

Who we are

The **HySA Infrastructure** forms a Centre of Competence together with the NWU and CSIR. It is the intention of **HySA Infrastructure** CoC to be a world leader and commercial relevant entity in the area of hydrogen production (electrolytic hydrogen linked to solar recourses), in the area of hydrogen compression, storage and delivery. This will be achieved through partnership with world leading OEMs, investors and research institutions.

Over and above, our goal is to provide solid science case and business case throughout research, development and demonstration activities: Knowledge creation, Technology demonstration, Partnership with stake-holders. Commercialisation successes will be achieved through IP rights secured and also freedom to operate concept. Supply chain will be further developed.

Our key technology deliverables in broader terms include energy carrier and infrastructure (such as electrochemical hydrogen compression, electrolyzers, LOHC technology, refueling stations, etc.). Our research is solely driven by product needs (market pull) through technology demonstration (TED). Our scope of expertise makes provision for both energy services and access to the energy. We also have capabilities to develop and manufacture components, such as CCMs for various hydrogen-related processes.

Our team

HySA Infrastructure consists of over 30 people including our students. Our team is growing and renowned for international expertise in electrolysis, renewable energy, power management, membranes, CCMs and fuel cells.



Facilities

HySA Infrastructure offers world class facilities including state-of-the art electrochemical analytical equipment, such as Solartron and Gamry and an in-house made fully automated test stations (incorporated with LabVIEW™) for single cell electrolysis benchmarking. The facilities includes a triple-volume laboratory for hydrogen pilot plant operations. A total of 76 kWp PV expandable research plants has the capability to generate 11,6 kg of renewable H₂ per day. The advanced EHC (electrochemical hydrogen compressor) system is also available as well as research capabilities to design and test CCMs. At **HySA Infrastructure** laboratories at CSIR, the following analytical equipment is dedicated for hydrogen storage: micropore and chemisorption analyser, pycnometer, inert atmosphere glove box and pressure-composition-temperature (PCT) analyser. Other analytical instrumentation such as pelletiser, differential scanning calorimetry (DSC) and thermogravimetric analyser (TGA) are also available.



Activities and competencies

