ceres® endura™

Power built to last

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Clean energy starts with Ceres®

We are a leading developer of clean energy technology: fuel cells for power generation and electrolysers for hydrogen production.

Ceres is a world leader in solid oxide fuel cell and electrolyser development. We license our unique steel-supported cell and stack platform to the world's most progressive companies looking to enter or grow in the clean energy sector. We embed our technology into fully validated product designs, which our partners manufacture into power and electrolysis products.

Our ultimate purpose is to help sustain a clean, green planet by ensuring there is clean energy everywhere in the world. We exist to accelerate global decarbonisation by giving industry access to proven, high-performance technology that is ready to be manufactured, deployed and scaled at pace.

As a licensing company, innovation is in our DNA. From the way we work, to the solid oxide fuel cell and hydrogen technologies we provide. When companies license our technology, they're effectively building and capitalising on years of Ceres world class R&D. What they're truly investing in is the ability to stay at the forefront of innovation, which is why we continuously invest in developing and safeguarding our intellectual property (IP) through innovation, backed by rigorous testing, validation and the expertise of the Ceres team.

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Introducing Ceres® Endura™: Power built to last

Ceres® Endura™ is our flagship technology platform, built on more than two decades of sustained R&D and engineering investment.

Based on advanced solid oxide technology, it is a highly engineered, stack made up of hundreds of cells assembled in a robust and easy-to-install unit. Designed as a dual-use platform, Ceres® Endura™ enables partners to serve both power and hydrogen markets from a single architecture.

The result is a platform engineered for robustness and scale, delivering world class efficiency at low cost.

- Operating temp 450 – 630°C
- Modular
- Low cost, widely available materials
- Fuel flexible
- Robust
- Dual use: Can be manufactured as either fuel cell or electrolyser stacks
- Highly manufacturable
- Responsive

Ceres® Endura™: Built on game-changing solid oxide cell technology

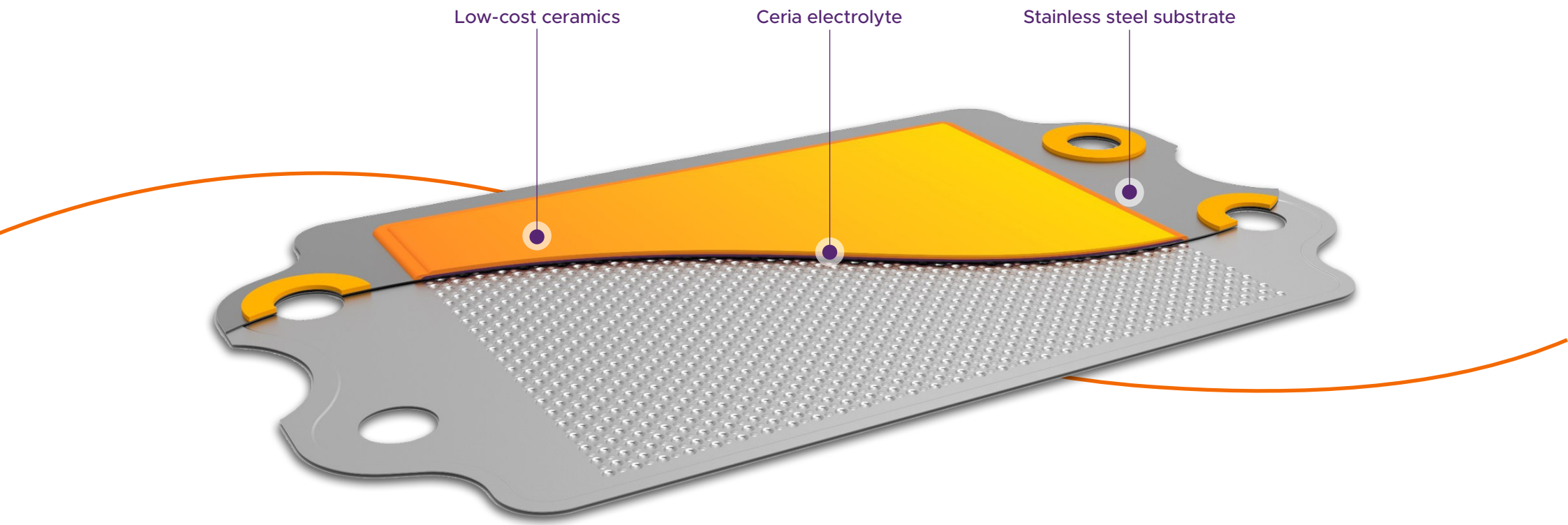
Conventional solid oxide cell technologies use brittle ceramic materials, making them fragile to handle, difficult to manufacture at scale, and ill-suited to the demands of real-world deployment.

Every aspect of Ceres® Endura™ has been designed with manufacturing, performance and real-world application in mind. Its proprietary cell technology unlocks an overall operating temperature window of 450 - 630°C, lower than traditional solid oxide technologies, enabling the use of widely available, cost-effective materials such as automotive grade stainless steel.

Ceres® Endura™ has been engineered for robustness and durability and is tolerant to real-world operating demands such as vibration, emergency stops and rapid cycling.

Steel-supported by design, Ceres® Endura™ delivers clear advantages to our partners:

- **Superior efficiency, reduced cost:** World-class efficiencies at competitive cost, driving high system performance while meaningfully reducing operating costs over the lifetime of the stack. Use of abundant and recyclable raw materials unlocks significant system cost advantages.
- **Manufacturability and scale:** Robust; easy to transport, handle and assemble, enabling reliable scale-up without the challenges of traditional solid oxide cells.
- **Real-world deployment:** Withstands the physical demands of industrial and commercial environments, including harsh marine applications. Highly tolerant to emergency stops, thermal cycles and vibrations, resulting in less downtime, lower maintenance costs and greater reliability for end users.



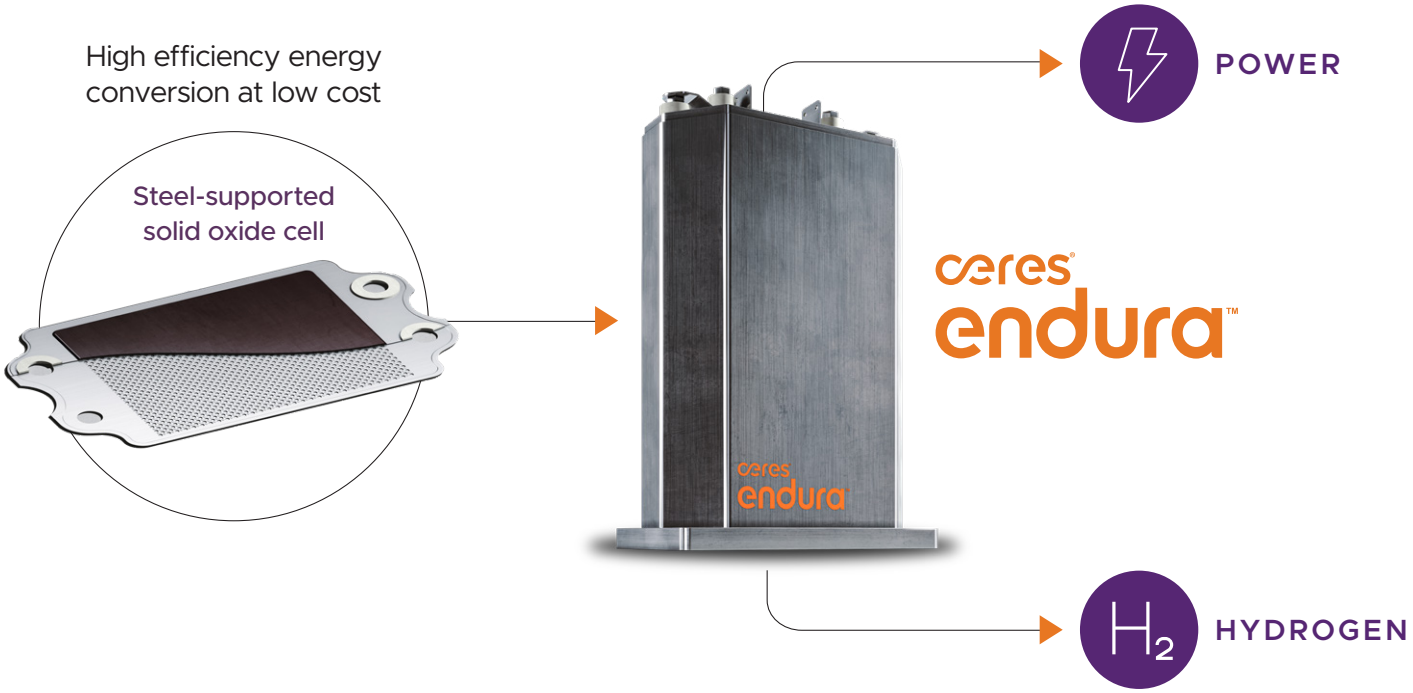
Modular by design: How Ceres® Endura™ scales with demand

The challenge with traditional infrastructure is that it's built for a moment in time. These assets can be rigid, difficult to scale and designed for a fixed output. As demands grow, expanding that capacity can be challenging, adding significant cost, lengthy planning processes, and operational disruption.

Our technology is inherently modular. Individual cells combine to form stacks, stacks combine to form modules, and modules can be configured to meet virtually any power or hydrogen output requirement. Systems can be sized precisely for the application from day one and expanded as demand grows, whether that means more power for a growing industrial facility or greater hydrogen output for an expanding production plant, without the need to redesign from scratch or disrupt existing operations.

Ceres® Endura™: One platform. Two clean energy solutions.

Ceres® Endura™ is a dual-use platform by design. The same platform can be manufactured as either fuel cell or electrolyser stacks from a single production line. This flexibility is built-in and not retrofitted, so that manufacturers can serve both power and green hydrogen markets.



Ceres® Endura™ for power generation

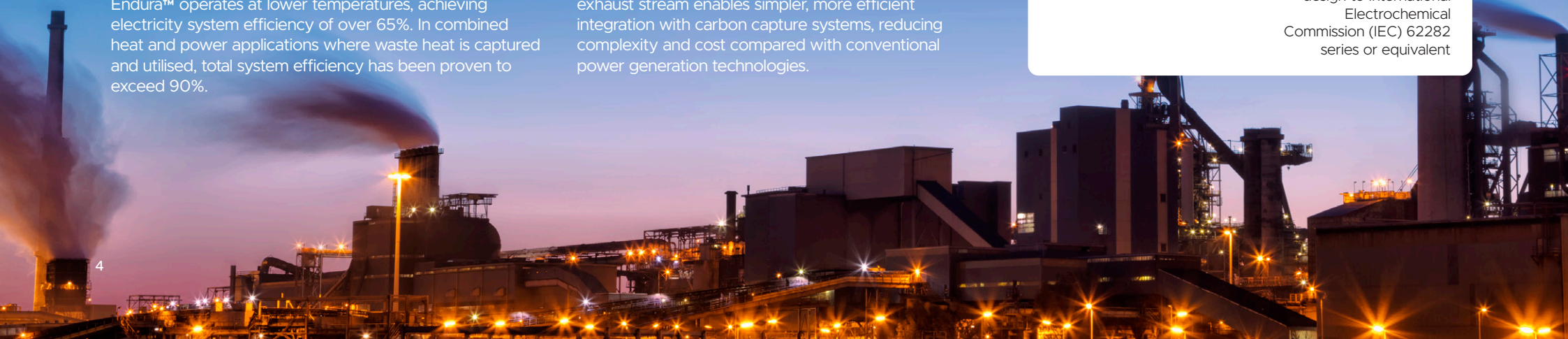
As the seventh generation of our fuel cell technology, Ceres® Endura™ builds on learning from our previous technology generations, delivering exceptional efficiency across the power range. The platform combines fast load response with long-term durability enabling reliable, high-availability power systems across multiple applications and fuels. Designed as a scalable, partner ready platform, Ceres® Endura™ offers simple integration into systems while delivering dependable performance in real-world conditions.

Benefits include:

- **Cleaner air, lower noise:** Low emissions with near zero NO_x, SO_x and particulate emissions and almost no noise pollution.
- **Fuel flexibility:** Unlike many solid oxide technologies, our technology is fuel flexible. Natural gas, hydrogen, biogas, methanol and ammonia can all be used, so partners are not locked into a single energy pathway. This inherent flexibility means the same platform can operate on natural gas today and transition to hydrogen or biogas as supply and economics evolve, futureproofing the value of investments across the energy transition.
- **Exceptional efficiency across the power range:** Ceres® Endura™ operates at lower temperatures, achieving electricity system efficiency of over 65%. In combined heat and power applications where waste heat is captured and utilised, total system efficiency has been proven to exceed 90%.
- **Robustness and reliability:** Robust to the physical demands of real-world deployment, uniquely withstanding emergency stops, thermal cycles and vibrations, offering reliable performance across its operational lifetime.
- **High power density:** Delivers significant power from a compact footprint, reducing space requirements and enabling easier integration into constrained sites.
- **Flexible operation and ability to follow demand:** 0-100% power in 20 seconds. Designed to withstand ultra-fast load cycling, maintaining performance and durability during rapid changes in operating conditions and power demand.
- **Simpler system design:** Lower operating temperatures enable simpler, more robust gas and electrical seals, improving reliability, reducing cost and simplifying system integration compared with conventional solid oxide stacks. The stacks are designed to be connected electrically in series to increase voltage output, withstanding voltages of up to 1120V which enables easy system integration with common industrial voltages and 800V DC, a key feature of data centre architecture.
- **Carbon capture integration:** A concentrated CO_2 exhaust stream enables simpler, more efficient integration with carbon capture systems, reducing complexity and cost compared with conventional power generation technologies.

Performance and characteristics of Ceres® Endura™ fuel cell stack

Maximum rated power	10.8kW
Efficiency at maximum power	69% LHV
Nominal operating temperature	**530 - 630°C**
Maximum power rate of change	500W/s, 5%/s
Maximum current	43.3A
Voltage at maximum current	250V
Maximum voltage in series connection	1120V
Mass	93kg
Dimensions	551mm (H) x 352mm (D) x 199mm (W)
Standards compatibility	Enables system design to International Electrochemical Commission (IEC) 62282 series or equivalent



Ceres® Endura™ for hydrogen generation

Ceres® Endura™ delivers high-efficiency hydrogen production via steam electrolysis. It enables scalable, future-ready hydrogen systems that integrate efficiently with renewable energy.

Benefits include:

- **High-efficiency hydrogen production:** High-temperature steam electrolysis reduces the electrical energy required per kilogram of hydrogen compared with low-temperature electrolysis, lowering operating costs and improving overall system efficiency.
- **Efficient integration of low-grade heat:** Ability to utilise low-grade steam improves plant-level efficiency and enables effective integration with industrial processes and waste heat sources.
- **Robustness and reliability:** Engineered to withstand repeated thermal cycles and emergency stops, maintaining performance and durability in demanding real-world operation.
- **Flexible operation with renewable energy:** Designed to follow variable renewable energy profiles, supporting dynamic operation while maintaining performance and durability.

Performance and characteristics of Ceres® Endura™ electrolyser stack

Hydrogen production rate	0.87 kg/h
Hydrogen production efficiency	34.k Wh/kg
Nominal operating temperature	**450 - 630°C**
DC input power	30 kW
Hydrogen delivery pressure	2 bar(g)
Ramp up rate	7 %/min
Nominal current	58.5 A
Nominal voltage	512 V
Mass	108 kg
Dimensions	687mm (H) x 352mm (D) x 199mm (W)

From power to hydrogen: Fuelling industries worldwide

As a single platform, Ceres® Endura™ has the versatility to address some of the most complex and carbon-intensive energy challenges across a broad range of industries.

From power generation to hydrogen production, Ceres technology is designed to meet the needs of some of the world's most strategically important and fastest-growing industries.

The same core platform that can deliver clean, flexible power to data centres and commercial buildings is equally well suited to high-efficiency hydrogen production in ammonia plants, oil refineries and eFuel production.

THE POWER APPLICATIONS CERES® ENDURA™ WAS BUILT FOR:

Data centres

Data centres are among the most energy-intensive and fastest-growing infrastructure assets in the world. They need power that is reliable, scalable and efficient - able to respond instantly to rapidly changing loads, grow in line with demand, and do so from a compact footprint. Clean, quiet operation is equally important, minimising community impact and reducing regulatory risk.

Commercial power

Commercial buildings and campuses need access to power that is efficient, clean and quiet with the ability to modulate output throughout the day, down to zero load if needed. Where combined heat and power is an option, electricity takes priority over lower-value heat, maximising the economics.

Industrial power

Industrial facilities need power they can rely on and control - high efficiency, continuous operation, and the ability to scale as production grows, without exposure to grid constraints or supply uncertainty. Integration with on-site renewables and microgrids is increasingly important, as is a credible path to decarbonisation that doesn't disrupt core processes.

Marine

Marine operators need power that works at sea, not just on paper. Systems must follow load across a wide operating range, deliver high output from limited deck space, and remain reliable under continuous vibration and the harsh realities of maritime operation. Emissions and noise reduction are no longer optional - tightening regulation is making them a commercial necessity.

Ceres® Endura™ fuel cell stack features

- Near zero NO_x, SO_x, PM
- Low noise
- Fuel flexible
- High efficiency
- Robust and reliable
- Power density
- Responsive to load
- Modular
- Carbon capture integration (CO_2)

SCAN ME

Scan the QR code to learn more about how Ceres solid oxide fuel cells play a critical role in powering data centres.

H_2 THE HYDROGEN APPLICATIONS CERES® ENDURA™ WAS BUILT FOR:

Ammonia

Hydrogen dominates the operating costs of ammonia production, making the efficiency and cost of electrolysis a strategic priority. Ammonia producers need hydrogen delivered at pressure, reducing the energy and equipment costs of compression, and systems that can be thermally integrated with the synthesis loop to maximise overall plant efficiency. The ability to follow renewable power profiles, capturing low-cost green electricity when it is available, is equally important.

Refineries

Refineries depend on large volumes of hydrogen to upgrade fuels and meet increasingly stringent product specifications - making the cost and reliability of supply an operational priority. Thermal integration with existing refinery processes, using available process heat and steam, is essential to improving overall efficiency and keeping operating costs in check. Hydrogen delivered at pressure further reduces the need for compression equipment and the energy costs that come with it.

Green steel

The transition to green steel depends on clean hydrogen delivered at industrial scale and at a cost that makes the economics work. Steel producers need electrolysis technology that maximises efficiency to drive down hydrogen cost, and that can be deeply integrated into steelmaking processes to capture additional value from available process heat.

eFuels

For eFuels producers, hydrogen cost is the dominant economic variable — making the efficiency and flexibility of electrolysis critical to commercial viability. Large volumes of clean hydrogen are needed at the lowest possible cost, produced at pressure to minimise compression costs, and with the ability to flex with renewable power availability to capture periods of low cost green electricity.

Ceres® Endura™ electrolyser stack features

- High efficiency
- Integration with low-grade heat
- Robust and reliable
- Flexible operation with renewables
- Pressurised hydrogen output
- Modular
- Responsive to load

Build with Ceres: Your pathway to clean energy success

Ceres enables global manufacturers to build competitive power generation and green hydrogen businesses - faster, at scale, and with lower risk. We license our world-leading and highly differentiated solid oxide technology to global manufacturers, helping them to accelerate entry into power generation and hydrogen production markets; quickly, at scale and with confidence.

By accessing our proprietary technology, partners gain:

- **Accelerated entry to high-growth markets:** At least a 10-year development advantage by leapfrogging to industrialisation with a fully proven, scalable product. From power generation to green hydrogen, data centres to commercial and industrial applications, we help partners capture multibillion dollar markets at the pace of opportunity.
- **Reduced technical and commercial risks:** We deliver the IP, extensive engineering expertise and support to stand up a high-performance plant with confidence. Backed by 25 years of development and a broad portfolio of over 150 patent families, we stay alongside partners as a long-term technology partner – making our platform the technology of choice for those who need a proven, differentiated solution and the confidence that comes with it.
- **Localised production:** Our technology and licensing model put local manufacturing at its core. Partners can build production capability in-region where it matters most. Whether the priority is supply-chain resilience, border cost control, strategic autonomy, access to local incentives, or the ability to serve export markets.

Technology accessible through attractive licensing model

Highly competitive technology

Ceres' unique, inherently reversible solid oxide technology reduces cost while maximising efficiency, resulting in highly competitive total cost of ownership.

Accelerated market entry

Ceres offers cutting edge technology, with distinctive advantages of temperature, cost and efficiency ideally suited for industrial and commercial markets.

Access to untapped markets

Licensees can leapfrog into markets for power and hydrogen without lengthy research and development, supported by local supply chain, skills and manufacturing.

Leveraging world-leading R&D resources

Licensees can leverage Ceres' 20+ years of research and innovation and focus on their own core business strengths in industrialisation, mass production and commercialisation.

Enabling partners to manufacture at scale

When you partner with Ceres, you don't just license world-leading solid oxide technology, you also stay at the forefront of solid oxide innovation. Sustained R&D and engineering investment ensures the platform continues to advance over time, securing technological leadership.

We are also committed to continual investment in developing and protecting our IP, spanning materials science, technology, manufacturing and system design. Partners gain transparent access to our protected IP and know-how providing peace of mind that they are not simply adopting a point-in-time solution but entering a long-term partnership built around continuous innovation and shared success. Combined with decades of engineering and manufacturing expertise, this means partners can move quickly and confidently from licence to scaled production.

Our partnership provides the below turnkey solutions and benefits:

Cell and stack technology: the technical foundation to manufacture with confidence

- Complete design packs.
- Verification of data and test methods at cell, stack and representative systems.
- Risk management, including hazard assessment and design failure mode and effect analysis (FMEA).
- Life-time assurance framework and supporting long-term test data.
- Supply-chain information, including suppliers and detailed cost models.

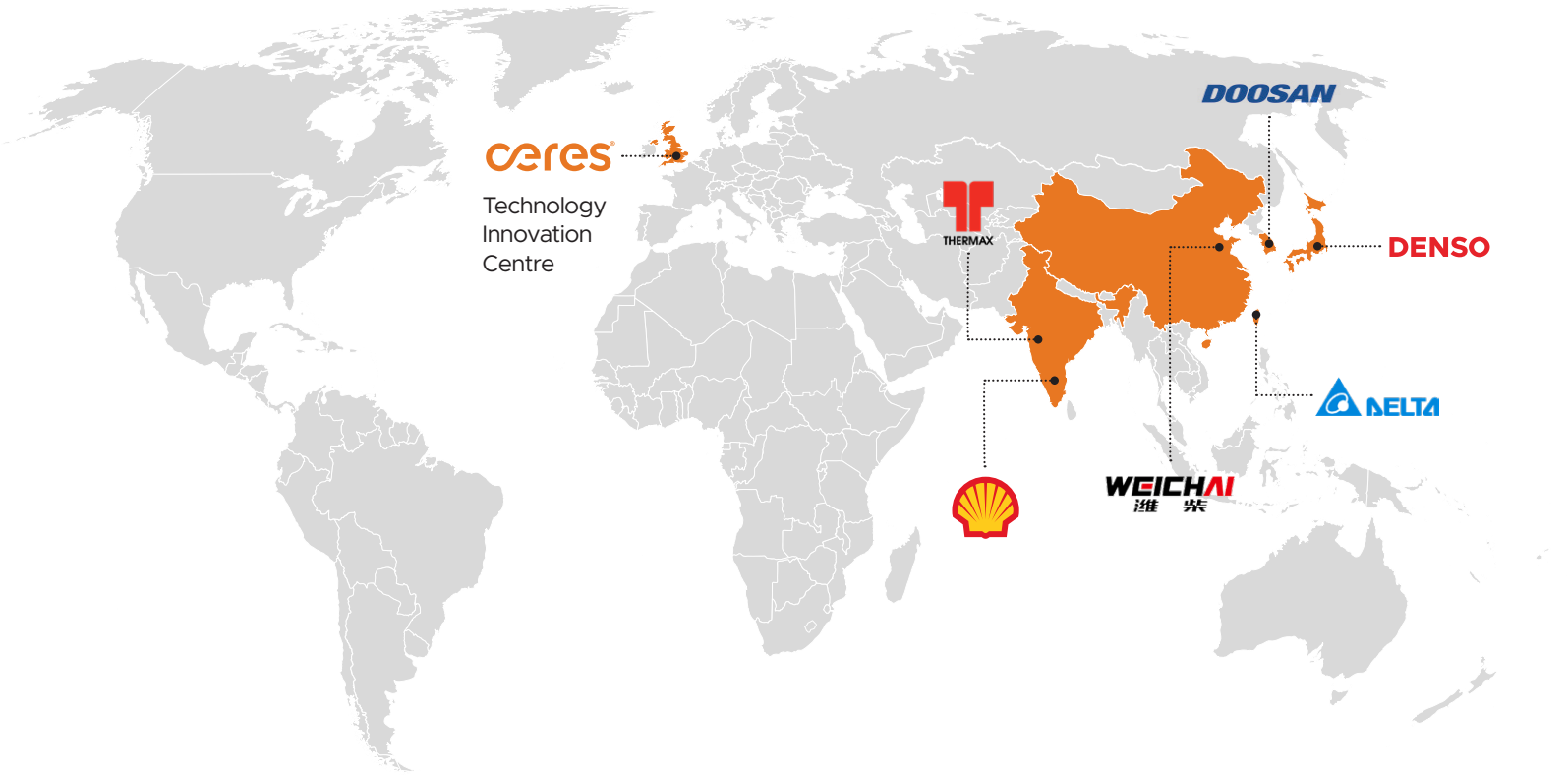
Manufacturing pack: a proven blueprint to stand up a high-performance production facility

- Factory blueprint with machine specifications and indicative costings.
- Process specifications with supporting capability assessment.
- Bought-in material specifications.
- Critical to quality specifications and recommended approaches to Quality Control and Assurance

Engineered for high volume manufacturing: Our global manufacturing partners

Our global partner ecosystem brings mass manufacturing capability to our technology, leveraging existing business knowledge, supply chains and in-country teams to embed the technology into a wide-range of applications.

Ceres' technology goes beyond R&D, having been developed and proven with industrial manufacturing in mind. With proven industrial scale-up capability, Ceres® Endura™ moves partners rapidly from licence to high-volume production, accelerating time to market, reducing execution risk, and enabling deployment at meaningful scale in local markets worldwide.



Partners and Demonstrators

DOOSAN

Partner
First SOFC plant in operation. System and manufacturing licensee

DELTA

Partner
Dual SOFC and SOEC manufacturing licensee

DENSO

Partner
SOEC manufacturing licensee

WEICHAI 潍柴

Partner
SOFC manufacturing licensee

THERMAX

Partner
SOEC system licensee

Demonstrator
Collaboration for first 1 MW SOEC at R&D centre in India

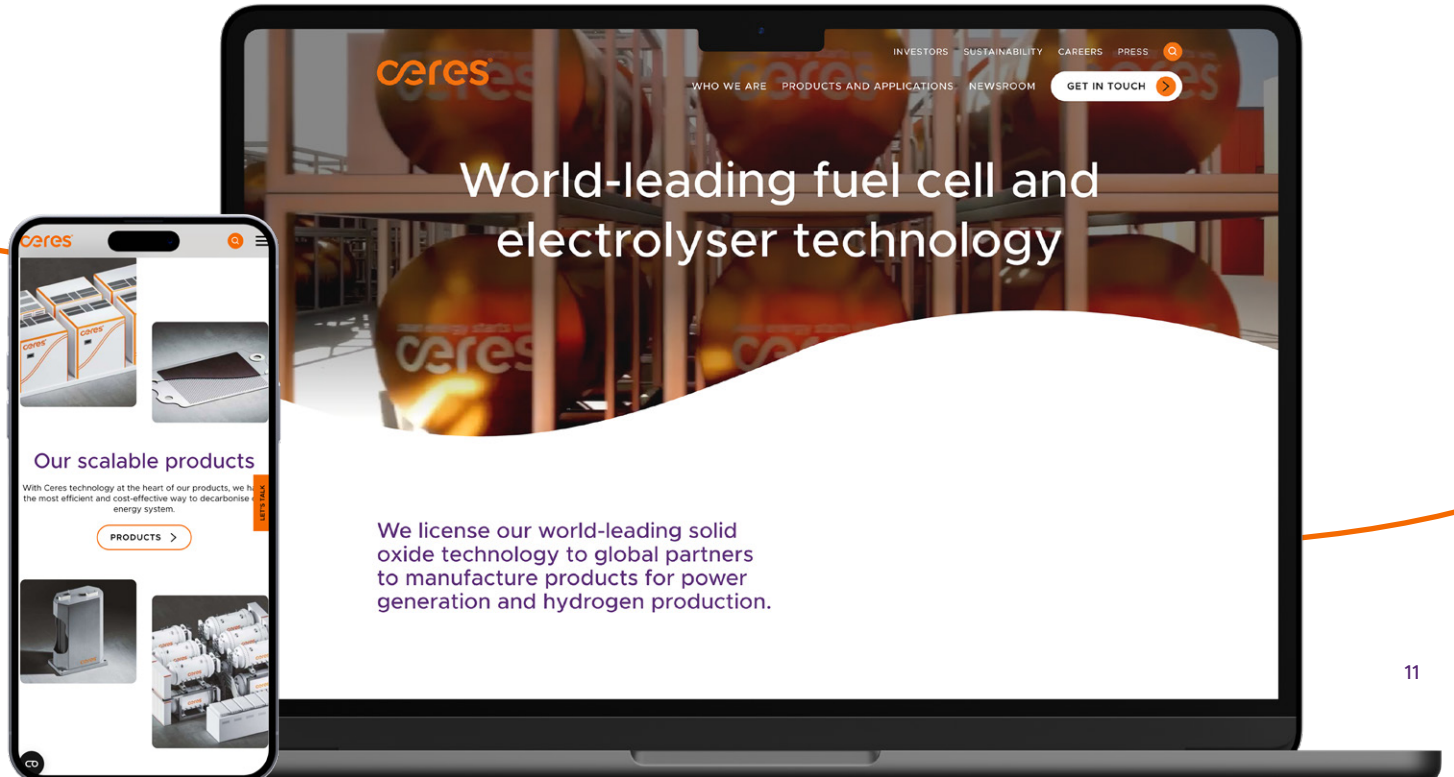
Get in touch

Ceres works in close collaboration with partners to bring clean power and hydrogen technologies to market at scale.

Get in touch to discuss how we can support your ambitions – whether building local manufacturing capability, accelerating deployment, or developing a long-term power and hydrogen strategy through a trusted technology partnership.

marketing@cerespower.com

ceres.tech



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Ceres Power Limited (UK company registration number 04222409) has it registered address at Viking House, Foundry Lane, Horsham, RH13 5PX.