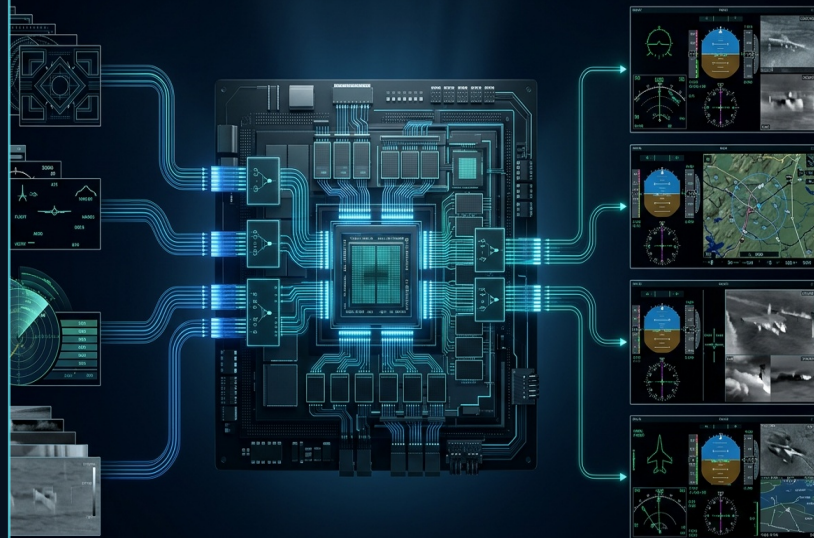


BYTECRAFT

2D GRAPHICS ENGINE

SAFETY-CRITICAL AVIONICS GRAPHICS IP CORE

Purpose-Built Graphics Processing for Safety-Critical Avionics



A reusable FPGA-based 2D graphics engine unifying ARINC 661 processing, Native 2D rendering, weather-radar visualization, external video integration and multi-display output within an assurance-driven avionics graphics architecture.

WHY PURPOSE-BUILT?

AVIONICS GRAPHICS REQUIRE A DIFFERENT ARCHITECTURE

General-purpose graphics technologies are designed for broad feature coverage. Safety-critical avionics displays demand controlled functionality, predictable system interaction, explicit operating states and engineering data that support rigorous verification.

Bytecraft 2D Graphics Engine is purpose-built for this environment.

01

NATIVE AVIONICS GRAPHICS

ARINC 661 and Native 2D graphics generation within one engine.

02

INTEGRATED VISUAL PROCESSING

Graphics, radar imagery and external video in one synchronized pipeline.

03

SCALABLE MULTI-DISPLAY

Configurable output for up to four simultaneous RGB displays.

04

ENGINEERED FOR ASSURANCE

Requirements-based architecture, Built-In Test and verification-oriented practices.

4

RGB DISPLAY
OUTPUTS

12

COMPOSABLE
IMAGE SOURCES

6

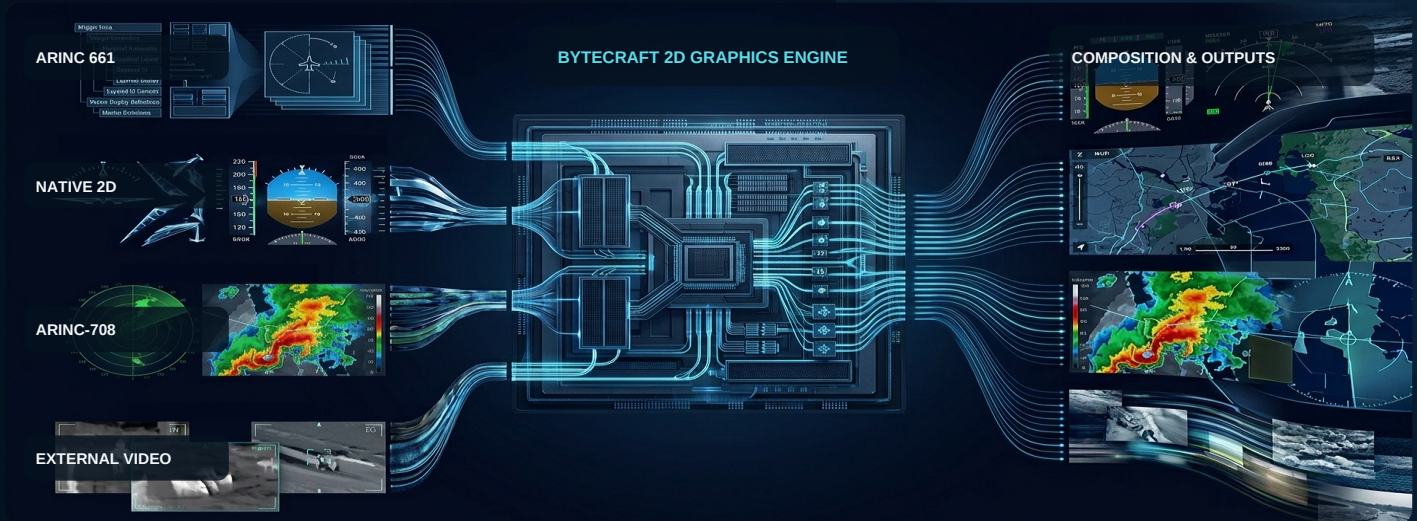
EXTERNAL VIDEO
INPUTS

2

ARINC-708
CHANNELS

From Avionics Data to Controlled Display Output

A unified architecture for graphical definitions, Native 2D content, weather-radar data, external video and synchronized display generation.



01 CONTROL & CONFIGURATION

System control, validated configuration data and status interaction.

02 AVIONICS GRAPHICS

ARINC 661 runtime processing and Native 2D generation.

03 SENSOR & VIDEO

Dual ARINC-708 paths and up to six external video sources.

04 VISUAL COMPOSITION

Up to twelve sources with priority, alpha and alignment.

05 DISPLAY OUTPUT

Up to four RGB outputs with 60 Hz operation.

CONTROLLED SYSTEM BEHAVIOR

DEFINED STATES

Initialization, Ready, Operational, Degraded and Fault.

FAULT MANAGEMENT

Classification, retention and controlled reporting.

BUILT-IN TEST

PBIT, CBIT and IBIT capabilities.

TIMING & SYNC

Clock, frame and source alignment.

FLEXIBLE DEPLOYMENT. CONTROLLED EVOLUTION.

