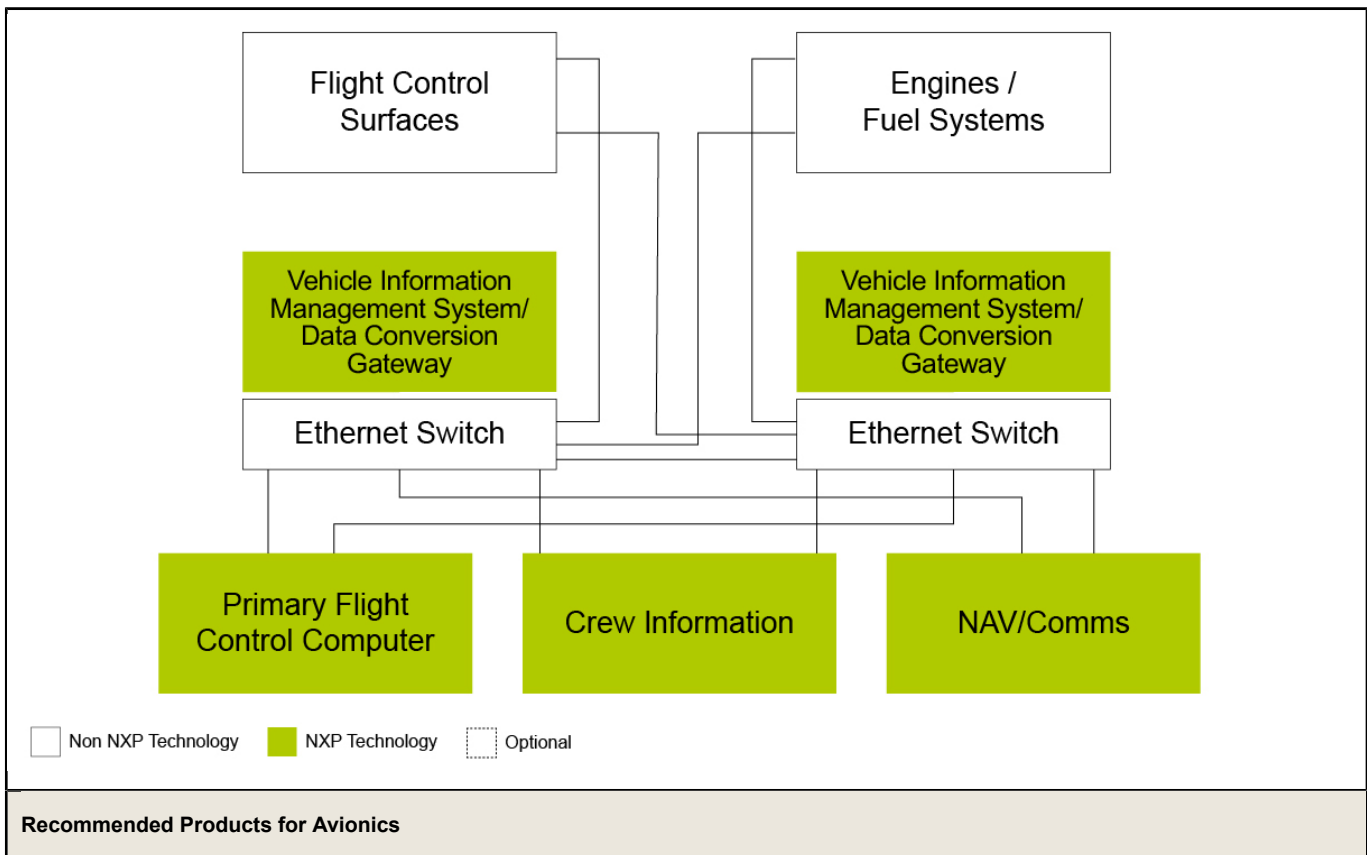# General Avionics

Last Updated: Jan 9, 2025

Modern aircraft contain dozens of data distribution and processing systems, which can collectively be referred to as Avionics. NXP's embedded processors have long been the processors of choice in avionics systems due to their balance of performance per watt, IO integration, temperature range, reliability, and production longevity.

NXP has also been at the forefront of avionics migration from federated avionics systems built on single core processors to Integrated Modular Avionics (IMA) built on multicore SoCs. In 2008, NXP founded the Multi-Core for Avionics (MCFA) working group, bringing together SoC designers, ecosystem software partners, and avionic system developers.

Avionics Block Diagram

Recommended Products for Avionics

Primary Flight Computer / Autopilot	• QorIQ Communication Processors: QorIQ$^®$ Processing Platforms: 64-bit Multicore SoCs • Layerscape Processors: Layerscape$^®$ Processors
Vehicle Information Management System Data Conversion Gateway	• QorIQ Communication Processors: QorIQ$^®$ Processing Platforms: 64-bit Multicore SoCs • Layerscape Processors: Layerscape$^®$ Processors
Sensors	• Accelerometers: Accelerometers • S32V234: S32V2 Processors for Vision, Machine Learning and Sensor Fusion
Crew Information	• i.MX6Q: i.MX 6Quad Processors - High-Performance, 3D Graphics, HD Video, Arm$^®$ Cortex$^®$-A9 Core • i.MX6D: i.MX 6Dual Processors - Dual-Core, 3D Graphics, HD Video, Multimedia, Arm$^®$ Cortex$^®$-A9 Core • i.MX6DL: i.MX 6DualLite Processors – Dual-Core, 3D Graphics, HD Video, Arm$^®$ Cortex$^®$-A9 Core • i.MX6S: i.MX 6Solo Processors – Single-Core, Multimedia, 3D Graphics, Arm$^®$ Cortex$^®$-A9 Core • i.MX 6 Processors: i.MX 6 Series Applications Processors: Multicore, Arm$^®$ Cortex$^®$-A7 Core, Cortex-A9 Core, Cortex-M4 Core • i.MX8: i.MX 8 Family – Arm$^®$ Cortex$^®$-A53, Cortex-A72, Virtualization, Vision, 3D Graphics, 4K Video • i.MX8X: i.MX 8X Family – Arm$^®$ Cortex$^®$-A35, 3D Graphics, 4K Video, DSP, Error Correcting Code on DDR

View our complete solution for General Avionics.

Note: The information on this document is subject to change without notice.