



Development of innovative 50 kW SOFC system



Objectives

- Design and manufacturing of a State of the Art 50 kW SOFC system with 60% electrical and 85% total efficiency.
- System and components enabling a lifetime of 30000 hours and two-years continuous operation without planned shut-downs.
- Significant cost reduction. System costs below 4000 €/kW.
- Identification and analysis of most promising end-users and applications for stationary SOFC systems.

Project partners

This project (INNO-SOFC) is coordinated by VTT and funded by EU Horizon 2020 program, which is the biggest EU Research and Innovation program.

The project is based on the products of industrial partners (Convion, EnergyMatters, Elcogen, and ElringKlinger) and motivated by their interest to further improve their products and consolidate an efficient value chain by collaboration. Industrial partners are operating at different phases of the value chain and are not therefore competing against each other, which enables an efficient collaboration and knowledge sharing within the project.



Figure 1. The vision of Convion's 50 kW Solid Oxide Fuel Cell power plant. © Convion Oy

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 671403. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and Finland, Germany, Italy, Netherlands.

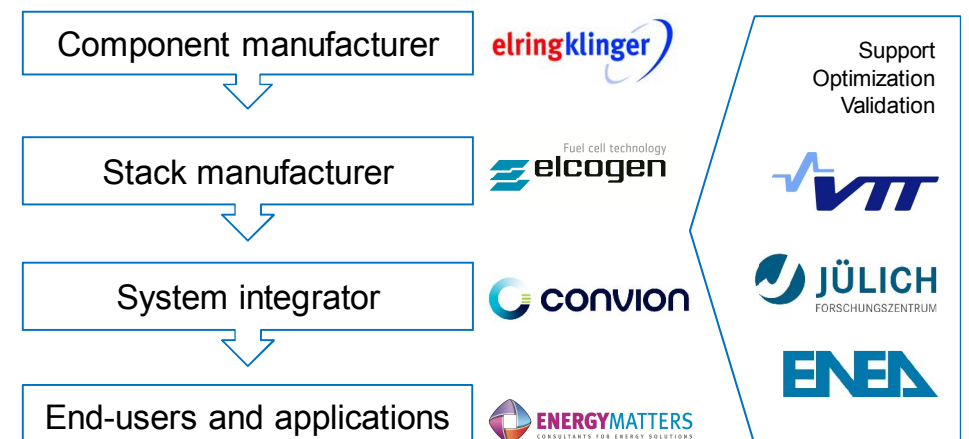


Figure 2. INNO-SOFC project covers the key phases of SOFC value chain through its industrial partners.

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

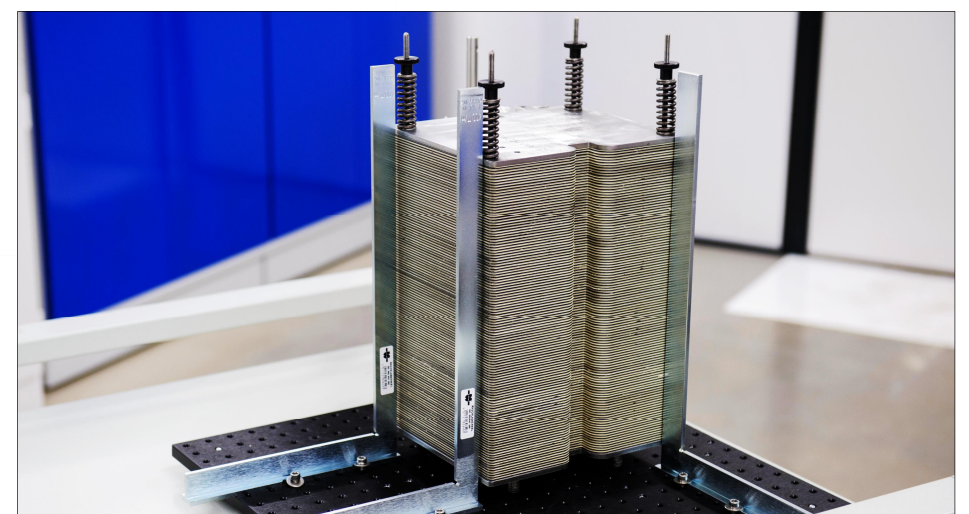


Figure 3. Elcogen's Solid Oxide Fuel Cell stack. © Elcogen Oy