

Process-Informed design of tailor-made Sorbent Materials for energy efficient carbon capture (PrISMa)

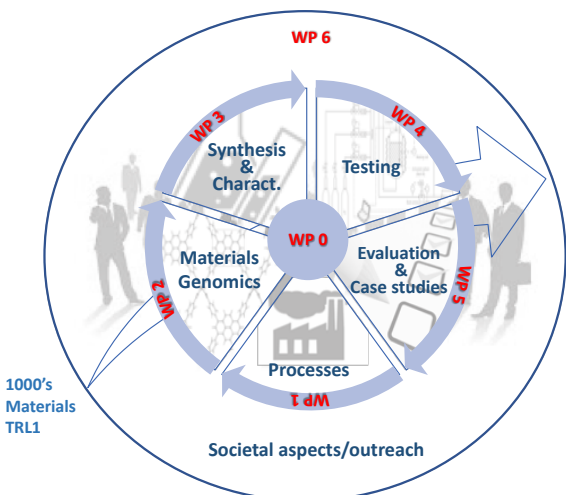
The Challenge:

“There is currently no ability to quickly identify what processes and process conditions are optimal for a particular adsorbent to achieve the required specifications for a capture application” (Mission Innovation report)

Our Aim:

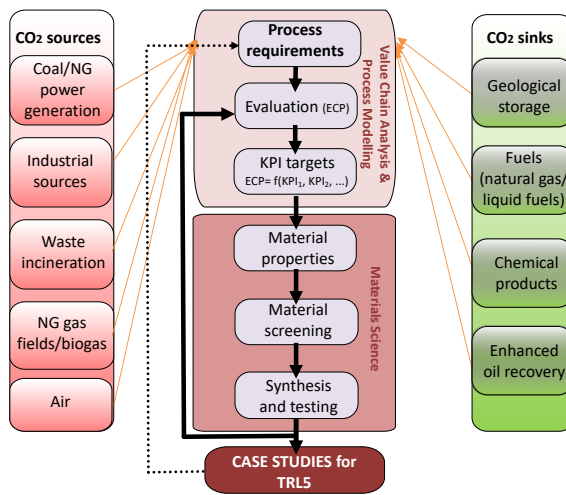
To **accelerate the transition** of energy and industrial sectors **to a low-carbon economy** by **developing a technology platform to tailor-make cost-efficient carbon capture solutions** for a range of different CO₂ sources and CO₂ use/destinations.

How will we do it?



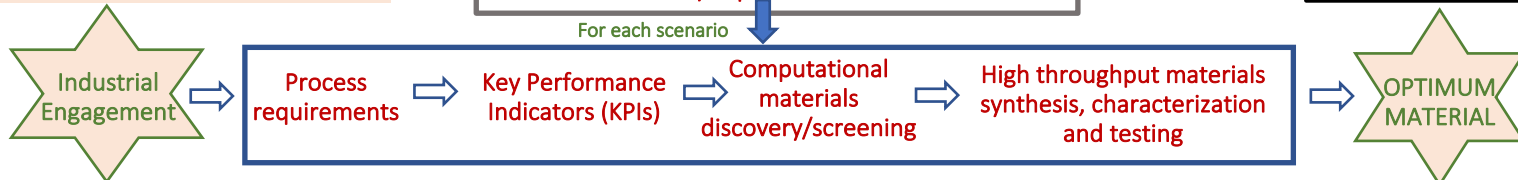
Innovation cycle : Integrating molecular science and process engineering

Illustration of PrISMa platform



Separation Matrix of N (CO₂ sources) x M (CO₂ destinations) representative scenarios

For each scenario



Key Technical Outputs

- ✓ A **technology platform** that allows us to identify for a given source and target of CO₂ the optimal capture technology. This platform is based on a **methodology for systematic knowledge exchange between material science and process engineering**.
- ✓ A **set of case studies**, inspired by the interest of the national funding agencies and our industrial advisory board, **to bring the technology/material to the TRL5 level**.

