

H₂ ELECTROLYSIS



THE STRONGEST LINK.

STAHL

OUR PROJECT: A 24-MEGAWATT GREEN HYDROGEN ELECTROLYSER

When finished, the new electrolysis plant will be powered by renewable energy. It will provide enough hydrogen to produce 20,500 tonnes of ammonia per year – which can be converted into up to 80,000 tonnes of green fertiliser. This will reduce the plant's CO₂ emissions by approximately 41,000 tonnes.



OUR CHALLENGE: SAFEGUARDING FRESHLY PRODUCED HYDROGEN

The new installation will produce large quantities of highly explosive H₂. We were tasked to assess all of the electrolyser's components for potential ignition sources and to protect it from any possible explosion.



OUR SOLUTION: CUSTOMISED EXPLOSION PROTECTION SYSTEMS

The high concentrations of H₂ created by the electrolyser cause a considerable explosive hazard, putting the application in Zone 2 IIC T1. The technologies we provided will ensure safe operation, signal transmission and power connectivity across the plant's entire life cycle.



Isolator

The hazardous areas in this installation feature sensors that feed information to a local control system. To ensure a safe transmission, we provided galvanic separation through iSpac isolating barriers with high usability, great versatility and a long service life.



Control station

This electrolyser uses our rugged, modular-designed control stations. One is equipped with an emergency stop pushbutton and a switch for the internal lighting. The other is fitted with two isolator switches to control the incoming power.



Terminal box

An electrolyser's terminal boxes are its nerve centres, where all of its power lines and signal conduits come together. This project is powered by our 8150 series terminal boxes. Made from brushed stainless steel, they're particularly resistant and IP66-protected.