The depth of expertise of our building services engineering team ensures our ability to deliver specialist knowledge and capability to a diverse range of clients while offering exceptional, result and relationship-driven service every time.

Whether it is power, communications and lighting systems for commercial office fitouts and building upgrades or the complex mechanical systems and hydraulic design associated with major developments and infrastructure projects, Cardno provides expertise embracing the full range of building services.

**Electrical Engineering**
Cardno’s electrical services provides a diverse range of applications from cosmetic appeal through to mission-critical functionality. From power and lighting systems for commercial office fitouts, Cardno provides forward-thinking electrical engineering solutions.

> Electrical infrastructure masterplanning
> Submain and switchboard designs
> Interior and exterior lighting
> Daylight and dimming integrated lighting control
> Exit and emergency lighting
> Energy management
> Substation planning
> Supply authority negotiations and coordination
> Reticulation and busbar systems
> Standby power generation
> Co-generation
> Uninterruptible power supply
> Power factor correction
> Cable management systems
> Lightning protection
> NABERS & green star design requirements
> Surge protection

**Specialist Lighting**
Cardno’s specialist lighting designers provide lighting solutions that are fresh and innovative, create drama and intrigue, providing mood and ambience.

Effective lighting design relates to how an environment is perceived and can only come from understanding the aesthetic and technical aspects of design. This means understanding the desired appearance and ambience of the space. Working closely with the project designers, we integrate solutions that will work for the client both day and night whilst complimenting the surrounding architecture.

Cardno’s dedicated lighting team has the expertise to offer complete lighting solutions, incorporating not just the physical lighting design and specification but also the design of lighting control systems, integration with audio/visual equipment, electrical interface and energy conservation infrastructure.
Fire Services
Cardno has full consulting services for the design, documentation and construction phases of all fire services systems. We are committed to developing the most functional and economical design strategy suitable to protect life and assets from the risk of fire.

- Wet fire sprinkler system
- Fire hydrant and hose reels
- Fire detection and alarm systems
- Emergency warning smoke detection systems
- Fire engineered solutions
- Gas fire suppression
- Pre-action dry pipe sprinkler systems
- ESFR sprinkler systems

Hydraulic Services
The hydraulic services engineering team provides the full range of hydraulic design and consulting services in developing effective project strategies for our clients.

In addition to the hydraulic expertise detailed below, Cardno provides, on behalf of our clients, coordinates with local authorities, councils and fire brigades.

- Grey and black water recycling
- Authority co-ordination
- Water management plans
- Stormwater drainage
- Sewer drainage
- Water treatment
- Hot water
- Cold water
- Gas
- Flood studies

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Mechanical Services
The Mechanical Services expertise at Cardno is geared to meet the demands of our clients, whether it be new HVAC installations, tenancy and supplementary requirements or an environmentally driven development, Cardno provides a full mechanical services.

- Heating, ventilation and air-conditioning
- (HVAC) system design
- Mechanical system analysis and modeling
- Plant audit and upgrades
- Data centre and computer room specialist
- Construction and commissioning management plans
- Building management system (BMS) design
- Commissioning
- Chilled beam design
- Displacement air-conditioning design
Ecological Sustainable Design (ESD)
Cardno’s ESD team offer building owners, tenants, designers and operators the tools and strategies to have an immediate and measurable impact on their buildings’ performance, rating and improvement. Our team provides consulting, strategy and policy well beyond engineering.

- NABERS energy (ABGR) compliance assessment and submissions
- Green star compliance guidance, assessment and submissions
- Section ‘J’ BCA Assessments
- Renewable energy engineering
- Building energy audits & monitoring
- Co & tri generation engineering
- Grey and blackwater reuse design
- Internal environment quality engineering
- Daylight engineering
- Building Modeling Services
  - Building Thermal Analysis
  - Building Energy Analysis
  - Building Comfort Analysis
  - Building Daylight Analysis
  - Building Life Cycle Cost Analysis
  - Building Embodied Energy Analysis
  - Glazing Analysis
- Building best practice & energy efficiency commissioning services
- Passive solar design strategies
- Cross flow & stack ventilation engineering
- Carbon trading and emissions profiling

Security Consultants
Cardno recognises the importance of security to organisations, properties, people and process. Through thoroughly analysing and evaluating the individual needs of a project and client, the security specialists at Cardno will design security solutions to accommodate operational needs and protect the integrity of the premises and people, no matter how diverse.

- Access control systems
- Intruder alarm and detection systems
- Remote monitoring
- Security barrier technologies
- Duress alarms
- CCTV

Vertical Transport
Cardno provides comprehensive vertical transport engineering services that range from concept designs and operational modeling through to detailed design and the development of maintenance programmers.

- Design and specification for
  - New equipment
  - Modernisation of existing infrastructure
- Diagnostic evaluations
- Preventive maintenance management
- Contract negotiation
- Cost benefit analysis consulting
- Elevator traffic simulations and modeling

Cardno
Shaping the Future
Due Diligence & Audit
Cardno appreciates the importance of condition audits and developing accurate reports with consistency, relevant information, photo representation and easy to interpret cost / repair information. Cardno has internal resources dedicated to undertaking due diligence and condition audit assessments, including all hardware and an in-house developed system for field data collection and condition. The system includes the full spectrum of building elements based on the Australian Standard Method of Measurement of Building Works and includes more than a thousand costed tasks comprising initial installation, repairs, replacement, and maintenance.

Markets and Sectors
Cardno’s experience and professional services covers a wide range of markets and market sectors that include:

Sectors
- Fitout
- Refurbishment
- Construction & Development
- Occupied & Operational Environments
- Plant Upgrades & Maintenance
- Adaptive Reuse

Markets
- Commercial
- Industrial
- Retail
- Residential
- Hospitality
- Data Centres
- Health & Aged Care
- Education
- Government
- Defence
Cardno’s Commitment to Zero Harm

Safety is a core value at Cardno and our Zero Harm safety program fosters an environment of clear accountability, shared responsibility, risk awareness and effective communication. Our program underpins all operations and is responsive to the needs of our clients. We are focussed on continually improving our safety culture and the management systems that reinforce our commitment to zero harm.

Cardno operates an occupational health and safety management system that has been certified to AS4801 and OHSAS18001.

About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno’s team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange (ASX: CDD).

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