



Project summary

Scope: To integrate cutting-edge electrolysis and CCU technology bricks into an industrial-scale demonstrator of a high-intensity, low-energy, intelligent, electrolysis cell with lower CO₂ emissions for new aluminum production plants.

Committed partners:

- Not disclosed (lead: Rio Tinto)

TRL:

- Technological bricks demonstrated or under development are currently TRL 4-7.
- Newer technological bricks are at TRL 2-3.
- The aim is to integrate these bricks in two steps:
 - Target TRL 7-8: qualification and validation of performance in operational environment
 - Followed by the launch of a pre-series at TRL 9.

Estimated budget (step 1) : 10 – 30 M€

Openings in the consortium

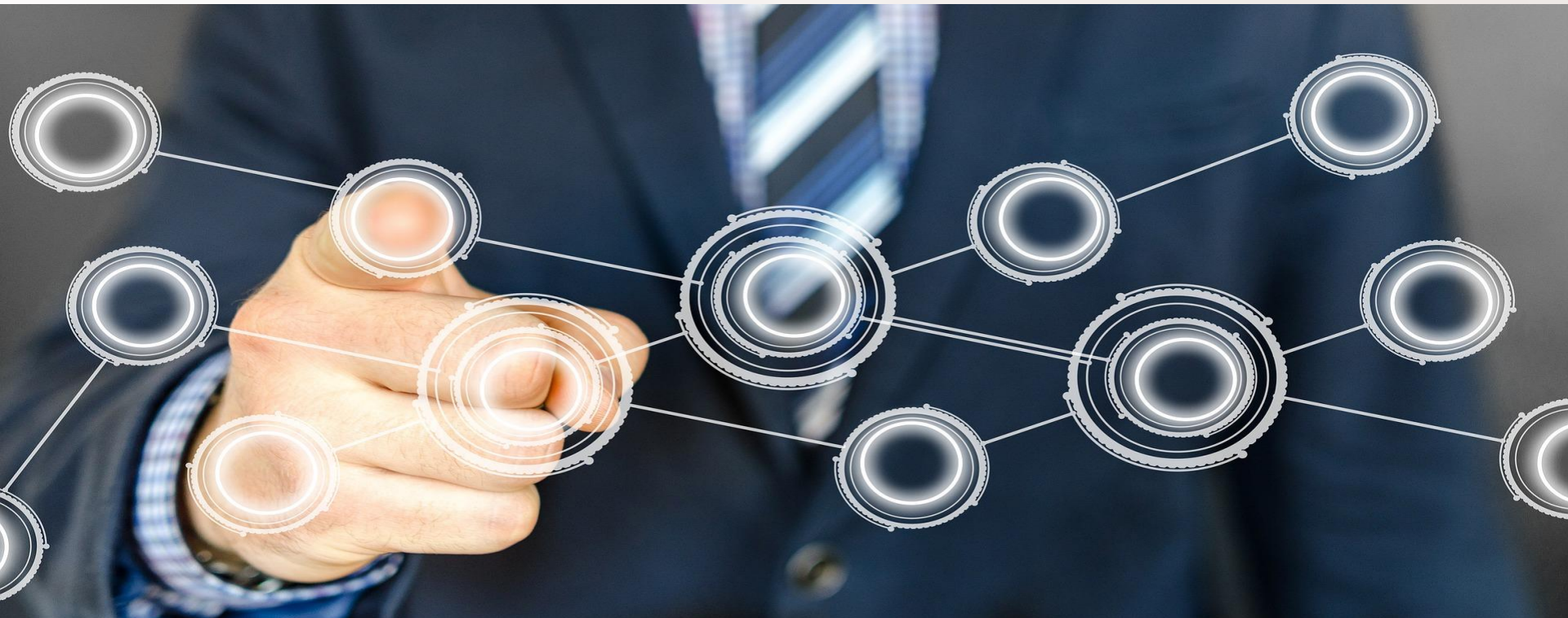
1. Partners for CCU solutions to deal with very low CO₂ concentration, in presence of pollutants (ex: HF & fluorides particles, SO₂, dust,...)
 - Typical composition of gas from current electrolysis cells (before existing gas treatments):
 - CO₂ = x10 mg/Nm³
 - HF = x100 mg/Nm³
 - SO₂ = x100 mg/Nm³
 - New cell design may limitedly increase concentrations
2. Partners for innovative heat loss management solutions, applicable in aluminium electrolysis cell context:
 - low to moderate temperature gradients,
 - complex geometry,
 - high magnetic fields, ...

In both cases, very competitive capex & opex costs are targeted (reminder: there is about 300 cells per potline, and 1 to n potlines / plant)

Interested? Contact AXELERA



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