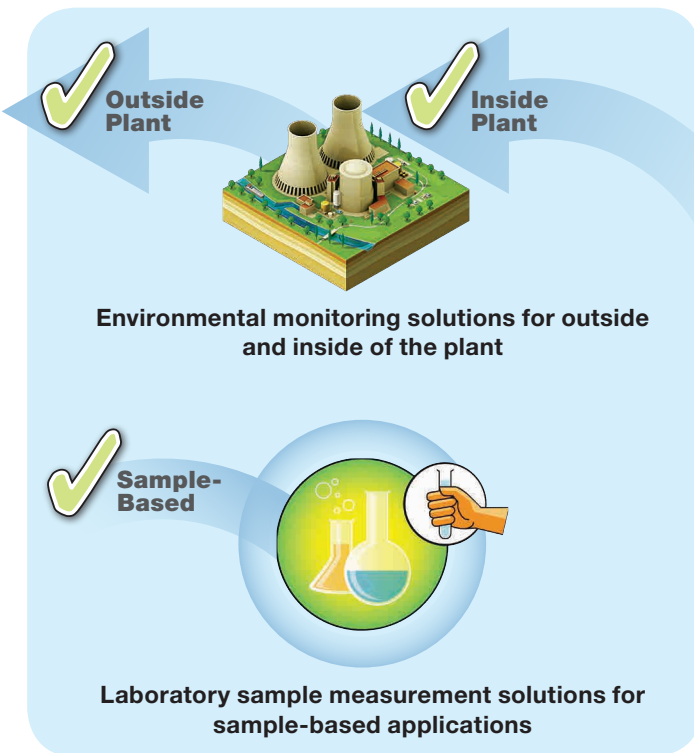


### Environmental Radiation Monitoring

#### Key Drivers:

- Real time Monitoring outside & inside the D&D sites.
- Perform sample-based Environmental Monitoring.
- Provide early warning and identification of possible radiation release incidents.

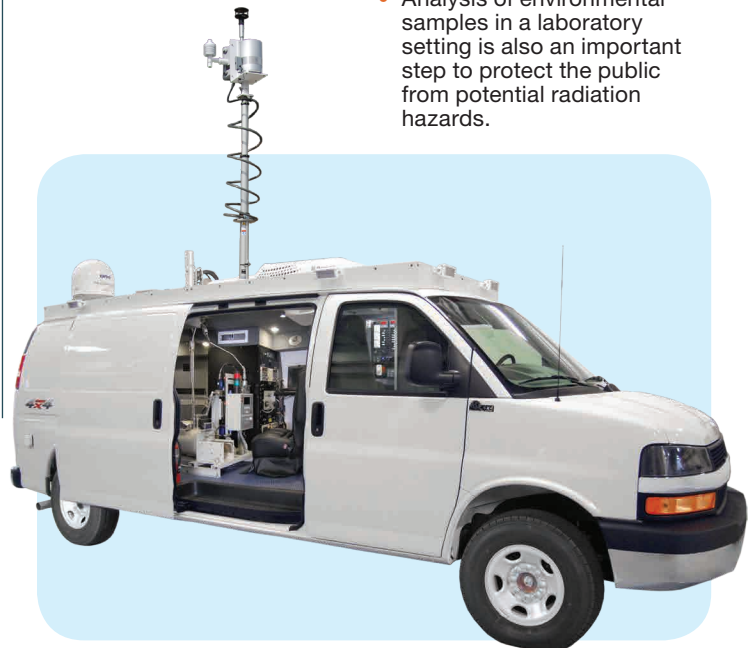


#### KEY BENEFITS

- ➔ Workers dose reduction (ALARA principle)
- ➔ Improved impact on environment
- ➔ Data storage of results for history
- ➔ Real time display of results

#### Objectives:

- To evaluate the real time contamination in nuclear sites, it is important to continuously monitor for, and measure, releases of radioactive material into the environment.
- The dispersion of radioactive materials is sometimes strongly affected by wind direction and velocity. The characterization of air, water, soil and vegetation samples for radioactive materials is necessary.
- Analysis of environmental samples in a laboratory setting is also an important step to protect the public from potential radiation hazards.



Mobile vehicle for performing real-time measurements to determine actual field deposition and dispersion of radiation for environmental surveying



### Real-time environmental monitoring solution

#### iCAM™ Continuous Air Monitor

The intelligent Alpha/Beta Continuous Air Monitor (iCAM) provides robust and reliable real-time monitoring of airborne particulate activity in the workplace. The iCAM monitor uses an ion-implanted silicon radiation detector. It acts as a simple alarming monitor for operators with the sophistication required to provide low false alarm rates and high protection levels.

##### Performance

- Continuous total airflow recording and reporting.
- User-set alarms with local and remote reporting.
- One-week data storage with detailed event log.
- Thirty minute protection of full functionality by built-in battery backup without external pump.
- Optional remote gamma probe.

##### Key benefits

- Auto-adaptive spectrometric compensation for natural radon/thoron progeny background, yielding lowest false alarm rate in the field.
- Rugged steel enclosure which provides IP54 environmental protection.
- Stable long-term low level measurements.



iCAM Alpha/Beta Air Monitor (iCAM)

#### EcoGamma™-g Radiation Monitor

The EcoGamma-g monitor is an advanced, dual detector, environmental gamma radiation monitor designed to operate in the most extreme conditions with unsurpassed accuracy, range and stability.

##### Key benefits

- Environmentally robust housing provides stable, reliable performance in demanding operating environments.
- Built-in temperature monitoring provides supplemental meteorological information and aids.
- Total Integrated Dose (TID).
- Our unique "Time-To-Count" technique eliminates dead time and saturation effects of conventional GM detectors.



Continuous Monitoring of Environmental Gamma Radiation

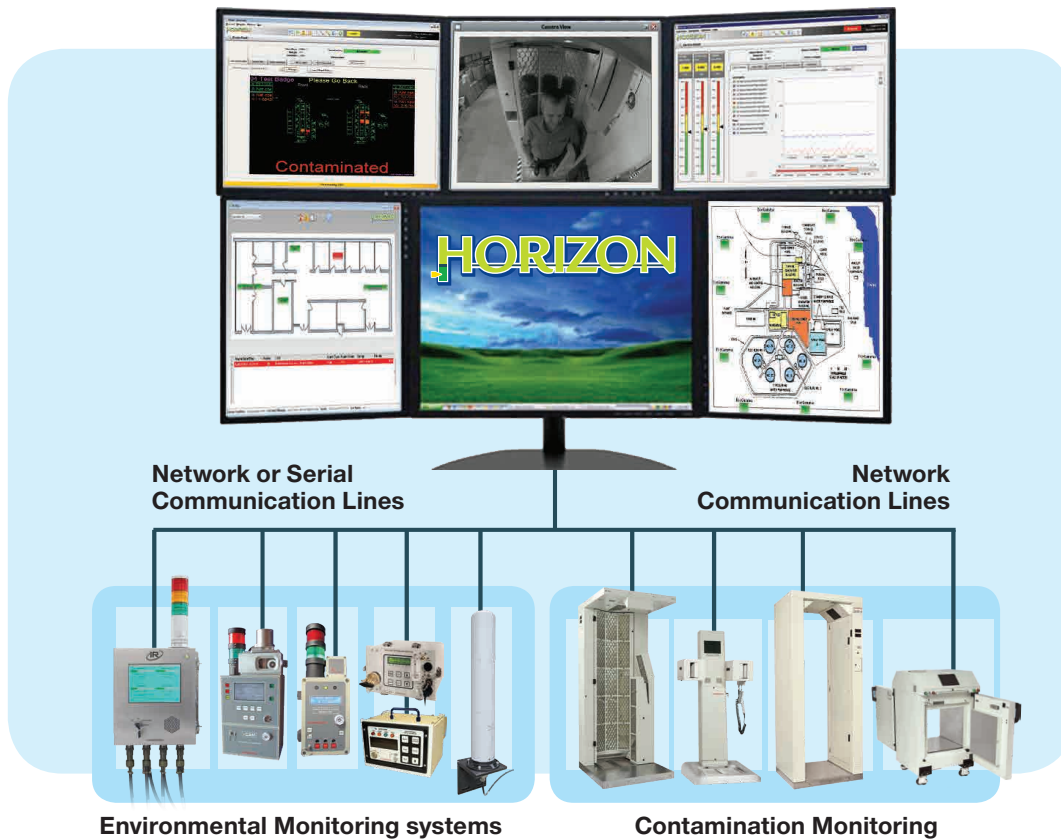
# Environmental Radiation Monitoring

## D&D Capabilities and Solutions

### Horizon® Supervisory Software System

**Features are:**

- Supervisory software for remote access to radiation and environmental monitoring instrumentation and personnel/object contamination monitors.
- Preconfigured instrument array provides easy and fast setup & configuration.
- Web-based client application provides access to data and control functions from multiple workstations.
- Rich SCADA tools provide advanced graphic controls for visualizing your data.
- Simple navigation between monitored areas and individual instruments.



### Laboratory sample measurements

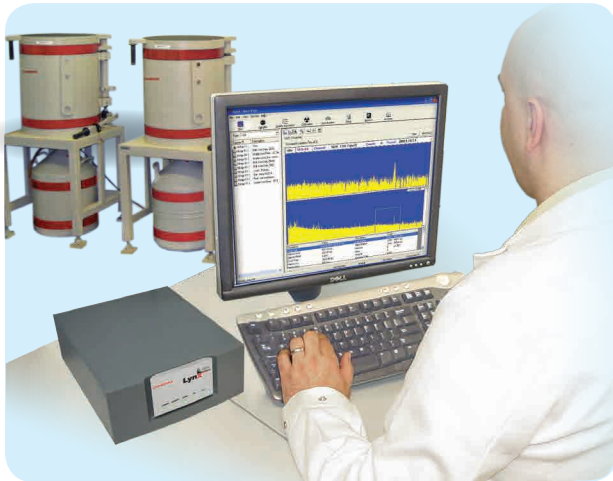
#### Apex-Gamma™ Radiological analysis system

##### Technical description

- This system is capable of identifying and quantifying virtually all nuclides found in a sample. It can be calibrated for typical sample types in a range of common sample containers without the use of radioactive sources.

##### Key benefits

- High purity germanium detector for gamma spectroscopic analysis of processed or raw food products or any other type of environmental samples.
- Full radionuclide report and automatic notification if nuclide-specific maximum permissible concentrations are exceeded.
- Shields offered that support samples of 4-liter Marinelli size and smaller or 1-liter and smaller.



**Apex-Gamma System – HPGe-based spectroscopy system for environmental samples**

Copyright ©2018 Mirion Technologies, Inc. or its affiliates. All rights reserved. Mirion, the Mirion logo, CANBERRA, iCAM, EcoGamma, Horizon, Apex-Gamma, iMatic, iSolo and other trade names of Mirion products listed herein are trademarks and/or registered trademarks of Mirion Technologies, Inc. and/or its affiliates in the United States and/or other countries. Third party trademarks mentioned are the property of their respective owners.

#### Transportable radioanalytical labs

##### Technical description

- Mobile labs allow laboratory-grade analysis to be performed in the field, where the samples are, or they can back up a standard count room overwhelmed by additional sample load.

##### Key benefits

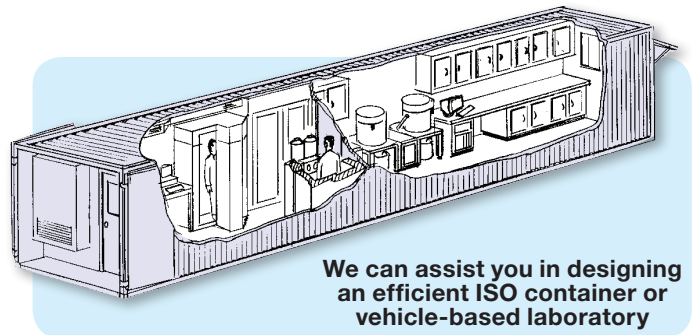
- Turn-key transportable laboratory solutions, which include design, equipment selection, installation, calibration and training.
- Equipment can include gamma spectroscopy system (with HPGe and/or NaI detectors) and alpha/beta counters for samples.
- Includes the design and construction of labs in vans, trucks, trailers and ISO international standard modules and in a variety of semi-permanent and mobile configurations.



**iMatic™: Gasless Automatic Alpha/Beta Counting System**



**iSolo®: Portable Gasless Alpha/Beta Counting System**



**We can assist you in designing an efficient ISO container or vehicle-based laboratory**



For more information, review the complete case study on our website:  
[www.canberra.com/measurements-expertise](http://www.canberra.com/measurements-expertise)