

Innovating for sustainable RM value chains

Improving the sustainability of critical
raw materials extraction

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ION  RAW

**Ionometallurgy of primary sources for
an enhanced raw materials recovery**



Outline

Project overview:

- What?
- Who?
- What is the aim? → *How the ION4RAW process contributes to finding sustainable ways to supply CRMs?*
- What about the timing?

What?

- ION4RAW will develop a new energy- and material-efficient mineral processing technology to recover by-products from primary sources by means of innovative ***Deep Eutectic Solvent (DES) ionic liquids*** and ***advanced electro-recovery*** as an only step.

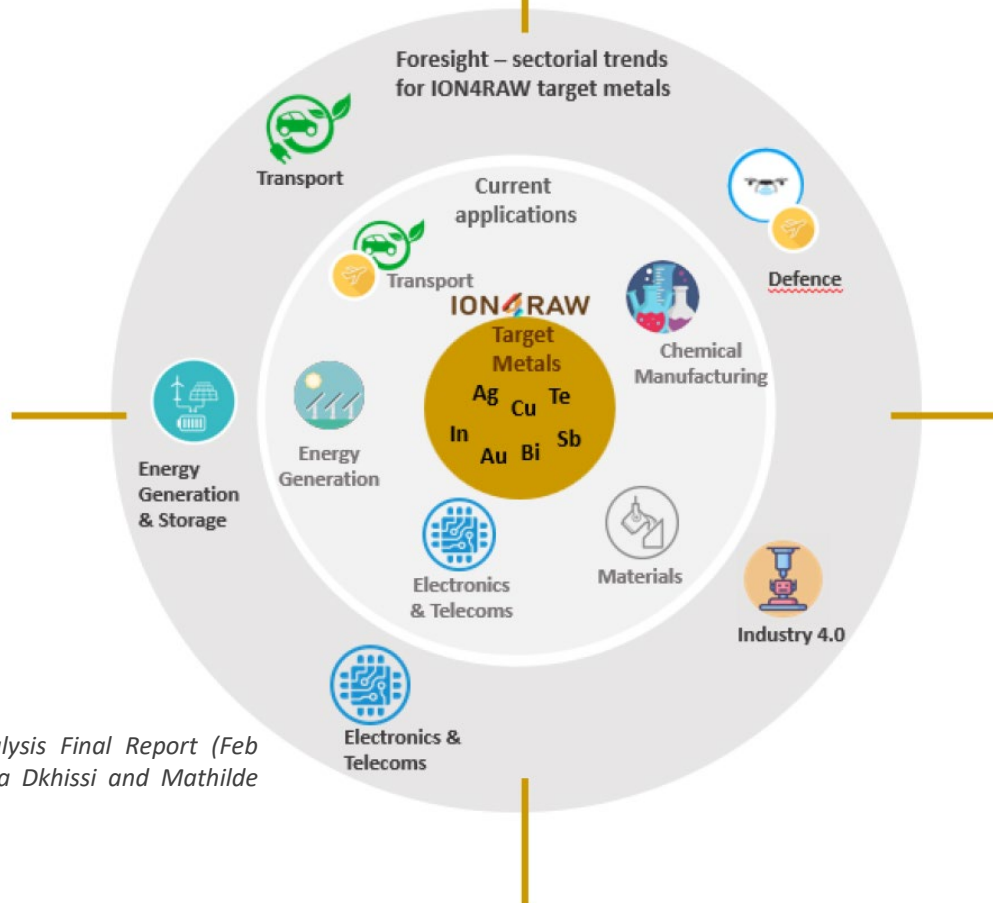
What?

- ION4RAW will develop a new energy- and material-efficient mineral processing technology to recover by-products from primary sources by means of innovative **Deep Eutectic Solvent (DES) ionic liquids** and **advanced electro-recovery** as an only step.
- Most of the targeted by-products elements are Critical Raw Materials such as bismuth (Bi), germanium (Ge), indium (In), cobalt (Co), platinum (Pt) and antimony (Sb). Accompanying major product metals, e.g. copper (Cu), silver (Ag) and gold (Au), may also be recovered by this process.

83 Bi Bismuth 208.9804	32 Ge Germanium 77.64	49 In Indium 114.818	27 Co Cobalt 58.9332	78 Pt Platinum 195.078
51 Sb Antimony 121.76	29 Cu Copper 63.546	47 Ag Silver 107.8682	79 Au Gold 196.9665	

What?

➤ Current and foresight applications for target metals



ION4RAW, D7.3 – Market Analysis Final Report (Feb 2023). Sam Whittlesey, Yasmina Dkhissi and Mathilde Legay (LGI)

Who?



- ✓ **13** Partners
- ✓ **8** Countries (7 from EU + Peru)
- ✓ **5.648.450 €** Budget
- ✓ From **01.06.2019** to **30.11.2023**
- ✓ H2020, Research & Innovation Action

How the ION4RAW process contributes to finding sustainable ways to supply CRMs?



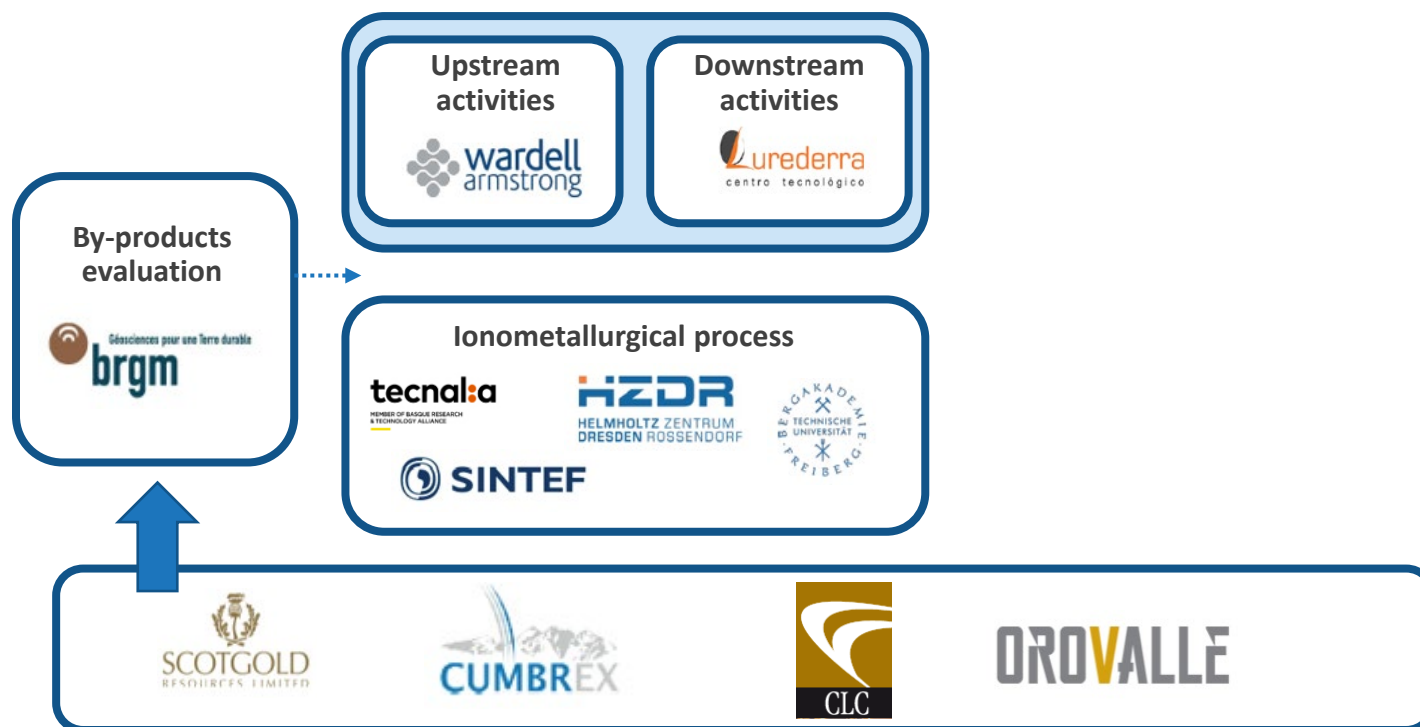
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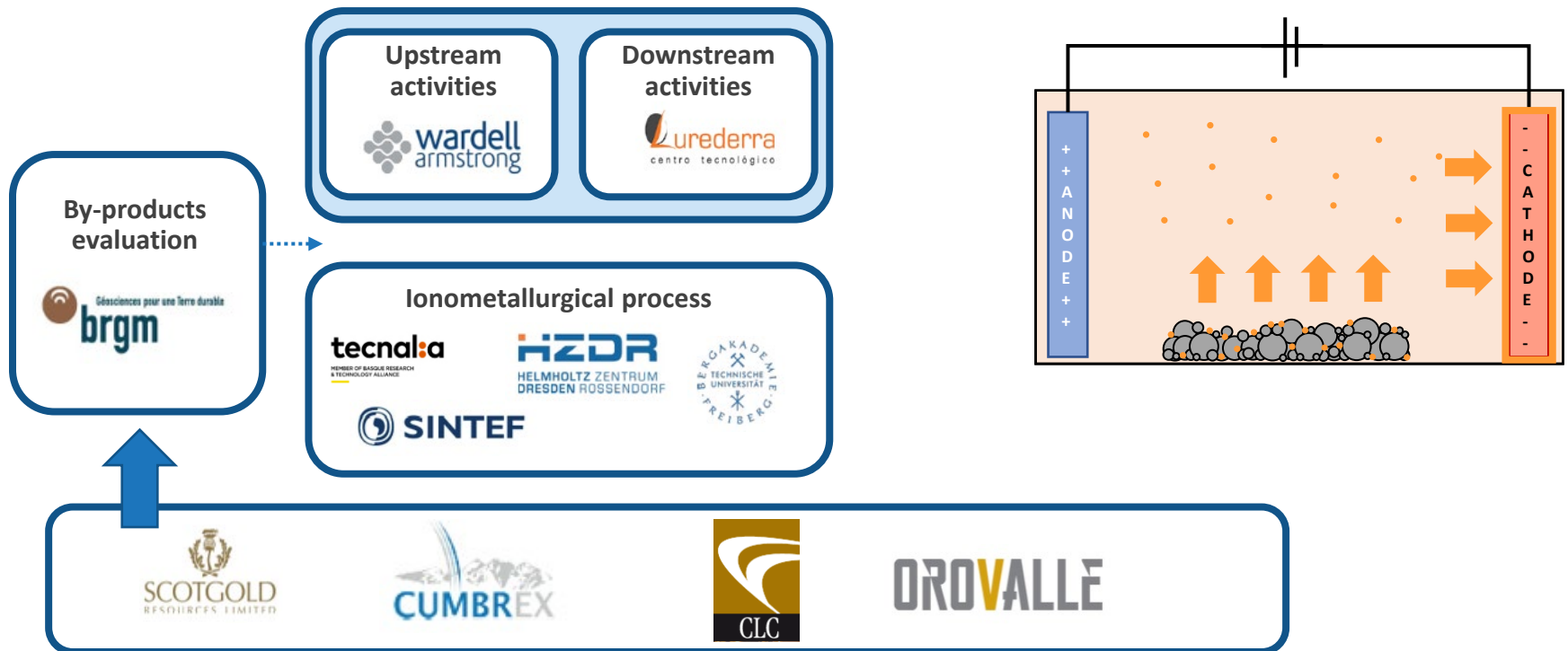
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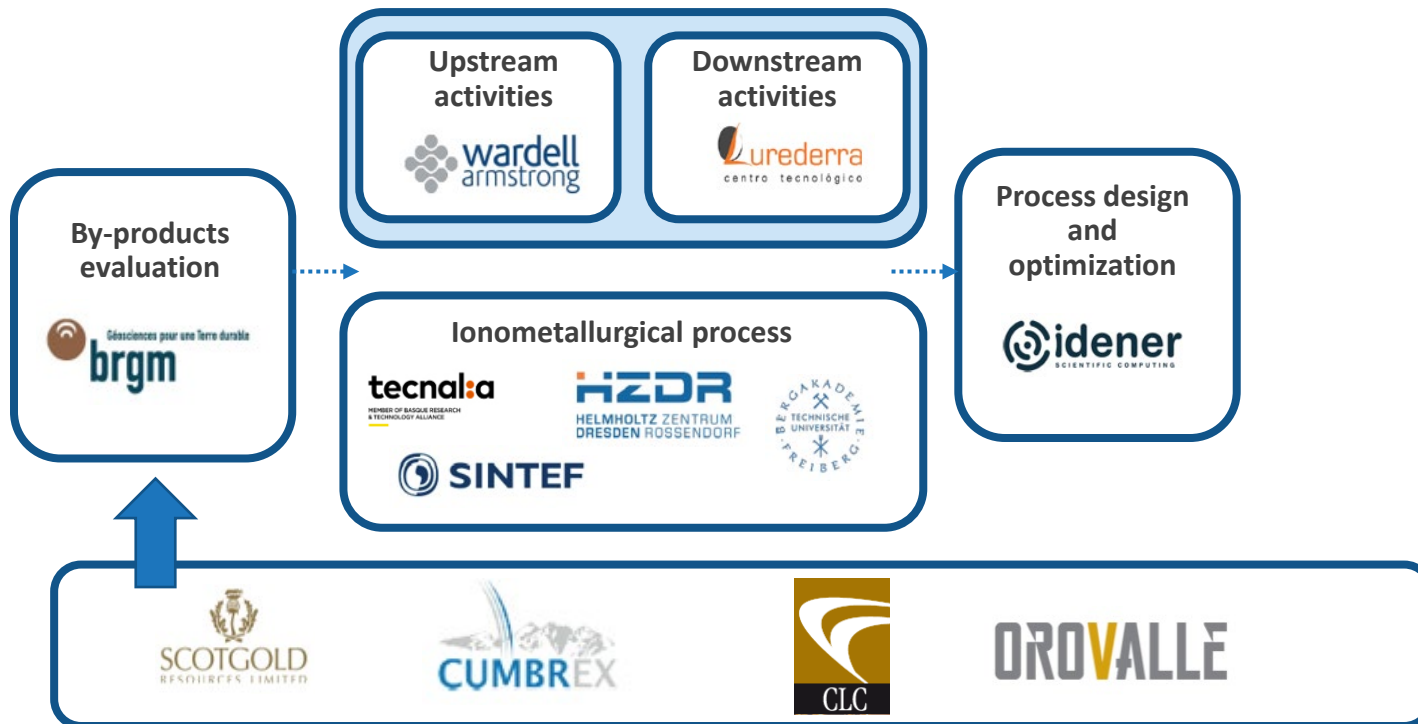
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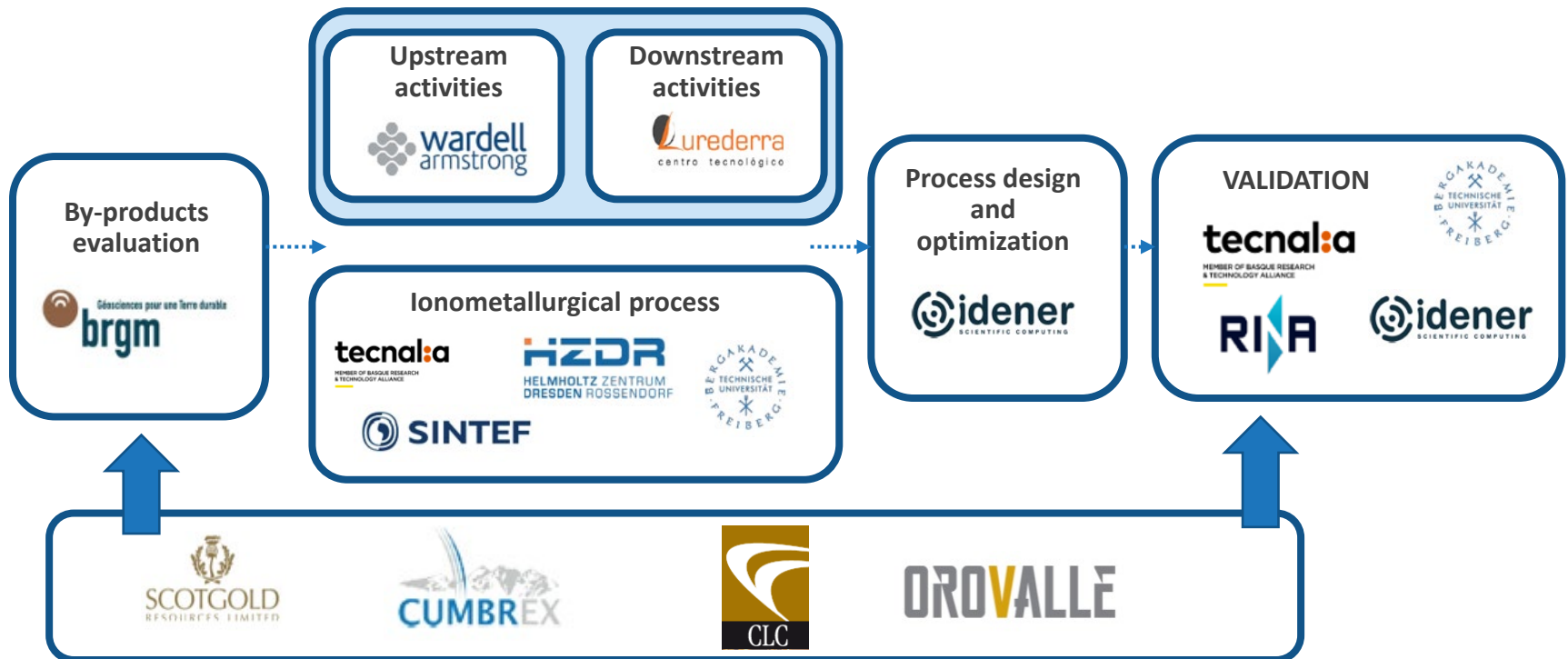
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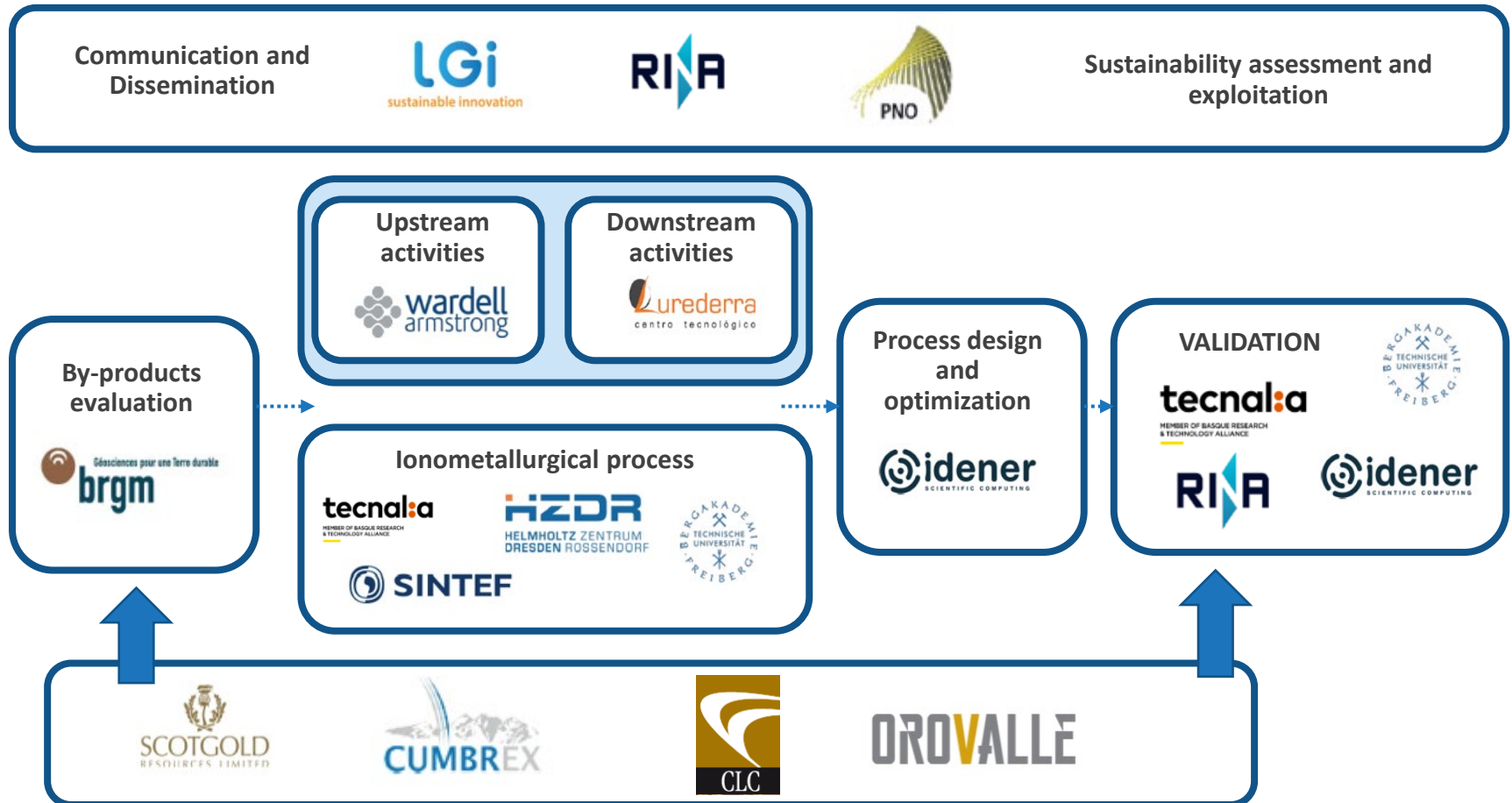
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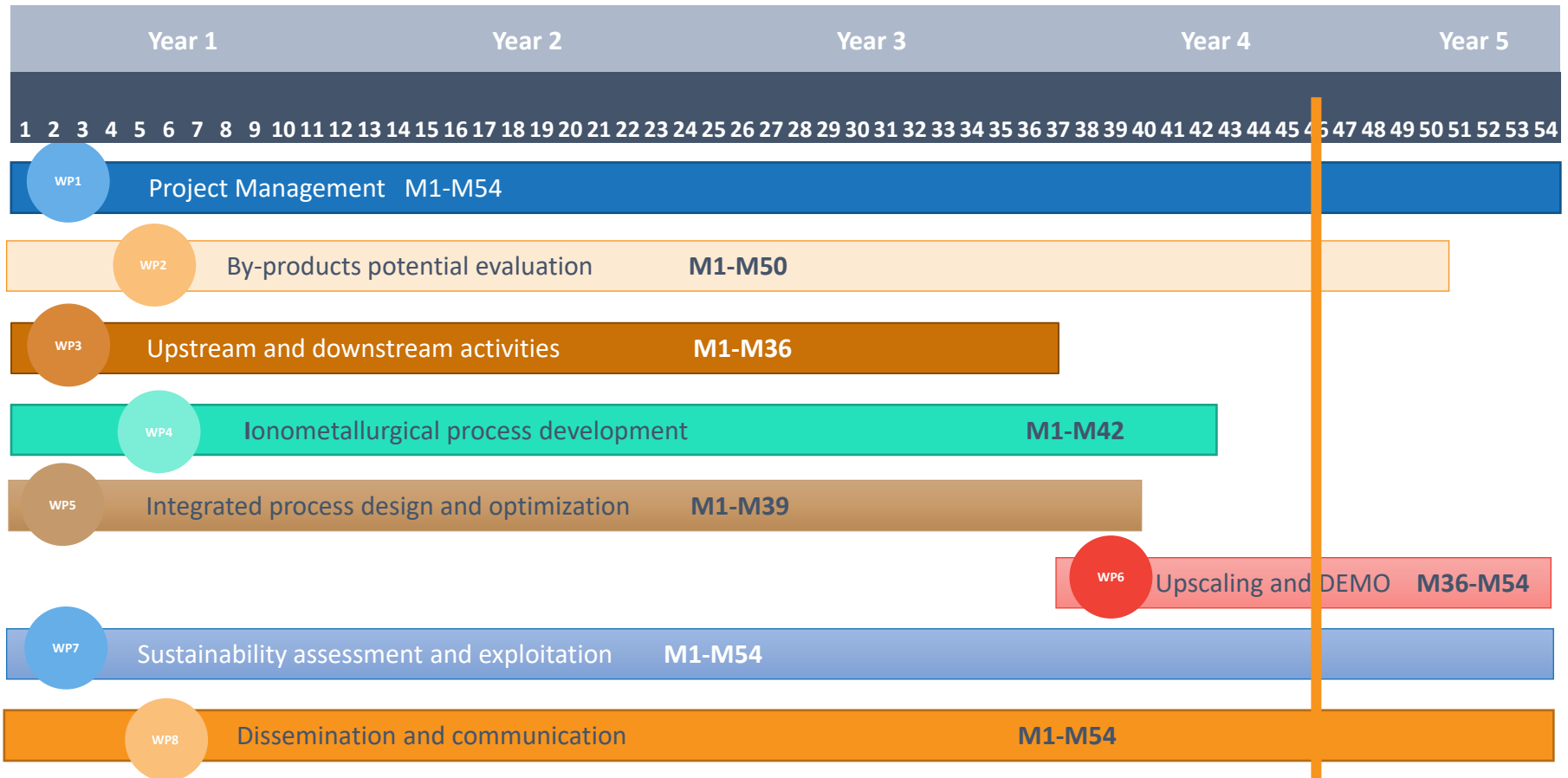
What is the aim?



What is the aim?



What about the timing?



Thank you. Get in touch for more information!



Follow the progress of the project on the ION4RAW website.



Project coordinator: Maria Tripiana, IDENER
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