

**Anthony Parker** argues that new security screening standards for airline cargo are helping to improve efficiency, and calls for greater collaboration between manufacturers, users and agencies to develop next-generation systems



# UPGRADING CARGO SCREENING

**F**inding the balance between high-security operations, shipping speed and efficiency is an ongoing challenge that both logistics and technology companies address every day. Nowhere is this truer than in the air cargo industry. The screening solutions available today have made significant strides in reaching that balance.

Technology specifically designed for successful and expeditious air cargo screening works best when it is integrated as a part of the shipping processes. Air cargo shippers need a comprehensive solution that maintains the pace of commerce. As updated shipping facilities come on line, the chance to integrate air cargo specific technology and devise better processes to manage screening means more efficient operations for air cargo companies.

Many of the first-generation air cargo security solutions in use throughout Europe were systems originally designed for airline passenger screening, rather than built to handle the specific needs of air cargo transporters. This type of adaptive approach will always be less preferable than building a solution from the ground up to handle a particular task. Indeed, development of screening systems now starts from the premise that air cargo has different needs. Current-generation EDS systems have been designed to meet the needs of both airport security operators as well as break bulk cargo transporters – and that’s a step in the right direction.

Like airports, the air cargo industry has to account for the possibility of a terrorist threat. But air cargo transporters must also take into consideration the handling of dangerous goods, such as lithium batteries. The US Transportation Security Administration (TSA) and the European Commission (EC) have worked together to establish standards and approaches for screening of both passengers and cargo necessary to maintain international air commerce. Within the EC community, individual countries are able to go beyond that baseline and

require additional measures. For instance, as of July 2014, Europe-wide regulations require that cargo be screened from two different angles; and since January 2015, the United Kingdom has required the use of dual-view technology for cargo screening.

In addition, there is such an incredible variety of goods to be screened, there can’t be a one-size-fits-all requirement. Large, homogeneous loads such as fuel or oils don’t need a screening machine that can detect a certain gauge of wire, for instance, but do need higher detection penetration levels. When it comes to deciding what technology works best, the first question to ask is, what is being screened?

All commercial shipping industry members have the goal of moving cargo through as quickly as possible, with minimal financial impact. Organisations, along with regulators, are working to balance this need for speed and efficiency with the need for security. In addition to the products that are currently available (many of which already successfully address the EEA’s point about enhancing “the efficiency and effectiveness of screening”), there are many more potential solutions available to address complex screening operations. In fact, the European Organisation for Security (EOS), which includes a working group representing security technology



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manufacturers, identified about two-dozen R&D programmes that are working specifically on cargo screening technology. These solutions and programs show how both industry and regulators are working to create technologies specific to enhance the needs of air cargo security.

For example, the European Commission has contributed funding to the Eurosky research programme, with the goal of developing a single Europe-wide air cargo standard. Among the Eurosky projects in the pipeline are new multi-energy detectors for conventional X-ray equipment. These would allow X-ray systems to provide even higher-resolution images, better material discrimination, and the measurement of properties that would lead to developing explosive detection systems (EDS) algorithms.

Likewise, in collaboration with the security screening industry, the UK Department for Transport has been involved in the commercial development of Dense Automated Reject Capability (DARC) alarm software, which works with existing conventional X-ray systems to highlight areas in cargo that cannot be penetrated for viewing and that are large enough

to conceal a threat. If a DARC alarm alerts the operator that part of a cargo can't be screened, that cargo can be re-examined from another angle, for instance, and cleared more quickly.

While manufacturers and governments develop technologies and programmes to enhance air cargo screening, air cargo companies are making investments in upgraded screening equipment, such as conveyor belts in line with CT explosive detection systems (EDS) – the belts move at 0.5 meters/second and are able to screen thousands of boxes in a short period. Air Cargo companies with a look towards the future reap the benefits now in increased ability to move cargo while also meeting mandates.

There are a lot of technologies out there today that can meet many air cargo screening needs. Right now, air cargo organisations can go out and purchase products that will make their screening processes more efficient, cost effective, and accurate. But the greatest impact is felt when manufacturers and air cargo companies combine technology and methodology to create screening processes that enhance air cargo screening and keep commerce moving.

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