



P O W E R U P

SECTOR - ELECTROTECH

The electrotechnology sector impacts on every aspect of daily life. The technology ranges from traditional light and power to virtual enterprises, the internet and fibre optics.

The industry takes care of installation, service and repair of electrical and electronic equipment for industrial, commercial and domestic purposes. The telecommunications and IT aspects of the industry are becoming increasingly important as the knowledge economy alters the way businesses operate.

The use of "future" technologies such as home automation and the integration of systems including data communications means the current rapid rate of technological change in the industry continues to accelerate. Within this expanding multi-billion dollar industry, opportunities abound for people who are career oriented and have a view to the future.

JOB AREA - ELECTRICAL

Electricity today is integral to our modern lifestyle and its uses and applications are extremely varied.

Electricians can specialise in a wide variety of fields such as lifts, escalators and elevators, the installation, maintenance and repair of signals systems for road and rail networks in order for them to operate efficiently and safely, and even specialist lighting for sporting or large scale theatrical events.

You might also work as an electrician in the domestic, commercial or industrial fields, or in auto, aviation or marine electrics. There are even opportunities for those with a sales bent with career possibilities in electrical wholesaling.

JOB AREA - ELECTRICAL: LIGHTING

Does lighting a rock concert or major sporting event sound interesting to you? Or designing lighting for a skyscraper or bridge? Then this area of the electrical mechanic's trade may have a job for you!

Jobs in lighting encompass many different areas. You could become a designer for outdoor applications like commercial buildings or outdoor architecture. Other areas include the design and manufacture of lights and fittings or you may find the marketing and sales side of lighting more your style.

People attracted include those with a creative flair and others with a technical bent. The area also appeals to both men and women.



JOB AREA - ELECTRICAL: LIFTS

A lift electrician/mechanic assembles, installs, maintains, and refurbishes all types of passenger and freight lifts, escalators and moving walkways.

Since most large buildings, airports, hospitals, shopping centres, theatres, major apartment blocks and hotels have lifts installed, the job is vital to the community.

People drawn to this job often like to study drawings and layouts, solve problems and work with mechanical and electrical assemblies. The use of computers and new technology for tuning and diagnostic work and the fact that you will be able to gain an electrician's license and telecommunications registration means that skills you learn are transferable to many other industries.

JOB AREA - ELECTRICAL: SIGNALS ROAD

The road networks are the major carriers of transport in Australia. But without people operating and maintaining the traffic control systems, there would be chaos.

Traffic signals separate the movement of vehicles and people in time. Correct and efficient operation of the equipment is therefore vital in keeping traffic flowing as well as preventing accidents and personal injury.

Roles include signal installation planning and repair, and maintenance of signal plant and equipment. Traffic flow and timetable management, including special event and incident management are other specialist areas.

Many people are attracted to signals work due to the variety of employment in the field. The skills learnt can also be used overseas as transport signal installations grow around the globe.

JOB AREA - ELECTRICAL: SIGNALS RAIL

The rail industry is responsible for the safe and efficient movement of both freight and passenger traffic. A critical part of achieving these goals is a safe and reliable signalling system to control rail traffic movements.

As a signal electrician, you will undergo training in a wide variety of equipment ranging from mechanical signalling equipment to state of the art computer based interlocking systems.

Your training includes specialist on the job training in all signalling related subjects and leads to an electrical trade certificate.

You will be employed in a "hands on" working environment dealing in "real time" events that impact on the operational reliability of the rail infrastructure and its customers.



POWERUP

JOB AREA - ELECTRICAL: ELECTRICAL FITTING

Electrical fitters overhaul, maintain and repair electrical equipment and machines of all types. They may rewind faulty or burnt out motors, generators and transformers and fabricate electrical control gear and switchboards.

The kinds of people who are generally attracted to this work include those who like to work with their hands and solve problems. Design and construction of electrical equipment of varying types may also be an option.

Fitters' efforts help safeguard the mighty machinery of industry. This then ensures the wider community receives a continuing supply of its needs.

JOB AREA - ELECTRICAL: ELECTRICAL WHOLESALING

If you'd like a career in electrotechnology but aren't that interested in the technical side of the industry, electrical wholesaling may be for you.

Electrical wholesalers keep the electrotechnology industry ticking over. They are involved in the identification of components, sales, ordering, invoicing and other administrative areas related to electrical contracting, data communications and other electrotechnology areas.

Your career in this exciting and expanding industry can take a number of directions, including management or as a representative of your employer travelling around the country.

JOB AREA - ELECTRICAL: ELECTRICIANS

Without electricians, there would be no electricity in the home, office or factory. Many of our day to day necessities - like electric light, heating and power - would not be available. We would also be without luxuries like TVs, computers and stereos. We would still be in the dark-ages!

Jobs for electricians vary across domestic, commercial and industrial areas including electrical supply. Broadly speaking, they could include the installation and maintenance of plant and equipment, building wiring, machinery maintenance, auto-electronics, light and sound production and marine and aviation maintenance.

Gaining a trade can lead to further career opportunities including the possibility of owning your own business. Electricians often use their qualifications to work overseas and this is a licenced trade.



POWERUP

JOB AREA - ELECTRONICS

Would you like to be a part of one of today's fastest developing sectors where technology, products and possibilities are expanding daily? If so, then Electrotechnology could for you.

How would you like to responsible for the satellite communications that provide essential data for ships, planes and emergency services, or maybe ensuring people's safety via security and protection devices such as smoke alarms appeals to you?

You could also specialise in entertainment and audio visual systems, instrumentation, audio, business equipment, computer systems or radar and sonar.

JOB AREA - ELECTRONICS: COMPUTER SYSTEMS

The world-wide growth of the computer and IT industry over the past decade has been phenomenal. This has given rise to new jobs and opportunities across a broad spectrum in this sector.

A career as a computer systems technician can be very rewarding, especially if you find computers interesting and fun. Technicians commission, install and carry out maintenance on computer systems and peripheral devices that are used in both business and home offices. This includes equipment at a retailer's point of sale and in inventory control, data logging and remote sensing.

This trade is of a high importance to the community by keeping today's ever evolving technologies operating at full steam.

JOB AREA - ELECTRONICS: BUSINESS EQUIPMENT

In recent times business equipment has moved light years ahead from the typewriter and filing cabinet. Today's offices operate with hi-tech imaging equipment, information systems and creative software.

As new technologies and machinery is developed, so too are jobs to support this growing field. The sort of equipment you will work on includes analogue and digital printers, faxes, photocopiers, scanners and multi-function devices. It also requires knowledge of computers and networking technologies.

Jobs in business equipment include technical consultants, product support officers and repair technicians. Opportunities for advancement into design and training are also possible.



POWERUP

JOB AREA - ELECTRONICS: SATELLITE/BROADCAST

Like to work in TV beaming out and receiving programmes? Or with a telecommunications company connecting Australia with the rest of the world? Maybe even in aeronautical or marine electronics working with satellites? Then satellite/broadcast could just be your area.

You must enjoy a challenge as much of the work is highly technical and sometimes located in outback areas, but it's vitally important work. Your role may be keeping society up to date with the latest breaking world news events, advising ships at sea or planes in the air of storm reports or keeping the emergency services and the military at high alert.

Jobs include telecommunications engineer, broadcast engineer, satellite tracking personnel or pay TV installer and antenna installer/rigger.

JOB AREA - ELECTRONICS: ENTERTAINMENT

Electronics tradespeople work on machines and equipment we all use and enjoy. These include televisions, stereos, computers and radios. Video arcade machines, microphones and public address systems also come under their control.

With an electronics trade certificate, you will be able to repair and maintain as well as trouble-shoot and install electronic equipment. Being a hands-on person and having a problem solving mind is an advantage.

Whether you become a band roadie, TV repair person or work for an audio-visual company, you will find your skills useful in many aspects of life.

Going one step further, you may even move into areas like design and modification of components and equipment.

JOB AREA - ELECTRONICS: SECURITY/FIRE PROTECTION

If outsmarting criminals and preventing the destruction of people's homes and properties appeals, the increasing opportunities in the security and fire industries may be of interest to you.

Security and fire protection jobs include technicians and installers of security, fire protection and electronic surveillance equipment. Burglar alarms, smoke detectors and other warning devices can and often do save people's lives and property. While the idea is to prevent problems, in security/fire you will often work closely with the emergency services.

These jobs involve working in many different locations so if you like variety in your workplace these jobs could be ideal for you. They can also lead to telecommunications registration.



P O W E R U P

JOB AREA - ELECTRONICS: RADAR/SONAR

Like the idea of working for the aviation, military or shipping industries? Or how about helping fishermen search out fish stocks on the high sea? Then a career in radar or sonar may be for you.

The equipment you could be working on includes radars for air traffic control, space satellites or even sea and harbour navigation for vessels. And in sonar, locating fish schools, undersea mapping and salvage work on sunken wrecks is a possibility. Both areas have many applications for military work including navigation and weapons technicians.

So if you like using your mind as well as your hands, the radar/sonar area could have the job for you.

JOB AREA - ELECTRONICS: INSTRUMENTATION

Does the idea of working on critical equipment in the control rooms of large industrial plants attract you? Then work as an instrument fitter may be up your alley.

Fitters maintain and install instruments and instrumentation used in the measurement and control systems in the petro-chemical, food and manufacturing industries. These instruments measure and control temperature, pressure and flow in the processing and manufacturing industries, often in very large and expensive plants. Correct calibration and operation of the equipment is vital for industry to operate efficiently and safely.

Opportunities exist in many different industries for people who can think analytically, solve problems and perform intricate work.

JOB AREA - ELECTRONICS: AUDIO

Audio and sound technicians are employed in a wide range of areas in the audio industry. Jobs may vary from repair and installation of equipment for home use to the maintenance of sound equipment for live venues. These may include large concerts, radio and TV stations and recording studios.

A sound technician may be required to work flexible hours in unusual places until the job is finished.

While part of the job may be to work on equipment designed for entertainment, they also play a vital role in the community. Without them, broadcast facilities designed for hospitals, shopping centres and transport systems would not work reliably. Sound technicians also work on specialised equipment for the hearing impaired.



JOB AREA - REFRIGERATION & AIR-CONDITIONING

Without refrigeration and air conditioning technicians, there would be no fridges, freezers or air conditioning. Many of our daily necessities like ice, cold drinks, frozen food, would not exist.

Jobs vary across domestic, commercial and industrial areas. It includes work on highly specialised laboratory equipment and the replacement of environmentally damaging systems using Chloro Fluro Carbon's.

You could also work on the large industrial refrigeration systems used in ice works, fish markets or even on ships. An advantage is that your workplace can be in a variety of locations.

With over 70% of homes now being built with air-conditioning, opportunities are increasing for practical people wishing to work in a growing industry in a healthy environment. Qualifications gained are recognised both in Australia and around the world and it is a licenced trade.

JOB AREA - DATA COMMUNICATIONS

If you're practical and interested in connecting the world through computer networking, data communications, telephone systems and leading-edge technology, this could be the job for you.

As a data communications tradesperson, you could be installing telephone systems, home entertainment, hi-speed computer networks, home communication systems and other areas involving communications and cabling around the home or office.

This job puts IT to work. Today's businesses are becoming increasingly reliant on new electronic communications technologies like the internet. At the same time our houses are becoming smart-homes where equipment like mobile phones are able to switch on appliances remotely. The future is bright in the data communications area and you will also gain a data communications licence.

NEXT STEP

Depending upon the career you want, you might train on the job, or earn while you learn in a combination of work and on and off the job training, or you might study full or part time at a university, TAFE or other Registered Training Organisation and then get a job.

Trade. An Australian Apprenticeship (apprenticeship or traineeship) is a great way to kick start your career especially if you enjoy hands on work. And tradespeople and trained operators are in high demand and well rewarded.

Technical. As modern industry becomes increasingly reliant upon computers and high tech machinery and equipment, the need for skilled technicians, supervisors, managers and engineering associates also increases. Some technicians and supervisors require Certificate III or IV, and technologists, technical officers, project managers and engineering associates usually need to complete a Diploma or Advanced Diploma.

Professional. Utilities and Electrotechnology needs highly skilled engineers to continually design, develop and implement new and improved technologies. The industry also needs many other management professionals.

Many state, territory and regional government websites have information about Electrotechnology and some of these also have jobs and career information. Just use your search engine and type in e.g. Victoria Electrotechnology. You can also search for Electrotechnology Companies and Electrotechnology Suppliers, or just enter a job title into a search engine and see what pops up.



ADDITIONAL RESOURCES

To find out about more about careers and opportunities in the Utilities & Electrotech industries check out the websites below.

Alinta Asset Management

<http://www.alinta.net.au>

Energy infrastructure and energy related products

Alpine Refrigeration

<http://www.alpinerefrigeration.com.au>

Providing air conditioning and refrigeration services and consultancy throughout southern Queensland

Australian Apprenticeships

<http://www.australianapprenticeships.gov.au>

Information about Australian Apprenticeships (apprenticeships and traineeships)

Australian Apprenticeships Training Information Service

<http://www.nacinfo.com.au>

Apprenticeship and traineeship occupations, pathways, Apprenticeship Centres

Australian JobSearch

<http://jobsearch.gov.au/careersearch.aspx>

Information on choosing a career, job or Australian Apprenticeships

Australian Water Association

<http://www.awa.asn.au>

Information about the water industry in Australia

Career Guide Australia

<http://www.yourcareerguide.com.au>

General career information, advice & guidance

EE-Oz

<http://www.ee-oz.com.au>

EE-Oz (Electro Comms and Energy Utilities Industry Skills Council) industry information and includes a careers section

EEAGTS

<http://www.eeagts.asn.au>

Engineering Employers Association Group Training Scheme provides apprentices and training management. Includes job vacancies

Electronics Industry Association (EIA)

<http://www.eiaa.asn.au>

Includes information on the electronics industry, careers and employment

Electro Group

<http://www.electrogroup.net.au>

Electro Group is a group training organisation that trains and places electrical apprentices

Electrotechfutures

<http://www.electrotecfutures.com.au>

Information about electrotechnology, careers, pathways and training