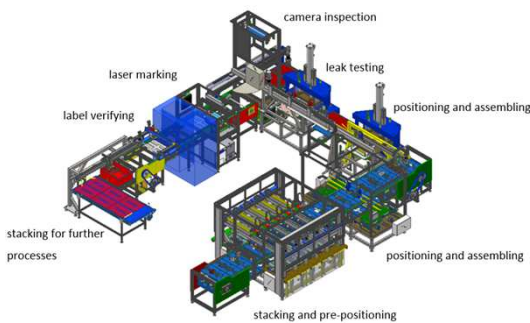


Automated mass-manufacturing and quality assurance of Solid Oxide Fuel Cell stacks

Objectives

- Reduce stack cost to 1000 €/kW at 10 MW/year production volume
- Show stack cost-reduction potential to 500 €/kW at mass-production (2000 MW/year)
- Reduce cell manufacturing cost to 400 €/kW at production volume of 10 MW/year
- Show cell cost-reduction potential to 200 €/kW at mass-production (2000 MW/year)
- Increase production yield in all parts of stack manufacturing value chain to above 95% by automation and quality assurance
- Develop and validate cell- and interconnect quality assurance methods which are independent of stack manufacturer or stack design
- Validate component manufacturing processes compliant with REACH Regulations
- Consolidate partners' extensive background and basic research results into mass manufactured products
- Strengthen the competitiveness of the European fuel cell industry



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Project partners

qSOFC is coordinated by VTT and funded by Horizon 2020, which is the biggest EU Research and Innovation programme.

The project is based on the products of industrial partners (Sandvik, Elcogen, HaikuTech, ElringKlinger) and motivated by their interest to further improve their products and consolidate an efficient value chain by collaboration. Operating at different phases of the value chain, industrial partners are not competing against each other, which enables efficient collaboration and knowledge sharing within the project. Furthermore, system integrators (Convion, Newenergyday) provide external advice to complete the chain.



Figure 2. qSOFC covers a complete, all-European industrial value chain for SOFC

Within this approach, the whole system and its components will be optimized comprehensively to fulfil and exceed end-users' requirements. Research centres (VTT and ENEA) support these companies to develop, experimentally validate and demonstrate their product, and leverage it to market.

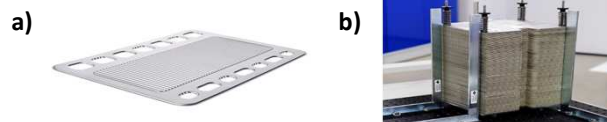


Figure 3. (a) ElringKlinger Solid Oxide Fuel Cell © ElringKlinger and (b) Elcogen's Solid Oxide Fuel Cell stack © Elcogen Oy