

CONTINUING INNOVATION

New and Featured Products

MIKE ENGELSMAN
Aegis, Apex-Guard, iCC products

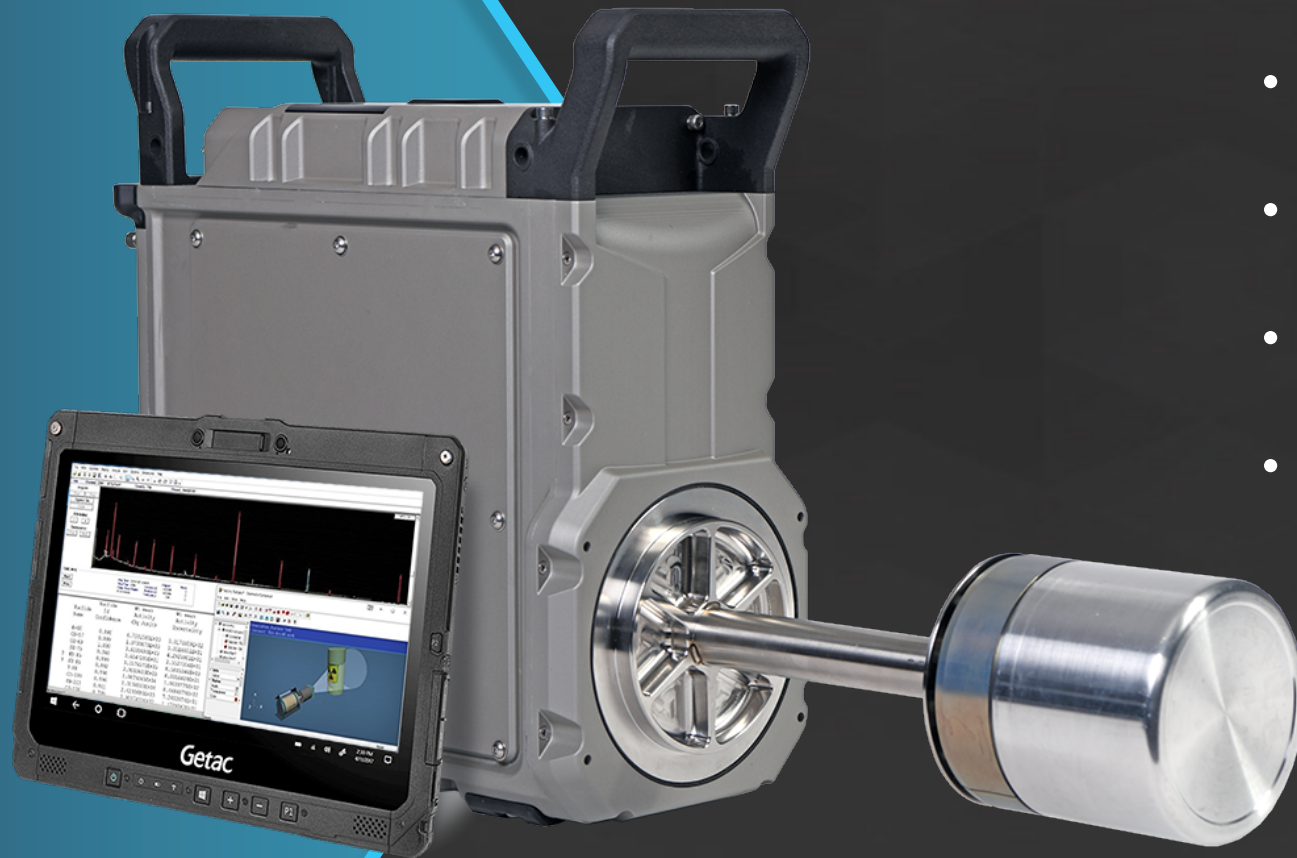


MIRION
TECHNOLOGIES

Aegis



Portable HPGe Spectrometer



- All-in-one design
- Portable
- Electrically operated
- HPGe gamma spectroscopy instrument to serve in-situ and laboratory applications

Intended Applications

- ISOCS calibrations or other in-situ work requiring transportable HPGe detectors

Clearing objects, field remediation, mapping radiation fields, plant hold-up measurements

- Lab applications requiring dual purpose detectors
- Low downtime systems due to thermal cycle free design





Aegis Details

- Controlled from using Genie 2000 tablet/laptop/PC
- GPS and WiFi (can be ordered without)
- Choice of SEGe, XtRa or BEGe detectors
- Optional 6" Remote Detector Chamber
- IP65 Ingress Protection
- Continuous operation with spare batteries charging
- 2.5 hours of operation with two internal batteries
- <37 pounds



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TECHNOLOGIES

To learn more about Aegis spectrometer

VISIT US TODAY IN

ADAMS A

4:00 - 5:30PM



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Apex-Guard Software

Productivity Spectroscopy Software implements the controls required to ensure data integrity for a regulated count room, including US FDA Title 21 CFR Part 11 compliance.



WHAT IS APEX-GUARD APPLICATION?

- Designed based on customer interviews
- Bolt-on to Apex-Gamma software
- Assists customers in becoming 21 CFR 11 compliant
- Provides additional security functions that apply to any count room, not just FDA regulated labs

APEX-GUARD APPLICATION PROVIDES...

- **Windows credentials used for log-in**
- **Automatic log-off**
- **Increased security from standard Apex-Gamma software**
 - Editing can only be done within Apex session
 - MCA adjustments can only be done from within Apex session
- **Data Review analysis history**
 - This preserves the initial analysis
- **Enhanced Audit Tracking and Audit Log**
 - Who, what, when and why
 - Digital signatures now included
- **Electronic Signatures**

OFFERINGS

- IQ/OQ service (installation qualification / operation qualification)
- Available as a software purchase or as a Comprehensive Service Bundle
- Electronic licensing

Say goodbye to your Genie 2000 dongle!



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To learn more about Apex-Guard Software

VISIT OUR BREAKOUT SESSION THURSDAY IN

COTTONWOOD 8

3:00 – 4:30PM



MIRION
TECHNOLOGIES

Intelligent Cryo-Cycle Hybrid Cryostat

Electrically cooled cryostat

Intelligent
Cryo-Cycle™



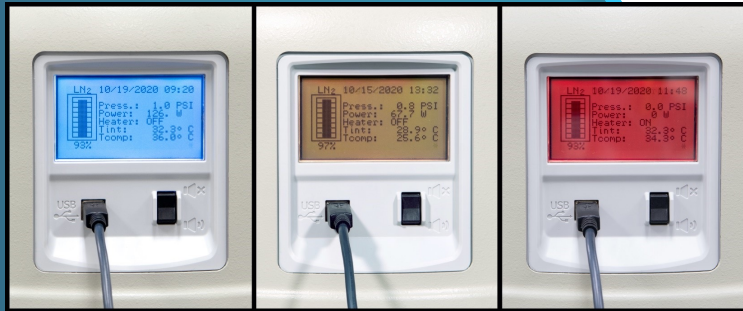
NEW HYBRID CRYOSTAT

- Electrically operated
- Liquid nitrogen redundant
- Ultra-quiet
- Maximize uptime by combining
 - Reliability
 - Advanced system monitoring

WHY DO I NEED THE iCC?

- Frequent or extended power interruptions may occur
- Detectors must remain cold to prevent downtime associated with thermal cycle
- Compatible with dipstick detectors
- Improved reliability

Intelligent Cryo-Cycle™



ENHANCEMENTS

- Colored coded status display
- More reliable cooler
- Same compressor as our Cryo-Pulse 5 Plus cryostat
- Internal log file
- Connectivity to PC and Lab-Pulse Services



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TECHNOLOGIES

To learn more about iCC cryostat

VISIT OUR BREAKOUT SESSION TODAY IN

ADAMS A

2:00 – 3:30PM

AUDREY SUMMERS

Lab-Pulse Services



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Lab-Pulse

Lab-Pulse Services

**Dramatically improve your equipment uptime with
Lab-Pulse Services**



Lab-Pulse Services

Sit back and relax...

We've got this!

Lab-Pulse Services: Uptime when you need it

1

Inform



2

Respond
MIRION TECHNOLOGIES
SERVICES

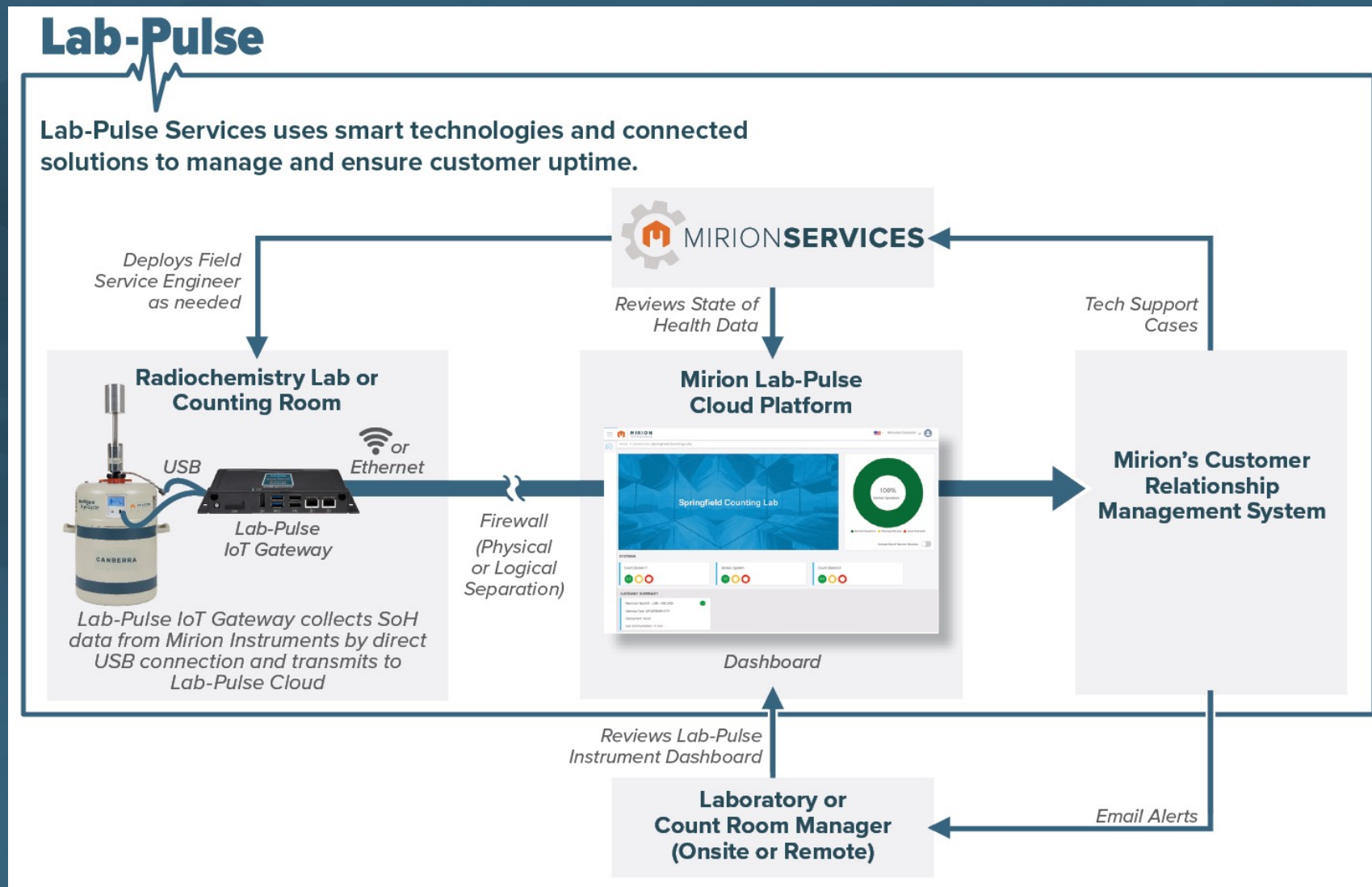


3

Prevent



Our Vision: A single service to connect and manage your Mirion Instruments



Why Lab-Pulse Services?

Confidence & Reliability

- Know your systems will perform during surge operations, such as outages
- Fewer spares required

Better Return on Investment

- Equipment lasts longer
- Equipment performs better

Better Operational Efficiency

- Advanced planning for system maintenance
- Faster troubleshooting
- Fewer emergency visits

Increased Uptime

- Less lost revenue
- Fewer missed deadlines



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TECHNOLOGIES

To learn more about Lab-Pulse Services

VISIT OUR BREAKOUT SESSION TODAY IN

COTTONWOOD 1

2:00 – 3:30PM

DAVE JARROW

Orion Real-Time Location System



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TECHNOLOGIES



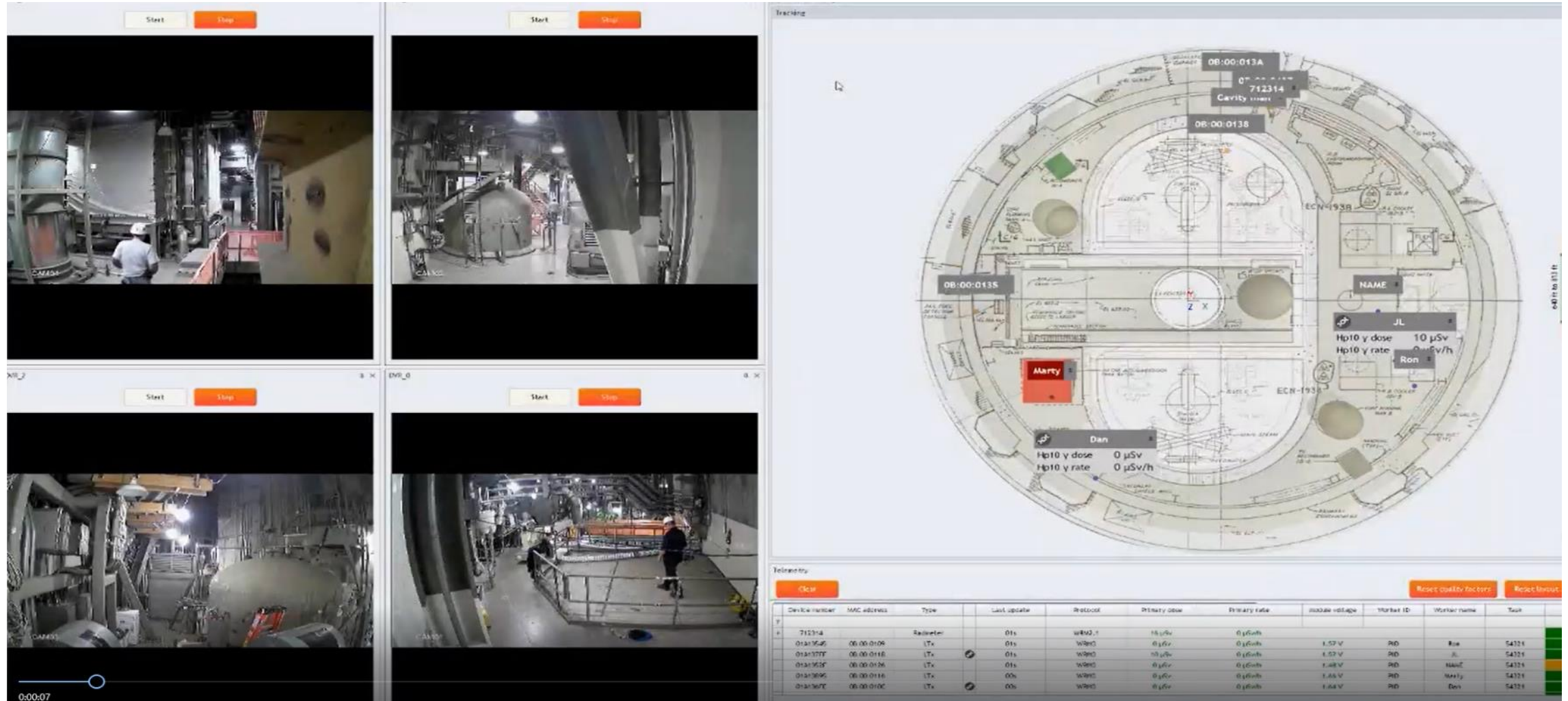
ORION
REAL-TIME
LOCATION SYSTEM

Orion Real-Time Location System

Track critical assets, support critical path time reduction and ALARA efficiencies and improve overall radiological safety



MIRION
TECHNOLOGIES

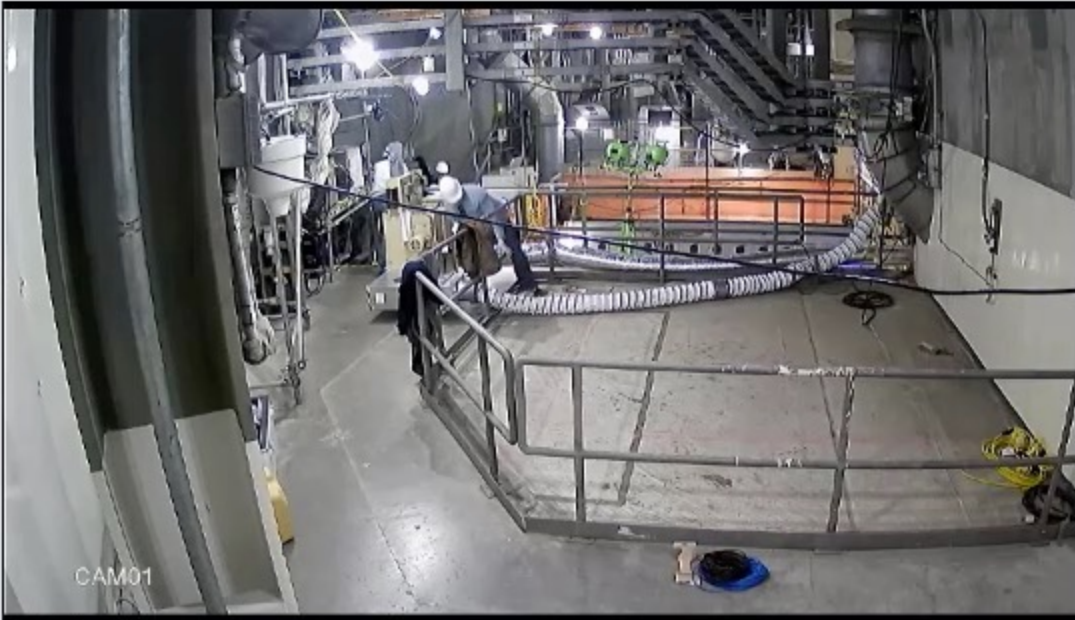


* Radiological Data Simulated: The Bellefonte Nuclear Generating Station site is owned by the Tennessee Valley Authority and is located in Hollywood, Alabama. Reactor Unit 1 construction was estimated at 88% complete and Unit 2 is 55% Complete. The project construction was suspended in 1988.



Orion RTLS system integration test at TVA Bellefonte, Hollywood, AL.
This facility is complete. However, fuel was never loaded.

Start Stop



CAM01

DVR_1 DVR_0 DVR_2

Settings
Location tracking options (supervisor)

Debug


Payloads **Quality threshold** **CAMR Server smoothing**

00:00:0109 Reset Send payload 1000 0

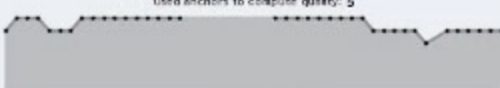
Auto payload Stop Load Save Load Save

00:00:0109 Global anchors quality: 4.37 9.8 f/s

Quality: 8742



Used anchors to compute quality: 5



Velocity (m/s): 2.79

Location Tracking


Floor models display

- ☒ Floor 622
- ☒ Floor 646
- ☒ Floor 670
- ☐ Floor 700

Layers display

- ☒ Loaded models
- ☒ Locating devices
- ☒ Exclusion zones
- ☒ Cross countings
- ☒ Blocks
- ☐ Heat map
- ☐ Hot spots map
- ☐ Radiation shields

Tracking



70 FPS

Drawing tools

- Free exclusion zone
- Cross counting
- Blocks
- Hot spots and radiation shields

Heat map and hot spots

- Heat map
- Hot spots

Events

Max events number: 100

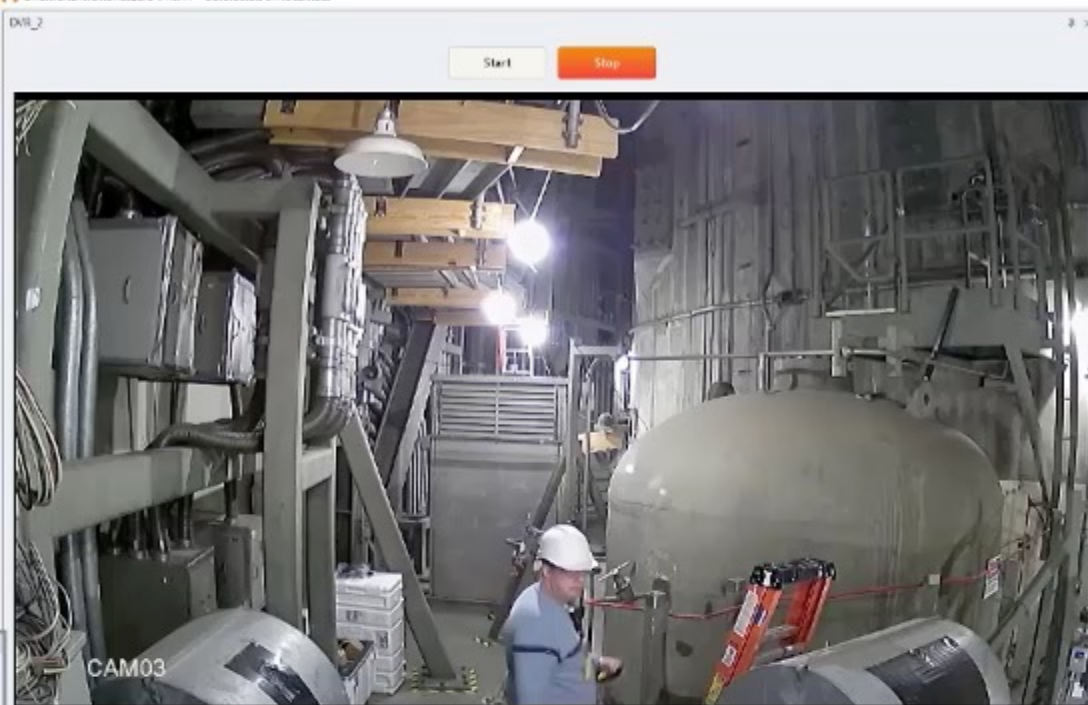
Refresh

Clear

Identifier	Date	Type	Origin	Description
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☒ Show informations
☒ Show normal
☒ Show warnings
☒ Show alarms
☒ Show faults
☒ Show debug

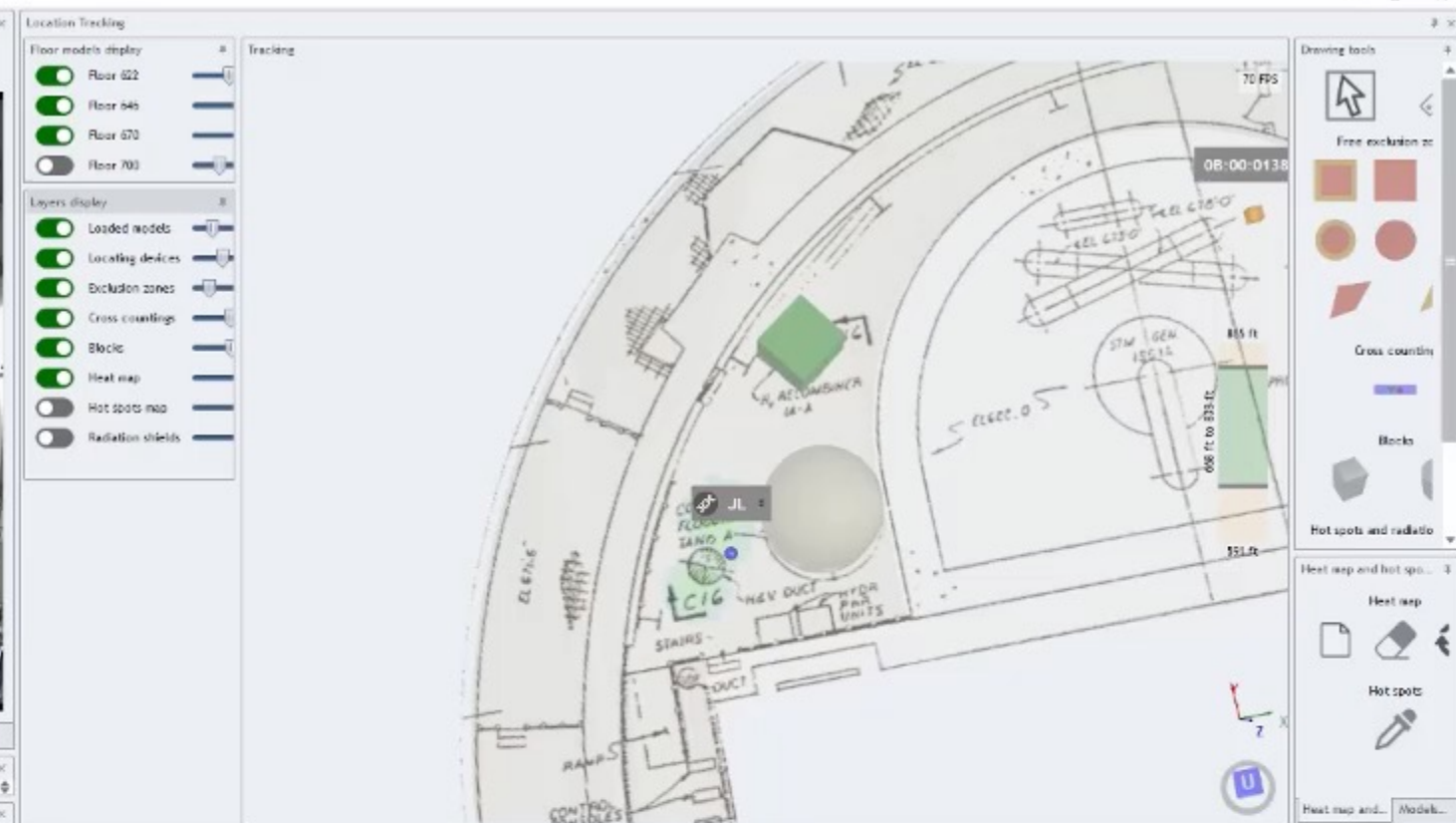
Supervision Software: Orion Studio alarms as the geofence is crossed.



DVR_1 DVR_0 DVR_2

Settings Location tracking options (supervisor)

Debug



Events

Max events number: 100

Refresh Clear

Show information Show normal Show warnings Show faults Show debug

Identifier	Date	Type	Origin	Description
226805	2019/11/14 16:54:11	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 0.00µS/h
226805	2019/11/14 16:54:01	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 0.00µS/h
226804	2019/11/14 16:53:59	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 115.50µS/h
226803	2019/11/14 16:53:56	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 137.74µS/h
226802	2019/11/14 16:53:54	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 86.87µS/h
226801	2019/11/14 16:53:46	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 0.00µS/h
226800	2019/11/14 16:53:35	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 0.00µS/h
226799	2019/11/14 16:53:25	Debug	08:00:0118	Sending a Dose Rate Simulation Payload to 08:00:0118 : 0.00µS/h

Font size

Telemetry

Clear

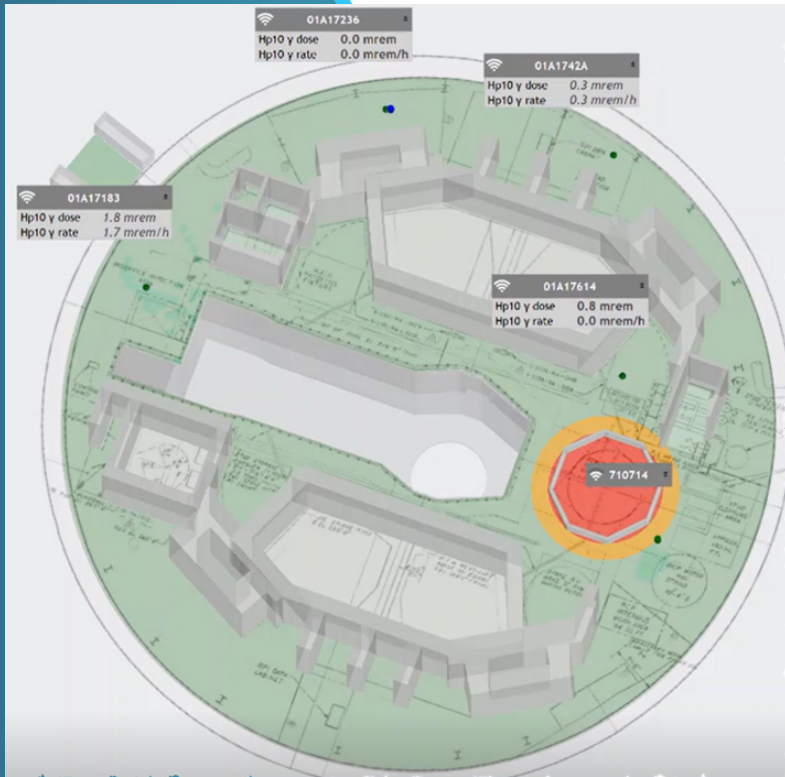
Reset quality factors Reset layout

Device number	MAC address	Type	Last update	Protocol	Primary dose	Primary rate	Module voltage	Worker ID	Worker name	Task	Quality
712216	08:00:0118	Simulator	08:00:0118	08:00:0118	0.00µS/h	0.00µS/h	0.00V	08:00:0118	08:00:0118	08:00:0118	99%
08:00:0118	08:00:0118	08:00:0118	08:00:0118	08:00:0118	08:00:0118	08:00:0118	08:00:0118	08:00:0118	08:00:0118	08:00:0118	99%

As (simulated) dose rate information is received, it appears in green in the areas traversed.

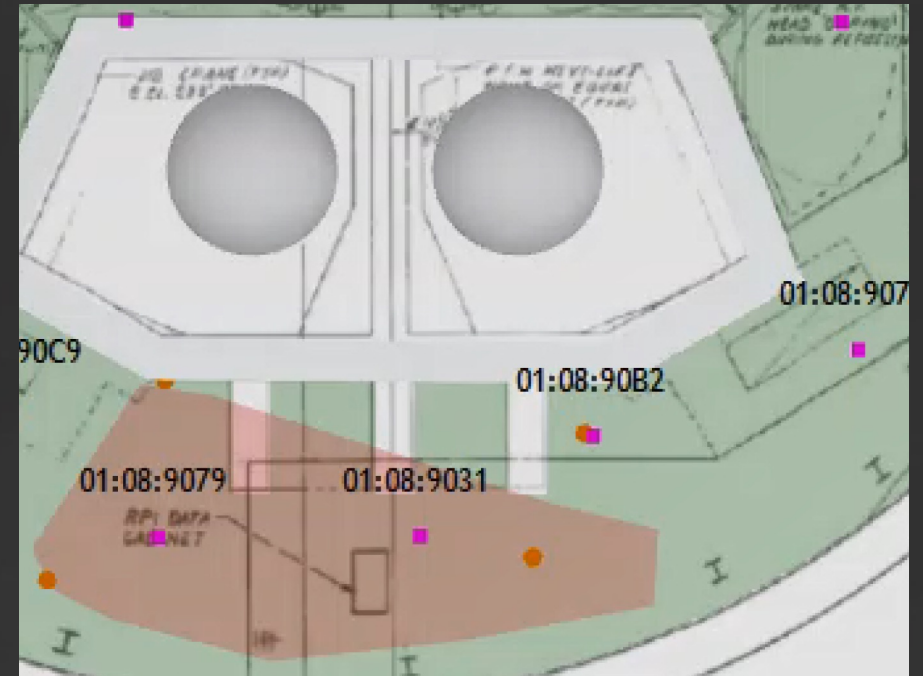
Location Tracking

- 1 meter location accuracy with WRM radiological data
- Site 2D/3D maps can be added into Orion Studio software
- Distinct views of elevations or areas can be created
- WRM capable instruments can be paired with asset tags for dose rate location tracking
- Area Monitors / Airborne Contamination Monitors and other “telemetry enabled” instruments can be “placed” on the Map



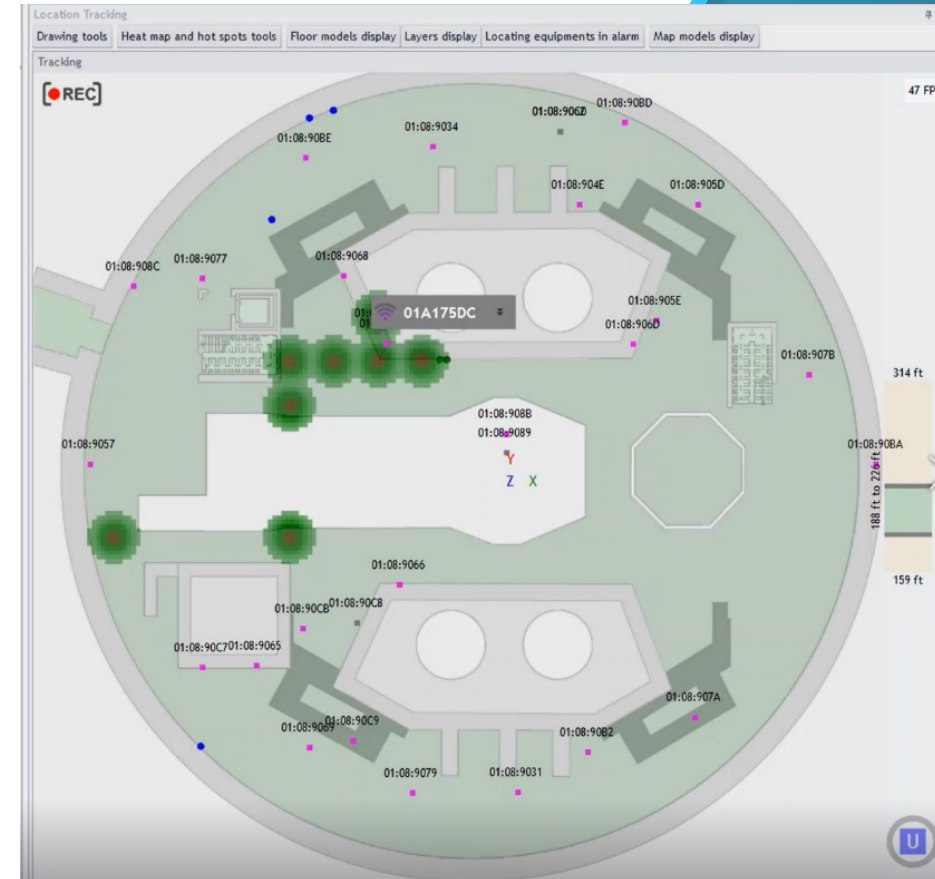
Asset Tracking for Warehousing and Critical Path

- Tracked with 1 m location accuracy data and presented on the Site 2D/3D maps
- Assets can be viewed with workers or separately monitored
- **During outage/refurbishment:** Attach to critical items such as:
 - Tools
 - Filters
 - Lead Blankets
 - Lay Down Area Equipment
- Large scale installations:
 - Cover warehouse items for storage of high value / critical inventory



Dose Rate Mapping

Using location and dose rate data from survey instruments and dosimeters to create composite “heatmaps”





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TECHNOLOGIES

To learn more about Orion RTLS

VISIT US TODAY IN

THE DEMO ROOM

4:00 – 5:30PM

KEITH SPERO
AccuRad PRD



MIRION
TECHNOLOGIES

AccuRad PRD

For Emergency Responders **By Emergency Responders**



“Voice of the Customer” wanted **Discreet**, **Durable** and **Easy-to-use** device.

WHAT ELSE DID WE LEARN?

The AccuRad PRD is **ALSO** fully capable for use in Nuclear Power Plants, DOE, Universities, Industrial Facilities and others, for applications such as:

- Low dose rate radiological surveys
- Trash monitoring
- Emergency response

Who Benefits?

- HP/ RP / Rad-Con personnel in NPP, DOE Site, DoD., Shipyards, State Labs, Prisons, Waste processors, Remediation sites...
- State Inspectors and Emergency Mgmt Agency personnel
- Laboratory Personnel
- Radiation Safety Officers
- Hospital Emergency Room Staff
- Navy and Army EOD (Bomb techs) personnel
- Mining
- Industrial scrap metal and waste processing

New AccuRad Evolution

The AccuRad PRD **SIMULATOR** for Training

- Maintains all of the AccuRad functions, including the innovative radar search, trending and AccuRad Smartphone (and connection to RadResponder)
- **AccuRad SIM** and **RADSIM RF** simulates effects shielding and highly realistic search and localization
- **Smartphone App** for customized training solutions





MIRION
TECHNOLOGIES

To learn more about AccuRad PRD

VISIT US TODAY IN

COTTONWOOD 5

11:30AM - 1:00PM