

# Securing Oil and Gas Operations

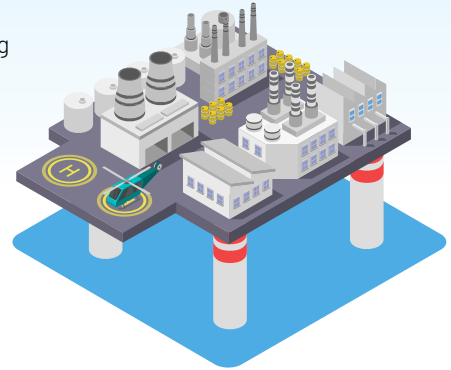
# BYOS

USE CASE

## Introduction: Defending the Backbone of Global Energy

The oil and gas industry is at the forefront of industrial digital transformation, integrating smart sensors, automation systems, and remote monitoring to enhance efficiency and safety. However, this increased connectivity also expands the attack surface, exposing critical infrastructure to cyber threats, ransomware, and operational disruptions.

Traditional security models fail to protect legacy **industrial control systems (ICS)** and **operational technology (OT)** environments, as they lack granular segmentation and secure remote access capabilities, failing to stop lateral movement and network exposure. **The Byos Secure Gateway Edge™** provides a robust microsegmentation solution purpose-built for oil and gas environments, ensuring secure machine data capture, protecting ICS from cyber threats, and enhancing network resilience.



## Challenges in Oil and Gas Cybersecurity

- **Legacy ICS and OT Vulnerabilities:** Many industrial assets were designed without modern security measures and/or cannot be patched due to operational constraints.
- **Unprotected Machine Data Capture:** Industrial sensors and data acquisition systems transmit mission-critical data that can be intercepted or altered.
- **Complex Remote Access Needs:** Field engineers, third-party vendors, and remote monitoring stations require access without exposing the entire network.
- **Increased Ransomware and Lateral Movement Risks:** Once inside, attackers exploit flat networks to move laterally, impacting operations and safety.
- **Compliance and Regulatory Pressures:** Meeting increasingly stringent industry cybersecurity standards.

## Byos Secure Gateway Edge™: Tailored for Oil and Gas Security



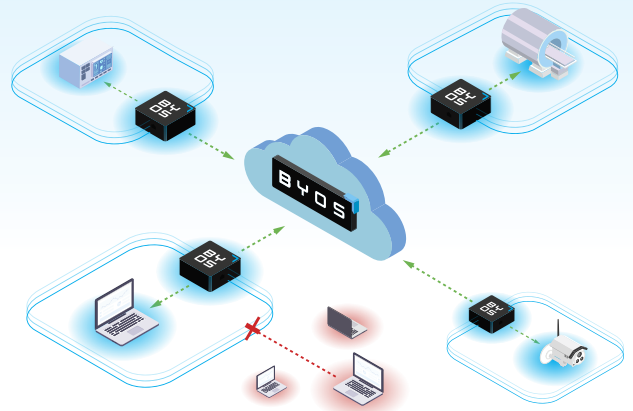
**The Byos Secure Gateway Edge™** is a near plug-and-play, hardware-enforced microsegmentation solution designed to protect critical oil and gas infrastructure at the edge. By implementing zero-trust microsegmentation at the network edge, it isolates and secures ICS, OT, and IoT assets, preventing lateral movement and mitigating cyber threats. With its near plug-and-play deployment, Byos eliminates the need for costly infrastructure overhauls while ensuring compliance with industry cybersecurity standards.

Byos turns security into an enabler for operational efficiency—transforming its cost into a business advantage. Byos' ability to process security locally, securely transfer telemetry data and cloak assets makes it an ideal solution for securing remote drilling sites, pipelines, and refineries against modern attack techniques.

## Management and Control

Byos' **Management Console™** and **Secure Lobby™ Secure Software-Defined Network (SDN) Overlay** helps operators and plant/IT/cybersecurity support teams to control and manage their fleet of Byos protected devices:

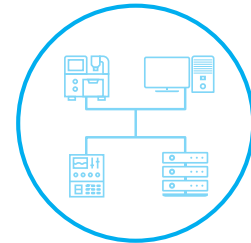
- Real-time provisioning and policy-enforcement of thousands of devices from a centralized console
- Secure remote access to assets inside the Byos-cloaked network, without having to expose the network to the internet like other remote access technologies
- Connect your legacy controllers to improve efficiency and obtain real-time telemetry without exposing them to the network and adding risk



Byos Secure Gateway Edge™ protects industrial networks at the edge, offering to:

### 1. Fortify ICS and OT Networks Against Cyber Threats

- **Adaptive Protocol and Port Control:** Limits access to only pre-approved sources, reducing attack surfaces.
- **Network Cloaking and Asset Isolation:** Conceals endpoints from potential attackers, preventing reconnaissance efforts.
- **Safe Connection of Air-Gapped Assets:** Enables secure networking of legacy systems and SCADA drives without exposing them to risk.



### 2. Ensuring Secure and Reliable Machine Data Capture

- **Encrypted Data Transmission:** Protects telemetry and sensor data from interception or tampering.
- **Edge-Processed Security Controls:** Ensures sensitive data is secured before transmission, minimizing risk.
- **Business Intelligence Through Telemetry:** Provides insights that drive operational improvements and turn security into a business enabler.



### 3. Secure Remote Access for Operations & Maintenance

- **Granular User and Device Access Control:** Allows only authorized personnel to interact with specific devices and data.
- **Zero-Trust Remote Access:** Field engineers and third-party vendors can securely connect without exposing the broader network.
- **Elimination of VPN Dependencies:** Reduces risks associated with VPNs by providing direct, microsegmented access.



## Key Benefits of Byos Secure Gateway Edge™ for Oil and Gas

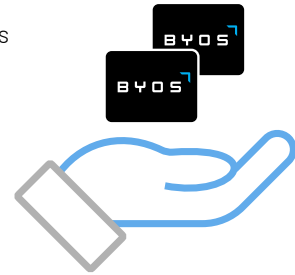
- **Instant Protection for All Connected Assets:** Stops threats at the edge before they infiltrate the network and ensuring operational continuity.
- **Rapid Deployment:** Plug-and-play implementation without infrastructure overhauls, even for unpatched legacy devices.
- **Minimized Attack Surface:** Isolates endpoints, eliminating paths for ransomware and malware propagation.
- **Reduced Field Service Costs:** Enables secure remote access and monitoring, reducing the need for on-site maintenance.
- **Business Intelligence for Competitive Advantage:** Secure real-time telemetry data enables data-driven decision-making, turning security investments into business growth drivers.

## The Future of Oil & Gas Security: Why Byos?

The oil and gas industry cannot afford to rely on outdated cybersecurity strategies. As cyber threats evolve, operators need a proactive, zero-trust security model that isolates risks before they impact operations. Byos Secure Gateway Edge™ delivers industrial-strength microsegmentation, real-time threat prevention, and seamless integration—all in a plug-and-play form factor.

By deploying Byos, oil and gas companies can:

- Ensure operational continuity for mission-critical infrastructure against advanced threats
- Protect machine data capture while enhancing business intelligence
- Enable safe connection of air-gapped and legacy assets
- Simplify compliance with industry cybersecurity standards
- Achieve instant protection and threat prevention with minimal setup



Get in touch with Byos today to learn how **Secure Gateway Edge™** can transform the security and efficiency of your oil and gas infrastructure. Visit us at [byos.io](https://byos.io) or connect with us at [engage@byos.io](mailto:engage@byos.io)