

# SoMeLEV PROJECT

## Solution for characterisation and free-release of large volume of radioactive material



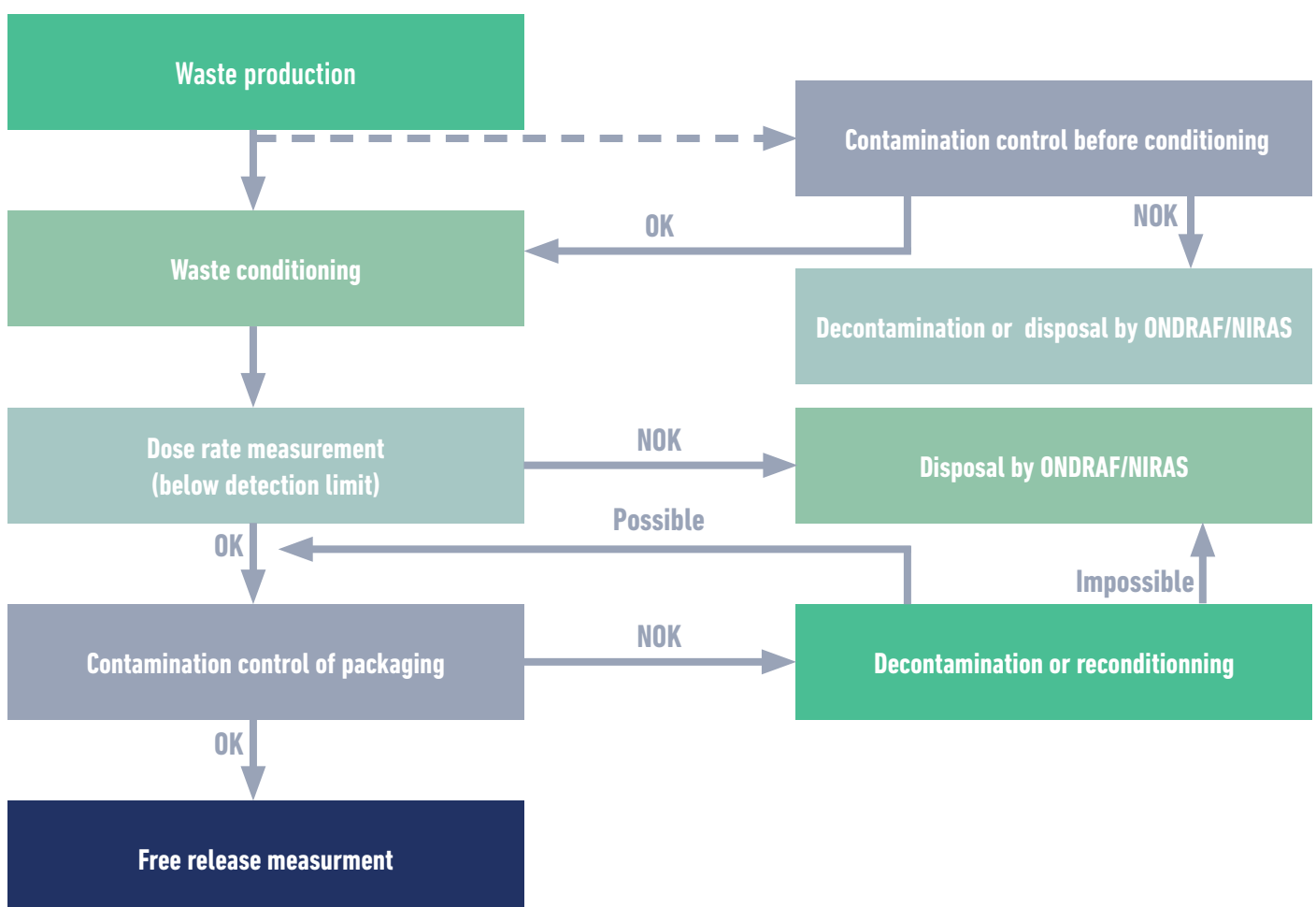
Through its personalised guidance and recognised industrial experience, IRE Lab is your best choice for advice and tailor-made solutions for radioactivity analysis and monitoring.

## SoMeLEV PROJECT : Solution for characterisation and free-release of large volume of radioactive material

In the current context of nuclear facilities dismantling, it is expected that decommissioning works will generate a large amount of material, equipment and waste that must be efficiently characterised either for free release in order to limit the volume of radioactive waste or for disposal as radioactive waste.

Thanks to the support of FPS-Economy and the Energy Transition Fund, IRE Lab carried out a feasibility study aiming to investigate a radiological characterisation system suitable for the control of those material.

The first step of the project was to consult different stakeholders in the dismantling sector to collect their needs and expectations. Thanks to this information, IRE Lab identified the different steps of control for free-release and developed the corresponding flowchart.



To evaluate the technical feasibility, the available equipment on the market was benchmarked and the following main conclusions were drawn:

- Contamination (semi-)automatic measurement before conditioning:
  - Equipment only available for limited flow of material
  - Technical limitation for the development for largest flow
- Dose rate measurement:
  - Adapted equipment available but not integrated to a (semi-)automatic system
  - Limited engineering necessary for integration to an automatic system
- Contamination (semi-)automatic measurement of package:
  - Existing only for certain geometries (e.g. drums)
  - Low interest compared to a manual measurement
- Free-release measurement:
  - Several equipment available at different stage of development (prototype, in use, ...)
  - 2 main technologies used: plastic scintillator or gamma spectrometry (HPGe) or combination of both
  - Generally developed for 1m<sup>3</sup> volume
  - Each technology needs further development to comply with the Belgian regulation and operate in a timing compatible with an industrial process

Thanks to the project, IRE Lab has now a good overview of the available equipment for the radiological characterisation and free-release of large material but is also aware of the limitations of those systems to satisfy the Belgian regulation.

IRE Lab is ready to help suppliers or customers to adapt efficiently a characterisation equipment but also to integrate others measurements useful for a rapid sorting, transport or storage if necessary.



**Need more information?**

**Contact Thomas Ost, project manager at IRE Lab: [Thomas.Ost@ire.eu](mailto:Thomas.Ost@ire.eu)**

The National Institute for Radioelements (IRE) and its IRE ELiT subsidiary give priority to promoting the beneficial use of radioisotopes for medical applications while ensuring the absence of harmfulness. For IRE Lab, this priority translates into its provision of advice and personalised solutions in the radioactivity measurement and monitoring sector.

Thanks to its multidisciplinary team and its long experience working for IRE, world leader in the production of medical radioisotopes, IRE Lab offers a range of tailor-made, tried and tested solutions in the following fields:

- Analysis of radioactivity in various different samples
- Radiological characterisation of waste, effluent and contaminated objects
- Development of continuous radioactivity sampling and monitoring equipment
- Carrying out projects at national and international level in its areas of competence.



#### GET IN TOUCH!

##### **IRE Lab**

Avenue de l'Espérance, 1  
6220 Fleurus - Belgique

**Tel. :** 071/82 95 56

**Mail :** [irelab@ire.eu](mailto:irelab@ire.eu)

**[www.ire.eu](http://www.ire.eu)**

Follow us on LinkedIn 