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Advances in Real-Time Situational Awareness for Border Surveillance and other Perimeter Security Applications

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Jemez Technology

Growing Need to Enhance Critical Infrastructure Security

Rail / Transportation

Energy / Substations / Power Distribution

Airport Perimeter & Ground Operations

Pipelines / Oil & Gas

Border Security / Virtual Fencing

Mission Critical Facilities

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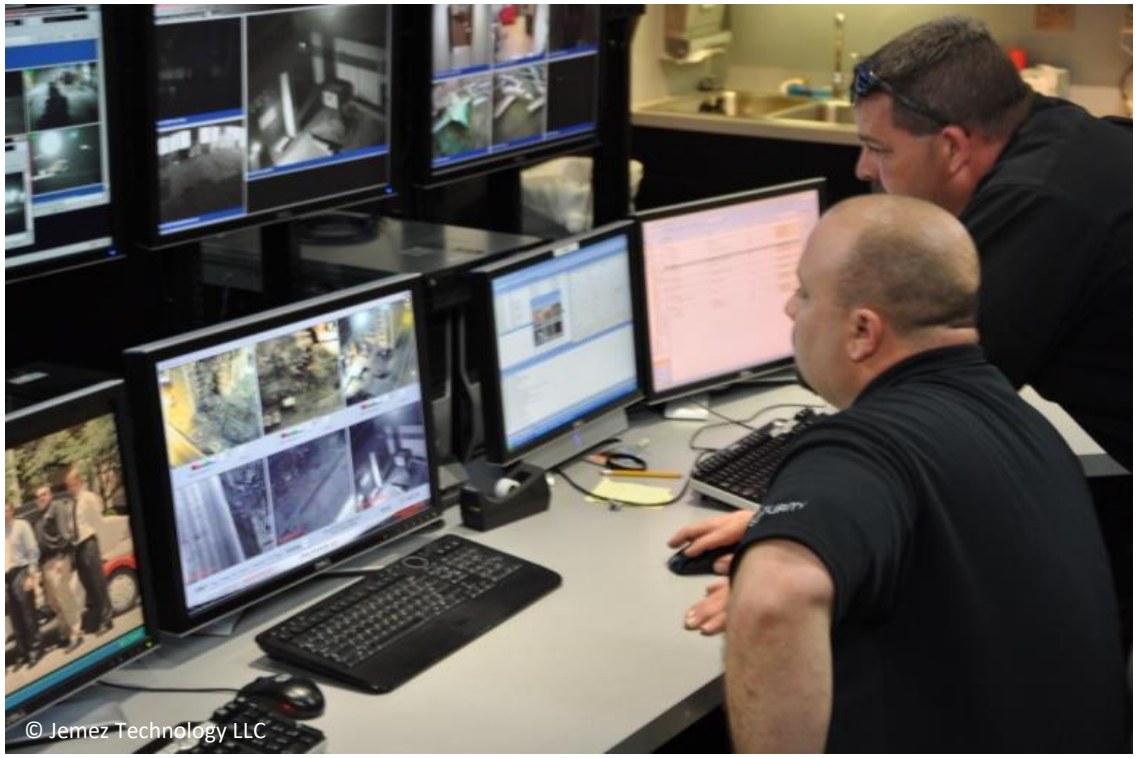
Real-Time Situational Awareness is a Force Multiplier



Prevention vs. After-the-Fact

- Real-time detection
- Real-time tracking
- Real-time responder notification

Actionable Intelligence

- Provide guards and security teams with actionable information

Precision Response

- Improve assessment and response capability
- Visual communications to first responders

Real-Time Situational Awareness Enables Prevention and Lowers Risk

New Video Surveillance Software Solutions

"Turn ALL Cameras into Highly Accurate Smart Sensors"

- Detect, alert, and prevent security threats
- Highly accurate detection to >5 miles in range
- Ultra-precise, automated PTZ tracking
- Simple, fast software setup and VMS/PSIM integration

Fixed FOV Color or Thermal IR Camera(s)

Auto-Controlled PTZ Camera

Key Components for a COTS Perimeter Surveillance System

Fixed Thermal or Color IP Camera

Any Analog or IP Camera

Edge-Based Video Appliance

Edge-Based Analytics Software

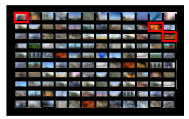
Single or Multi-Camera Detection and Tracking Software

Pan-Tilt-Zoom (PTZ) Camera

Automatically Controlled by Analytics Software for Long-Range ID & Tracking

"Internet of Things" Real-Time Alerts

Audio Devices



VMS/PSIM/ GPS/Mapping

I/O Modules

Mobile Devices

Used as a Security Sensor vs. Human

Turns Cameras into "Smart Sensors"

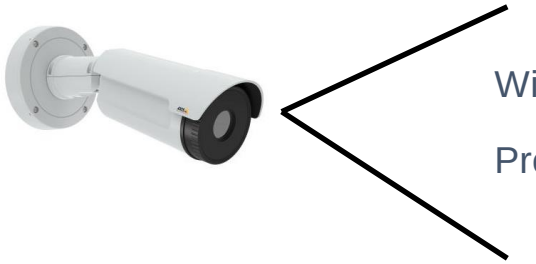
Used for Target Identification and Tracking

First Responder Event Notification

Plug-and-Play System Integration with Existing Security Infrastructure

Intelligent Analytics Enhance Performance of Existing Surveillance

Continuous Monitoring with Wide-Area Detection of Suspicious Activity



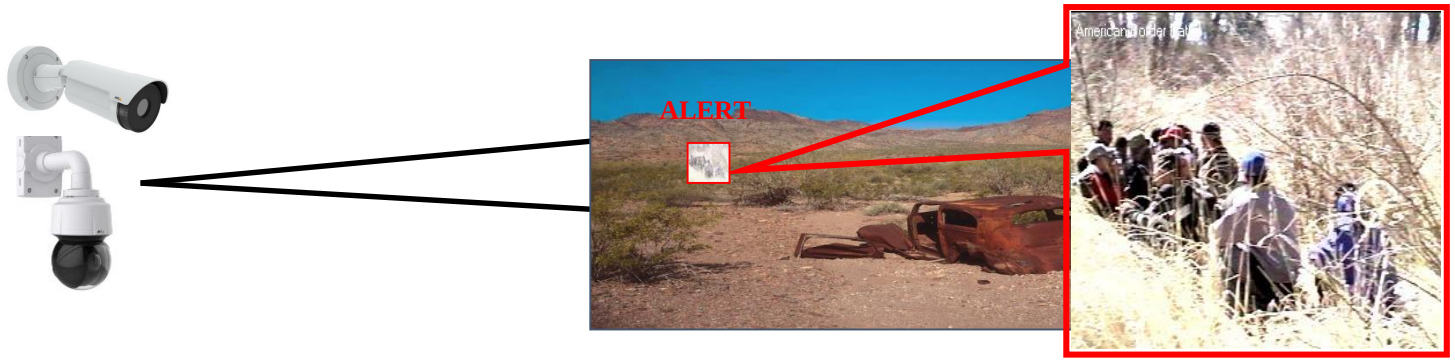
Wide Field-of-View (FOV)

Precise Detection

Sophisticated video analytics with scene synthesis can now reliably detect perimeter intrusions, moving vehicles, and people over wide areas and long-ranges, beyond human capability, in virtually all operating conditions.

Autonomous Zoom PTZ Camera Captures and Tracks Activity

Simultaneous Zoom Imaging w/Analytics for Capture and Tracking



Automatic Pan-Tilt-Zoom (PTZ)

Autonomous PTZ automatically points to the exact location without the use of camera presets, and maintains continuous wide-area field-of-view surveillance during zoom process.

Real-Time Actionable Intelligence is Automatically Sent to First Responders

Real-Time Notification to Dispatch Center or First Responders

Real-time alerts with precise visual threat information are automatically sent to dispatch centers and specified mobile devices. Alerts can also be archived with remote viewing capability.

Video Examples

IDL
Weather
1
1
7
Weather
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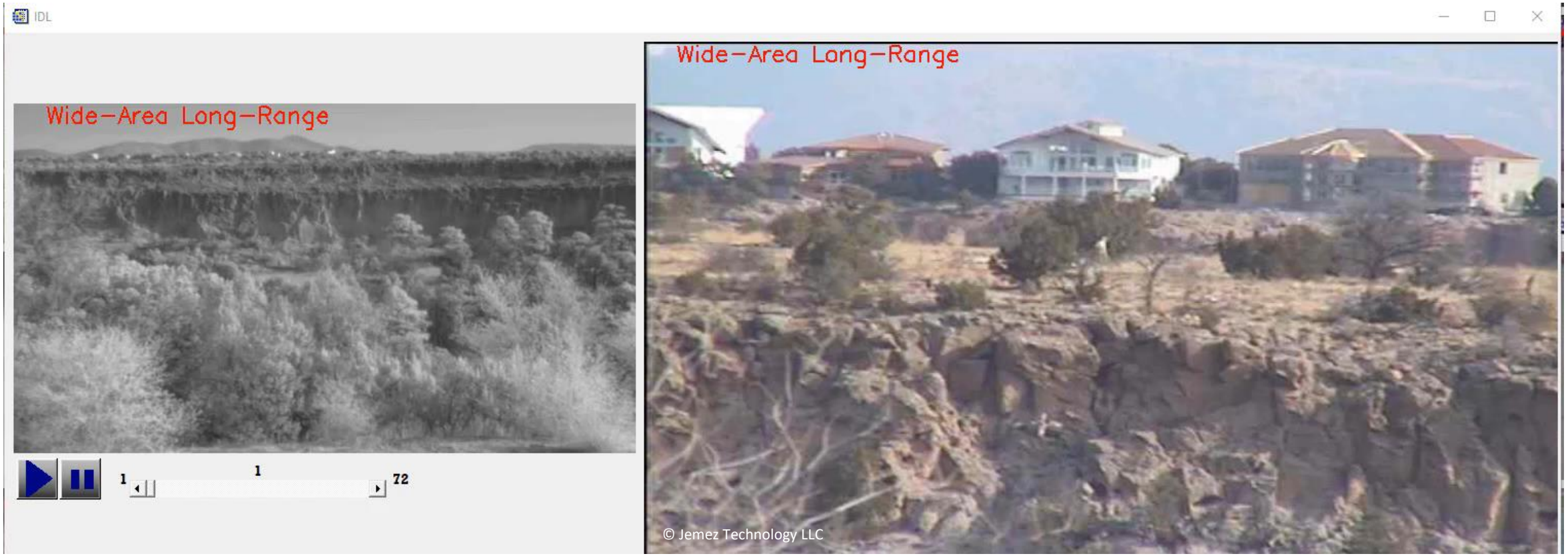
IDL
Wide–Area Long–Range
1
1
72
Wide–Area Long–Range
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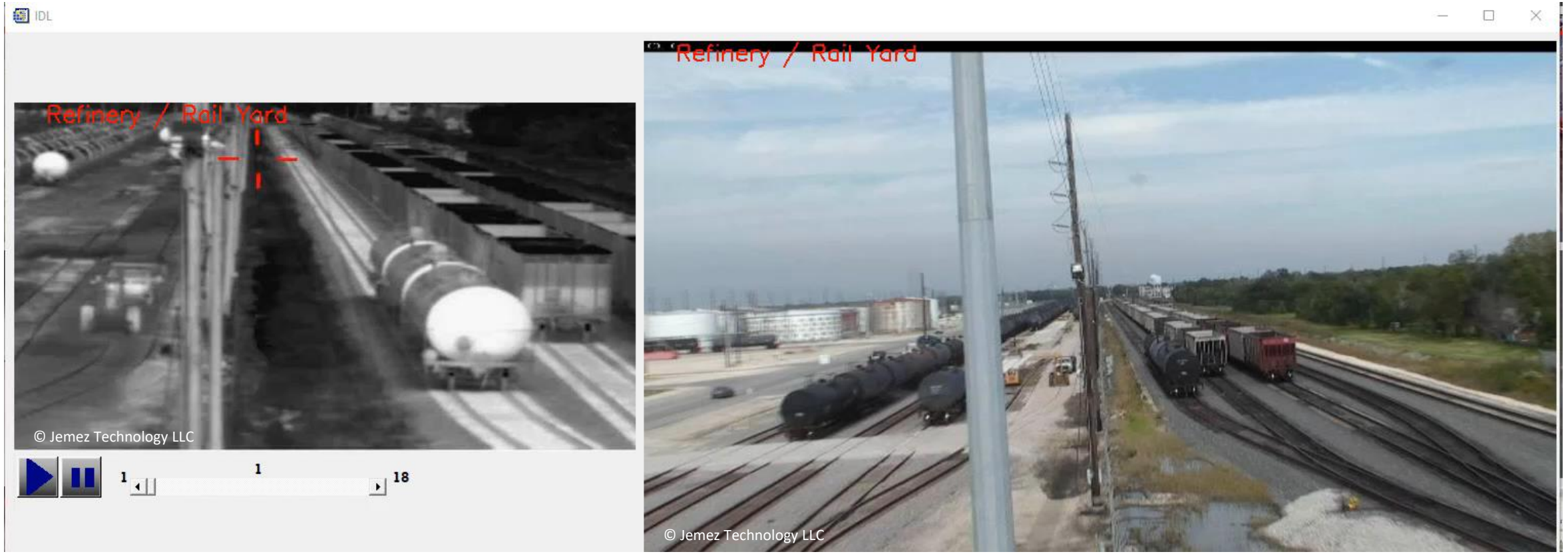
IDL
Refinery / Rail Yard
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18
Refinery / Rail Yard
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IDL
Intrusion Detection
1
1
48
Intrusion Detection
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IDL
Wide Area Perimeter
1
1
18
Wide Area Perimeter
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Applications for Cameras

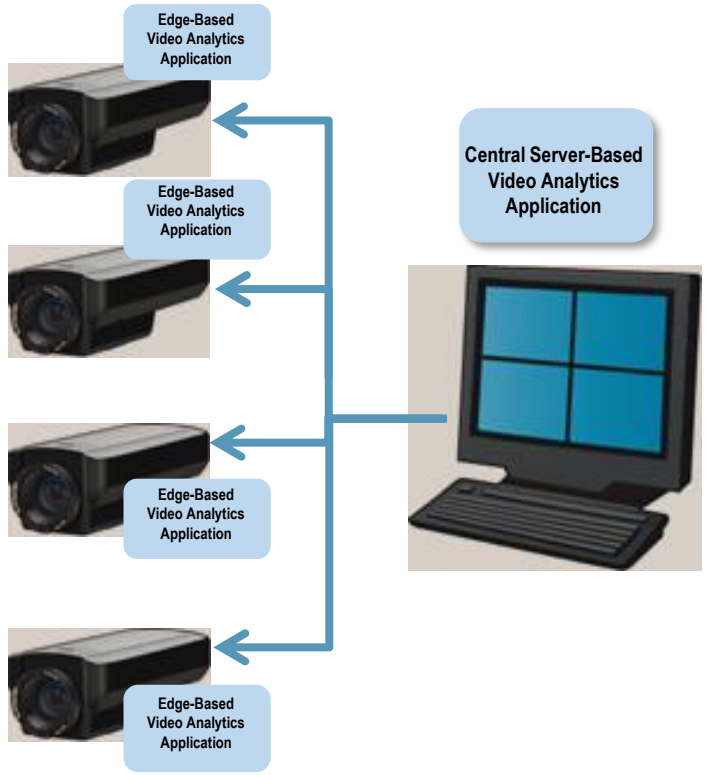
Advantages of Intelligence “at the Edge”

Video analytics “at-the-edge”

- Software runs as an “app” in the camera (breakthrough); no servers
- Processing significant portions of video within camera and encoder
- Streaming event metadata and only required video to first responders and central station
- Built on open standards

Overcome limitations of centralized systems and intelligence

- Reduce bandwidth and storage consumption
- Reduce system cost and complexity
- Design truly scalable deployments
- Simplify deployment and ease-of-integration



Eagle-i Edge ® Home Page - Google Chrome

192.168.0.190/local/eaglei/settings.html

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Eagle-i Edge®

Detection is **ON**

- Home
- Size/Area
- Learn/Block
- PTZ
- Administrator

Detection is **On**	Turn Off
PTZ Pointing is **On**	Turn Off

Type here to search

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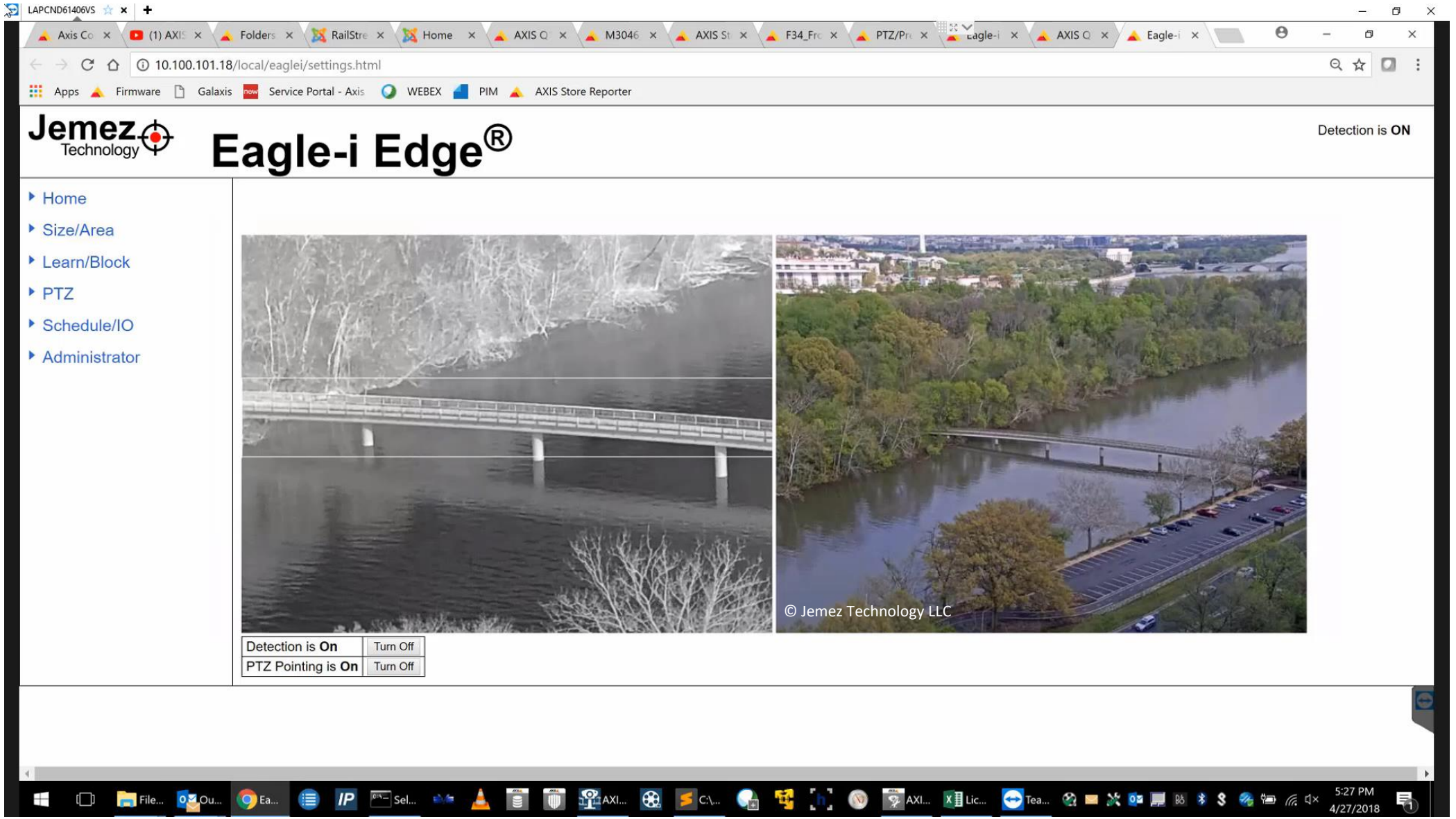
2/9/2018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Jemez Technology
Eagle-i Edge®
Detection is ON
Home
Size/Area
Learn/Block
PTZ
Schedule/IO
Administrator
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Detection is On
Turn Off
PTZ Pointing is On
Turn Off
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4/27/2018

Benefits of Open Standards

Main benefits

Interoperability
Freedom of choice

Future-proof
More secure investments

Cost-effectiveness
Less integration cost

Examples of standards

ONVIF
Driving network video through global standardization

IEEE

SMPTE
HDTV
NETWORK VIDEO

CENELEC

ISO IEC

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