

# Dynelectro

## Industrial Solid-Oxide

### Industrial SOEC system

Dynelectro's modular Solid Oxide Electrolysis system is designed for efficient and flexible renewable hydrogen production at industrial scale. By converting steam rather than liquid water, the system can utilise available process heat and reduce the electrical energy required for hydrogen production.

Dynelectro's proprietary power conversion and control platform enables operation across the full 0–100% load range, rapid response to changes in renewable power availability and hot start-up in less than 10 seconds. The modular plant configuration combines proven Solid Oxide stacks with an integrated balance of plant, supporting efficient deployment and integration into industrial Power-to-X facilities.

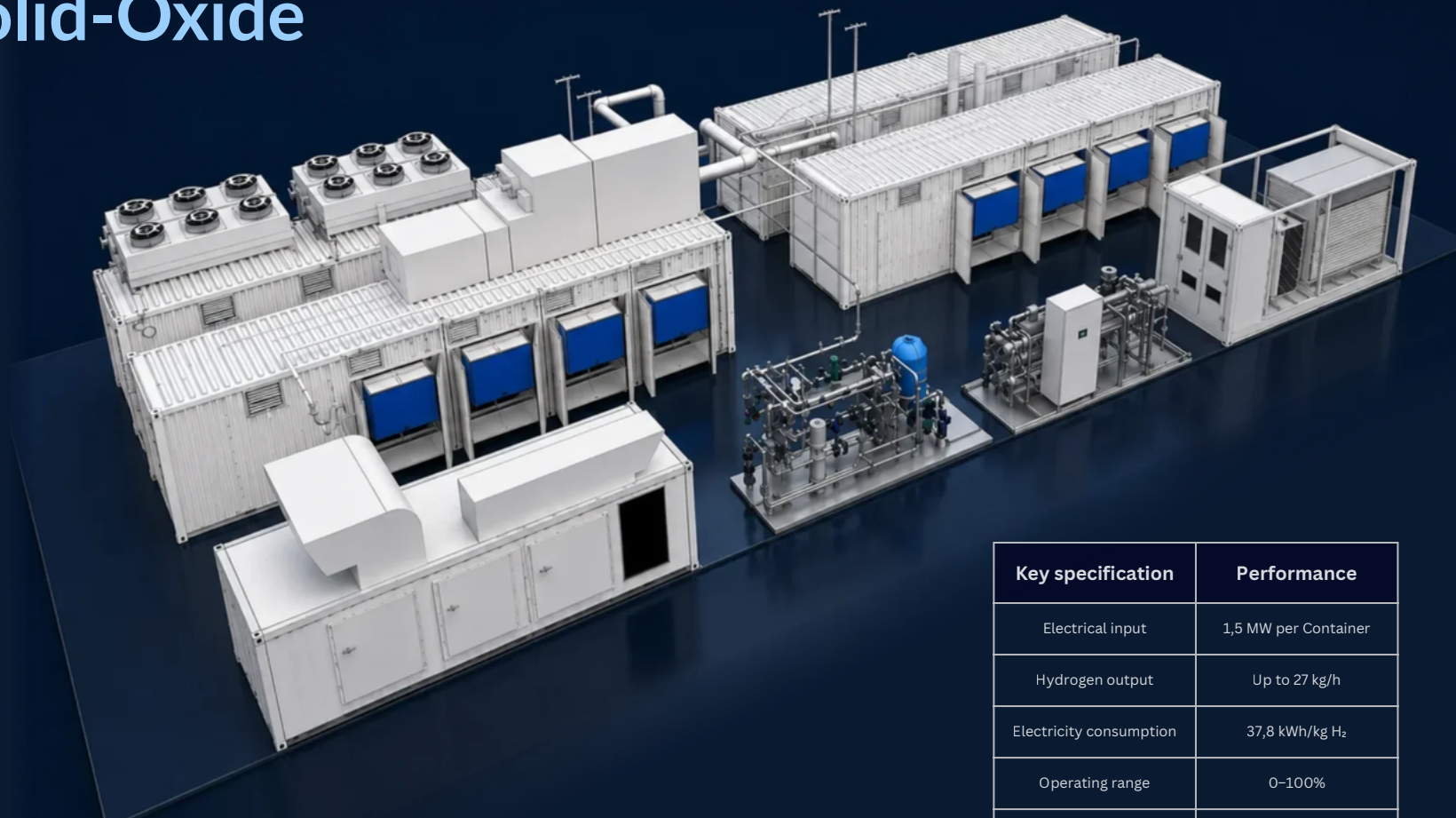
### Integrated Fuel Cell Operation

The system can be configured for reversible operation, allowing the Solid Oxide stacks to operate both as an electrolyser and as a fuel cell. In electrolysis mode, electricity and steam are converted into hydrogen. In fuel cell mode, hydrogen or another compatible fuel is converted into electricity and useful heat.

Reversible operation enables the plant to support energy storage, backup power and grid-balancing applications without requiring a separate fuel cell installation. The transition between operating modes is managed through Dynelectro's integrated power electronics and control system, providing operators with additional flexibility and improved utilisation of the installed equipment.

### Co-electrolysis

The system can simultaneously convert steam and CO<sub>2</sub> into tailored syngas for downstream production of e-methanol, e-SAF and other synthetic fuels. This can simplify the process configuration by reducing or eliminating the need for a separate reverse water-gas shift unit.



| Key specification       | Performance                |
|-------------------------|----------------------------|
| Electrical input        | 1,5 MW per Container       |
| Hydrogen output         | Up to 27 kg/h              |
| Electricity consumption | 37,8 kWh/kg H <sub>2</sub> |
| Operating range         | 0–100%                     |
| Load response           | <1 second                  |
| Hot start-up            | <10 seconds                |
| Expected stack lifetime | 7–10 years                 |
| Operating modes         | SOEC / SOFC                |

