



Ground Platforms

– Vehicle Durability & Survivability

imc Test & Measurement

APPLICATION NOTE // By Antonio Perez

Operational Context

Military vehicles operate under continuous vibration, shock, thermal stress, and severe terrain conditions. Reliable onboard measurement systems are required to validate durability, drivetrain behavior, suspension dynamics, and operational performance.

Engineering Challenges

- Capturing synchronized multi-domain measurement data
- Operating under harsh environmental conditions
- Supporting long-duration and transient testing
- Maintaining high data integrity and synchronization

Measurement Strategy

imc systems provide synchronized and distributed acquisition architectures supporting vibration, strain, pressure, acoustic, and operational measurements. The focus is on reliable acquisition, synchronization, validation, and advanced post-processing workflows.

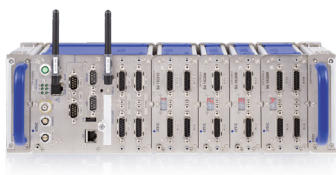
Software & Data Analysis

- imc STUDIO for acquisition, visualization, and triggering
- imc FAMOS for FFT, fatigue, transient, and correlation analysis
- Automated synchronization and reporting workflows

Typical Applications

- Suspension and chassis validation
- Powertrain analysis
- Vehicle durability testing
- Shock and vibration qualification

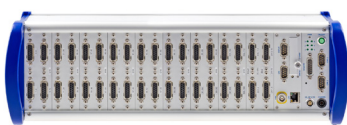




imc CRONOSflex



imc ARGUSfit



imc SPARTAN



imc BUSDAQ



imc CANSASflex

Customer Value

imc systems provide scalable and reliable acquisition architectures supporting defense validation, durability analysis, qualification testing, and operational measurement workflows while improving data quality, synchronization, and engineering confidence.

Recommended Solution Configuration

Based on the application requirements and environmental conditions, Axiometrix recommends a tailored measurement solution combining high-precision microphones, signal conditioning, and analysis systems to ensure reliable, repeatable, and standards-compliant results in demanding defense environments.

Typical imc Hardware Architecture solutions may include:

- **CRONOSflex** for high-performance synchronized DAQ
- **ARGUSfit** for onboard and mobile acquisition
- **SPARTAN** for mobile durability and vehicle field testing acquisition
- **BUSDAQ** for autonomous field logging
- **CANSASflex** for distributed sensor integration
- Integration with **accelerometers**, **strain gauges**, **pressure sensors**, and **CAN signals**

For more information or application-specific recommendations, please contact our team of specialists.

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