AUTONOMOUS VCU TECHNOLOGY: FROM AUTOMOTIVE VALIDATION TO INDUSTRIAL DEPLOYMENT

Enhanced VCU for Autonomous Driving:

Provincial 3rd Prize (Top 15% of 320 teams) in National Engineering Training Competition → Delivers 80% mass-production VCU functions with autonomous decision layer expansion：

* ASIL-B compliant spatiotemporal sync (<5ms error)
* Dual-core fault arbitration (ISO 26262 ASIL-B implementation)
* 200ms emergency response (validated per ISO 21448 SOTIF)

Automotive-Grade Reliability Validation:

BYD Han EV platform validation (STM32F4 VCU prototype) → Technology transferable to industrial validation platforms

Competitive Advantage:

**Automotive Validation Credentials**

Accelerated industrial deployment: 48hr integration cycle (certified by competition judges)

**Seamless Migration**

VCU fault arbitration core → Industrial safety validation platform (Fail-safe mechanism reuse)

Technology Positioning

Core Innovation: VCU Function Expansion

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| --- | --- |
| Traditional VCU | Our Enhanced VCU |
| Powertrain control | Autonomous decision |
| Basic diagnostics | Fault arbitration |
| Fixed logic | Dynamic path planning |

Validation Pathway

Automotive Platform → Industrial Validation → Enhanced VCU Deployment

Targeting Tesla-grade control systems in phase 3