



**i.power** solutions



## corporate profile

June 2009

a subsidiary of **BILFINGER BERGER**  
Services

**low voltage**  
**medium voltage**  
**mining equipment**  
**process automation**  
**project management**



## what we do

i.power solutions is a multi disciplined electrical engineering, manufacturing and project delivery company, and wholly owned subsidiary of Bilfinger Berger Services (Australia) Pty Limited.

Based in Brisbane Australia, the company is supported by regional offices in Mackay, Cairns, Newcastle and Perth. The company has three decades of experience in providing engineered solutions to a wide range of industries including metals and mining, power generation and distribution, waste and water treatment, process industry, oil and gas, manufacturing and materials handling.

i.power solutions has been built from the ground up to deliver real outcomes to our clients to benefit their bottom line and provide the very best in safety, functionality and value. As an organisation our passion and satisfaction comes from understanding our clients' needs. This enables us to design and deliver solutions that are not only fit for purpose, but provide the very best in safety, functionality and value.

Our team of engineers, technicians and trades staff have the training and experience necessary to execute projects from concept through to commissioning and handover with capabilities to provide ongoing support services for the complete operational life cycle.

i.power solutions differentiates itself by combining design and engineering with manufacturing and project delivery components in a wide range of industry sectors. To deliver turnkey projects, we combine our manufactured products with engineering and sites services, undertaking total ownership of a project, with a total commitment to quality and delivery.

We continue to demonstrate our project management abilities and technical expertise by successfully completing challenging projects, many requiring specialist solutions and innovative engineering methods.

Our manufacturing facilities design and manufacture a comprehensive range of quality, type tested, low and medium voltage switchgear either as standalone equipment or as part of a package of equipment and services that are tailored to suit the customer's needs. Our products can be either standard or custom engineered, purpose built to meet clients' specifications.

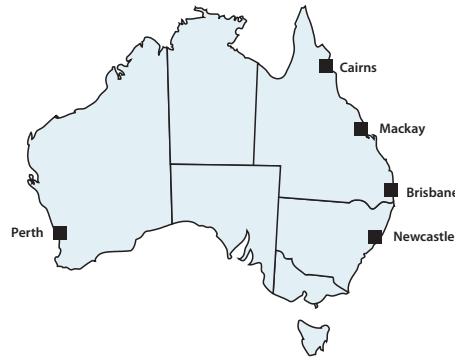
i.power solutions has a significant engineering presence in control systems, telemetry and SCADA in a wide range of industry sectors. Our Process Automation Group provides solutions from basic automation to sophisticated MES and plant management systems.

Our design and engineering team have practical experience in the selection, design, installation, calibration and maintenance of third party electrical equipment of all types, including instrumentation, drives, advanced control systems and heavy duty power equipment.

Company wide our products and services are fully compliant with the AS/NZS ISO 9001:2000 internationally recognised quality standard, and are type tested to ensure they meet their rated application.

*"Our diverse and unique capabilities ensure we are one of the few companies in Australia capable of delivering a complete electrical solution from the one source to our customers."*

Bruce Higginson  
General Manager  
i.power solutions



## Electrical Power Generation & Distribution

Our engineering project managers have detailed engineering experience in voltages up to 132kV including generating systems, overhead and underground power distribution, substations and associated earthing, switchboards, plant wide power reticulation and emergency supplies.

The combination of our engineering resources and experience provides a substantial understanding of the application of power systems. We have the expertise to advise you on the best technical and economical solution for even the most complicated application.

By utilising our information and infrastructure services, i.power solutions can provide considerable information through asset management and auditing. Following site inspection and the application of analysis, we have the potential to improve your electrical safety and power system efficiency.

## Water / Waste Water

i.power solutions has the capabilities in-house to provide power and control systems for the water industry. This includes the complete range of dosing, pumping, distribution and treatment facilities normally found in the water industry

Our range of service extends to small dedicated applications to full plant design and project management. A typical water project involves power distribution, backup power systems, process control, motor control, instrumentation and SCADA, all of which is handled in-house by i.power engineers and technicians.

We can provide remote or local support for this industry, 24 hours a day – 7 days a week, and therefore satisfy all requirements in terms of availability and service.

## Metals and Mining

Continuous throughput, the safe achievement of requested material qualities, high process performance at low energy, operating and maintenance costs – these are the essence of the requirements in today's mines and tertiary processing.

Integrated solutions from i.power solutions offer a comprehensive range of services, tailored to meet our client's specific requirements.

The key to this approach is the close interlinking of design, construction, process, engineering, electrical and automation engineering, as well as information technology and life-cycle services.

i.power solutions' size and diversity means that we take a holistic approach to our solution provision, employing a range of expertise and experience to provide an innovative and well engineered solution.

## Oil and Gas

Global trends in the demand and supply of oil and gas require constant improvement of technologies and services.

Innovative design, excellence in engineering, and maximum lifetime value are common denominators of all components, products, systems and services of i.power solutions' oil and gas expertise.

## Manufacturing and Process

Customer demands, new markets and the adaptation of advanced technology to new products drive continuous improvement of production and operational processes at i.power. Apart from productivity benefits, product and service innovation has resulted in cost effective solutions, eco-efficiency gains, improved quality and safer products for our customers. Our experience and technological expertise will ensure we continue to design and manufacture first class products to service the manufacturing and process sector.

## our markets





## product range

## Switchgear Products

i.power solutions designs and manufactures a comprehensive range of high quality, fully type tested and field proven low and medium voltage switchgear products that are both functional and cost effective. Confirmed through exhaustive testing, our products are among the safest products available in the market. The destructive testing undertaken ensures that the safety in design is not compromised. i.power maintains a dedicated product development team that continually adapts our designs and testing regimes to meet the latest standards and client requirements.

### Low Voltage Switchgear

#### Moducell v2.2

The Moducell v2.2 is a fully metal clad low voltage switchgear solution incorporating a modular construction for electrical power distribution and motor control centres.

The product range is well suited for the mining and heavy industries however can offer a practical solution for any application. The product is designed to be flexible and offers a wide range of module and tier configurations to adapt to customer requirements. The modular range and size of the various plug-in and demountable modules offers an infinite selection of solution layouts.

Being modular means the Moducell v2.2 system can be modified on site with the minimum interruption to power thus reducing operational and economic disadvantages. The switchboard is available in either 415/690/1000V configuration with bus bars and incomers rated up to 5000A 80kA fault level. The system is extremely flexible with the main bus located top/bottom/centre providing multi bus configurations and simplicity in design.

The board is offered in either a single or double sided tier configuration and has the adaptability of cable access being from the top and/or bottom and is available as either an IP54 or IP66 solution. The Moducell can adapt from form 1 construction through to form 4b in the same switchboard.

i.power solutions has done extensive type testing on the solution and holds all relevant Australian safety and testing certification including arc fault containment to AS/NZS 3439.1 2002 standards.

#### Okken

The Okken range of low voltage switchboards is assembled and manufactured under a licensed agreement with Schneider Electric.

Okken's modular structure enables upgradeable electrical distribution and motor control switchboards to be produced. The system is available with either fixed, disconnectable or withdrawable functional unit mounting. The form of segregation is available as a form 2a, 3a and 3b. Okken is a fully tested switchboard solution according to IEC 60439-1 standards which certifies electrical safety and reliability.

### LV Custom Switchgear

i.power solutions has an experienced design team to engineer LV custom switchgear solutions to suit project specific requirements.

The company has an extensive range of partially type tested switchgear enclosures for field and local control applications rated to 1000V.

The solution for any customer requirements could be developed within the required technical and commercial constraints.

### Marine Switchgear

i.power solutions has had extensive involvement in the marine industry since the mid 1970's. Our experience in marine electrical applications covers two principle areas - marine installation and service projects, and new equipment and systems. The company has undertaken a variety of complex and involved projects and built up an enviable client base in the process. Major customers include:

*Incat Pty Ltd, Tasmania* - i.power has been the main LV power and control systems equipment supplier since the early 80's. i.power's innovative engineering and design capabilities have ensured the Incat Group have remained at the forefront of high speed passenger vessel manufacturing and design.

*Aimtek Pty Ltd (formerly NQEA Australia)* - i.power has supplied equipment and engineering services for projects including the RAN Hydro-graphic Vessel project and the Wave Piercer Catamaran programs.

*Royal Australian Navy* - i.power have worked both directly and indirectly for the RAN in recent years on many local projects including the upgrade programs for the LCH's, the Survey Motor Launch in support service program and the LCH life of time extension program, as well as supplying various equipment.

*Quicksilver Pty Ltd* - Queensland's largest tour boat operation regularly engages i.power to supply specialised equipment and services in order to keep its large fleet operating.

### Medium Voltage Switchgear

**Series BV2** - Medium voltage distribution switchgear for voltages up to 36kV incorporating operation behind closed doors and VCB units. BV2 AMS offers full range metal-clad switchgear which has originated from GELPAG GmbH Germany, and is the result of Sino-German modern switchgear technology. To meet specific international and individual national standards, every endeavour has been made by both experts from GELPAG GmbH Germany and Xiamen Huadian Switchgear Co., Ltd. BV2 AMS is state-of-the-art, three phase AC, metal-clad, air insulated, indoor switchgear equipped with the most advanced cassette type VEP embedded pole vacuum circuit breaker.

Also available within the range are slimline motor starter panels up to 7.2kV. Panel widths are 325mm and adjoin in AMS12 panels without the need for a bus transition compartment.

**MV Custom Switchgear** - i.power has extensive experience in designing and manufacturing indoor and outdoor medium voltage switchgear for a wide range of applications. Designs are based on partially type tested assemblies up to 36kV.

The designs include outdoor distribution equipment in heavily polluted environments, indoor equipment where space and functionality is outside the normal, and equipment where the conditions of use are extreme and special construction is required.

### Switchgear Service

As part of our commitment to our product and customers i.power solutions provides for a dedicated team that provides upgrade, maintenance and testing services to our switchgear products and other makes of equipment.

The service includes programmed statutory testing of medium voltage protection systems as well as equipment modifications and equipment upgrades.

### Packaged Transportable Switchrooms

i.power solutions designs, manufactures and installs a range of packaged switchrooms and specialised buildings for industry. The switchrooms house anything from special electronics to heavy duty LV and MV switchgear. i.power designers ensure that the room and equipment will function reliably in even the harshest environment.

Switchrooms are designed and manufactured to Australian Standards and will provide up to 4 hours of fire protection and withstand the strongest of cyclones. All certification is by third party engineers and testing authorities. As part of the room supply i.power provides equipment installation services and fully tests and pre-commissions all equipment prior to dispatch to site.







## Mining Switchgear

i.power solutions engineer, manufacture and commission custom packaged switchgear solutions for the resource sector. Our mining team strives to provide operationally superior mining switchgear which delivers in-service reliability for our customers. i.power understands that the quality of our engineered products and services plays an important roll in the productivity and profitability of our customers. The reliability and serviceability of this equipment remains our ongoing goal.



## Underground Substations and Switchgear (NERZ)

i.power solutions designs, engineers and manufactures switchgear for underground coal and hard rock mines. We offer IP56 or IP66 rated switchgear for underground applications. Typical underground switchgear solutions include conveyor starters, section isolators, pit bottom distribution switchgear and development substations.

Voltages encompassed in our designs are 11kV, 3.3kV, 1100V, 690V and 415V. i.power also designs and manufactures dry type nitrogen blanketed transformers in sealed tanks ranging from 0.75MVA to 7.0MVA for integration into our IP rated substation packages. We have the engineering capabilities to deliver underground variable speed drive packaged solutions, air and water cooled, generally for conveyor operations.

To provide substation mobility, i.power offers designs incorporating solid rubber wheels with tow hitches complete with spring lift assistance. Alternatively we can offer crawler driven track assemblies with hydraulic powered PTO packs or simple skid based designs.

The i.power solutions range of substations and switchgear can also include the provision of automation packages encompassing hardware, software and communication protocols that seamlessly interface into mine wide SCADA systems.

## 11kV / 22kV / 33kV Relocatable Substations

i.power solutions provide a range of engineered solutions to the mining sector. Our relocatable substation design allows connection to the overhead lines of a fully functional substation with all associated secondary electrical equipment with minimal site installation. Relocation or re-use of this equipment is easily achieved through fold away assemblies and equipment designed for the effects of transport and placement.

## Refurbishment and Overhauls

The operating conditions experienced by mining electrical equipment means that there is an ongoing need for service, overhaul and refurbishment. i.power solutions has workshops and service teams dedicated to the provision of maintenance and overhaul works on mining equipment. Our Mackay and Newcastle workshops are configured to provide regional support for all mining equipment maintenance. Our Mackay branch is accredited for AS3800 Flameproof Equipment overhauls.



## 66kV Relocatable and Mobile Power Substations

i.power solutions are market leaders in the design, engineering and manufacture of transportable power substations for open cut mining operations. This equipment is designed in accordance with current regulations and standards with an emphasis on functionality and safety. Mobile and relocatable substations are typically sized between 5MVA to 25MVA rating with 66kV primary voltage incoming and 3.3kV / 6.6kV / 11kV / 22kV secondary switchgear feeders for the remote powering of mine shovels, draglines, drills and other equipment. The substations can be fitted with non-driven crawler tracks, allowing relocation by coupled towing of the fully assembled substation.

The 66kV switchgear includes surge arrestors, rotary double break air break switch, SF6 circuit breaker, voltage transformers and current transformers. Access to the 66kV overhead platforms is gated with mechanical and electrical interlocking for safe access. Switchrooms housing the distribution switchgear and auxiliaries are airconditioned and sealed to prevent dust ingress. Fire detection and suppression equipment along with SCADA and telemetry systems are typically included with these designs.

i.power solutions offers site services encompassing offloading, site erection, testing and commissioning. i.power service teams are also available to carry out inspections, statutory tests and other service work on this equipment.

## 33kV | 66kV | 132kV Switchyards and Packaged Switchrooms

i.power solutions specialise in the engineering, manufacture and construction of surface substations for the mining industry. Typically 33kV / 66kV / 132kV substations are designed specifically to meet client requirements and mining standards and regulations. There is a strong emphasis in the design process of these substations to incorporate safety in design, ensuring delivery of a product that is simple to operate and absolutely safe to personnel. The service is a turnkey project where i.power takes possession of the substation site and manages all engineering and subcontractor activities, handing over a complete project commissioned and ready for service.

For 33kV and 66kV substations, i.power solutions offer a structurally certified, skid based modular package which is fully assembled at our factory and tested prior to dispatch to site. Once at site, civil works are minimal with only strip footings required on which the modular unit rests. Our designs are flexible and will cater for all incoming and outgoing configurations and quantities. Utilising the i.power solutions engineered high and low bus structures, our modular switching and protection substation units can interconnect with the inclusion of bus ties, protection and metering to create a simple or complex interlocked distribution network. Should transformers be required to provide a secondary voltage for distribution, there is relatively no limit to the MVA or quantity that can be incorporated.





## Process Automation

i.power solutions has the experience required to execute projects from design through to operation with our dedicated control and automation engineers. We provide a complete range of services including concept design and budgeting, detailed design and documentation, contract management, construction supervision, process automation system programming and commissioning followed by training and ongoing site support.

### Safety / Hazardous Areas

i.power solutions maintains engineering staff expertise and accreditation in plant safety systems and hazardous area auditing and design. The additional in-house skills ensures that designs are formulated with a full appreciation of total system requirements resulting in quality outcomes.

### Telemetry / SCADA

Telemetry systems, both traditional radio and Wi-Fi, remain the backbone of distributed system functionality. i.power solutions has substantial resources and expertise to take on the most complex of systems. Our track record of design, installation and maintenance of telemetry and distributed control systems is the envy of our competitors.

### Process Information Systems

i.power solutions' specialist information systems engineers apply the latest innovations in IT technologies and business software to provide a tailored software solution that will provide the metrics needed for process improvements and management reporting.

Our Infrastructure service provides design, installation and maintenance capabilities for all of your IT requirements, whilst our data management aptitude provides the latest IIM (Industrial Information Management) tools to assist with process metrics.

### Service Support

Complete plant lifecycle management is offered by i.power solutions. We have trained service technicians and service focussed engineers who can carry out:

1. Callout services and phone support
2. Plant audits and investigation
3. Plant bottleneck identification and reduction strategies
4. Small project and upgrade services
5. Budget- forecasting and planning services

## Engineering and Project Services

i.power solutions is focussed on the delivery of electrical project services to our clients. Our project services include site installation and project management as well as professional engineering across a range of industry sectors.

### Design

We offer professional engineering and design services for our clients as a component of a project solution. Activities include:

- MV power system reticulation and protection design
- MV and HV substation earthing studies and engineering
- Power studies for load flow and protection systems
- Lightning protection system studies and design
- MV and HV substation design
- Plant power and control system design
- Project management services

From conceptual design through to handover and final construction documentation, we bring together the right expertise and experience to engineer project solutions which meet the customer's needs and the appropriate standards.

### Installation Services

i.power installation services include:

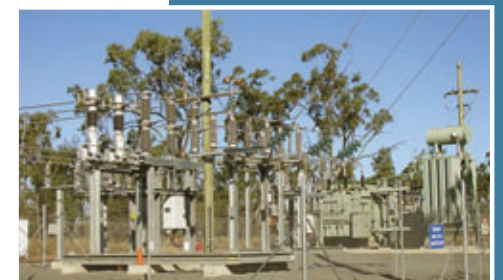
- Substation earthing and lightning protection systems
- HV, MV, LV power systems
- HV and MV substation and switchboard installation
- Transportable switchroom and substation installation
- Fixed generation and standby diesel generation systems
- Process and control systems
- Cable, fibre and wireless network design and installation
- Marine installation services
- Installation and commissioning of industrial plant
- Small project installation services
- Maintenance support services

### Project Management Services

The technical elements of the project solution are complemented by our ability to provide the essential management services to successfully deliver on the project requirements. In addition to our core technical capability, i.power solutions brings together other engineering disciplines, facilities management and overarching management services, which include:

- Turnkey design installation and maintenance services
- Project and contract management
- Estimating and feasibility studies
- Planning and scheduling
- Installation and commissioning

i.power solutions prides itself on its turnkey project capability. By combining our manufactured MV and LV products with engineering and site services, we are able to provide our clients with a commitment of total ownership from concept to handover.





## information systems

The i.power solutions Infrastructure Services team has extensive experience in developing enterprise hardware and software systems for small businesses through to major corporations.

Our in-house IT skills combined with unique knowledge and experience in plant operating systems enables us to provide a wide range of solutions to meet the current and long-term needs of our customers, including:

### Design | Installation of Networks and Hardware | Software Systems

Through extensive experience our team of experts can redesign networks, expand networks and build and upgrade Windows domains and local area environments.

### Managed IT Services - Desktop, Server and LAN Environments

Our managed services solution provides customised support packages to suit the changing needs of businesses. Utilising Service Level agreements, we can provide ad-hoc support through to proactive server monitoring and a friendly helpdesk service.

### IT Procurement

Our single point of contact is an easy and efficient means of procuring IT hardware and software products while taking advantage of our access to numerous suppliers.

### Ad-hoc IT Projects

We have managed many projects of varying complexities, involving hardware and software solutions for a wide range of corporations.

- Schneider Electric Alliance Partner
- Citect Platinum Integrator
- Siemens Solution Partner
- Rockwell Systems Integrator
- Licensed manufacturer of Schneider Electric Okken LV switchgear
- GE Fanuc systems integrator
- Wonderware Systems Integrator
- Becker Mining Systems Queensland Representative
- CMI SCADA Partner

- Member Australian Industry Group (AIG)
- Member Mining Equipment & Services Council of Australia (MESCA)
- Member Institute of Engineers Australia (IEA)

## registered office

Level 3, Building B,  
7-11 Talavera Road  
Macquarie Park NSW 2113

## bank

ANZ Group  
Level 8, 20 Martin Place  
Sydney NSW 2000

## auditors

Ernst & Young  
Ernst & Young Centre  
680 George Street  
Sydney NSW 2000

## insurances

i.power solutions has a comprehensive range of insurance policies covering all aspects of business activities including:

- public and products liability
- workers' compensation
- contract works
- professional indemnity
- industrial special risks
- motor vehicle
- travel

## accreditations

- AS/NZS ISO 9001  
Quality Management Certification
- AS/NZS 3800  
Certified workshop for flameproof overhauls with personnel competencies to AS4761
- Qld Government registered  
Quality Assured supplier  
No. 6418
- Level 1 service provider  
No. 2366 - NSW Department  
of Energy, Utilities and Sustainability
- Level 3 service provider  
No. 2397 - NSW Department  
of Energy, Utilities and Sustainability

No. 51689 Queensland

## electrical contractor's licence

## corporate details



## business links

## business affiliations

## Queensland

Brisbane head office

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