

sck cen
Belgian Nuclear Research Centre

Exploring a better tomorrow

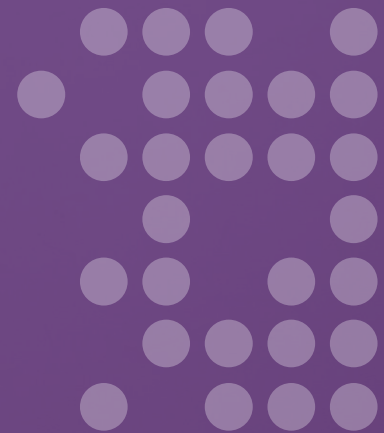


Pioneer in nuclear research

Michel Bruggeman – 10/05/2023

9th Organically Bound Tritium Workshop (10-12 May 2023, Antwerp)

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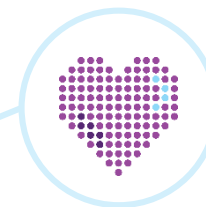
At Europe's heart

Our Belgian Nuclear Research Centre is based in Mol and Brussels. Our pioneering research is **internationally renowned**

At the forefront of progress

In 1952, we started to explore the possibilities of nuclear science and applications that could **significantly change the world**

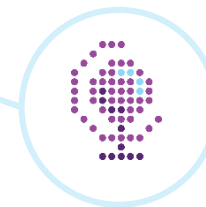
SCK CEN in figures 2021



13 years
of service on average

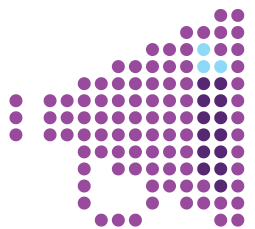


39%
with an
academic degree

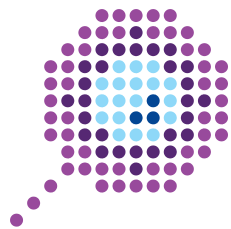


54
nationalities

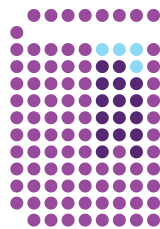
SCK CEN in figures 2021



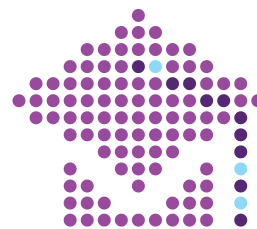
523
scientific
publications and
presentations



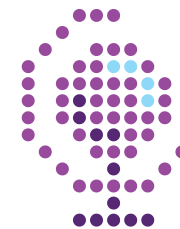
92
doctoral students



27
PhD's started

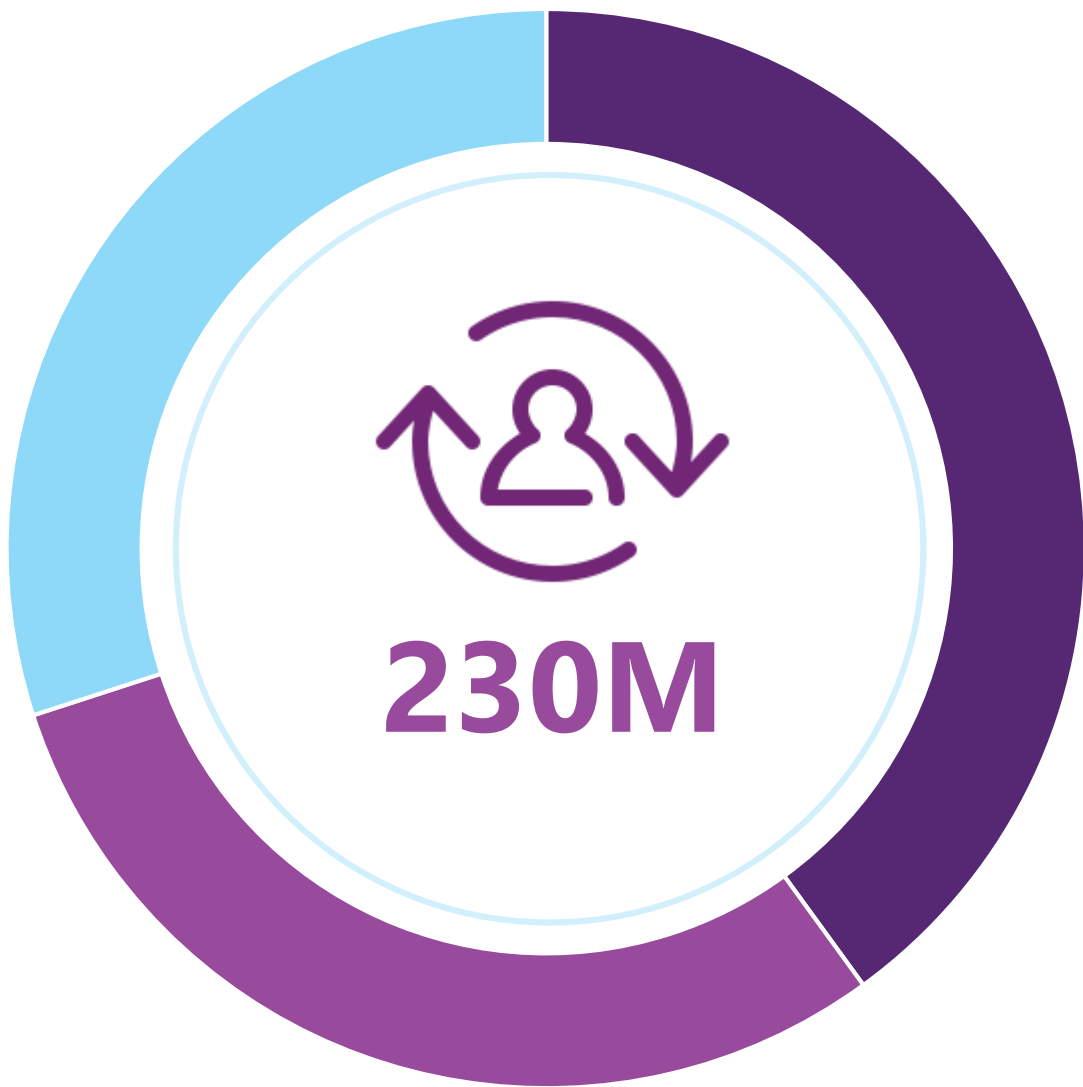


108
training courses
for third parties



85
countries





- Market revenues
- Direct governmental funding
- Labeled governmental funding

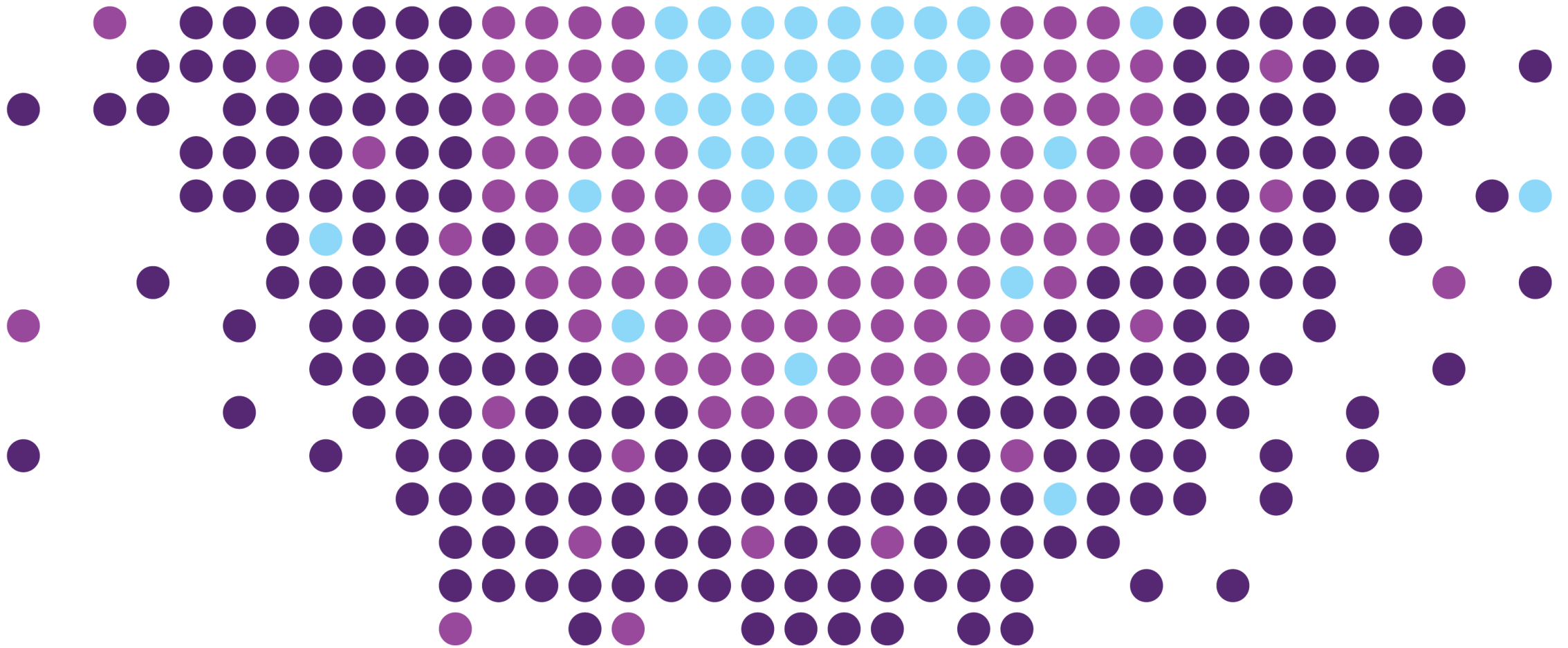
**Annual
turnover**
2022

Exploring 2040

Focus on three priorities

- Climate change
- Circular economy
- Fight against cancer

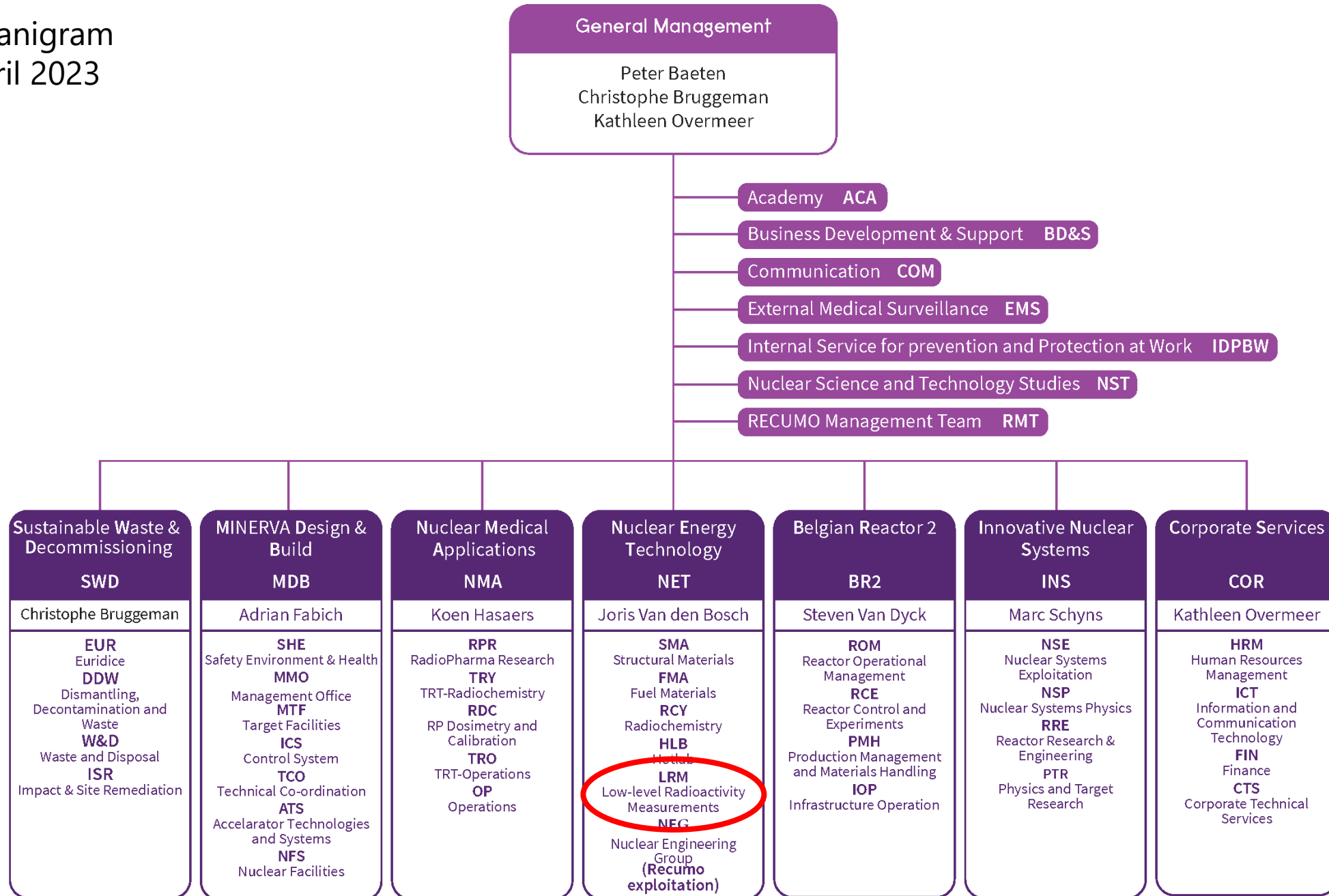




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Low Level Radioactivity Measurements

New organigram since April 2023



Radiometric techniques at LRM

Liquid Scintillation Counting

H-3, C-14, Sr-89/90, Tc-99, Rn-222
Cl-36, Fe-55, Ni-63, P-32, Pm-147, S-35



Gross Counting & Ra/Rn

Global alfa and/or beta activity
Residual beta activity

- ZnS counters
- Proportional counters

Rn-222, Ra-226 via emanation



Gamma Spectrometry

Activation & Fission products
NORM

- 18 HPGe detectors



Alpha Spectrometry

U, Th, Pu, Po, Am, Cm, Cf, Np

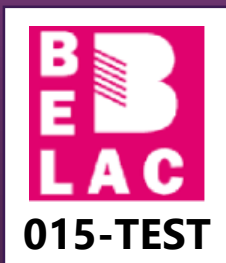
- 64 PIPS detectors



Quality & Environment Management Systems of LRM

Accreditation ISO 17025:2017
for laboratory analyses
(accreditation since 1995)

- > 20 methods in scope
- Flex scope for alpha spectrometry



Certification ISO 14001:2015
(since 2016 only applicable to LRM)

Scope:

Dienstverleningsactiviteiten door monsternamen, -ontvangst, en -voorbereiding, laboratoriumanalyses en metingen met betrekking tot de aanwezigheid van lage radioactiviteitsniveaus in monsters afkomstig van het menselijk lichaam, uit de omgeving, NORM en TE-NORM materialen, de menselijke en dierlijke voedselketen, evenals in het kader van nucleaire R&D projecten



Main Projects/Customers of LRM

- Partner of FANC in Radiological Monitoring of the Belgian territory (Flanders) -> 4000 analyses/year
- Monitoring of drinking water (in support to water-analysis laboratories)
- Partner of FAVV and BFA for radioactivity of food and feeding stuffs
- Bio assay of workers in nuclear industry (EC (JRC), Belgoprocess, SCK CEN)
- Nuclear measurements for third parties
 - NORM, nuclear industry (NIRAS/Belgoprocess)
 - Export certification of food and feeding stuff
- Nuclear measurements for research purposes
- Education and training on nuclear measurements
- Sampling / analysis in nuclear emergency
- Research: following needs and opportunities
 - Difficult to measure radionuclides (waste characterisation)

Thank you for your
attention



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SCK CEN

Belgian Nuclear Research Centre
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Centre d'Etude de l'Energie Nucléaire

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Fondation d'Utilité Publique

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