



# Arktis FLASH™

Radiation Portal Monitor

Innovation in  
radiological/nuclear  
threat detection



# The **global supply chain** is not sufficiently protected

The world economy depends heavily on trade, pivotal for further growth and economic development. The majority of goods exchanged in the global economy are transported via cargo containers. Although the economic impact of a nuclear terrorist attack would be enormous,

only a small fraction of global freight containers are being checked today for nuclear materials. The main reason is that weapons usable Special Nuclear Material (SNM) is hard to detect. Current systems are faced with many nuisance alarms while trying to do so.





# Arktis FLASH™ allows 100 % **cargo scanning** for radiological threats



## **Up to 5 times better SNM detection**

Shielded nuclear material can be detected more reliably than with commonly deployed radiation portal monitors.



## **Significantly fewer nuisance alarms**

Low background technology reduces nuisance alarm rates significantly, enabling high throughput.



## **Differentiate radioactive consumer goods**

Conventional systems mistake naturally occurring radioactive material for SNM.



## **Safer handling**

Arktis uses widely available noble gases instead of toxic, hazardous, or flammable materials and gases in short supply.



## **<sup>3</sup>He-free solution**

No dependence on obsolete Helium-3, used in most fielded systems.

# Arktis FLASH™

Innovation where it counts

One of the biggest challenges in the detection of special nuclear material is that it hardly emits any radiation. Weak or shielded sources are extremely difficult to detect, as their emitted radiation can be easily confused with natural background.

Arktis FLASH™ zooms in on the available signals and selects only those of interest. In order to do this, time synchronization of the available data to very high precision is needed. Arktis FLASH™ enables distinction of threats and benign sources based on their emission time spectrum. While threats show coincident patterns, benign sources do not. This allows for a clear selection. Arktis FLASH™ based products are available as standalone radiation portal monitors or as upgrade to existing, plastic scintillator based solutions.



## Arktis FLASH™ Portal Monitor

Radiation Portal Monitor (standalone system) for vehicles

|  |  |
|--|--|
| Weight                                 | 220 kg per unit (2 units per system)   |
| Detection Zone<br>(Typical Dimensions) | Vertical extent 3.6 m<br>Portal separation 4.6 m<br>Ground offset 0 m  |
| Standards                              | ANSI N42.35-2004, EN 61000-6-4, SLD requirements   |
| Minimal Detectable Quantities          | HEU equivalent: 4.4 $\mu\text{Ci}^{57}\text{Co}$<br>Plutonium equivalent: 5.1 $\mu\text{Ci}^{133}\text{Ba}$<br>Depleted uranium: 1.5 kg<br>Fission neutrons (bare): 20'000 n/s |
| Data format                            | Conformity to ANSI N42.42 or to customer requirement   |

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