



SYSCADE

MOBILE UNIT COMBINING X-RAY INSPECTION
AND GAMMA CHARACTERIZATION

SYSCADE



MOBILE LABORATORY FOR INSPECTION AND CHARACTERIZATION OF NUCLEAR WASTE

DSi and Scannix joined their **expertise** to develop site remediation equipment and services combining X-ray inspection and radio-isotopic characterization of radioactive waste.

A **new solution** is born for Non-Destructive Inspection and for Characterization of nuclear waste produced by the nuclear industry.

A mobile lab equipped with **2 state-of-the art technologies** :

A **high-definition Non-Destructive Evaluation (NDE) radiography equipment** to inspect and determine content of waste drums and provide detailed images. It applies to the nuclear industry for the characterization of low-level waste (LLW) and very low-level waste (VLLW).

The equipment is available with a 320 kV X-Ray generator and a ruggedized digital linear detector for Real-Time Digital radiography.

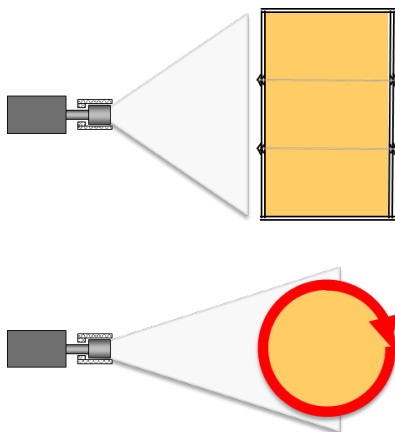
A **high-resolution gamma spectrometry system with HPGe (High Purity Germanium) detector** to determine which isotopes are present in the waste and to evaluate activity levels.

This characterization system can be used in 3 modes:

OG MODE

« OPEN GEOMETRY »

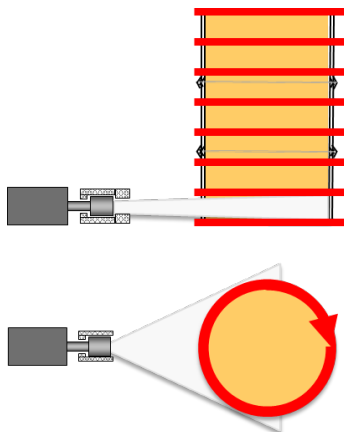
Global measurement
while drum rotates
(1 spectrum only)



SGS MODE

« SEGMENTED GAMMA SCAN »

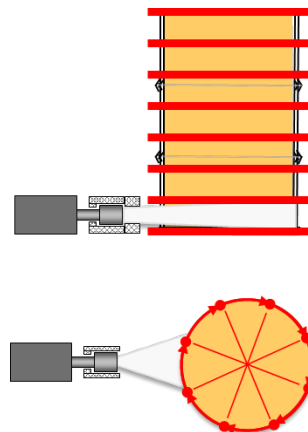
Radioactivity distribution,
segment-by-segment
(up to 16 spectra)



ANGULAR-SGS MODE

« ANGULAR-SGS »

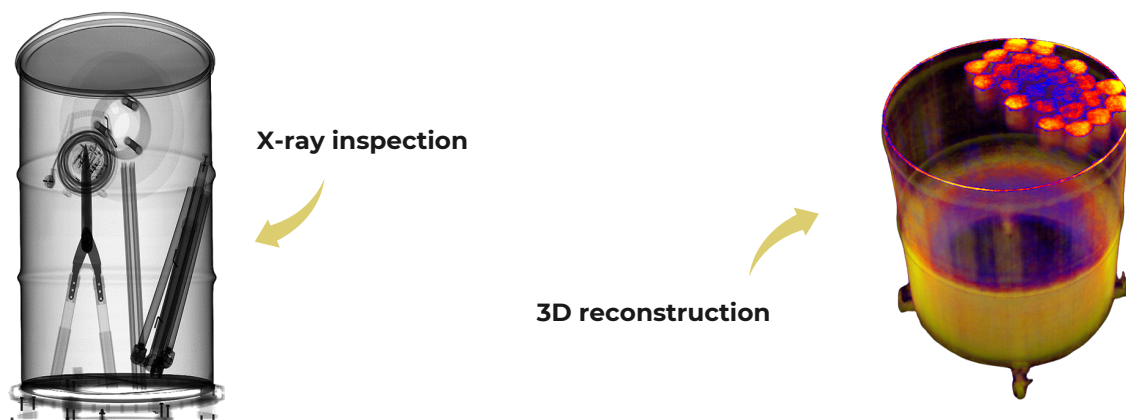
SGS + Angular resolution,
up to 192 spectra
per drum



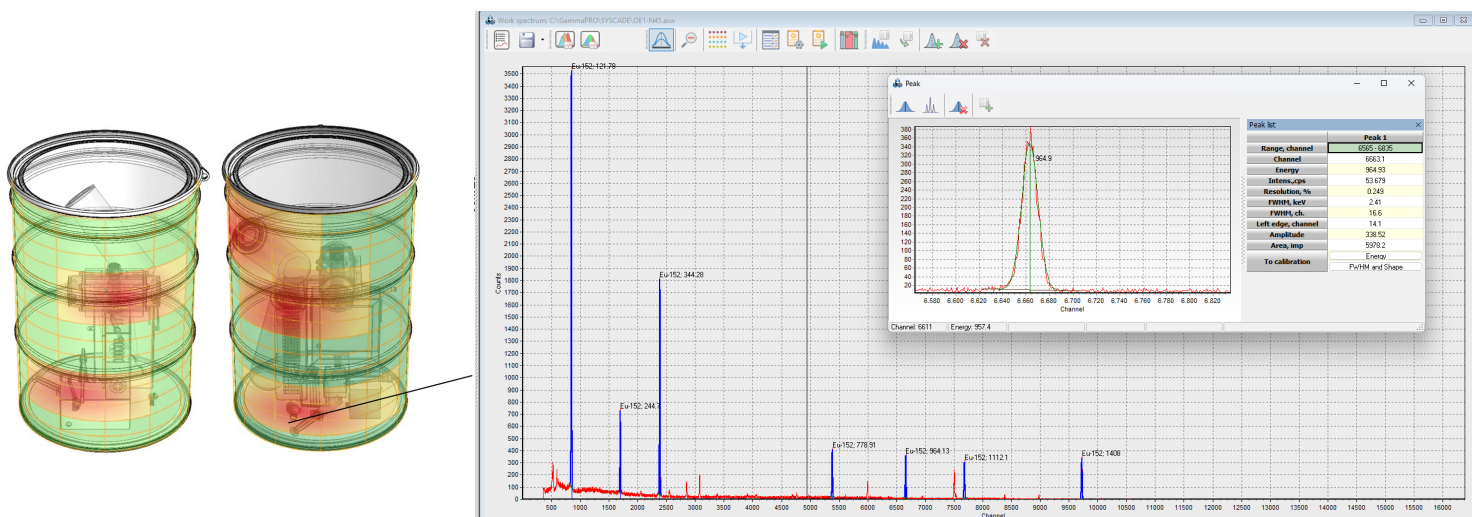
APPLICATION



- Automatic inspection and characterization measurement
- Dedicated software for automatic isotope identification and ready-to-use calibration routines
- X-ray inspection to reveal the presence of liquids (with their volume and density), tools, plastics, papers, cables, glass,... in real time
- Imaging to reveal the presence of liquids, organic or heavy materials like shielded containers made of lead or tungsten



For each drum the following data are recorded: date, time, operator name, drum identification number, gross weight, gamma dose rate measured at 1 m, associated gamma spectra with analysis report, calculated activities with measurement uncertainties, Minimum Detectable Activities (MDAs) as well as 2D or 3D radiographs of each waste drum with selectable view angles (selectable from 1 to 12).



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