NUKEM Technologies

Gamma Camera (RAYMOS)

Identification of Hot Spots in Radioactive Waste

The Gamma Camera System RAYMOS is a unique tool for:

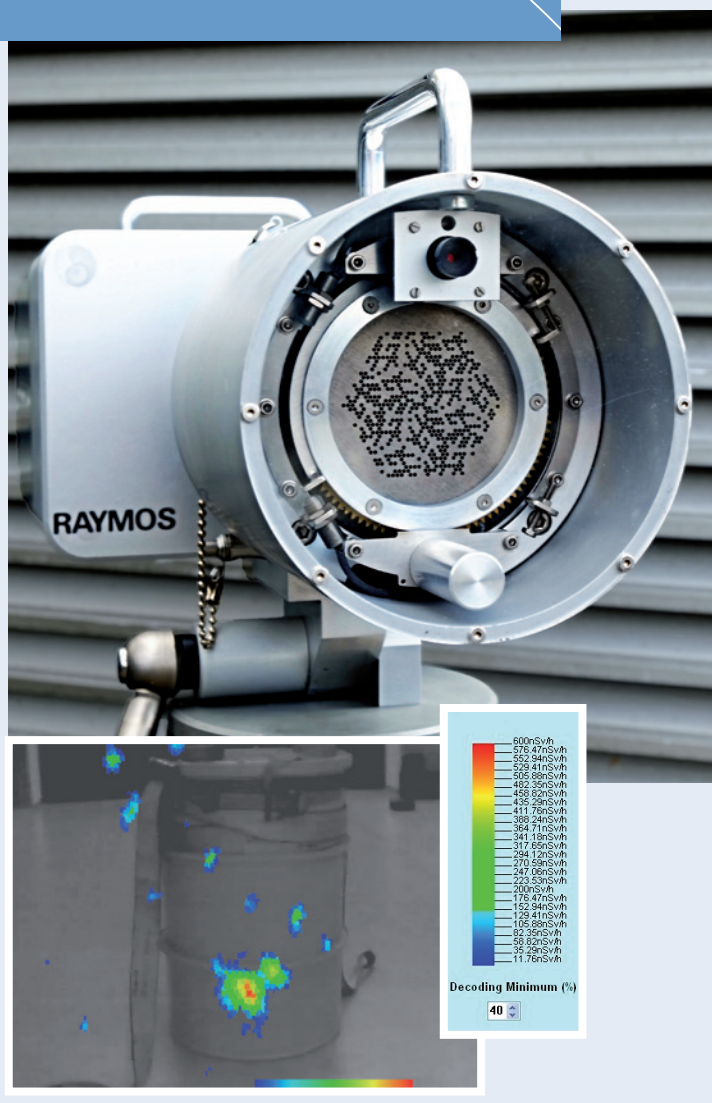
Visualization of gamma emitters
Provision of an intuitive picture of shape and position of gamma radiation sources by an automated system, not requiring a highly trained measurement specialist.

Measurements of contamination profile
Identification of contaminated surfaces, as well as determination of intensity and extension of contaminated area.

Identification of Hot Spots
Effective reduction of dose rate exposition by locating hotspots, to take suitable means for workers in the vicinity during dismantling or other activities.

Determination/Distribution of activity
Generation of a detailed map of activity distribution to optimize dismantling activities and material streams for different waste types.

Inspection of radioactive containers and shielding
Quick measurements to determine the presence and position of radioactive sources. Check, if the present shielding is sufficient and, if necessary, where additional one is required.

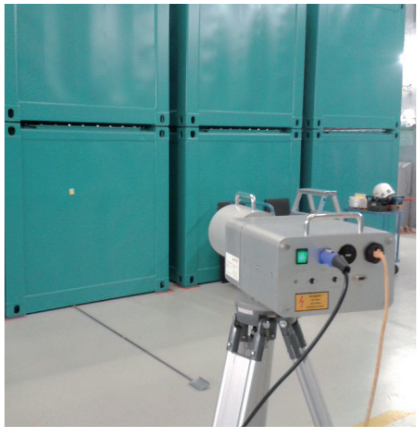


Innovation Solutions Excellence

The most significant advantages of RAYMOS are:

- Direct identification of the radiation source
- Distance to object/remote operation to minimize dose rate exposition on the operator
- Minimization of waste by removal of Hot Spots to optimize dismantling strategies
- High spatial resolution, allowing location of the source position
- Identification and direct comparison of several Hot Spots
- Superimposing video and gamma images for maximum intuitive use
- Short measuring time
- No process media required
- Compact and mobile device (approx. 30 kg)
- Easy handling and decontamination

Technical data	
Gamma camera type	Multi-Aperture Collimator for higher sensitivity
Gamma energy range	50 – 1500 keV
Resolution at 660 keV	0.8 degrees
Exposure time range (single frame)	30-600 seconds
Video resolution up to	1536 x 1024 pixels
Electrical power requirement	Standard 230 V AC power line
Sensitivity	Down to 0.7 µSv/h at measuring head



Measurement input

- “Gamma photography” (30-600 s)
- Distance to the object (0.5-20 m)
- Visual Image

Obtained information

- Visualization of source distribution
- Coloured scaling, relative to maximum or to a specified dose rate scale
- Data transfer via Ethernet connection

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