



GVA

Land Data Model Software Development Kit

FEATURES

VivoeX UK GVA Land Data Model v10 (DEF STAN 23-009)

MediaX video streaming library H.264 / H.265 / JPEG / Raw (DEF STAN 00-082)

Deploy on GXA-1 or BushNET

GVA Core Services: Registry, Alarms, and UACM with database persistence

C++ SDK for developing customer services and External Applications

Qt6 HMI Touchscreen interface with function keys, PPI, and video

Battlefield management system (BMS)

Usage & Condition Monitoring for system monitoring

Developer faster with LDMX topic monitor GUI

Bohemian SysML modelling tool with Copilot

Multi-DDS Support. Astute DDS, CycloneDDS, and RTI Connex

Analytics Dashboard for Real-time browser-based operations monitoring

ToolX video streaming diagnostics

Cross platform Windows and Linux



MADE IN AUSTRALIA

The **GVA** LDM SDK is a comprehensive software suite implementing the UK Generic Vehicle Architecture (**GVA**) Land Data Model v10. It delivers a full stack of services, applications, and developer tools for building **GVA**-compliant vehicle electronic architectures. Use it for crew station HMI development, battlefield management, vehicle health monitoring, real-time situational awareness, DDS middleware integration, hardware-in-the-loop testing, and rapid prototyping of vetronics systems. Equally suited to new platform programmes, mid-life upgrades, and laboratory test environments.

Built on CycloneDDS for high-performance publish/subscribe messaging and Qt6 for modern cross-platform applications, the LDM SDK spans the entire **GVA** software stack — from IDL code generation and DDS middleware through registry, alarms, and UACM services to a full Human Machine Interface (HMI), Battlefield Management System (BMS), vehicle simulator, and web-based operations

dashboard. Deployable as systemd services with Debian packaging, the suite is designed for integration on rugged embedded Linux platforms and desktop development environments alike. Whether you are building a new crew station, upgrading legacy vetronics, or standing up a systems integration lab, the SDK gets you to first light faster than any alternative on the market.

Beyond the core **GVA** stack, the SDK integrates with external systems including TAK Server for joint situational awareness, J1939 CAN bus networks for vehicle telemetry, and SNMP-managed Ethernet switches for platform networking. A built-in licence service with HMAC-SHA256 signing protects deployed software, while comprehensive developer tools LDMX topic monitor, Bohemian SysML viewer, and ToolX diagnostics accelerate development and system integration testing. Contact Astute Systems today for a live demonstration and see the full **GVA** stack running on real hardware.



FULL STACK GVA SOFTWARE FOR LAND PLATFORMS



FIND OUT MORE

Commercial Off The Shelf (COTS) and Modified Off The Shelf (MOTS) solutions.
Astute Systems is a global leader in rugged AI computing and software for autonomous military systems and deployment in harsh environments.

SPECIFICATIONS

CORE SERVICES

- GVA Registry Service (qt6-registry)
- GVA Alarms Service (qt6-alarms)
- UACM Service (qt6-uacm)
- Resource ID allocation and tracking
- DDS domain configurable
- Platform configuration publishing
- GVA Alarms Spec v3.0 compliant
- Warning / Caution / Advisory categories
- Re-annunciation timers
- Crew role-based access control
- Usage and Condition Monitoring
- PostgreSQL/PostGIS spatial storage
- RAG health status indicators
- Fault event management
- Characteristic tracking

APPLICATIONS

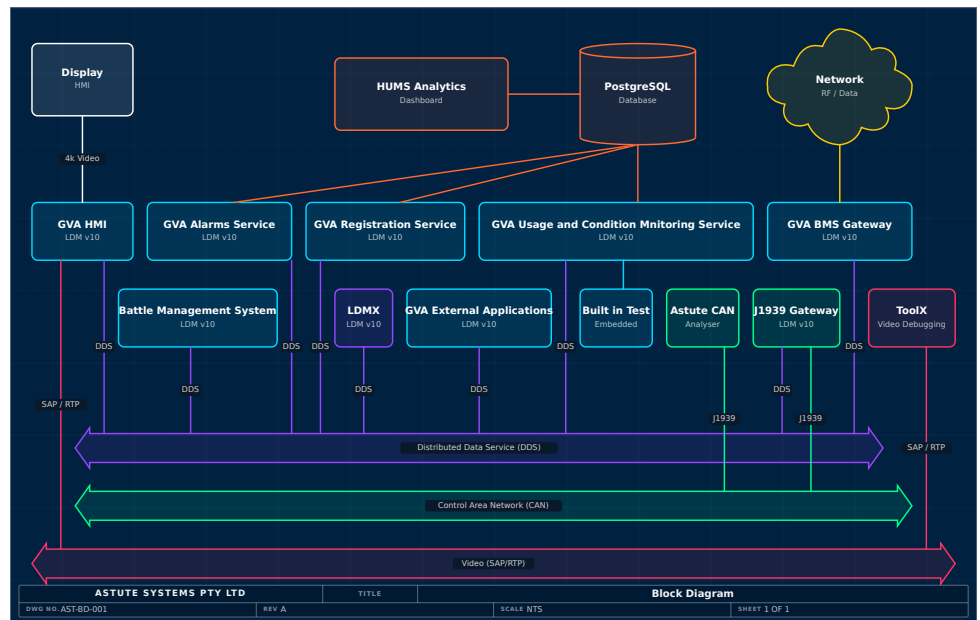
- GVA HMI (qt6-hmi)
- BMS with APP-6 symbology
- Vehicle Simulator (3D OpenDRIVE)
- Weapon Sight (GVA Display Extension)
- Chat (DDS messaging + Android)

DEVELOPER TOOLS

- LDMX Real-time topic monitor and debugger
- Bohemian SysML viewer for Rhapsody .rpyx models
- ToolX SAP/SDP streams, SNMP, and diagnostics
- Web Dashboard Browser ops console with REST API
- J1939 Gateway SocketCAN to DDS bridge
- IDL Code Generator Auto C++ wrappers from IDL files

TECHNOLOGY STACK

- UK GVA LDM 10.0.0
- Language: C++20
- Framework: Qt 6.x
- DDS: Astute DDS, CycloneDDS, RTI Connex
- Database: PostgreSQL + PostGIS / SQLite
- Platforms: Windows, Linux (x86_64, ARM64), Android



** Preliminary Datasheet Specifications are subject to change

CONTACT YOUR LOCAL REPRESENTATIVE

FOR MORE INFORMATION ON HOW WE CAN ADAPT OUR SOLUTIONS TO MEET YOUR IO REQUIREMENTS

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