

## Piloting of mine tailings

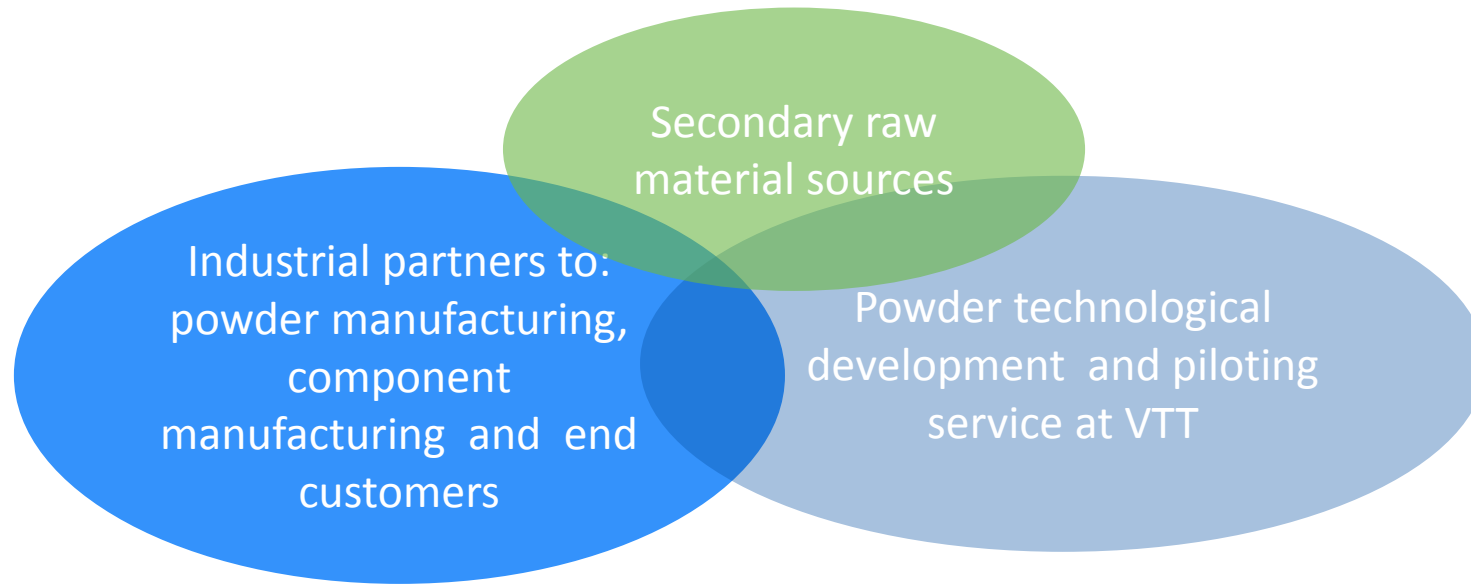
We have great examples of successful projects giving valuable mine tailings a new life.

But so far only the surface has been scratched...

### *The solution*

- Case projects to create link between side stream owners and product manufacturers. We want to have 3 to 5 case studies focus on mine tailings and ceramic and ceramic composite products.
- **Expected synergies and complementarities:** Secondary raw material based components with good technical properties will offer business benefit to secondary raw material owners, powder producers, component manufacturers and end users. Benefit come from the utilization of residue materials from industrial sources in line with circular economy and sustainability. Another benefits will be low raw material cost and in best case potential substitution of a critical raw material.
- **Market & Business opportunities:** European mining companies produce more than 42 different metals and minerals and all of them produce also mine tailings. Some of them could be a feasible source of alternative raw materials to be used in well selected ceramic materials.
- **Partners already identified:** Companies/entities managing data bases of residues (e.g. mine tailings), owners of residue materials, powder producers, component manufactures. Pyhäsalmi Mine.
- **Wanted additional partners:**
  - Companies looking for disruptive raw material sources and component manufacturing and end users focusing on environmental awareness in their product portfolio. Powder producers, manufacturers of ceramic components.
  - Academic partners with suitable infrastructure (powder processing knowhow + equipment)

# From piloting to business opportunities



*Powder injection moulded and sintered parts made of a mine tailings.*



*Successfully synthesized white mullite based ceramic pieces utilizing Mo ore tailings as raw material source.*