new capabilities without disrupting existing missions.
- Scale from individual spacecraft to complex constellations.
- Remain hardware and vendor independent.
- Own your entire infrastructure.

A BETTER WAY FORWARD

HELIX® is a suite of space software products that form a complete software ecosystem, built around a common mission architecture.

By connecting flight software, ground systems and mission applications through a shared foundation, **HELIX** enables missions to be designed, developed, operated and evolved as one integrated system.

HELIX FLIGHTKIT:

Build Flight Software in Months, Not Years.

HELIX Flightkit allows to rapidly develop flight software through a modular, component-based framework.

Instead of starting from scratch for every mission, assemble proven building blocks to create a robust software foundation that can be rapidly tailored to mission-specific requirements.

WHY IT MATTERS.

DEVELOP FASTER
Accelerate software development with rapid assembly, typically in less than six months.

REUSE SOFTWARE
Create a reusable foundation for missions of any size or complexity – once and for all.

SCALE & EVOLVE
Scale your constellation and add new and diverse hardware without major software redesign.

STAY INDEPENDENT
Remain hardware and vendor independent across mixed subsystems constellations.

REDUCE RISK
Reduce technical risk using pre-validated software components.

SIMPLIFY LEARNING CURVE
Get productive quickly with extensive documentation, tutorials and developer support.

INTERFACE FASTER
Support a wide range of spacecraft hardware and subsystem interfaces.

HELIX GROUNDKIT:

Build Tailored and Effortless Mission Operations.

HELIX Groundkit brings the same component-based philosophy to ground segment software, ensuring rapid development and effortless integration of mission-specific operations systems.

Aditionally, for missions with pre-existing flight software systems, Groundkit serves as a powerful gateway into the growing HELIX environment, enabling them to bring their current infrastructure into our unified ecosystem.

WHY IT MATTERS.

CUSTOMISE OPERATIONS
Quickly assemble tailored mission systems that align precisely with specific operational objectives and technical requirements.

DEVELOP FASTER
Reduce development time while maintaining full adaptability and performance.

SCALE CONFIDENTLY
Get constellation-ready from day one, providing a future-proof solution that grows effortlessly with your ambitions.

SIMPLIFY OPERATIONS
Optimise operational processes to simplify management of both single CubeSats and complex satellite networks.

CONNECT 3RD PARTY SYSTEMS
Create an integration layer to seamlessly coordinate mission operations across a wide range of 3rd party flight software, ground stations and services.

HELIX APPKIT:

Build New Capabilities Across the Mission Lifecycle.

Mission requirements change. HELIX Appkit offers a simple way to add new software capabilities throughout the mission lifecycle without redesigning existing systems, even after deployment in orbit and even on per acquisition basis.

New functionality add-ons can be deployed onboard spacecraft or within the ground segment, with seamless integration through the shared HELIX software foundation.

WHY IT MATTERS.

EXTEND FUNCTIONALITY
Add new mission functionality quickly throughout the mission lifecycle.

GROW YOUR MISSION
Extend spacecraft or ground systems without major redevelopment.

INTEGRATE SEAMLESSLY
Seamless integration with Flightkit and Groundkit applications, ensuring any change is reflected across the entire space system.

IMPROVE MAINTAINANCE
Easily upgrade and evolve your mission software.

DESIGN FOR CHANGE
Build agile data-processing flows that remain flexible to change, even on an acquisition-by-acquisition basis.



WHAT IS HELIX?

HELIX is an end-to-end suite of space software products that together form a highly integrated space software platform — connecting flight software, ground systems and mission applications.

HELIX unifies today's fragmented and disconnected space software landscape through a shared foundation, delivering greater efficiency and simplicity while significantly reducing costs.

ABOUT BRIGHT ASCENSION.

Bright Ascension is a Scotland-based industry-leading space software technology provider. Founded in 2011, we specialise in innovative software products and solutions for the delivery of space-based services, both on spacecraft and on the ground.

Our pioneering HELIX® suite of space software products is built on our cutting-edge, innovative technology that has been rigorously tested and proven in-flight, with over 60 software deployments in orbit.

15+ TECHNOLOGY DEMONSTRATION MISSIONS

25+ EARTH OBSERVATION MISSIONS

10+ COMMUNICATION MISSIONS

brightascension.com

enquiries@brightascension.com