

MilDef Generic Vehicle Architecture capabilities and products

Generic Vehicle Architecture history

Military vehicles are typically in-service for many years and are subject to significant through-life updates. There is often a need to upgrade these platforms quickly in order to address new threats and scenarios. However, with a number of different systems, sub-systems and products from multiple sub-contractors, these upgrades can become complex and expensive.

The Generic Vehicle Architecture (GVA) approach, originally conceived by the UK Ministry of Defence, is a concept of generic design principles for the electronic and power architectures as well as Human Machine Interface for military vehicles. Introduced in 2010, the GVA standard (Defence Standard 23-009) was first implemented on the British Army Foxhound Vehicle.

NATO observed these activities and introduced the 'NATO Generic Vehicle Architecture (NGVA) for Land Systems' (STANAG 4754) in 2018. Australia also followed with the 'Australian Generic Vehicle Architecture' (AS GVA) the same year.



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MilDef's role in the GVA story

The launch of the GVA standard in UK coincided with MilDef opening its UK facility in Cardiff and MilDef was soon contracted to develop the GVA Ethernet Switch for the Foxhound Vehicle. This switch has been in service for 10 years and has shown incredible reliability with the Foxhound fleet operational throughout the UK's operations in Afghanistan. With this vehicle now due for upgrade MilDef is able to offer a fit, form and function replacement proving the GVA philosophy as well as MilDef's ability to support its products through the vehicle's service life.



16-port GVA Gigabit Ethernet switch

More recently MilDef has been awarded a circa £20m contract from Rheinmetall BAE Systems Land (RBSL) and Rheinmetall Landsysteme GmbH to provide GVA compliant Crewstation PCs, Servers and Ethernet Switches for the British Army Mechanised Infantry Vehicle (MIV) Boxer programme.
<https://mildef.com/miv/>



MilDef GVA product portfolio

The product portfolio below shows some of the MilDef GVA solutions currently either in service, in production or at prototype / concept phase:



19"/2 CS2218 Crew Station PC

GVA Xeon server with 10G Ethernet, NVIDIA Graphics, CANbus.



19"/2 CS2219 Server

GVA Xeon server with two SSDs, 10G Ethernet, GNSS receiver, CANbus.



19"/2 ESW4100 series 10G Ethernet switch

GVA 10G Ethernet (x4) layer 3 switch



19"/2 PWR312 Power Distribution Unit

NGVA Power Distribution Unit



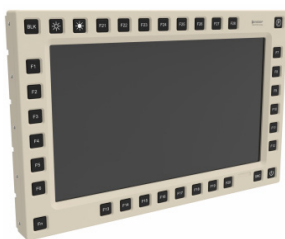
19"/2 SSW1101 USB Network Hub

Ethernet enabled USB hub



19"/2 ESW 453 Gigabit Ethernet Switch

GVA 1G Ethernet layer 3 switch



MDU1501 GVA Display

15.6" Modular Display Unit with GVA HMI



DS13 Tablet PC

10.1" Tablet PC with GVA HMI



ROCCS12 NGVA Smart Display

12" NGVA Display / Panel PC

Design capabilities applicable to GVA solutions

MilDef's System Architects and R&D team have extensive capability in electronic design, mechanical design, software and product development specializing in servers, computers, Ethernet switches, routers, displays, media converters and other network devices.

Capabilities include:

- Electronics & Software Development
- Printed Circuit Board Layout
- Mechanical Design
- Design for customization (blueprint strategy)
- Design for system integration (combine MilDef products to a sub-system)
- Thermal analysis and passive cooling design
- Ruggedized design (e.g. MIL-STD & DEFSTAN)
- High EMC performance (e.g. MIL-STD & DEFSTAN)
- Concept design & prototyping (3D-printed proof of concept or milled aluminum chassis)



Contact information

Many of these specialist GVA products do not feature on the MilDef website. For more information please contact us. www.mildef.com/contact

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