



# **Studsvik**

***“CASE STUDY ON WAC COMPLIANCE  
FOR CONDITIONAL CLEARANCE”***

***PREDIS WEBINAR MAY 20, 2021***

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# ***“CASE STUDY ON WAC COMPLIANCE FOR CONDITIONAL CLEARANCE”***

Waste Acceptance Criteria 2: Needs, Challenges and Opportunities

Free webinar on May 20, 2021 from 9-12 (CEST)

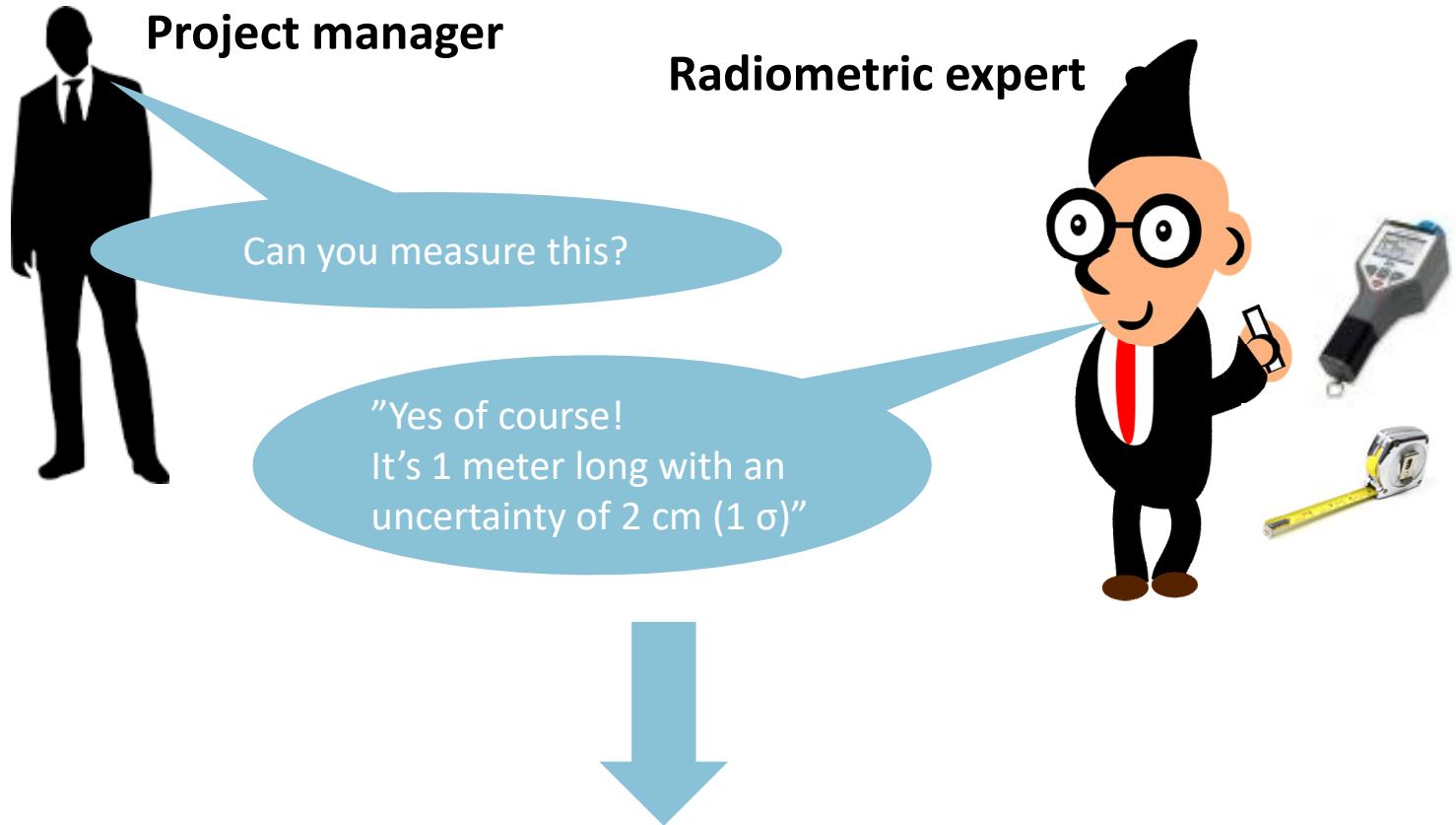
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## **Summary**

- Experiences from decommissioning project – WAC compliance for conditional clearance from a radiological point of view

# DECOMMISSIONING PROJECT - ORGANISATION



## ***CASE STUDY – CLEAR OUT THE BUILDINGS FROM ITEMS***



*If you have endless of time (and money) you can produce radiation measurements with a very good precision and get a very nice characterisation of the radioactivity contents.*



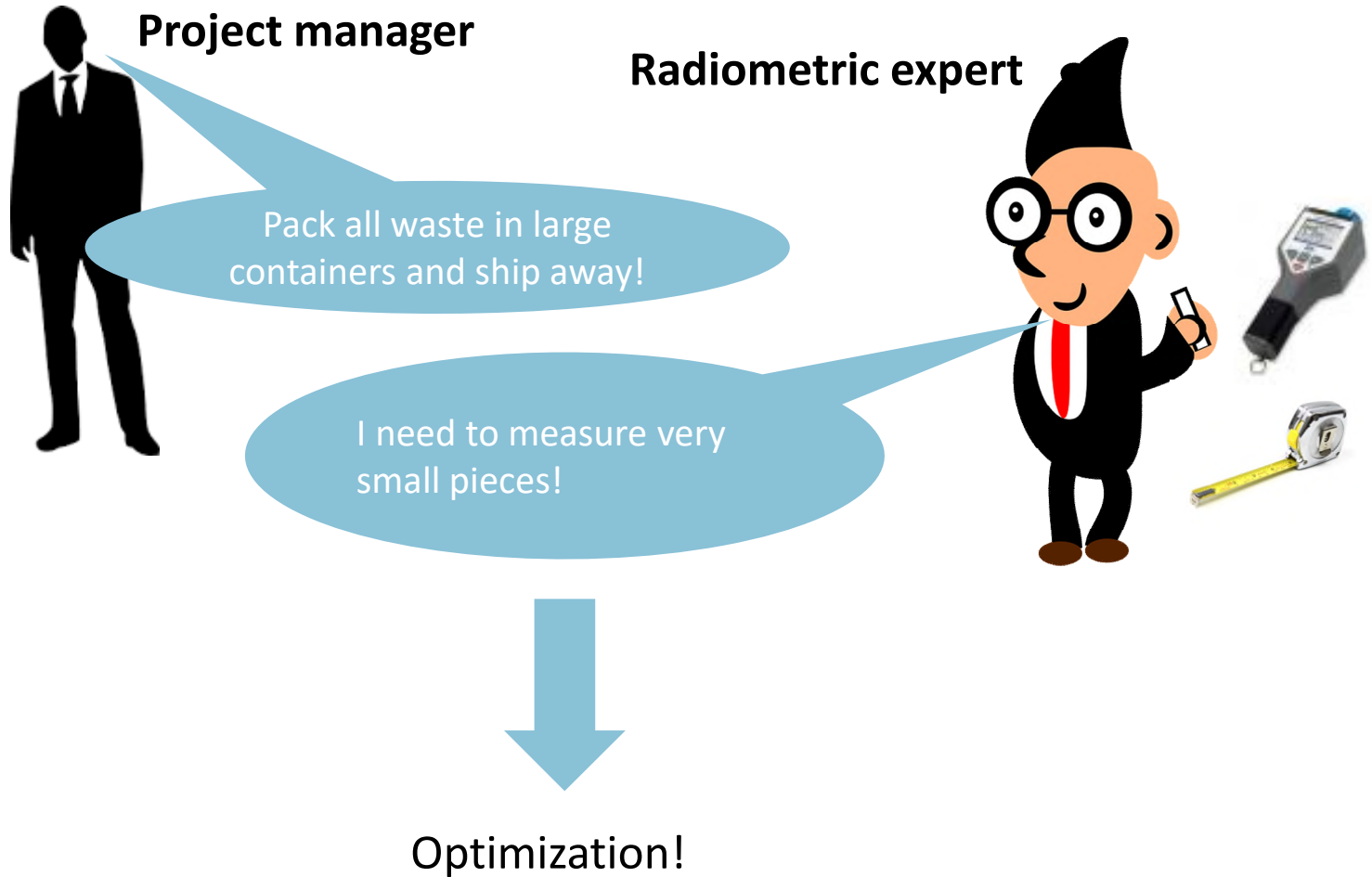
## CASE STUDY – COMPLY WITH THE WAC

Nuclide	Conditional release limits (kBq/kg)
U-238+	100
U-234	100
Th-230	10
Ra-226+	100
Pb-210+	100
U-235+	100
Pa-231	10
Ac-227	10
Th-227	100
Ra-223+	1000
Th-232+	10
K-40	1000

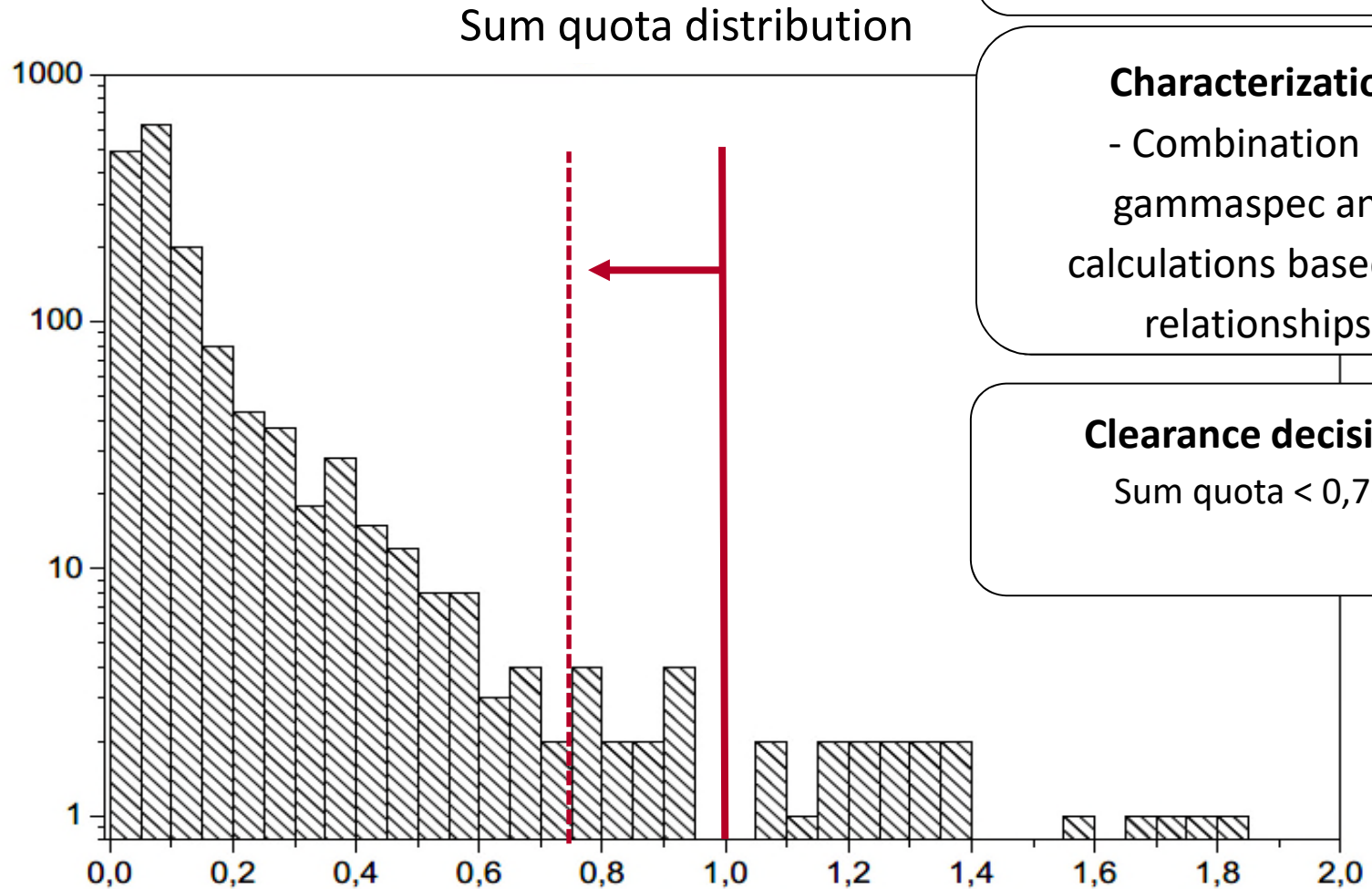
Sum quota: 
$$\sum_{i=1}^n \frac{C_i}{C_{Ni}} \leq 1$$



# DECOMMISSIONING PROJECT – ORGANISATION (2)



# CHARACTERIZATION RESULTS



**Sort and Pack**  
Reducing the measurement uncertainties

**Characterization**  
- Combination of gammaspec and calculations based on relationships

**Clearance decision**  
Sum quota < 0,75



## ***LESSONS LEARNED AND RECOMMENDATIONS***

- The characterization method was conservative and successful.
- Characterization is better performed after strategic sorting and packing
- Do good enough to meet the WAC. Tailor-made solution for characterization is wise instead of doing old-school.
- A continuously good dialogue with the regulator is advised.





***THANK YOU FOR LISTENING***



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