

We are Synertec

Industry Solutions for
a Better Tomorrow



Synertec is dedicated to helping our partners towards a low emission future and has a strategic focus on developing and commercialising environmentally friendly and energy efficient technologies.



SYNERTEC

Synertec is a diversified Technology and Engineering company focused on developing and delivering environmentally sustainable solutions for challenging industry sectors



Synertec was established in 1996, ASX listed in 2017 (SOP) and operates today as a successful diversified growth company working in the Water, Power & Gas, Transport, Life Sciences, Future Energy, Mining and Manufacturing sectors of our economy.

We have a strong track record of delivering solutions to our blue-chip partners including Metro Trains Melbourne, Santos, APA, Jemena, Melbourne Water, CSL, ANSTO and Chevron.

Our Powerhouse system is solving the energy trilemma and delivering industrial scale AI driven clean energy microgrids commercially to our clients.

We have an engineering DNA, and our dedicated workforce of engineers and technologists apply their experience and expertise to design, develop and deliver technology that provides our partners with a viable, powerful and immediate transition to a low emission future.

Our Core Capabilities include Multidiscipline Engineering across Control Systems, Electrical and Instrumentation, Process and Mechanical. We deliver projects in high risk and highly complex environments as we specialise in Functional Safety, Hazardous Area, AI, Simulation Systems and Power Systems. We have a portfolio of in-house IP & patent applications.

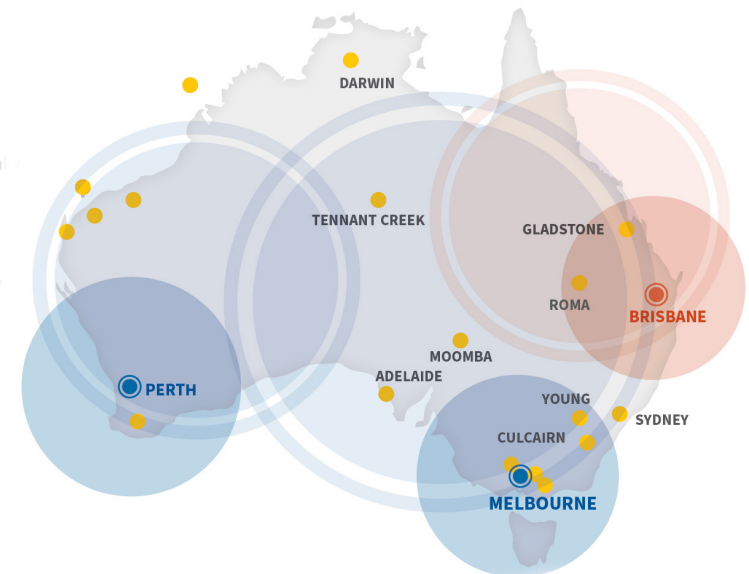
We apply a Systems Engineering Approach across the full lifecycle of delivery to our projects.

We are values driven and build strong relationships with our clients, stakeholders and each other.

We have always understood that our people are our most important asset. We recognise and celebrate our diversity, talents, expertise and experience and put a strong focus on safety and ongoing people development.

Synertec has embraced an Environmental, Social, and Governance (ESG) framework and are committed to supporting our industry partners to reduce their carbon footprint.

Our team are committed to driving continuous improvement across our entire business. Our integrated management system ensures we can remain at the forefront of our industry.



- SYNERTEC OFFICE LOCATIONS
- SYNERTEC SATELLITE OFFICE LOCATIONS
- KEY PROJECT LOCATIONS

POWERHOUSE Delivering industrial scale AI driven clean energy microgrids.

Powering the energy transition for industry and a greener future.

Powerhouse offers a cost-effective, mobile, 100% continuous renewable energy system without the need for fossil fuel backup.

The system can be easily deployed via a stable microgrid to deliver base load distributed power and immediate transition to a low carbon future.

The solution has been designed, developed and delivered by Synertec Engineers and provides our partners with a proven and immediate transition toward their carbon reduction targets. It is an It is also modularised and easily scalable – up or down in size – to suit a wide variety of applications and situations.

Powerhouse Predictive Intelligence (PI) leverages real-time data insights to optimise the supply and demand of clean energy with certainty, reliability and security – no fossil fuel backup is required.

Flexible, remote and off grid applications mean Powerhouse has:

- Compatibility with multiple renewable energy sources
- Many use cases across oil & gas, mining, community batteries, manufacturing, agriculture, defense, data centers, etc.
- Importantly, it optimises the output of all battery and solar componentry, enabling a very small system footprint.



Powerhouse fits a wide-range of critical market applications

Many energy-intensive sectors can leverage the advanced control system, modular design, rapid deployment, and flexible functionality.

Our build-own-operate model and team of experienced engineers empower Synertec to customise Powerhouse to fit the exact energy needs of companies, communities, and governments across many use cases.

Unlike traditional hybrid generators and solar BESS, Powerhouse offers a more reliable and affordable setups across industrial applications.



OIL AND GAS

Powerhouse was field proven to support Santos remote coalseam gas (CSG) operations, to save a quarter of a million tonnes of carbon emissions at scale.



MINING

Similar to applications in oil & gas, Powerhouse is a proven way for mining companies to reduce emissions in the pursuit of Net Zero.



GRID SUPPORT

Powerhouse technology serves as a versatile grid firming solution that enhances the stability and reliability of renewable energy integration into the grid at an industrial scale.



DEFENCE

Powerhouse ensures the provision of rapid and sustainable power solutions, vital for advancing the decarbonisation efforts of significant defence sites throughout Australia.



WATER

With predictive intelligence, Powerhouse ensures resilient energy with minimal downtime, integrating seamlessly with existing infrastructure and reducing operational costs



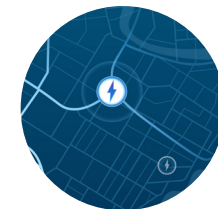
AGRICULTURE

With remote continuous power, Powerhouse can reliably power many aspects of operations including water pumps, irrigation and refrigeration.



MANUFACTURING

Without paying a green premium, manufacturers can leverage Synertec to reduce power expense, often with the help of incentives.



COMMUNITY BATTERIES

Powerhouse enables municipalities and communities to store, regulate and use renewable energy 24/7.

Powerhouse Technology applications are endless

Powerhouse offers a cost-effective, mobile, 100% continuous renewable energy system without the need for fossil fuel backup.

Powerhouse is an AI-powered smart industrial scale technology that provides clean renewable power to both microgrids and grid support applications.

Available as stand-alone power or smart grid support, Powerhouse has been engineered for rapid deployment, reliability and provides significant operating efficiencies at an industrial scale. Powerhouse's predictive intelligence system ensures 100% availability of solar power and can integrate with additional renewable energy sources, such as hydrogen and wind.

The rollout of Powerhouse across key industrial sectors will support industry's energy transition to a greener future.

Guaranteed Power
24hour / 365 days

Remote Industrial Microgrids

Reliable, Sustainable
Affordable

Flexible, Expandable

Stand Alone Power (Microgrids)

Renewable energy sources are pivotal for supplying electricity to mission-critical operations, particularly in remote power generation for off-grid and micro-grid applications.

Powerhouse emerges as the optimal solution for these scenarios, offering a clean renewable power alternative compared to traditional expensive diesel generators with mobility and scalability for easy deployment for a range of industrial applications.

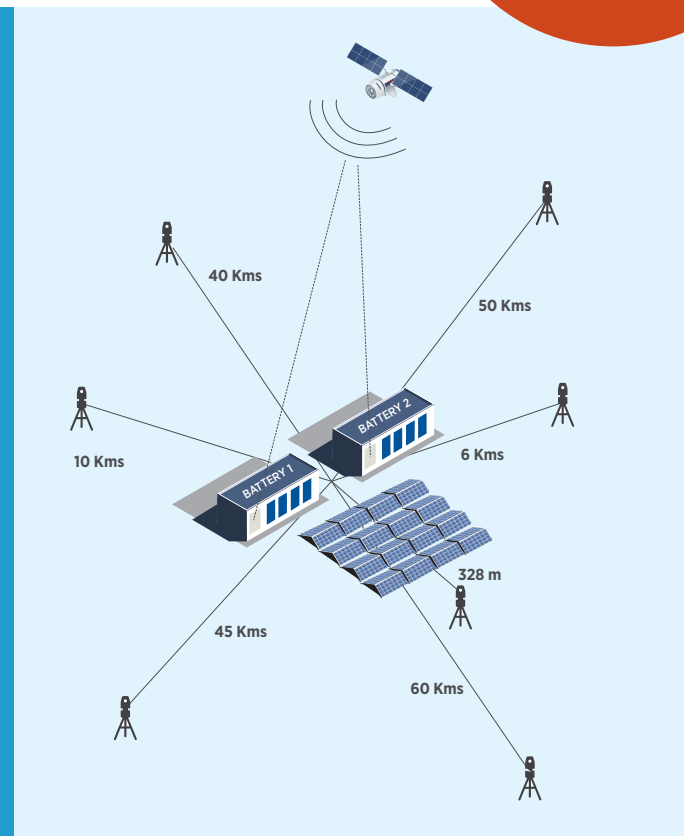
Some of the key features of the micro grid technology include:

HIGH AVAILABILITY: The only technology that can provide 100% available and 100% green energy power to remote industrial applications day and night, through all weather conditions

BROAD COMPATIBILITY: Engineered for versatility, Powerhouse seamlessly connects with Low Voltage (LV), Medium Voltage (MV), and High Voltage (HV) networks, offering unparalleled adaptability to your existing infrastructure.

UNMATCHED PLACEMENT FLEXIBILITY: Powerhouse's innovative design allows for seamless integration across diverse locations, ensuring optimal performance for distributed assets, no matter where they are, and

HIGH-DEMAND EQUIPMENT SUPPORT: Powerhouse stands out by powering even the most demanding industrial equipment. Its robust design ensures that your operations remain uninterrupted, maximizing productivity and efficiency.



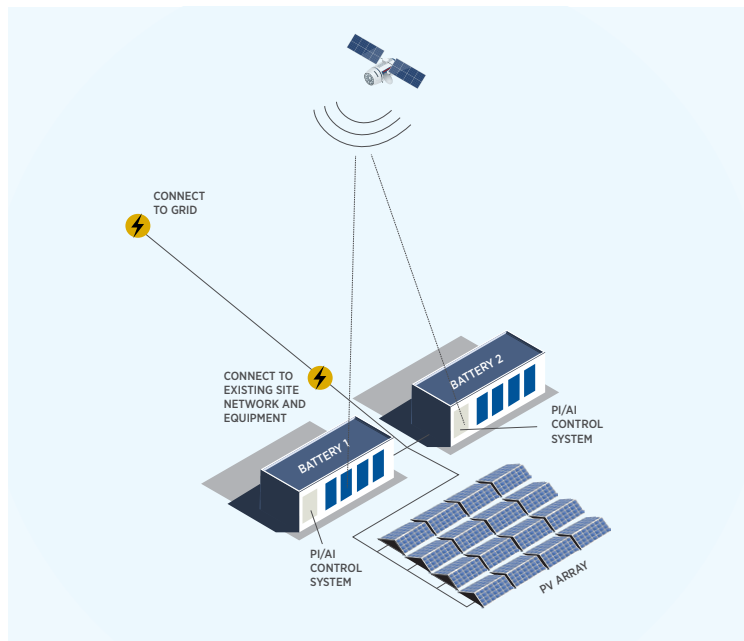
Powerhouse Technology applications are endless

Powerhouse technology is a versatile grid firming solution that enhances the stability and reliability of renewable energy integration into the grid at an industrial scale.

Its adaptability contributes to significant emission reductions but also modernises grid infrastructure, paving the way for a more sustainable and efficient energy future.

By supporting the grid with clean, renewable energy, Powerhouse helps to create a balanced and resilient energy network that can adapt to fluctuating demands and supply, while working towards net zero targets.

- Voltage Support
- Frequency Support
- Power Factor Support
- Energy Shelving, Peak Sharing
- Active Power Ramping
- Reactive Power Ramping
- Fault Ride Through



Smart Grid Support (Grid Firming)

Powerhouse Grid Support, is designed in response to direct customer feedback and highlights Synertec's ability to develop, mobilise and commercialise leading technology solutions to address our customer's needs.

Powerhouse Grid Support, is an advanced solution offering a suite of grid support services. These include energy shifting, peak shaving, voltage support, frequency support and power factor support.

It also incorporates AI predictive intelligence. This technology will augment existing grids that require additional support or capacity, allow further integration of renewable energy, and advanced power control schemes. Applications include existing remote microgrids that require improvement and expansion, grid support, and serving as a large-scale UPS (Uninterruptable Power Supply) for critical facilities and communities.

Powerhouse Advantages and Benefits

RELIABILITY + SUSTAINABILITY + AFFORDABILITY



Reliable

The system can withstand the failure of individual components without impact to operations.

Redundancy is built into the various system components (solar cells, batteries, electrical components.)

Remote monitoring systems provide remote maintenance accessibility.

Affordable

A proven cost effective solution that is sized according to the application under power, the location, and climate.

The system incorporates minimal moving parts which drastically reduces “wear and tear”.

No need for fuel costs as energy is delivered by the sun all day, every day!

Sustainable

Powerhouse uses 100% renewable electrification.

There is no fossil fuel backup, eliminating the need for any diesel, gas, or other backup redundancy.

Simplicity

A flexible modular system designed for rapid mobilisation and demobilisation.

We deliver and maintain an operating energy platform.

From Feasibility to O&M Synertec handles permitting, installation, and O&M

ISO compliance and Cyber Security

Delivering projects for private and public organisations across Australia

Integrated Service Offering

Synertec provides specialist multidiscipline engineering services to our clients in critical infrastructure, energy, highly regulated, and advanced manufacturing industries.

Synertec has a team of highly experienced automation engineers who continually strive to implement innovative, cost-effective, and best-practice solutions.

The team can assist through all stages of the project lifecycle and across a range of disciplines, including highly specialised areas:

Automation

Synertec has a highly experienced team of automation engineers who continually strive to implement innovative, cost-effective and best practice solutions across:

- Industrial Control Systems (Extract overleaf)
- Manufacturing Execution Systems
- Internet Of Things (IoT) (Extract below)
- Cyber Security (Extract below)
- Data Workflows
- Simulation
- Obsolescence Studies
- Sustainability Services

Services include SCADA systems, HMI development, operational data historians alarm notification systems and both on-premises and cloud-hosted solutions.

IOT

Synertec's engineering team specialises in control systems and automation, delivering IoT and OT solutions across Australia.

Projects range from local infrastructure implementations to complex designs for entire networks with control and monitoring systems for multiple remote sites. Synertec has provided IoT solutions for industries including water, oil & gas, and critical infrastructure.

Industrial Control Systems

For over 25 years, Synertec has been delivering control system solutions across Australia and internationally. We excel in solving problems of any project size, leveraging our technical expertise to provide innovative solutions for our clients.

Our software design team, with extensive process exposure, works with systems such as Programmable Logic Controls (PLC), Supervisory Control and Data Acquisition (SCADA) systems, and Distributed Control Systems (DCS). As a Siemens solutions partner, our automation engineers are proficient with Siemens systems from S7 to PCS7 and WinCC OA.

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Digital Design

Synertec is at the forefront of digital engineering, transforming concepts into precision and innovative solutions. Utilising the full spectrum of Autodesk software, Synertec delivers cutting-edge solutions tailored to unique needs.

COMPREHENSIVE E&I DOCUMENTATION WITH ELECDES DESIGN PACKAGE

Expertise in Electrical and Instrumentation (E&I) documentation is supported by the Elecdes Design Package, ensuring seamless and efficient project execution. Detailed schematics and complex system designs enhance project clarity and operational efficiency.

BUILDING INFORMATION MODELLING (BIM) EXCELLENCE

As a BIM-capable firm, Synertec integrates multidisciplinary data to create detailed 3D models, improving collaboration, decision-making, and optimizing project timelines and costs.

COMMITMENT TO QUALITY AND COMPLIANCE

Quality is the cornerstone of Synertec's operations with ISO 9001 accreditation reflecting the team's commitment to maintaining the highest standards of quality management, delivering reliable, high-quality solutions that meet and exceed industry standards.

Cyber Systems

Synertec's engineering solutions ensure the secure workflow of critical data in industries where system security is crucial. These solutions provide robust security while allowing business-as-usual operations.

The engineering team has the expertise to deliver fit-for-purpose cybersecurity solutions tailored to each application. Secure systems are deployed in high-risk areas, restricting access to authorized users only.

In-house cybersecurity specialists ensure compliance with client requirements to protect Intellectual Property (IP) and critical infrastructure. Services include independent security audits and penetration testing to identify vulnerabilities.

Engineering Solutions

Sectors we operate in:



POWER AND GAS



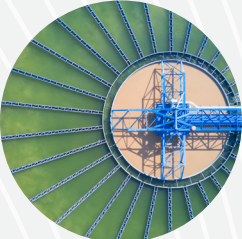
RESOURCES



FUTURE ENERGY



TRANSPORT



WATER



LIFE SCIENCES



MANUFACTURING

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