



THE TRANSFORMER  
PEOPLE

BUILT SMART

FOR LIFE



Wilson Transformer Company

**COMPANY PROFILE**

[wtc.com.au](http://wtc.com.au)





## Proudly Made in Australia

Our story began more than nine decades ago when Jack Wilson arrived in Australia from the UK to work as a transformer electrical design engineer at a small factory in South Melbourne. A few years later, in July 1933, Jack started his own business under the name of Wilson Electrical Products with a simple vision: to establish a high performing business that invests in its people, technology, assets and processes.

The “Chief”, as he was known to most of his early employees, had the ability to turn ideas into reality - a difficult task in those days, when technical experience, equipment and capital were limited. But Jack was ahead of his time - an exceptional engineer, businessman and leader who left an impressive legacy in Australian manufacturing.



Today, the Company, known as Wilson Transformer Company Pty Ltd (WTC), is Australia's largest manufacturer of distribution and power transformer solutions operating two state-of-the-art manufacturing facilities in regional Victoria and metropolitan Melbourne with service facilities across Australia and in the UK. WTC has also established and invested in joint ventures and subsidiaries in South East Asia, the Middle East and the United States.

We offer end-to-end transformer solutions, including product specification review, design, manufacture, factory acceptance test, installation, condition monitoring, maintenance and repair services, spare parts and asset disposal.

Our remarkable enduring 90 years in the transformer industry has been achieved through our Built Smart for Life philosophy to deliver high-

quality and reliable transformer solutions that meet our customers' standard or complex requirements. This genuine commitment is supported by our team of experts we call 'The Transformer People'.

WTC is a proud Australian based and owned business spanning three generations of the Wilson family. Looking into the future, we are committed to further building our engineering, manufacturing and service capabilities to support critical energy infrastructure and heavy electricity users across Australia and in targeted overseas markets.

**BUILT SMART**

**FOR LIFE**



Photos from top to bottom:

1. First location at Bernard Edmondson's Garage, 62 Sturt Street, South Melbourne
2. Transformer delivery in Crockford Street, Port Melbourne
3. Glen Waverley site from today's car park



# FAMILY VALUES RESILIENT LEGACY

## Our Guiding Principles

At WTC, we are driven by our Guiding Principles to make an impact that matters: this is what inspires us and why we are in business. We are committed to delivering high-quality sustainable solutions proudly made in Australia, supported by our team of experts. Our Guiding Principles lead the way we behave every day and the way we work and interact with our stakeholders.

### OUR PURPOSE

To transform energy and empower lives by delivering sustainable solutions proudly made in Australia.

### OUR VISION

To be the partner of choice for transformer solutions.

### OUR MISSION

We will achieve our vision by:

- Addressing the needs of our customers
- Collaborating with organisations with similar core values
- Continuing our commitment to zero harm (people, plant and environment)
- Delivering continuous productivity improvements
- Investing in our people and evolving our products, processes, systems and technology
- Strengthening our supply chain and business partner relationships

### OUR CORE VALUES

Our Core Values guide the way we behave every day and the way we work and interact with our customers, partners, colleagues and the community.



**Care** – demonstrate care for each other, the Company, our customers, our suppliers, the environment and the community.

**Customer** – support our customers with urgency, agility and a positive attitude.

**Excellence** – be our best by working together to deliver quality outcomes and a fair return on investments.

**Integrity** – earn trust and respect by behaving openly and honestly.

Throughout our long history, our business has grown and changed but we have stayed true to the foundations that our Company was built on. We operate under the same family values and ethics which have been critical to our success and achievements to date. We are committed to upholding a culture where our core values are embraced by our team and will continue to be passed down through the generations of WTC employees.

We engage with professional organisations and our local communities through various initiatives to support causes we are passionate about and create a positive impact on people around us. We provide our expertise and leadership to continuously advance the power industry and build on our resilient legacy to promote Australia's high-quality and sustainable manufacturing capabilities.





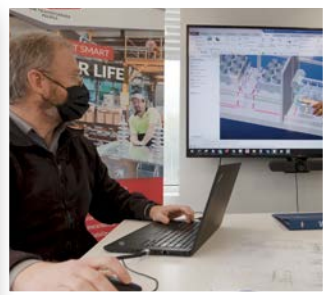
## The Transformer Solution Specialist

As the world transitions to a new energy ecosystem, organisations are increasingly turning to solution specialists to meet their technical, safety and environmental challenges. Over the years, we have built a hard-earned reputation for our transformer solutions with respect to safety, quality, reliability and service. At the heart of this reputation lies our passion for transformers, our people, customers, Australian manufacturing and the energy sector.

We have extensive experience in building a wide range of distribution and power transformers, associated products and cost-effective solutions for transformer life management.

We are well equipped to assist with technical specifications for transformer procurement as well as provide accurate condition assessment recommendations for strategic management decisions while responding to a comprehensive range of transformer installation, maintenance and repair requirements.

Our world-class distribution and power transformer manufacturing facilities, located in regional Victoria and metropolitan Melbourne, are rightfully considered state-of-the-art. Both manufacturing plants have been regularly upgraded with the latest equipment and systems, enabling us to adhere to best practices with robust quality, safety and environmental standards.



We have implemented a vertically integrated supply chain system spanning the entire value chain to assure quality control over our design, material and component supply, extensive manufacturing processes, factory acceptance testing, installation and field service. We focus on world best practices to ensure continuity of supply and superior quality of our solutions while operating in an environmentally sustainable manner and creating a lasting positive impact for our stakeholders.

Every product that leaves WTC has been engineered and built with excellence to ensure that it delivers superior value over its life through reliable performance. Our ability to support our customers over the entire life cycle of their assets is proven within the industry and supported by our technical knowledge, design software, research and development, world-class manufacturing facilities and regional service capabilities.

**HIGH-QUALITY SOLUTIONS**

**WORLD CLASS TEAM**





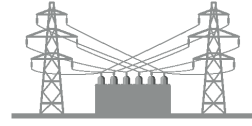
## The Sectors We Serve

We support the majority of the electricity infrastructure providers and heavy electricity users and have a proven track record of supplying a wide range of transformer solutions across Australia and in targeted overseas markets.



### Generation

Coal-fired and gas-fired power stations, hydropower stations, large-scale solar farms and wind farms.



### Electricity Networks

Private and government owned Transmission and Distribution Network Service Providers.



### Storage

Pumped hydro, centralised and de-centralised battery energy storage systems (BESS).



### Industrial

Aluminium smelters, chemical plants, steel production and rolling mills, paper mills and other manufacturing-related activities.



### Mining

Underground and surface mining sites and mineral processing operators.



### Oil and Gas

Onshore oilfields, natural gas extraction and LNG producers.



### Infrastructure

Transport (rail, airports and roads), water and gas utilities, buildings and telecommunications.



### Defence

Strategic infrastructure, facilities, technology and equipment.

**SMART INNOVATION  
BUILT FOR THE FUTURE**





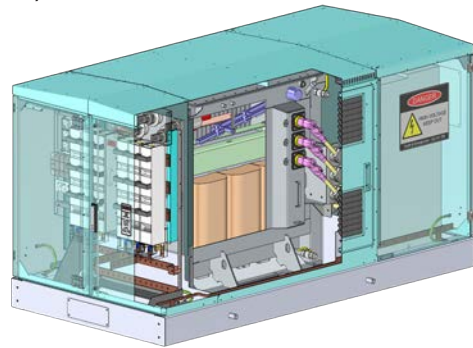
## Our Products and Services

WTC provides end-to-end transformer solutions including product specification and design, manufacturing and factory testing, storage and delivery, installation and pre-commissioning testing, warranty management, condition monitoring, spare parts, maintenance and refurbishment, and asset disposal.

All our products are designed and manufactured for specific applications and requirements and in accordance with the Australian and/or International Standards including, but not limited to, AS/NZS, IEC, ANSI, and NEMA.

### Distribution Transformers and Compact MV Substations

Our distribution transformers, ranging in size from 10kVA up to 8,000kVA, form a critical part of electrical infrastructure in the sectors we serve to ensure a reliable supply of electricity to homes and industry.



Our distribution transformer solutions cover a wide range of applications, including:

**Pole-mounted distribution transformers** from 10kVA up to 500kVA, with primary operating voltages up to 36kV.

**Ground-mounted distribution transformers** up to 8,000kVA with multiple configuration or customised options to meet our customers' needs.

**Compact MV substations** up to 5,000kVA 36kV that are square or rectangular, configured or customised to suit varying LV and MV configurations with or without Internal Arc-Fault Containment (IAC).

**FM approved distribution transformer solutions** for compact MV substations and three-phase distribution transformers up to 8,000kVA with system voltages up to 36kV and cooling class KNAN/KNAF. These solutions offer substantial fire safety with high flash and fire points of >300°C, reduce the transformer installation footprint and civil engineering costs and can lower insurance premiums.

**Regulating transformers** for MV and LV applications to meet the challenges of modern electricity networks with bi-directional power flow and imbedded variable output from renewable generation or imbedded storage.

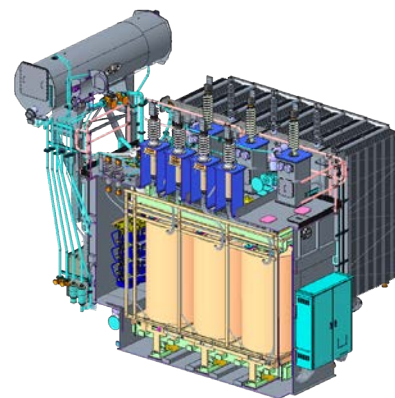
**Power skids** for Australian conditions, supporting grid-scale PV and BESS projects with a fully integrated, easily installed solution that minimises lead times, simplifies logistics, and cuts installation and commissioning time.

**Dead front pole-mounted transformers** to minimise the risk of fire caused by falling debris onto live contact points of the transformer.

**On-line monitoring solutions** for distribution transformer solutions to provide transparency on network performance.

### Power Transformers

Our power transformers, ranging in size up to 400kV, form a critical part of the electrical infrastructure in the sectors we serve.



Our power transformer solutions cover a wide range of applications, including:

**Power transformers** up to 400kV with off-circuit and/or on-load tap changers for generation, storage, transmission and distribution applications.

**Rectifier and furnace transformers** for special industrial applications such as smelting and processing operations with required voltage control and robust construction to withstand very onerous operating and environmental conditions.

**Regulating Transformers** for HV, MV and LV applications to meet the challenges of modern electricity networks with bi-directional power flow and imbedded variable output from solar or other generation.

**Trackside and onboard rail transformers** to meet the very onerous operating conditions such as high switching voltages, surges of current and short circuits.

**Mobile transformers** for rapid transport and quick connection following an unexpected outage or during a mid-life refurbishment on a single transformer or zone substation where supply is critical.

**Quad boosters**, also known as phase-shifting transformers (PST), to control the flow of real power on three-phase electricity networks.

**Pre-saturated Fault Current Limiters (FCLs)** for greater flexibility in reducing substation fault levels to accommodate switchgear ratings, improve load balancing and/or facilitate the connection of additional generation in MV or LV networks where fault levels are close to limits.

**Comprehensive on-line monitoring and/or control solutions** for power transformer solutions to improve the asset performance and life.

### Services

Our Service offering covers a wide range of activities from routine tasks to fully engineered solutions.



We have dedicated Services teams across Australia inclusive of highly skilled engineers and technicians to respond to our customers' needs, including:

- Installation and pre-commissioning testing
- Major upgrades, refurbishments and repairs
- Condition assessment and maintenance
- On-line monitoring and/or control solutions
- Spare parts
- Oil sampling, analysis and diagnostics
- End of life management



Our manufacturing facilities based in Victoria Australia provide the ability to perform complex factory refurbishments, including vapour phase dry outs for power transformers. Our national service fleet utilises the latest equipment to ensure its high-quality performance and reliability, including:

- Advanced fluid processing up to 9,000m<sup>3</sup>/hr
- Purpose-built vehicles with specialised test equipment
- Fully-equipped refurbishment containers for rapid deployment
- Multistage vacuum plants
- High-flow dry air machines
- Purpose built tank with on-line monitoring equipment for on-site dry outs



## Our World-Class Capabilities

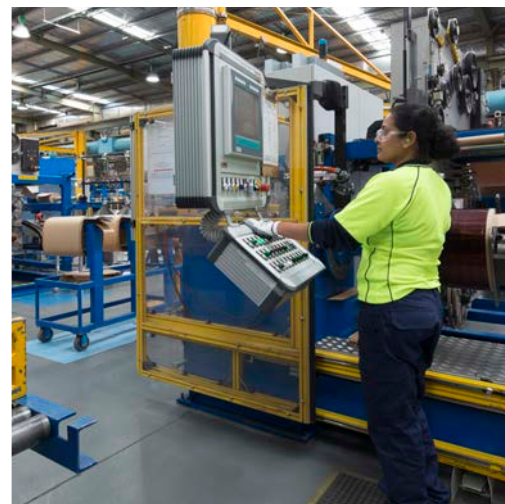
At WTC, we apply world-class engineering and manufacturing processes in our day-to-day operations, providing our customers with superior quality and timely delivery of our transformer solutions through innovation, technology and state-of-the-art manufacturing facilities.

Our engineering teams utilise the latest design software with in-house developed systems to optimise the electrical and mechanical design of our products and ensure their life-time performance and safety.

Our programs address the most fundamental aspects of transformer performance, such as impedance and losses, dielectric strength of the insulation system, short circuit withstand strength, cooling performance, sound level, mechanical

strength for lifting, transport and earthquake conditions, vacuum and pressure withstand, and dimension and mass constraints for transport and site requirements.

Both of our manufacturing sites have extensive storage facilities for transformers of any size. Our storage practices include regular inspections and maintenance to ensure that our products are ready to be deployed when required.



### Distribution Transformer Manufacturing Facilities

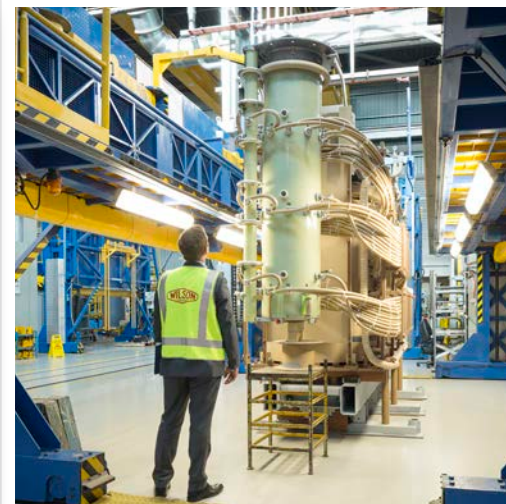
Our distribution transformer manufacturing facilities are divided into five major operational areas as identified below:

#### Warehouse

Our self-managed warehouse capabilities enable us to streamline our material availability and supply chain for greater operational efficiencies.

#### Tank Fabrication and Corrosion Protection

During tank fabrication, we use a range of CNC-controlled cutting, punching and folding machines, including two corrugated fin-folding lines to produce cooling panels for transformers and



packaged substations. The processed steel is assembled and welded using digital pulse welding machines for high quality welds.



We offer two proven corrosion protection systems which are galvanising or a grit-blasted substrate with zinc rich primer and polyester powder that provides protection from C3 through to C5M for extremely aggressive environments.

### Transformer Core Building, Winding and Internal Assembly

Our distribution transformer cores are of both non-circular and circular step-lap constructions manufactured by high-speed Georg cut-to-length lines with automatic precision lamination stacking. The very small transformer cores are manufactured using wound core technology.



LV windings utilise sheet conductor or strip conductor for the smaller capacity transformers. HV winding machines incorporate dynamic tension control and conductor flattening to achieve a high space factor and quality windings. Aluminium or copper conductors are used to optimise cost and losses or meet customers' specifications.

Rectangular coils are cured using DC presses prior to core and coil assembly with cabling run and connected internally and most commonly to an off-circuit tap selector.

### Transformer Processing, Final Assembly and Testing

Our software-controlled drying systems, using low frequency power under vacuum, optimise the dryness of winding and assembly insulation. The dried core and coil assembly is integrated into a fin-cooled or in some cases a radiator-cooled tank with all bushing connections made to provide appropriate interface to the electrical system.

Our design philosophy for distribution transformers is to fully seal the transformer from the external environment to prevent any moisture ingress into the transformer oil and insulation.

All distribution transformer solutions undergo a

comprehensive regime of routine tests and appropriate type tests in our state-of-the-art electrical test facilities to confirm their performance before delivery.



### Switchgear and Packaged Substation Assembly

Our switchgear and packaged substations are designed to meet our customers' requirements. These products can be configured to incorporate such features as oil containment and MV switchgear that is IAC A & B compliant and can incorporate remote switching capabilities.



Many configured and customised substation arrangements are available.

### Power Transformer Manufacturing Facilities

Our power transformer manufacturing facilities are divided into three major workshops: the internal and external transformer assembly, fabrication and corrosion protection, and high voltage test laboratory.

#### Fabrication and Corrosion Protection

All tanks are welded on site to ensure quality control and be capable of withstanding full vacuum and operating pressures.



Welding is performed using submerged arc and automatic pulse MIG welding machines in accordance with AS1554. This ensures excellent penetration, prevention of pin holes, reduced spatter and high mechanical strength.

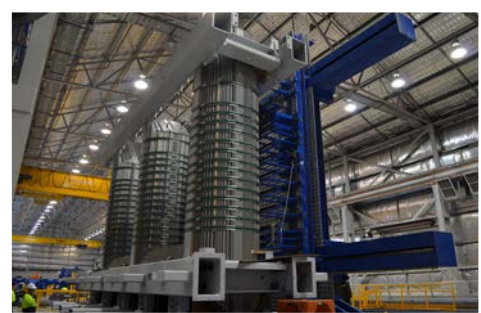
All tanks and mechanical components are cleaned to a purity of SA 2.5 using chilled iron grit which consistently produces an angular profile of 50-70 um to ensure paint adhesion. Our proven two or three coat paint systems with a zinc rich undercoat and an acrylic polysiloxane top coat provide an external corrosion/durability protection up to C5-VH in accordance with ISO 12944.



All transformer pipework up to 80mm diameter is designed with marine grade stainless steel pipes. Stainless steel components are used in sensitive areas such as feet for conservators and feet for separately mounted radiator banks.

#### The Internal and External Transformer Assembly

Our power transformer cores are of a circular step-lap construction with lamination widths up to 1000mm. Cores are stacked on a range of core build tables with a lifting capacity up to 90 tonnes.



Windings are wound under tension using vertical and horizontal lathes on mechanically expanding mandrels. The winding workshop is segregated from other areas in a pressurised environment to minimise contamination from airborne particles.



Sized windings are assembled onto a core in our customised assembly workstations that provide optimum safety in the workplace.

All active parts are vapour phase dried using Micavac plants to remove moisture from insulation. The dried core and coil assemblies are rapidly clamped and placed in their tanks to be sealed for vacuum and filling with either mineral oil or natural ester fluid from our dedicated oil storage facility.

All power transformers are fully assembled prior to final acceptance testing using high quality processing equipment. The electrical assembly workshop has lifting capability up to 220 tonnes and air skating capability up to 300 tonnes when moving transformers from the final assembly area into the HV test laboratory.

#### HV Test Laboratory

All power transformers undergo a comprehensive regime of routine tests and appropriate type tests.

Our test laboratory is fully shielded, acoustically treated and electrically isolated to ensure very low background noise for partial discharge testing and sound level measurement. Our test equipment includes Haefely Impulse Generators to 1600kV 160kJ, Haefely 500kV AC test system, Haefely 100kV/4000A loss measurement systems and Power Diagnostix partial discharge measurement systems.



## Our Subsidiaries and Joint Ventures

From our humble beginnings in 1933, WTC has grown into Australia's largest manufacturer of distribution and power transformer solutions with joint ventures and subsidiaries in Southeast Asia, the Middle East and the United States. Our subsidiaries and joint ventures are experts in their field and offer high-quality complimentary products and services to the energy sector.



**Dynamic Ratings**, a wholly-owned subsidiary of WTC (est. in 1998), is a trusted partner in continuous online condition-based monitoring and control. Dynamic Ratings enables customers to successfully implement integrated asset monitoring solutions to improve their business performance by understanding the condition of assets, supporting maintenance activities, identifying early failure signs and assisting in asset life extension activities.

For more information, visit: <https://www.dynamicratings.com>



**TJH2b Analytical Services Pty Ltd**, a joint venture between TJH2b Analytical Services Inc., USA and WTC (est. in 2002), is the NATA certified laboratory that specialises in providing diagnostic testing and condition assessment services for high voltage equipment.

For more information, visit: <https://tjh2b.com>



**EWT Transformer Sdn Bhd**, a joint venture between Wira Digital Sdn Bhd in Malaysia and WTC (est. in 1993), is a distribution transformer manufacturing company that produces high-quality, and cost-efficient distribution transformers and package substations, serving the Malaysian and selected South East Asian markets.

For more information, visit: <http://ewt.com.my>



**UTEK (United Transformers Electric Company)**, a joint venture between Bawan in Saudi Arabia and WTC (est. in 2000), is a distribution transformer, switchgear and package substation manufacturing company that supplies high-quality and cost-efficient products to the Middle East and North African markets.

For more information, visit: <http://www.utek.com.sa>



**GridON**, a joint venture between private shareholders in Israel and WTC (est. in 2010), is an innovative provider of Fault Current Limiter (FCL) solutions for the global market.

For more information, visit: <https://gridon.com>



## Our Commitment

At Wilson Transformer Company, we have all the attributes you would expect from a world-class transformer solution specialist.

For over 90 years, we have been designing, manufacturing and delivering quality transformer solutions that are reliable and Built Smart for Life.

We are committed to continue delivering these solutions and supporting critical infrastructure projects in the markets we serve. This genuine commitment is supported by our team of experts we call 'The Transformer People'.

### Contact us

#### Corporate Office

310 Springvale Road (PO Box 5)  
Glen Waverley, Vic 3150, Australia  
P: +61 (0) 3 9560 0411  
E: [corporate@wtc.com.au](mailto:corporate@wtc.com.au)

#### Power Transformer Business Unit

310 Springvale Road (PO Box 5)  
Glen Waverley, Vic 3150, Australia  
P: +61 (0) 3 9560 0411  
E: [powersales@wtc.com.au](mailto:powersales@wtc.com.au)

#### Distribution Transformer Business Unit

10 Moloney Drive (PO Box 809)  
Wodonga, Vic 3689, Australia  
P: +61 (0) 2 6024 5944  
E: [distsales@wtc.com.au](mailto:distsales@wtc.com.au)

#### Service Business Unit

310 Springvale Road (PO Box 5)  
Glen Waverley, Vic 3150, Australia  
P: +61 (0) 3 9560 0411  
E: [servicesales@wtc.com.au](mailto:servicesales@wtc.com.au)

For more contact details, please refer to the CONTACT US page on our website.

