SIEMENS
Ingenuity for life

Line Card

Security solutions for oil & gas midstream

Identifying and addressing risks through technological, digital innovation

The effective use of digital technologies in the oil and gas sector could reduce capital expenditures by up to 20%.[1]

The vulnerability of the U.S. energy system is at a critical point. While the digital oil field is not a new concept, the Industrial Internet of Things (IIoT) and influx of increased connected devices online and greater data demand has caused midstream applications to increase adoption of digital systems, predictive maintenance service models and more to address global energy demands.

As a result, cybersecurity threats continue to rise against such midstream applications as Power Equipment Centers (PECs), compressor stations, LNG terminals, pipelines and pump stations. Factor in the reality that those cybersecurity threats add onto the already typical safety challenges and risks facing midstream oil & gas—such as explosions, fires, spills and more. It's no surprise that midstream operations are taking proper precaution to minimize downtime, secure continuous, efficient operations, prevent environmental damage in the wake of a possible catastrophe, and protect the integrity of their critical infrastructure.

At Siemens, we address the security needs of your midstream applications through integrated digital technologies and security platforms that enable infrastructure-wide transparency and integrity. Through centralized, remote monitoring—such as local/remote equipment diagnosis and verification of service completion—intersystem connectivity and advanced analytics, you can reduce maintenance costs and gain real-time intelligence into the operating conditions of sites and key equipment.

This document provides you the detail you need on Siemens Smart Infrastructure's security portfolio that is ready to serve you today and for decades into the future. From perimeter security, to access control, real-time people and asset tracking, incident and danger management and more, here are the solutions that will help you to create your perfect place to source and deliver energy.
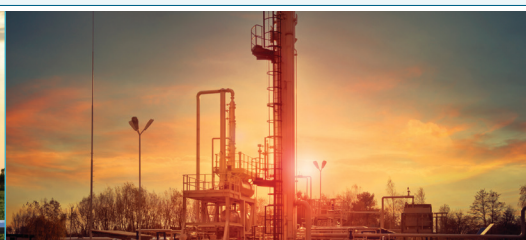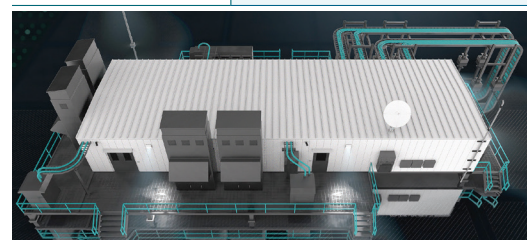
[1] *"The next frontier for digital technologies in oil and gas," Aug. 2016, McKinsey & Company*
https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-next-frontier-for-digital-technologies-in-oil-and-gas

usa.siemens.com/bt-oilandgas

Solutions/Products for Power Equipment Centers, Compressor Stations, metering storage and export, LNG plants, Pump stations

Perimeter Security	**Intrusion – partnerships**
	Fence line detection
	Video surveillance

	Siveillance VMS
	• Single Server
	  □ Siveillance VMS50 - supports up to 50 cameras
	  □ Siveillance VMS100 - supports over 100 cameras, single location
	  □ Siveillance VMS200 - supports over 50 cameras, monitoring wall with multiple locations, redundancy

	IP cameras
	AXIS (IP, Edge-based analytics, thermal) BOSCH (IP, Edge-based analytics) FLIR (Thermal)
Access Control	**SiPass Integrated:**
	<u>Starter package</u> – 16 doors (locked), 1,000 cards, mustering
	Card readers – cards and biometric
	Mobile Credentials/access
	Wireless Locks

Specific capabilities for Power Equipment Centers

Access Control
Face recognition
Voice communication/intercom

Specific capabilities for pump stations

Perimeter security
Intrusion
• Video analytics and video detection
Video surveillance
• Siveillance VMS
  Federated Servers
    Siveillance VMS300 – supports over 50 cameras, dual verification, retention times evidence log, specific use case features

Access control
Sipass Integrated
• Standard package – 24 doors baseline (open), 1,000 cards, mustering
• Facility package – 32 doors baseline (open), 5,000 cards, Feature sets: graphics, photo IDs, mustering
• Optima package – 64 doors baseline (open), 10,000 cards – Tommy to find out about the feature sets, mustering
• Corporate – 128 doors baseline (open), 25,000 cards, feature sets, visitor management, guard tours
License plate recognition

Real-time people/assets tracking
Siveillance Vantage - supports over 5 dedicated clients

Incident management (based on the customer application and requirements policies and procedures)
Siveillance Viewpoint – supports over 5 dedicated clients, 50,000 data points, 2,500 cams, and 5,000 doors
Siveillance Vantage - supports over 5 dedicated clients

EHS
Body cameras (EDESIX)

Specific capabilities for compressor stations

Perimeter security
Intrusion
• Video analytics and video detection
Video surveillance
• Siveillance VMS
  Federated Servers
    Siveillance VMS300 – supports over 50 cameras, dual verification, retention times evidence log, specific use case features

Access control
Sipass Integrated
• Standard package – 24 doors baseline (open), 1,000 cards, mustering
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License plate recognition

Real-time people/assets tracking
Siveillance Vantage - supports over 5 dedicated clients

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Siveillance Viewpoint – supports over 5 dedicated clients, 50,000 data points, 2,500 cams, and 5,000 doors
Siveillance Vantage - supports over 5 dedicated clients

EHS
Body cameras (EDESIX)

Specific capabilities for LNG

Perimeter security
Intrusion
• Video analytics and video detection
• AIS (Automatic Identification System) – boat/ship identification – marine traffic control
• Laser based detection – for highly secured locations/areas
• Ground-based sensing (RF's)
• Drone detection
Video surveillance
• Siveillance VMS
  Federated Servers
    Siveillance VMS300 – supports over 50 cameras, dual verification, retention times evidence log, specific use case features

Access Control
Sipass Integrated
• Standard package – 24 doors baseline (open), 1,000 cards, mustering
• Facility package – 32 doors baseline (open), 5,000 cards, Feature sets: graphics, photo IDs, mustering
• Optima package – 64 doors baseline (open), 10,000 cards – Tommy to find out about the feature sets, mustering
• Corporate – 128 doors baseline (open), 25,000 cards, feature sets, visitor management, guard tours

License plate recognition
Voice communication/intercom

Real-time people/assets tracking
Siveillance Vantage - supports over 5 dedicated clients
Incident management (based on the customer application and requirements policies and procedures)
Siveillance Viewpoint – supports over 5 dedicated clients, 50,000 data points, 2,500 cams, and 5,000 doors
Siveillance Vantage - supports over 5 dedicated clients
MNS (including audio and visual annunciation)
Shooter detection

EHS
Body cameras (EDESIX)

Siemens Smart Infrastructure applications for security – Labs

■ **Perimeter security**

Intrusion – partnerships
- Video Analytics and Video Detection
Video surveillance
- Siveillance VMS
  Single Server
    • Siveillance VMS50 - supports up to 50 cameras
    • Siveillance VMS100 - supports over 100 cameras, single location
    • Siveillance VMS200 - supports over 50 cameras, monitoring wall with multiple locations, redundancy
  Federated Servers
    • Siveillance VMS300 – supports over 50 cameras, dual verification, retention times evidence log, specific use case features

IP cameras
- AXIS (IP, Edge based analytics, thermal)
- BOSCH (IP, Edge based analytics)
- FLIR (Thermal cameras)

■ **Access Control**

SiPass Integrated
- Starter package – 16 doors (locked), 1,000 cards, mustering
- Standard package – 24 doors baseline (open), 1,000 cards, mustering
- Facility package – 32 doors baseline

(open), 5,000 cards, Feature sets: graphics, photo IDs, mustering
- Optima package – 64 doors baseline (open), 10,000 cards –mustering
- Corporate – 128 doors baseline (open), 25,000 cards, feature sets, visitor management, guard tours

Card readers – cards and biometric
Voice Communication/Intercom
Wireless Locks
Mobile Credentials

■ **Real Time People/Assets tracking**
Siveillance Vantage – supports over 5 dedicated clients

■ **Incident and danger management (based on the customer application and requirements (policies and procedures)**
Siveillance Viewpoint - 5 dedicated clients, 50,000 data points, 2,500 cams, and 5,000 doors
Siveillance Vantage - supports over 5 dedicated clients
MNS (including Audio and Visual annunciation)

Siemens Smart Infrastructure applications for security – Advisory and Performance Services

■ **Manage System Operation & Compliance**

Facility Assessment and Planning
- Maintenance Planning & Scheduling Support
- Physical Security Assessment
- Security Compliance and Policy Planning
Test & Inspection
- Test & Inspection
- Test & Inspection – Security

Preventive Services
- Calibration Services
- Data Backup and Restore Services
- Network Maintenance
- Preventive Maintenance – Security
- Preventive Maintenance – System / Other
Documentation Management
- Performance Reporting
- System Documentation Management and Update

Corrective Services
- Online/Phone Responsive Services
- Onsite Responsive Services
- Repair & Replacement Services – Labor & Materials
- Spare Parts Inventory Management

■ **Optimize Performance and Productivity**
Optimization Planning
- System Performance Assessment & Strategy
Predictive Services

System Improvements & Integration
- Integration Services
- System Optimization Services
Training & Operational Support
- Customer Directed Support
- Education Services
- Operator Coaching
Managed Services
- Access Control Management
- Alarm Management Services – Security
- Hosting Services
- Onsite System Operator / Staffing Support Services
- Video Monitoring and Management

■ **Protect Lifecycle Investment**
Technology Planning
- Lifecycle Planning
System Updates / Upgrades
- Firmware Updates
- Software Upgrades
System Migration / Modernization
- Server and Client Workstation Upgrades
- Technology Migration
Retrofits & Extensions
- System Retrofit and Extension Services
New Installation Services