# Battelle **CANprotect**™ PREDICTIVE READINESS AND CYBER HARDENING

## What is the technology and how does it work?

CANprotect<sup>™</sup> technology leverages existing platform data bus signals combined with advanced Machine Learning (ML) and Artificial intelligence (Al). To achieve mission success, employment of this technology provides the warfighter with actionable metrics to maximize readiness, adjust fleet operations, anticipate evolving maintenance requirements, efficiently leverage resources, and accelerate supply chain velocity. This flexibility allows CANprotect<sup>™</sup> to be delivered as a standard or tailored package dependent on mission platform needs, with no need for custom or proprietary components.

This technology detects and creates a "check data bus warning light" for cyber threats, regardless of the attack surface, and is deployable as a software only solution or on purpose-built hardware. The implementation method ensures existing functionality and performance are maintained, allowing CANprotect<sup>™</sup> to be invisible to attackers and effective for both new and legacy platforms.



### What problem does this technology solve?

- Protects platform networks from adversaries independent of the type of attack or attack surface exploited, and provides predictive maintenance capability to maximize platform readiness
- Leverages existing data sources, eliminating the need for specialized sensors, minimizing integration time and cost, and is platform-agnostic
- Enables the platform operators and stakeholders to achieve platform security and operational readiness across multiple domains
- Provides stakeholders with decision and planning space, informing maintenance and reset actions, that will maximize operational readiness and increase supply chain velocity for replacement components.
- Leverages the benefits of user knowledge and real-time data analysis
- Distributes individual and compartmentalized knowledge across DoD systems for new implementations or platform changes

## How is this different from existing technologies?

- It uniquely provides both cyber hardening and predictive readiness capabilities, while also:
- This technology is enhanced by multidisciplinary teams across Battelle, applying expert knowledge to solve critical cyber challenges
- Platform-agnostic it can be integrated into any Cyber-physical system with minimal modification to the current configuration
- A truly predictive approach, minimizing downtime, system failures, safety impacts, and financial risks - for example, CANprotect<sup>™</sup> utilizes terrain prediction algorithms to compare between intended mission profiles and actual usage
- Effectively creates a cyber 'check data bus warning light' for vehicles
- Able to be deployed as a software only solution or on purposebuilt hardware with minimal footprint resources required
- Fully-automated and encrypted data pipeline from platform offload, through the analytics portal and presentation to system users
- Uses AI/ML for algorithm creation and data analysis to maximize efficiency of implementation and quality of actionable metrics



#### TRL6 Predictive Maintenance and Cybersecurity AI/ML System

CANprotect™ is a suite of data analytics for real-time on-vehicle system integrity and predictive maintenance for your platform(s). Contact an expert at Battelle to learn more.

#### Battelle Amplified Armor<sup>™</sup>

Applies real-time protection algorithms to legacy and future DoD system microelectronics and the bus connecting them; it detects and suppresses anomalous activity, regardless of the attack source.

#### MechGuard™

Automated data pipeline using AI/ML algorithms to increase fidelity into platform and collective fleet performance, wear and tear, readiness status, and emerging maintenance requirements.



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