PROTECTING HIGH-THREAT FACILITIES

SUPPORTING VITAL MISSIONS WITH SUPERIOR DETECTION TECHNOLOGIES

SAFEGUARDING THE PUBLIC

SECURING PORTS AND BORDERS
With more than 50 years of developing, deploying, and supporting X-ray systems, AS&E’s advanced cargo, parcel, and personnel inspection systems are at work protecting ports, borders, airports, prisons, military and high-threat facilities, and critical infrastructure worldwide.

With a proven track record and best-in-class technology, our systems meet the threat and contraband detection requirements of governments, corporations, law enforcement, and military organizations around the globe to combat terrorism, drug and weapons smuggling, illegal immigration, and trade fraud. Using a combination of advanced technologies, our systems provide superior detection capabilities with high-energy, dual-energy, and Z Backscatter® X-ray imaging—pioneered and perfected by AS&E.

A trusted and proven partner, AS&E offers the most advanced detection technologies in a variety of configurations—all designed to meet or exceed our customers’ real-world operational requirements.
CARGO AND VEHICLE INSPECTION

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ZBV®

Z BACKSCATTER® CARGO AND VEHICLE SCREENING SYSTEMS (MOBILE)

A breakthrough in X-ray inspection technology, AS&E’s ZBV system is a low-cost, extremely maneuverable and easy-to-use screening system built into a delivery van. The ZBV system uses Z Backscatter technology to highlight organic threats and contraband that other systems miss—explosives, currency, cigarettes, alcohol, and drugs.

The ZBV system allows for immediate deployment in response to security threats. As the ZBV system drives by a suspect object, an X-ray image appears on the operator’s console—in real time.

The ZBV system can also be operated remotely in stationary mode, allowing for scanning even in dangerous environments. In stationary scan mode, ZBV can simultaneously generate Z Backscatter and dual-energy images with the Tx-View option. The Tx-View option displays metallic objects to complement the proven Z Backscatter imaging. The Radioactive Threat Detection (RTD) option for counterterrorism applications detects dirty bombs and nuclear WMD.

Availability of models is determined by country of deployment.

ZBV S-Class, the newest addition to the ZBV line, is built in a standard Mercedes Sprinter panel van.

ZBV R-Class is built on a Ford® F550 chassis with crew cab for extra space and 4WD for additional ground clearance and rugged terrain.

ZBV C-Class is the original, built with a custom coach on a Mercedes-Benz® Sprinter cab chassis.

2 CARGO AND VEHICLE INSPECTION MOBILE
This Z Backscatter image reveals alcohol hidden to avoid taxes. (Courtesy of Spanish Customs)

The ZBV system image of this van revealed tobacco hidden in an attempt to avoid paying duties. (Courtesy of Spanish Customs)

Explosives detected in the trunk of a car.

At a border crossing, officials using the ZBV system discovered smuggled currency.

125 kg of marijuana were revealed in this cargo container. (Courtesy of Spanish Customs)

Attempted human smuggling was revealed using the ZBV system’s safe Z Backscatter technology.

This Z Backscatter image reveals alcohol hidden to avoid taxes.

The ZBV system is the number-one selling cargo and vehicle inspection system in the world.

“ONCE YOU USE THE ZBV, YOU’LL SEE IMMEDIATE RESULTS WITH DRUG INTERDICTIONS.”

— Law enforcement professional
The high-performance, dual-energy OmniView Gantry cargo inspection system offers best-in-class X-ray imaging in a unique, efficient design. Ideal for high-threat security contraband and threat detection at military bases, ports, and other security checkpoints, the OmniView Gantry can inspect even the most densely loaded containers.

The OmniView Gantry dual-energy system generates a high-resolution, colorized image, enabling analysts to visually differentiate classes of materials within uncluttered cargo. For enhanced detection, the system can be easily integrated with a Z Backscatter® module, radiation detection, container code recognition, and license plate reader systems. Like no other scanning solution offered in the market, the OmniView Gantry provides multi-technology imaging for Customs and security missions.

AS&E’s technology features powerful 4/6 MeV high-energy/dual-energy transmission X-rays that penetrate up to 400 mm (15.7 inches) of steel. The system operates by moving on rails past stationary vehicles and cargo and is bi-directional, allowing for 28 truck scans per hour. The OmniView system can be operated in single-energy mode for optimal penetration.
OmniView Gantry's single-energy transmission technology is able to penetrate 400 mm of steel.

OmniView Gantry's dual-energy X-rays provide material discrimination in four colors.

OmniView Gantry’s single-energy transmission technology is able to penetrate 400 mm of steel.

"OMNIVIEW IMAGES ARE THE BEST WE’VE SEEN."

— AS&E customer, Middle East
The revolutionary Sentry Portal system is a high-throughput, high-energy/dual-energy, drive-through inspection system. With a throughput of up to 150 trucks per hour, it delivers a reliable means of detecting threatening materials, weapons, and contraband hidden in cargo containers, while maintaining the flow of commerce at seaports, border crossings, and security checkpoints.

The Sentry Portal system uses a 5/7.5 MeV dual-energy transmission X-ray source, providing penetration of up to 300 mm (12 inches) of steel. The system features a compact footprint, allowing for installation in areas with space constraints. Employing technology to avoid scanning the cab of the truck, a robust container locating sub-system ensures safe drive-through operation with the driver never exposed to high-energy X-rays.

The Sentry Portal system can be used alongside the multi-view Z Portal® screening system for three-sided imaging of the entire vehicle (including the cab). These complementary technologies enable the comprehensive detection of both metallic and organic materials, such as drugs, explosives, and stowaways. For enhanced detection, the system can be easily integrated with radiation detection, container code recognition, and license plate reader systems. For air cargo screening at airports and other transportation hubs, the Sentry Portal system can scan airport tugs pulling multiple pallets and segment each container into separate scan records.
The Sentry Portal system’s high-energy X-ray image reveals barrels of explosives.

Sentry Portal dual-energy X-ray image showing material discrimination capabilities

“A Sentry Portal has far superior dual-energy imaging than competitive systems.”

— AS&E customer, South America
The only multi-view, drive-through vehicle screening system available to scan cars, cargo containers, tankers, and large vehicles for concealed threats and contraband, the Z Portal system is uniquely capable of meeting security requirements while ensuring that commerce keeps flowing.

Since its introduction in 2006, the Z Portal system has been widely deployed to protect critical locations around the world—including high-volume checkpoints, military bases, border crossings, and high-threat facilities. With a throughput of up to 80 trucks or 120 passenger vehicles per hour, the system quickly detects threats and contraband, all while maximizing safety. The system's unique, multi-sided Z Backscatter® imaging provides a three-sided image of the vehicle under inspection, highlighting organic contraband—such as explosives, drugs, and stowaways—that other systems miss.

The low-dose, drive-through Z Portal system also safely scans the entire vehicle, including the cab and driver, for thorough inspection. The relocatable screening system is available in two sizes—one for large trucks, buses, and cargo vehicles, and a smaller size for passenger vehicles. Forwardscatter imaging and optional top-down transmission provide additional views for more comprehensive inspection.

“WITH Z PORTAL, WE’RE ABLE TO SEE EVERYWHERE WITHIN SECONDS. VERY FREQUENTLY WE FIND LOADS OF NARCOTICS.”

— Assistant Port Director Joseph Misenhelter
ABC10 News, San Diego

Z PORTAL®
MULTI-VIEW VEHICLE SCREENING SYSTEMS FOR PASSENGER VEHICLES, TRUCKS, AND CARGO
Three-sided Z Backscatter® technology provides material discrimination and high-quality, photo-like images that highlight organic materials such as explosives, drugs, and other contraband (circled in red).

Left- and right-side views of truck reveals **drugs** in tires.

Left- and right-side views reveal **currency** in back door panels.

Left- and right-side views of truck reveal **anomalies**.

Left- and right-side views of truck reveal **drugs** in doors and front fenders of SUV.

CARGO AND VEHICLE INSPECTION  DRIVE-THROUGH  9
The MINI Z® system is the world’s first handheld Z Backscatter® imaging system, providing unsurpassed operational flexibility. Using the same technology that made the ZBV the top-selling cargo and vehicle inspection system in the world, the MINI Z system’s Z Backscatter technology highlights organic threats and contraband. With its small form factor and single-sided imaging, the MINI Z system can access hard-to-reach areas, allowing for the effective screening and better visibility into a wide variety of items such as suspicious bags, walls, furniture, small boats, aircraft, vehicle tires, and car interiors.

Unlike density meters, trace detectors, or transmission X-ray systems, the MINI Z system is the only handheld Z Backscatter system that can produce images using single-sided imaging to quickly locate hidden potential threats or contraband behind organic surfaces. The system’s fast and easy set-up with user-friendly, intuitive interface produces an image much more readily than portable transmission systems. The MINI Z system is completely self-contained and does not require set-up or consumables. Simply power on the device, and you’re ready to scan for threats and contraband.
The MINI Z image of this excavator’s steel boom (left) revealed patches of Bondo® organic putty, behind which over US $150,000 of drugs were hidden (right).

MINI Z—THE WORLD’S FIRST HANDHELD Z BACKSCATTER IMAGING SYSTEM WAS NAMED POPULAR SCIENCE MAGAZINE’S BEST OF WHAT’S NEW FOR 2014.”
AS&E’s ground-breaking Gemini system provides the most comprehensive threat detection available for hand-carried items, mail, parcel, and baggage screening. Available in multiple tunnel sizes, the Gemini system offers the unique capability to simultaneously detect both metallic and non-metallic threats—even in cluttered environments. The system features a combination of dual-energy transmission and Z Backscatter® X-ray imaging: two complementary, advanced, and commercially-proven technologies. The Gemini system’s dual-energy transmission X-rays generate a colorized, high-resolution image, easily detecting metallic threats such as guns and knives and fine details, including tiny wires which could indicate an IED. Dual-energy also provides organic and metallic discrimination in uncluttered environments. The Gemini system’s Z Backscatter X-rays generate an image that provides enhanced detection of organic materials, such as explosives (including sheet and liquid explosives), drugs, and plastic weapons. Together, the Gemini system’s two technologies provide the most information available about the contents of a parcel.

GEMINI® PARCEL INSPECTION SYSTEMS

GEMINI 6040 – tunnel size 64 cm x 44 cm (25.0” x 17.3”)

GEMINI 7555 – tunnel size 78 cm x 58 cm (30.7” x 22.8”)

GEMINI 100100 – tunnel size 105.0 cm x 102.5 cm (41.3” x 40.3”)

12 PARCEL INSPECTION
"OUR GEMINI SYSTEM HAS THE BEST DUAL-ENERGY IMAGING. ITS Z BACKSCATTER VIEW GIVES VALUABLE INFORMATION. IT IS SUPERIOR TO OUR OTHER BAGGAGE SCANNERS."

— AS&E customer, Asia

The Gemini 100100 system exposed a drug trafficking operation at Taiwan Taoyuan International Airport, detecting 200 kg of the controlled substance, ketamine, hidden in shoe boxes.
AS&E’s SmartCheck system is the most effective way to screen for contraband and threats hidden under a person’s clothing. Its capability goes well beyond that of metal detectors because it simultaneously detects both metallic and non-metallic objects, such as guns and knives, plastic and liquid explosives, composite weapons, drugs, and other hidden threats and contraband.

The system creates an easily interpreted image that gives the operator valuable information about the shape, size, and location of hidden threats or contraband, thus eliminating the need for intrusive and time-consuming pat-down searches. The SmartCheck system is safe for all individuals and complies with all applicable U.S. personnel scanning regulations. A privacy-enhanced SmartCheck system is also available to protect the privacy of screened persons and still effectively reveal threats.

The SmartCheck system is also available in a dual configuration, SmartCheck HT (High-Throughput). With the SmartCheck HT system, front and back images of an individual are acquired simultaneously for increased throughput.

IN TRIALS CONDUCTED BY THE TSA, 90% OF PASSENGERS OPTED FOR SMARTCHECK SCREENING RATHER THAN UNDERGOING AN INTRUSIVE PAT-DOWN BY A SECURITY OFFICIAL.
The core of AS&E’s Integrated Detection Solutions is a comprehensive user and data management suite, ASE Connect.

**Data Management**  ASE Connect is designed to simultaneously interface, process, and store data from multiple systems in order to provide the user with an integrated and comprehensive data package. Depending on the mission, relevant data is presented to each stage of the operational workflow where automated or manual decisions can be made. With each new piece of data, overall situational awareness is improved, allowing for system operators and supervisors to make timely, well-informed decisions without sacrificing operational efficiency.

**User Management**  Effective teams have well defined roles. ASE Connect allows administrators to centrally manage users to match their needs, using simple and effective tools. This can be as basic as managing login credentials, or as complex as managing the kinds of data each user has access to in the workflow.

**Efficiency**  Speed is important, as long as effectiveness is not lost. ASE Connect is designed to manage data between different kinds of users in order to optimize the operational workflow. In many cases this means that decisions need to be made by someone other than the scanning operator. To enable this, ASE Connect allows for multiple remote analysis stations to have access to all relevant data so that well-informed decisions can be made in parallel with additional scanning.

- **ASE CIM**  provides comprehensive data management.
- **ASE Viewer**  allows for parallel analysis from secondary stations.
- **ASE Browser**  allows for centralized monitoring and management of equipment.
INTEGRATED DETECTION SOLUTIONS
DRIVING IMPROVED EFFICIENCY AND EFFECTIVENESS

AS&E’s Integrated Detection Solutions are uniquely designed, implemented, and maintained to support diverse critical missions for border crossings, ports, and security checkpoints. Our experienced team begins with a site visit even before contract award to gain a comprehensive understanding of objectives, challenges, local conditions, and any other relevant factors.

To design the concept of operations, we use modeling and simulation tools that lay out a proposed solution and visualize the traffic flow, while also providing valuable data on your current operations and identifying opportunities for enhancing operational efficiencies.

AS&E delivers a completely integrated solution that seamlessly operates as one consolidated scanning system, combining X-ray inspection, radiation detection, license plate reader, and container code recognition data into a single inspection record. This provides operators with “one-stop” information on every inspected container and creates a comprehensive data package for use both at the home port and at foreign destinations.
Our custom integration solution at Khalifa Port is the largest project of its kind in the world. The integrated system manages the entire Customs and security screening process for import and export operations.

“A Import Radiation Scanning”

“B Import Customs Scanning: Integrated detection facilities”

“C Import Customs Scanning: OmniView® Gantry”

“D Import Customs Scanning: Z Portal® screening system”

“E Main Gate”

“F Export Customs Scanning: Sentry® Portal drive-through screening system”

“G Export Customs Scanning: Radiation portal monitor with AS&É’s Sentry Portal drive-through screening system”

“H Mobile Scanning: ZBV® screening system”

“...ONE OF THE WORLD’S MOST TECHNOLOGICALLY ADVANCED PORT SCANNING SOLUTIONS.”

— Patrick Simmons, Chief Advisor to Abu Dhabi Customs
AS&E provides best-in-class, turnkey scanning services from defining requirements through ongoing scanning operations for ports, borders, security checkpoints, and high-threat facilities.

Our turnkey scanning solution starts with capital funding, and includes planning, site construction, equipment supply, system installation, staffing, and ongoing operations with highly trained operators, expert image analysts, and field service support staff to ensure uninterrupted equipment up-time.

Managed service solutions include the option to rent or lease for short- to long-term needs parcel, personnel, handheld, and mobile NII systems for event security and temporary checkpoints. Additionally, AS&E offers operation and service of existing AS&E equipment and associated peripherals, as well as operation of large-scale turnkey scanning concessions.
Global Service and Support  Technical Support and Customer Service teams ensure your X-ray inspection systems are serviced in the most efficient manner possible. AS&E’s maintenance and support services are available 7 days a week, 24 hours a day, 365 days per year. Spare parts depots are maintained strategically around the globe to ensure that systems are repaired in a timely and cost-effective manner.

Product Training  We offer interactive, hands-on, skill-based training, as well as classroom instruction. State-of-the-art training facilities at our U.S. headquarters, in our Middle East Training Center, or at any customer site around the world. Course offerings include supervisor training, stand-alone Image Analysis training, Advanced Image Analysis training, maintenance courses at various levels, and customized training. Our web-based ASE Learn enhances instructor-led training with online modules to create a comprehensive, convenient, and cost-effective blended training program for X-ray inspection systems.

“AS&E TAKES CARE OF ITS CUSTOMERS AFTER THEY PURCHASE A PRODUCT. THEY’RE EASY TO DEAL WITH... THEY MANUFACTURE QUALITY PRODUCTS. THEY MAKE IT EASY TO BE A RETURN CUSTOMER.”

— Gemini system customer, U.S.
MULTI-VENDOR SERVICES
INSTALLATION, MAINTENANCE, AND SERVICE FOR THIRD-PARTY X-RAY SYSTEMS

Multi-Vendor Services  Let AS&E’s Multi-Vendor Service team provide a single point of contact for the service and support of all of your security equipment. We have experience performing installation, maintenance, and service for third-party X-ray systems, radiation portals, container ID, license plate readers, under-vehicle inspection, and other peripherals. Choose from a broad range of customizable and competitively priced service solutions for life cycle support and maintenance of your security equipment.

“AS&E SUPPORT IS THE BEST—better than other companies. AS&E goes above and beyond.”
— Latin American Customs official
AS&E SYSTEMS Installed Around the World

From planning and execution to installation and service, AS&E has a demonstrated record of success in even the most complex environments—and a 99% on-time delivery record.