

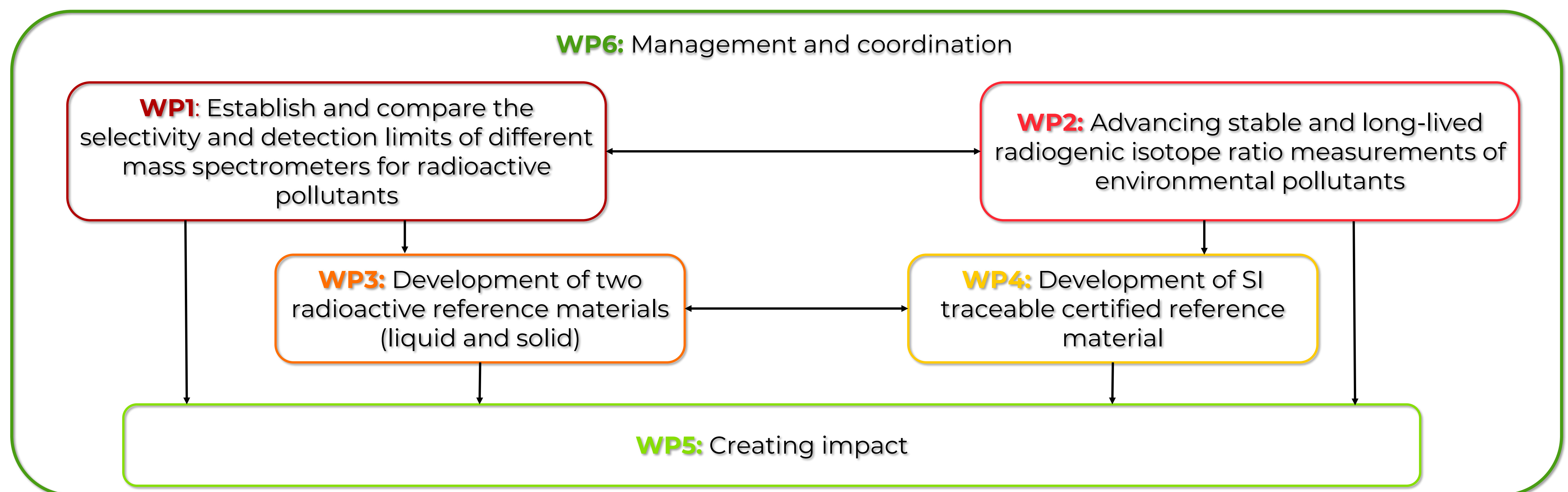
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<https://www.npl.co.uk/euramet/metropoem>

Introduction

- The **European Green Deal** launched in December 2019 is a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts.
- The **zero-pollution ambition promoted by the European Green Deal** requires highly sensitive and state-of-the-art detection techniques for the measurement of ultra-low amounts of pollutants. **Mass spectrometry** is a key technique due to its high potential for reducing measurement uncertainties and detection limits. However, there is no existing traceability chain for radioactive elements and a lack of SI-traceable isotope reference materials for stable isotopes.
- MetroPOEM** (2022-2025) brings together metrological institutes and key expert centers to work together and tackle these metrological challenges.
- The outcomes will benefit **testing laboratories** taking environmental measurements, **users of isotope reference materials**, **regulators** as well as **instrument manufacturers**.

Project structure



Outcomes

- Establish link** between radiometric techniques and mass spectrometry, bridging the gap between the activity (Bq) and the amount of substance (mol) of an isotope.
- Close the **traceability gap** for isotope ratio measurement resulting from isotopic fractionation (mass bias).
- Guide on the use of mass spectrometry for **low level radionuclide detection**.
- Report of different instrument's **advantages and limitations**.
- Three SI-traceable **reference materials**.
- Establish SI-traceable **calibration chain** for single collector ICP-MS.
- Harmonized methods** for measurement of polluting elements using mass spectrometric techniques.

Consortium



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