

**Rapiscan**<sup>®</sup>  
systems

**AS&E**<sup>®</sup>

Part of the OSI Systems family of security companies

# Scandinova Users Meeting

Dr Mike Jenkins

April 2023

CARGO SCANNING & SOLUTIONS

# Parent Company: OSI Systems, Inc.

Leading Provider of Security, Healthcare, and Optoelectronics Solutions



## **OSI** SYSTEMS, INC.

Headquartered in Hawthorne, CA  
NASDAQ-listed "OSIS"  
Approximately 6,200 employees  
Revenues in FY 2022: \$1.18 Billion

### SECURITY

Non-Intrusive Inspection  
Products, Technology, & Solutions



### HEALTHCARE

Medical Monitoring &  
Anesthesia Systems



SPACE LABS  
HEALTHCARE

### OPTOELECTRONICS

Optoelectronics Design &  
Contract Manufacturing





# OSI Systems' Family of Security Companies

## Comprehensive Security Solutions

Rapiscan  
systems

AS&E



GATEKEEPER  
Intelligent Security

Rapiscan  
systems

AS&E

- Vehicle Screening
- Cargo Inspection
- Air Cargo Screening
- Rail Cargo Scanning
- Radiation Detection

GATEKEEPER  
Intelligent Security

- Intelligent Optical Inspection for Vehicles and Occupants



- Fully Managed Services
- Operational Efficiency Solutions
- Security Platform Integration
- Advanced Training Programs
- Event Security Services

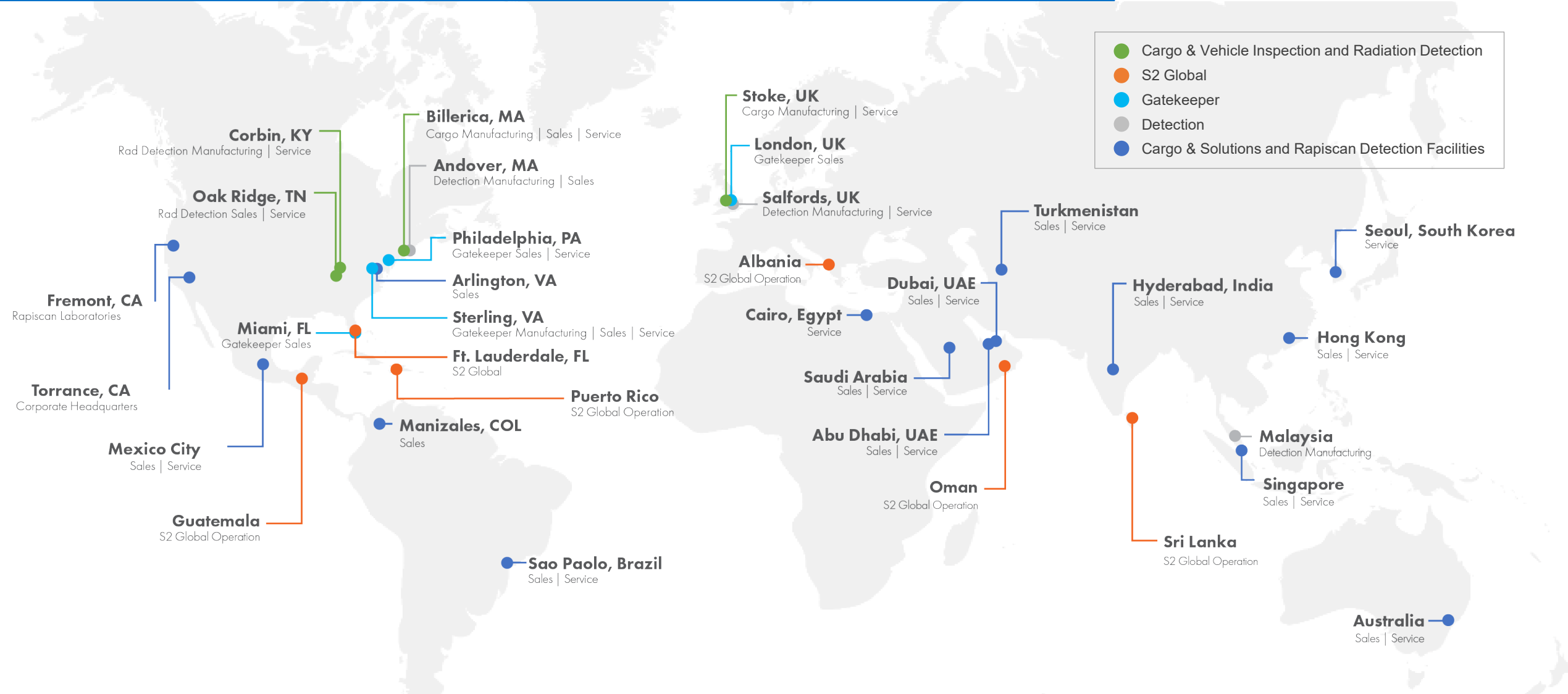
Rapiscan  
systems

- Aviation Checkpoint Screening
- Checked Baggage
- People Screening
- Material-Specific Detection

CARGO SCANNING & SOLUTIONS

# Select Global Locations

## OSI Systems' Family of Security Companies



# Broad Product Offering

## Portal



Eagle P60



Eagle P60 ZBx



Z Portal for Trucks



Z Portal for Cars



Sentry Portal



Eagle P25



CarView



CarView InLane

## Gantry



Eagle G60



OmniView Gantry



OmniView ZBx



Eagle C25

## Mobile



Eagle M60



Eagle M60 ZBx



ZBV Line

## Trailer



Eagle T60



Eagle T60 ZBx



Eagle T25

## Rail



Eagle R60



Eagle R90

## Air Cargo



Eagle A25

## Handheld



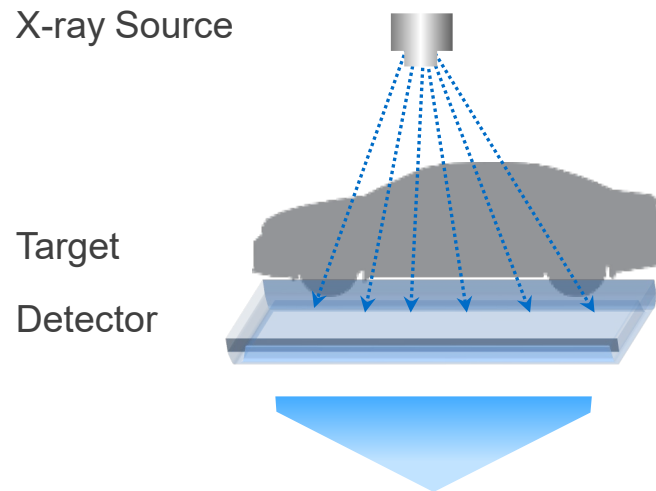
MINI Z



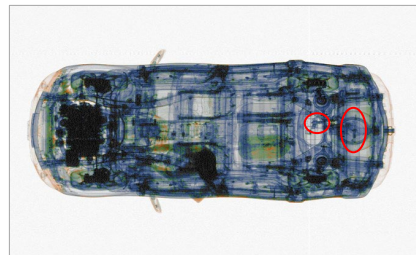
# Complementary Detection Technology: Transmission X-rays and Z Backscatter X-rays

## Transmission

X-rays detect by passing an X-ray beam through a target to a detector on the far side.

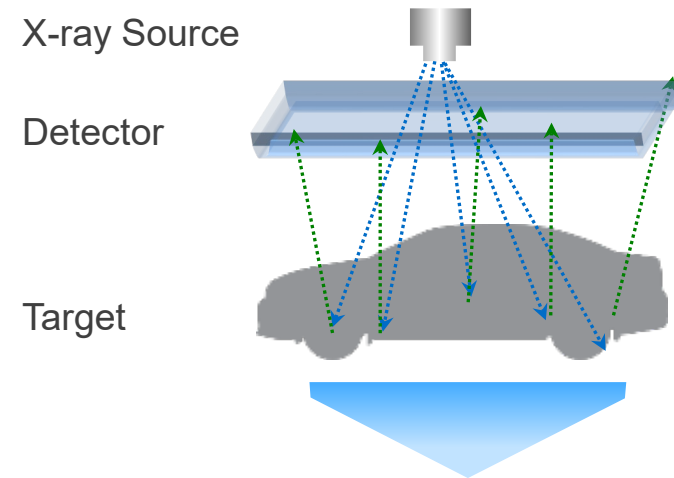


The transmission image reveals two weapons in the rear of the vehicle

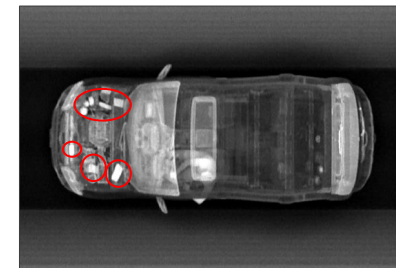


## Z Backscatter

X-rays detect by reflecting an X-ray beam from a target to a detector on the near side, creating a photo-like image that is easy to interpret.



The Z Backscatter image of the same vehicle reveals hidden drugs and currency



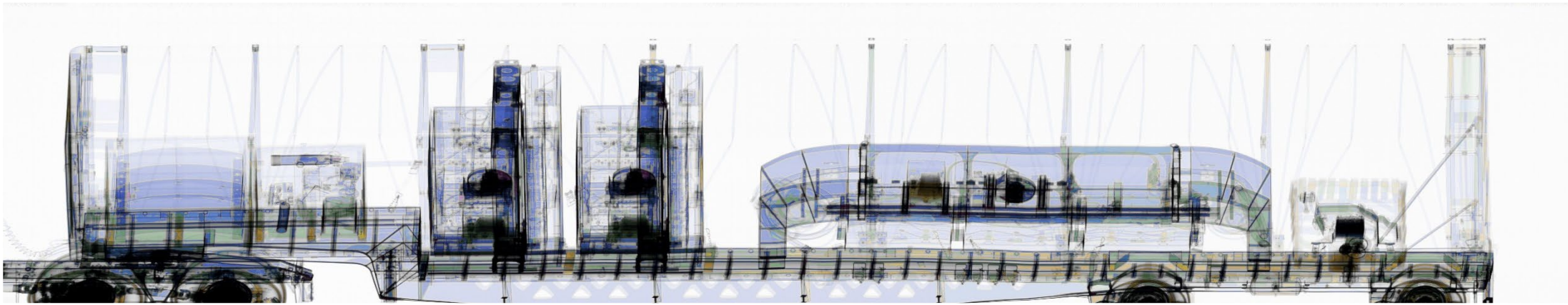
# Drive-Through Cargo Inspection

## Eagle® P60

- High penetration and resolution with material discrimination to assist operators in the inspection of dense cargo
- High-throughput scanning of up to 100 trucks per hour
- Large field of view for scanning vehicles up to 5 m tall
- Small system footprint with optional surface mount to reduce civil works
- CabScan® technology for the safe inspection of the cab of the truck



# Eagle P60 Image





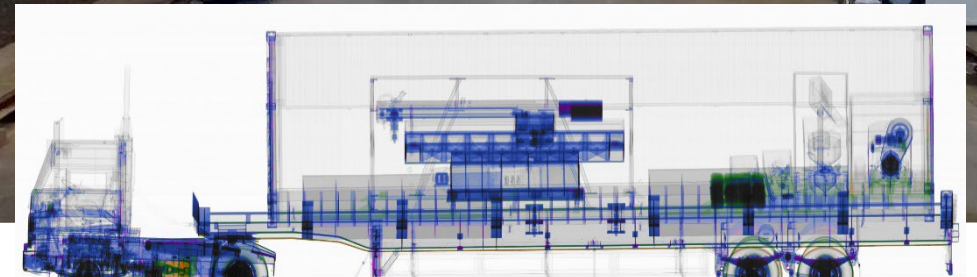
# High-Energy Cargo and Vehicle Inspection

## Eagle® Gantry G60

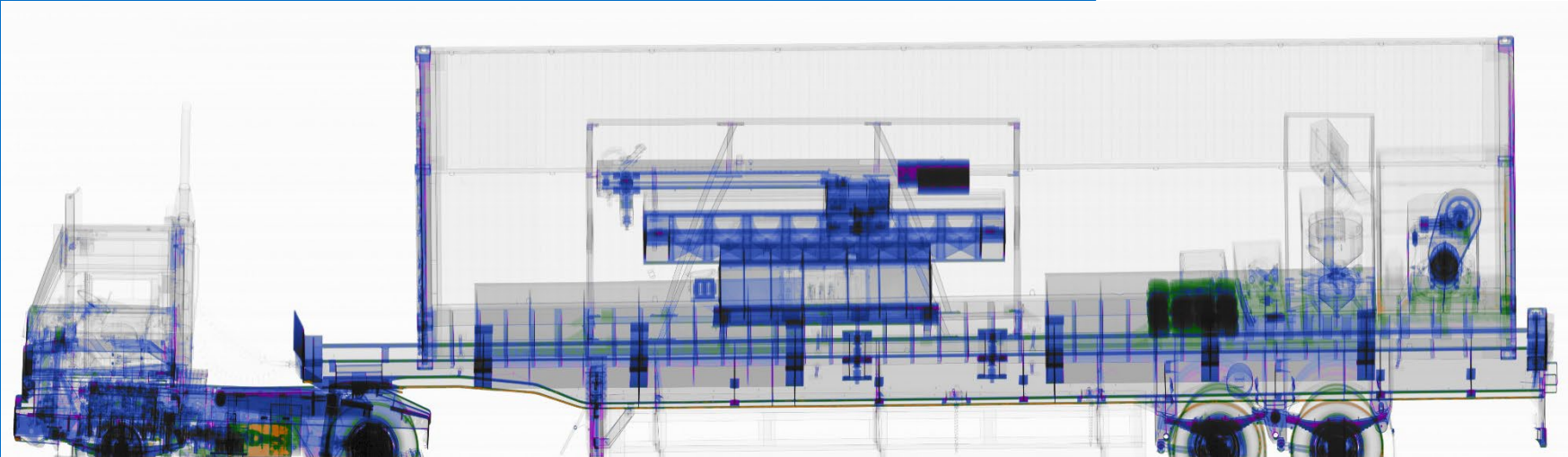
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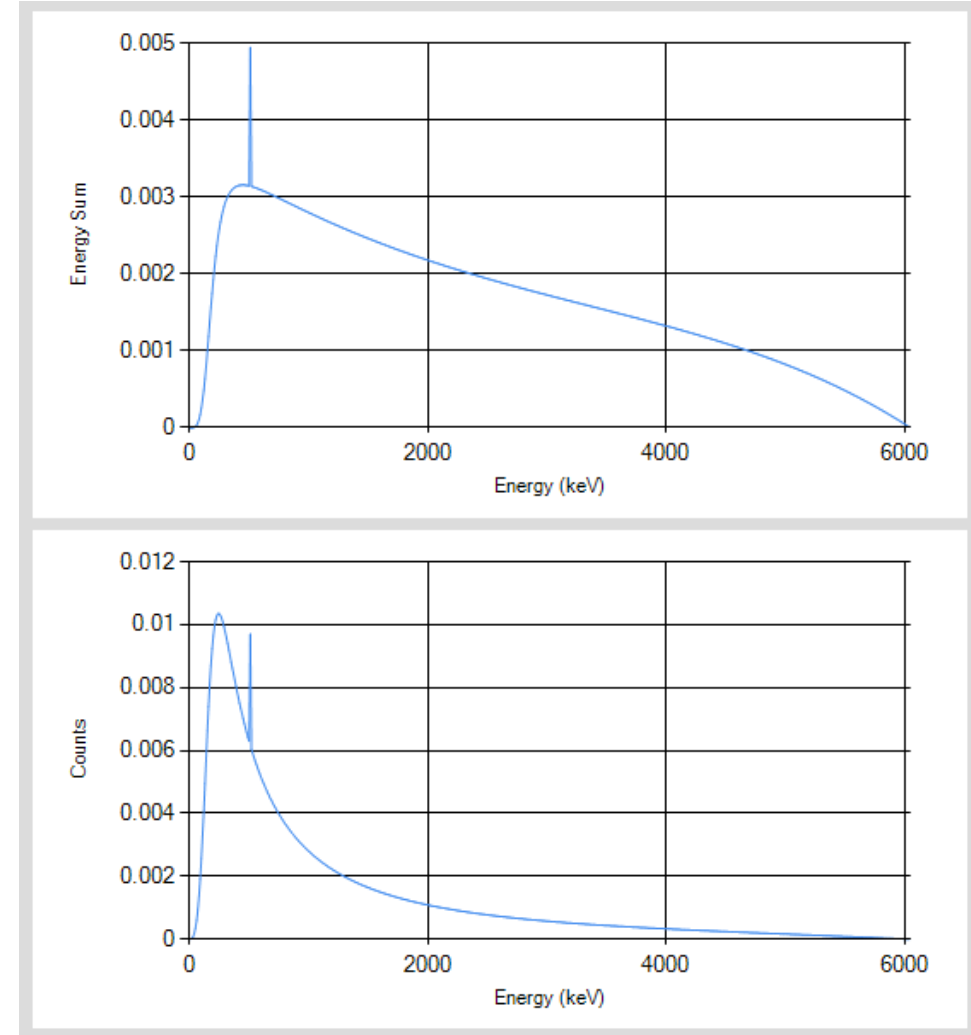
- High-energy X-ray system for the safe and detailed inspection of cargo
- Multiple configurations and optional portal mode operation
- Market leading performance and adaptability to changing requirements



# Eagle G60 Image



- High energy transmission systems use electron linac accelerators to generate x-rays
- X-ray generation is via Bremsstrahlung in tungsten targets
- Typical electron beam energies used by Rapiscan are:
  - 6MeV
  - 4MeV
  - 2.5MeV

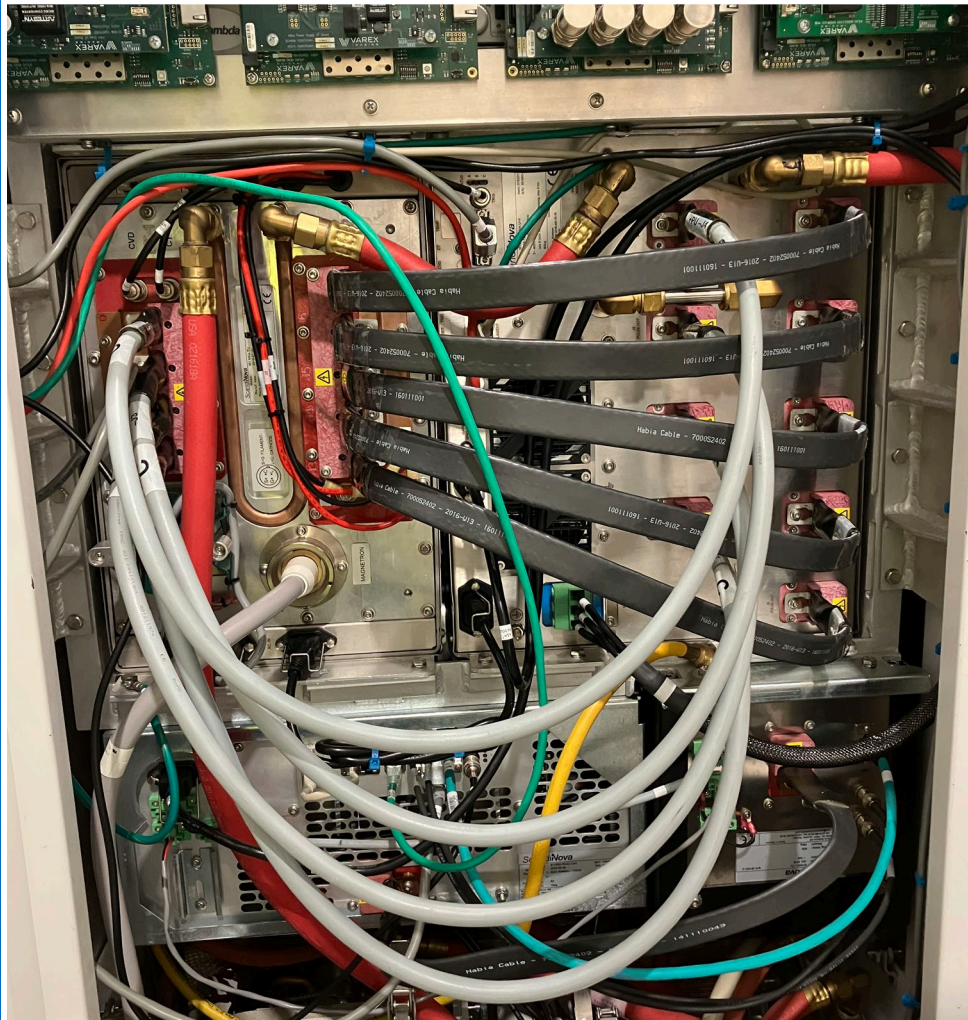




# Varex Imaging Mi6SSM Linac



# Varex Imaging Mi6SSM



- Dual energy 6 and 4 MeV linac
- Uses Scandinova M100D-i and E110D-i modulators
- Rapiscan have purchased approximately 60 Mi6SSM linacs in the past 4 years from Varex Imaging

- Performance on these systems is excellent
  - High degree of flexibility in operating points
  - Very good stability on modulator voltage and current results in a high quality x-ray beam
- Reliability on the products is very high
  - Across the 80+ M100D-i modulators we have tested we have only seen 2 major failures:
    - ▶ One was an installation mistake during the linac build
    - ▶ One was a failure of an IGBT
  - The E110D-i modulators have not had any component failures
    - ▶ Only issues have been due to human error
    - ▶ One of the original E100D-i modulators has had a failure in the pulse unit which is still to be diagnosed
- Recently started testing of a prototype linac with the M50 modulator installed



# Any Questions?



# Thank You!

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