



# Mark\* Vle Control

## Design for Extended Lifecycle

### fact sheet

GEA-S1288A



Historically, the lifecycle of turbine-generator controls has been approximately ten years, followed by parts and service support and eventual replacement upgrade.

### Mark Vle Component-based Architecture

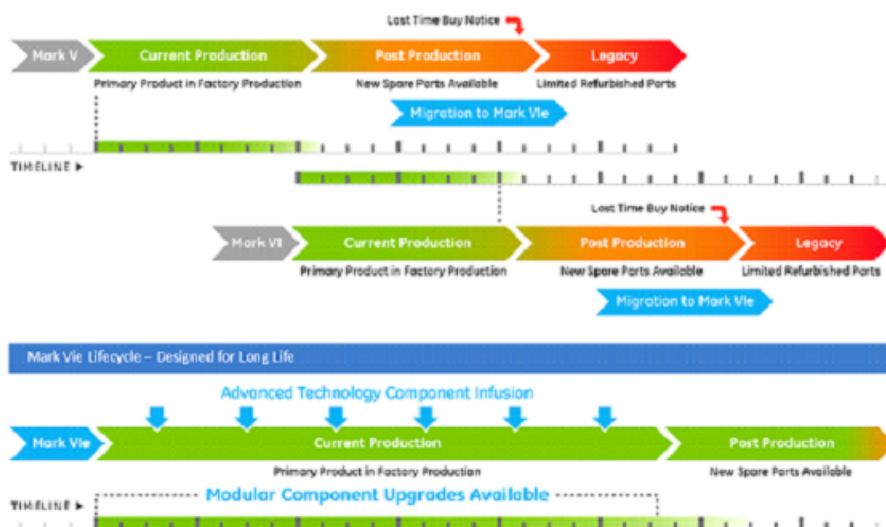
The design philosophy of the Mark Vle control system is extended life through a modular structure. This allows for incremental technology upgrades, obsolescence protection, and comprehensive system upgrades, without replacing the entire control system. It includes an Ethernet backbone and discrete modular building blocks, such as controllers, network components, and I/O modules with extensive software tools.

### Benefits

**Advanced Technology Infusion.** The modular configuration allows for technology infusion with low-cost component upgrades. These include:

- A controller with Achilles® Controller Level 1 certification to meet the customer's cyber security needs
- Application of physics-based control that may require greater computing power. This application enables expanded operating limits, reduces emissions, and provides more flexible operations
- Bus technology, smart instruments, and field devices to improve reliability, accuracy, and predictive health insights for our new products and aftermarket offerings

**Migration of Legacy Products.** The Mark Vle control configuration enables the small and flexible Mark Vle controllers, power supplies, and I/O modules to be mounted inside legacy Mark IV and Mark V controls for cost-effective migration upgrades without disconnecting field wires or undertaking complete system replacement. Digital controller upgrades for exciters and static starters are available to improve reliability while retaining the installed power conversion modules and power magnetics.



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