

DATA SHEET

CylusOne Rail Tech Security Platform

From the Worldwide Leader in Railway Cybersecurity

Rail technology and innovation are driving a digital revolution in rail operations and pose significant cybersecurity challenges. CylusOne, the non-intrusive rail tech security platform, provides rail operators with the context and guidance necessary to proactively monitor and manage cybersecurity and risk across their entire operational rail technology environments.

Designed to meet the unique cybersecurity needs of the rail industry, CylusOne provides visibility, risk assessment, and threat detection and response capabilities for trackside, rolling stock, and other rail operational networks.

Asset Discovery and Network Visualization

CylusOne provides real-time asset and network discovery and classification, enabling the management of all monitored networks and network components. This asset and network discovery scope is focused on the operational rail technology systems, including signaling, command & control, auxiliary, comfort, and public applications.

• Passive Network Integration & Data Collection

CylusOne gains access to network traffic through switch SPAN ports, network taps and/or network packet brokers, existing customer monitoring solutions, or Rail Juridical Recording Units (JRU).

• Automatically Discover & Classify Rail Technology Assets

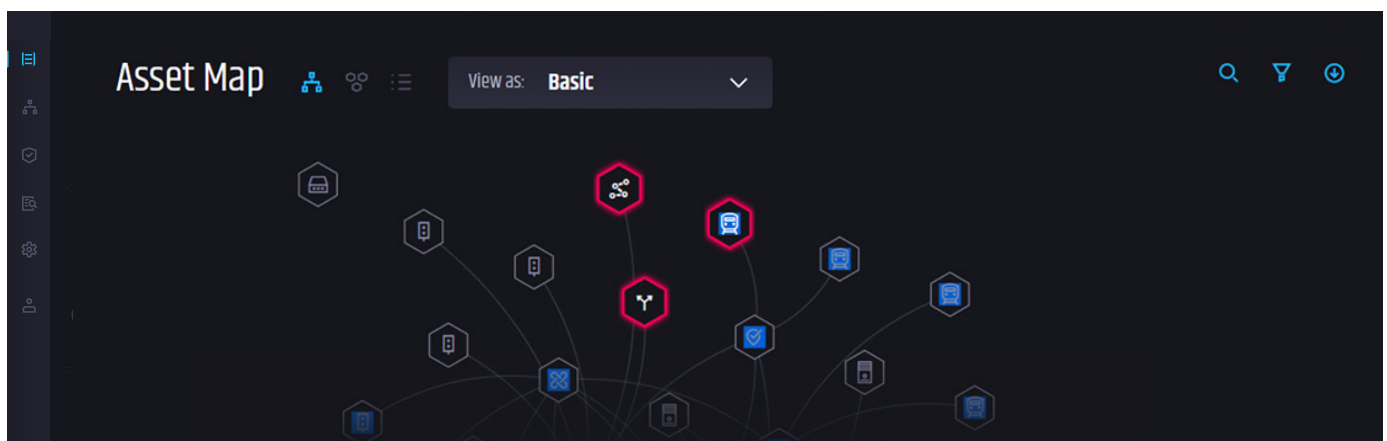
CylusOne automatically discovers and classifies all assets in the operational networks, providing a single highly accurate, real-time, always up-to-date asset inventory. Explore each asset to gather property details and identify its connections with other assets.

• Network Discovery & Topology Mappings

CylusOne automatically discovers and provides full visibility to the monitored operational network, including all connectivity and communications, giving insights into the rail technology network and 'normal' activity patterns.

Key Benefits

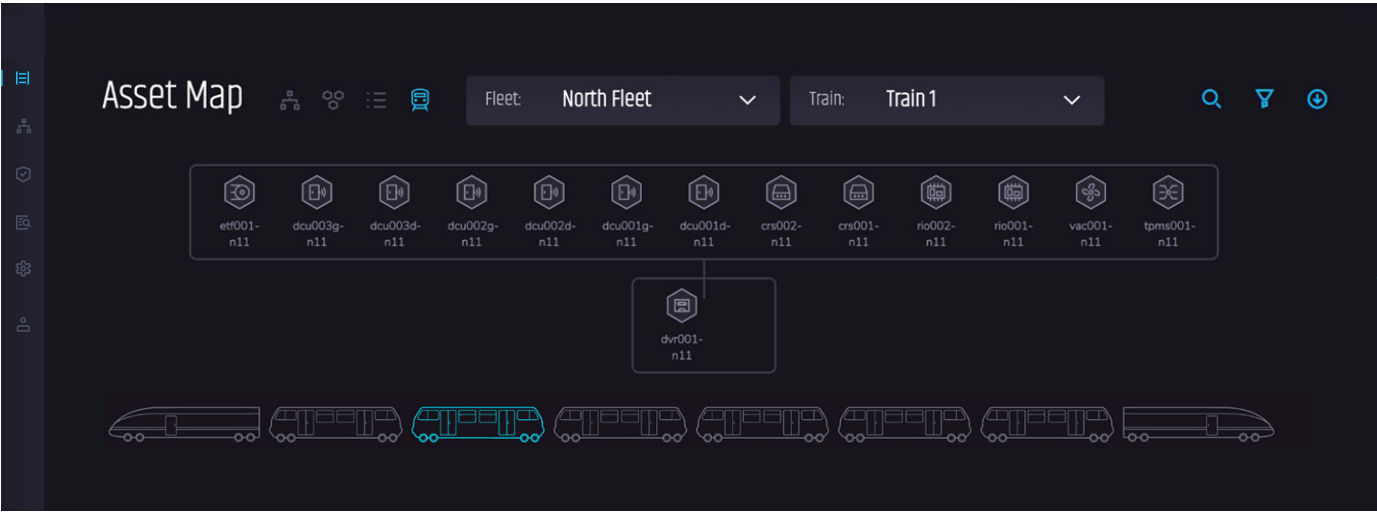
- Rail-specific cybersecurity platform for rolling stock, trackside, and operations.
- Real-time visibility of rail assets and networks.
- Improved service resilience through continuous monitoring and protection.
- Demonstrate regulatory compliance and meet key industry standards.
- Increase operations and security team coordination and efficiency.



CylusOne Network View

• **Rolling Stock Fleet, Train, and Individual Car Cybersecurity**

CylusOne addresses the full spectrum of cybersecurity needs of rolling stock systems, ensuring safety, service availability, and compliance. CylusOne provides fleet, train, and car views for managing cybersecurity monitoring on rolling stock deployments.



Vulnerability and Risk Management

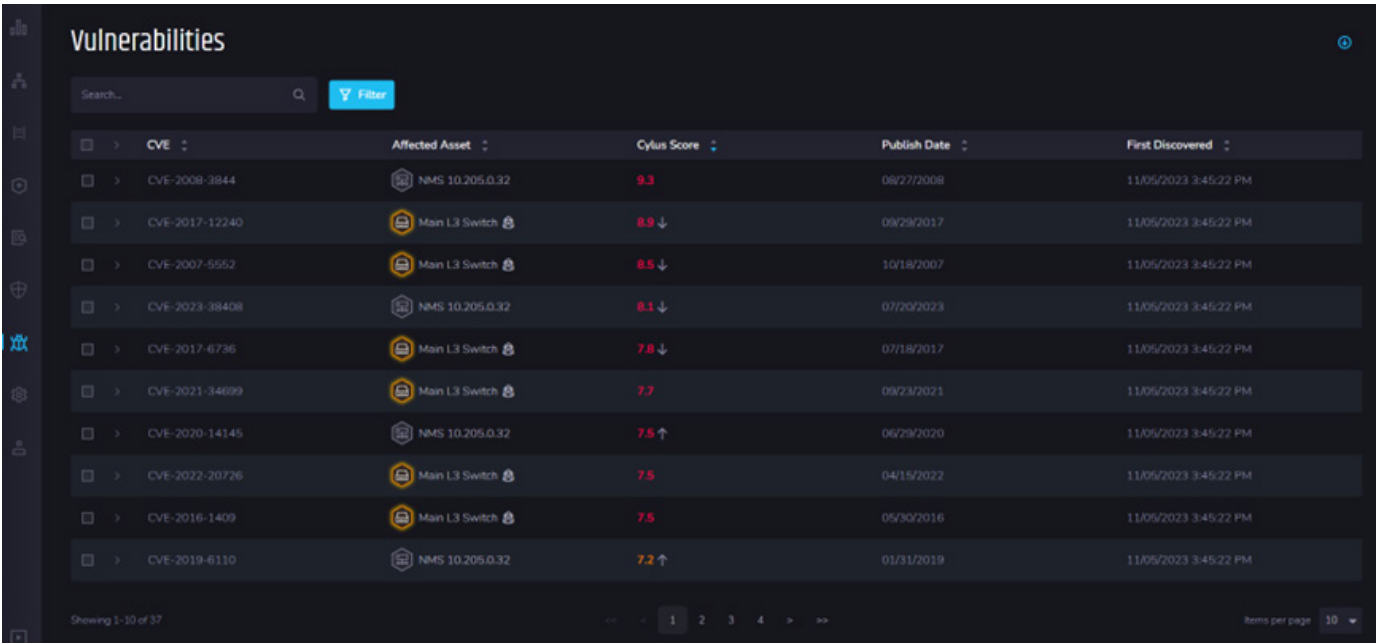
CylusOne provides vulnerability management and security posture monitoring to monitor risks in operational rail technology networks continually and virtual segmentation and enforcement to minimize and act as a compensating control for existing risks.

• **Passive Vulnerability Management**

CylusOne's passive vulnerability management provides a unique and comprehensive solution for addressing the security needs of rail operators.

• **Customer-Specific Vulnerability Prioritization & Scoring**

CylusOne helps prioritize and score asset vulnerabilities by analyzing their severity in the customer's rail environment, assessing attack complexity, potential impacts on data, and the scope and actions required to exploit the vulnerability.

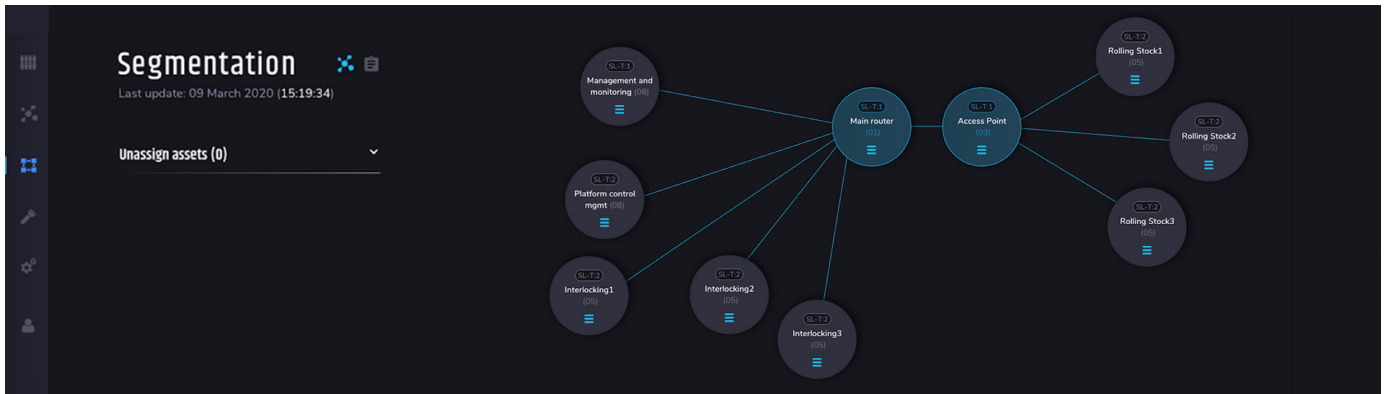


• **Cybersecurity Posture Monitoring**

CylusOne provides security posture monitoring to indicate the security status of the rail network and its information resources. CylusOne provides customer cybersecurity teams with up-to-date information on security gaps found in the network and how to mitigate them.

- **Virtual Network Segmentation & Monitoring**

The CylusOne platform can passively and virtually segment the network and divide railway network assets into security zones regardless of the network topology and the characteristics of the protocols in use. The railway zone segmentation is based on the IEC-62443 zones and conduits requirements (ZCRs), which are also embedded into the CENELEC TS-50701 standard.



Threat Detection, Investigation, and Response

CylusOne detects cyber threats on the trains' signaling and control networks and the rolling stock environments, facilitating a timely and effective response. This helps railway companies to avoid safety incidents and service disruptions caused by cyber-attacks.

- **Continuous Threat Detection**

CylusOne uses Deep Packet Inspection (DPI) and patented Machine Learning (ML) algorithms to swiftly identify and classify threats across railway and IT protocols. CylusOne anomaly and threat detection enables customers to protect fail-safe operational rail technology systems.

- **Bundled Rail-Specific Threat Intelligence**

The CylusOne platform subscription includes a threat intelligence feed that is provided monthly for on-premise customer deployments or continuously in real-time for cloud-based customer deployments.

- **Forensics for Investigating Threats & Alerts**

Customers may need access to the network traffic that generated the alert to investigate threats and alerts. CylusOne supports capturing and downloading PCAP files containing raw forensic data of suspicious traffic immediately before and after triggering an alert.

- **Rail-Specific Cybersecurity Mitigation Playbooks**

Following the detection of any cybersecurity threat, CylusOne provides customers with tools and guidelines to investigate and mitigate the identified threat.

Rail Cybersecurity Compliance

The rail industry regulatory landscape is evolving rapidly. CylusOne helps customers implement cybersecurity best practices and maintain compliance with existing and newly developed frameworks, regulatory requirements, and security directives.

- **Prove Compliance with Known Frameworks**

CylusOne reports help customers identify and prove their compliance by automatically assessing their security posture and measures against known frameworks that include:

- IEC 62443-3-2
- IEC 62443-3-3
- EN TS 50701
- NIST 800-82

- **Demonstrate Compliance with Requirements & Security Directives**

Additionally, CylusOne helps customers meet certain requirements within the following global standards, requirements, and security directives:

- TSA Security Directives for Rail 2021 and 2022 (USA)
- APTA OT-CMF 2022 (USA)
- NIS Directive v2 (Europe)
- IEC PT 63452 - in development (Global)
- AS 7770- Rail Cyber Security 2018 (Australia)
- Rail Cyber Security for Rolling Stock and Train Control Systems CoP 2020 (Australia)
- Singapore Cybersecurity Act

- **User Audit Logging & Role-Based Access Control**

CylusOne helps system administrators to comply with internal policies and external regulations by logging actions conducted by users in the system. CylusOne is designed for both cybersecurity and rail operation teams with tailored visualizations and provides role-based access to the platform. CylusOne easily integrates with LDAP and other authentication services as well as SSO solutions to allow easier ways for multiple users to authenticate and log in to the system.

Industry-Proven Rail Cybersecurity

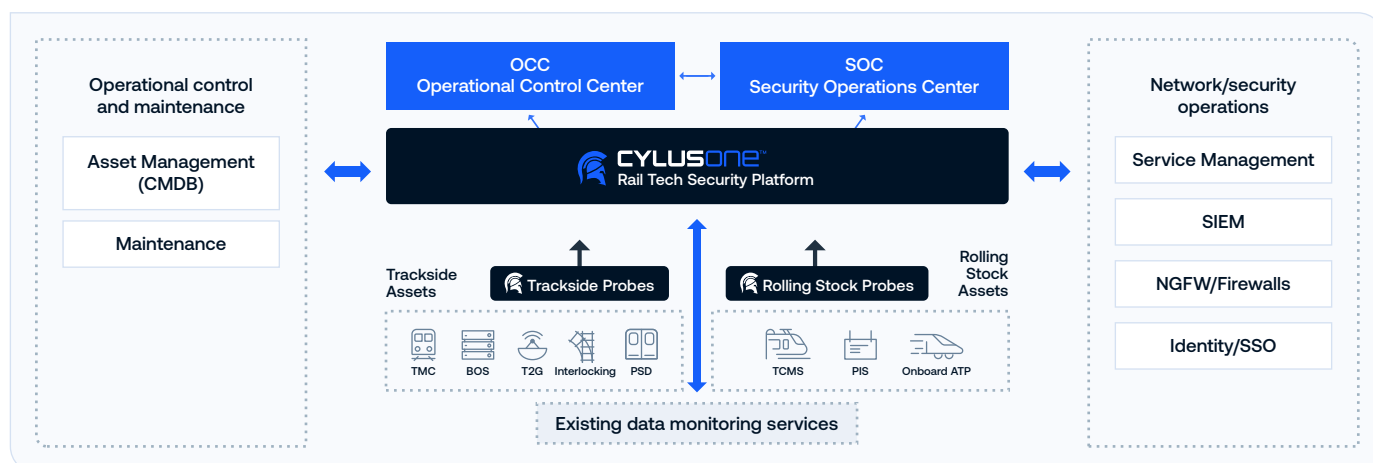
In 2017, Cylus introduced CylusOne, the first-to-market cybersecurity solution designed specifically for rail operators. Our clients span North America, Europe, Asia Pacific/Australia, and the Middle East, with both signaling and rolling stock infrastructure protected by CylusOne.

- **Global Customer Success & Support Model**

Cylus' Customer Success and Professional Services team offers installation, support, and training globally. We have regional technical teams and global partners skilled in CylusOne deployment, including design, installation, testing, training, and ongoing support.

- **Integrates Seamlessly into Existing Security & Operations Ecosystems**

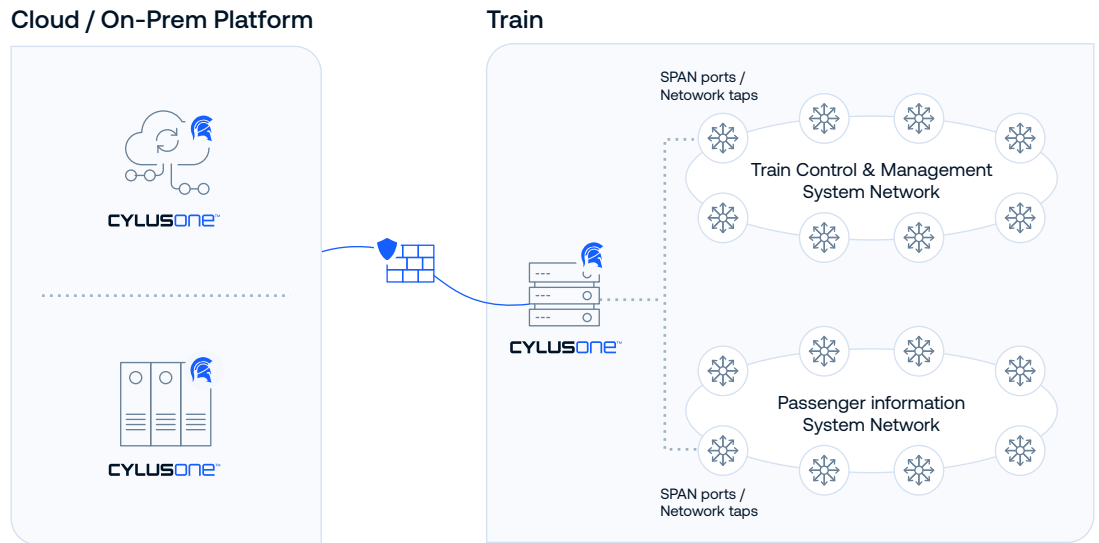
The CylusOne platform integrates with various existing customer solutions. Examples of integrations include SIEM, Firewall / Next-Gen Firewall, Native Probe Integration Running on Network Equipment/FW, Rail Maintenance Systems, and others.



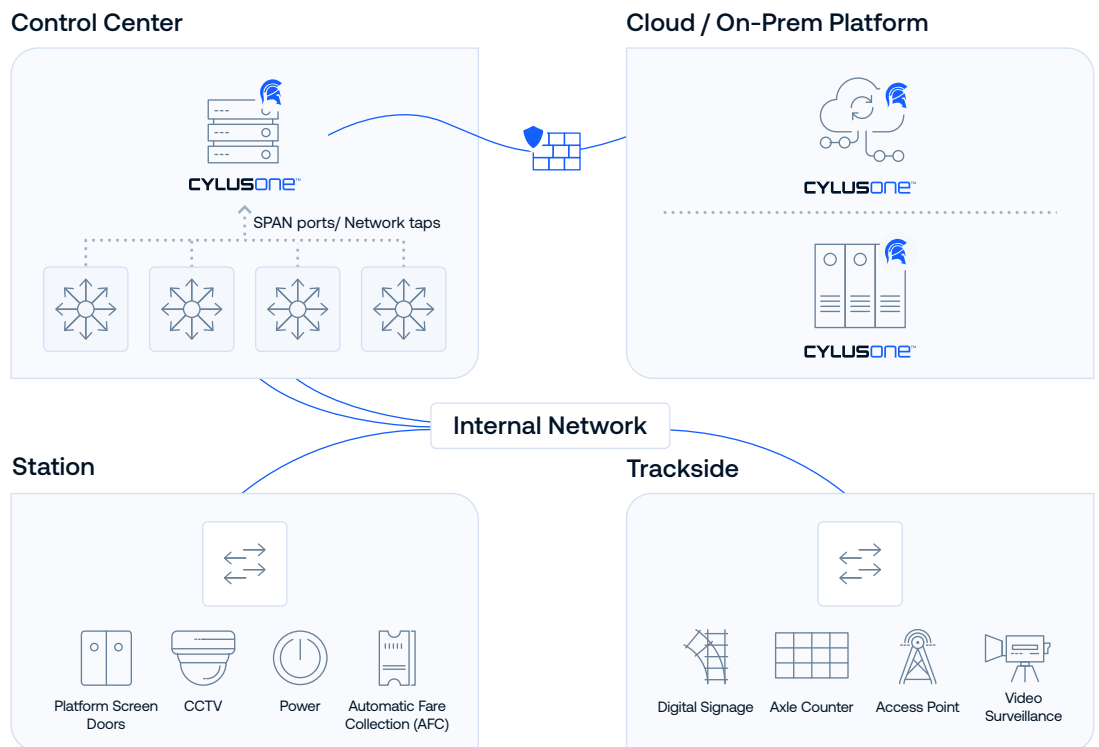
Flexible Deployment Architectures

The CylusOne solution can be deployed in various railway environments and has been developed specifically to protect mainline, urban, and freight rail operational environments, including signaling, rolling stock, traffic management, and telecom systems.

Deployment in Rolling Stock Environments



Deployment in Infrastructure Environments



About Us

Cylus provides rail operators with a specialized cybersecurity solution for operational rail technology systems, ensuring service availability and safety. Combining deep expertise in rail and cybersecurity, Cylus has pioneered a comprehensive rail tech security platform that delivers real-time asset visibility and threat detection and response capabilities across heterogeneous operational rail technology environments.

Delivering deep rail context and rail framework compliance to customers across the globe, Cylus is leading the way with a cybersecurity solution that reduces risks and ensures compliance in the face of escalating cyber threats.