Your technology, security and innovation partner

HEALTH

AIR FORCE

30R

ARMY

NAVY

NAVY

Downer
Relationships creating success
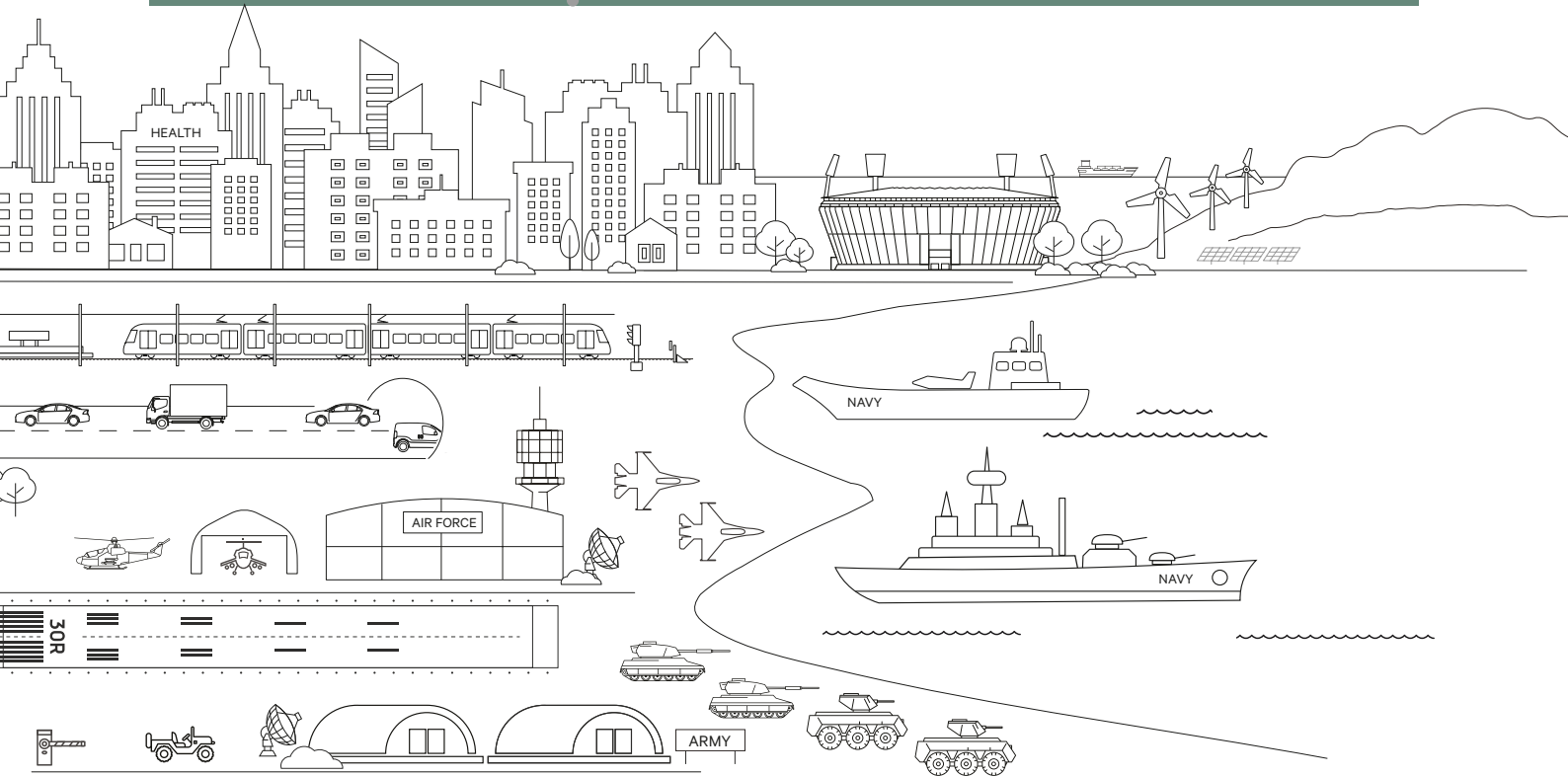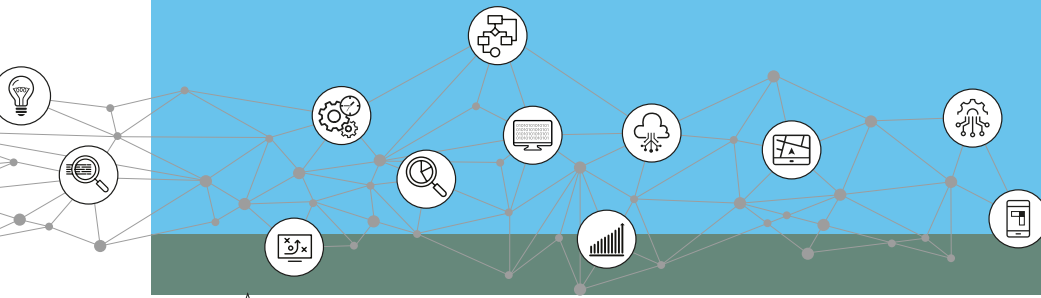
About Downer

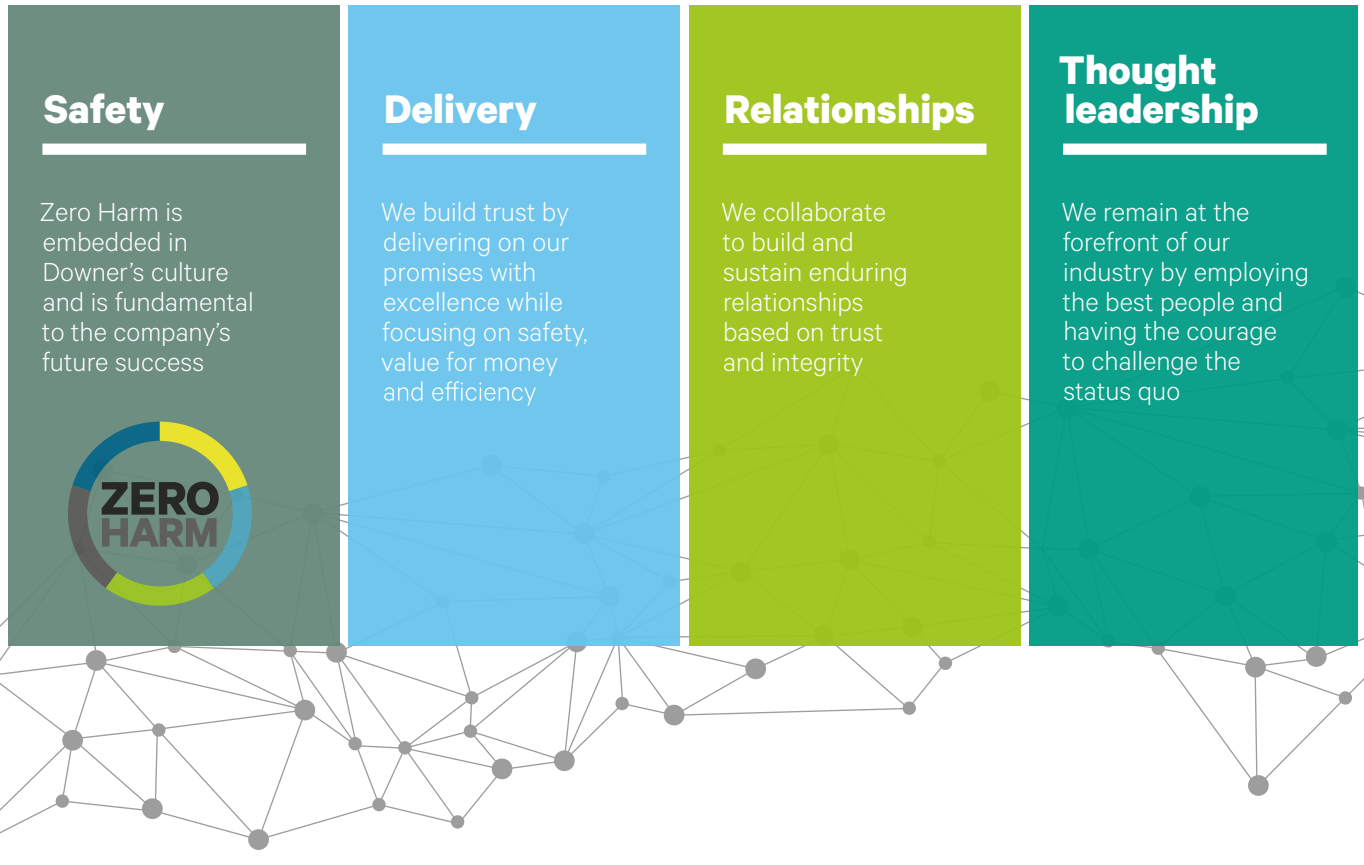**At Downer, our customers are at the heart of everything we do.**

Our Purpose is to create and sustain the modern environment by building trusted relationships with our customers.

Our Promise is to work closely with our customers to help them succeed, using world leading insights and solutions.

Downer designs, builds and sustains assets, infrastructure and facilities and we are the leading provider of integrated services in Australia and New Zealand.

With a history dating back over 150 years, Downer is listed on the Australian Securities Exchange and New Zealand Stock Exchange as Downer EDI Limited (DOW). We are an ASX 100 company that also owns 88 per cent of Spotless Group Holdings Limited (SPO).

Our business is founded on **four Pillars:**

Safety

Zero Harm is embedded in Downer's culture and is fundamental to the company's future success

Delivery

We build trust by delivering on our promises with excellence while focusing on safety, value for money and efficiency

Relationships

We collaborate to build and sustain enduring relationships based on trust and integrity

Thought leadership

We remain at the forefront of our industry by employing the best people and having the courage to challenge the status quo

Road services

Transport infrastructure and solutions
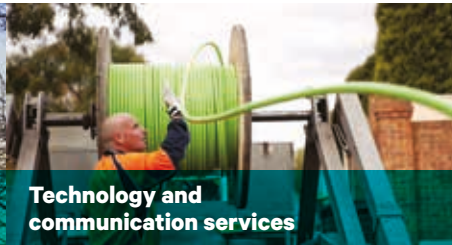
Passenger rail

Light rail and buses

Airports and ports

Integrated facilities services

Power and gas

Technology and communication services

Renewable energy and power systems

Water

Mining services

Oil and gas

Power generation and industrial

Minerals processing

Non-residential buildings

Defence

Asset management

Professional and managed services

Our solutions span the entire capability and asset lifecycle

We help customers plan, deliver, automate, optimise and protect large and complex assets by leading the way with technology and innovation.
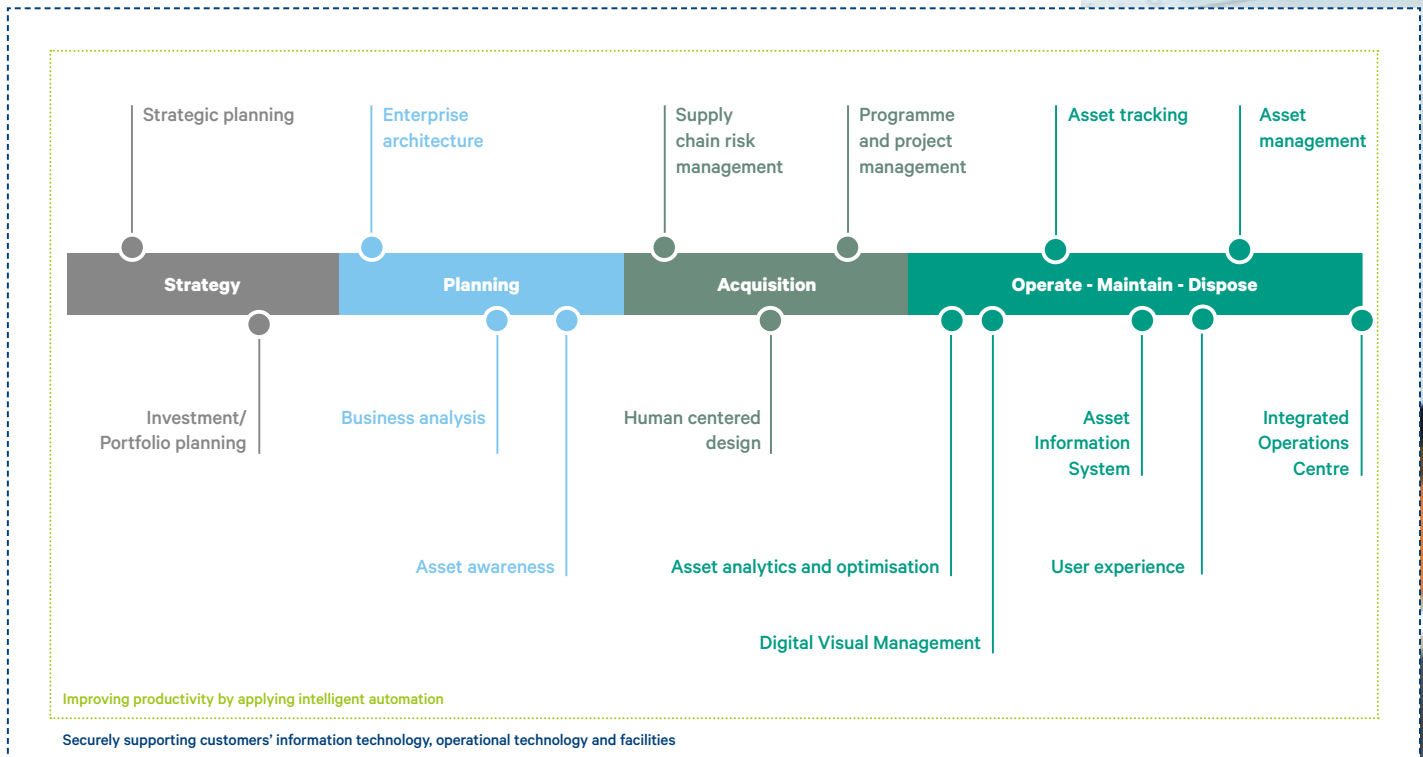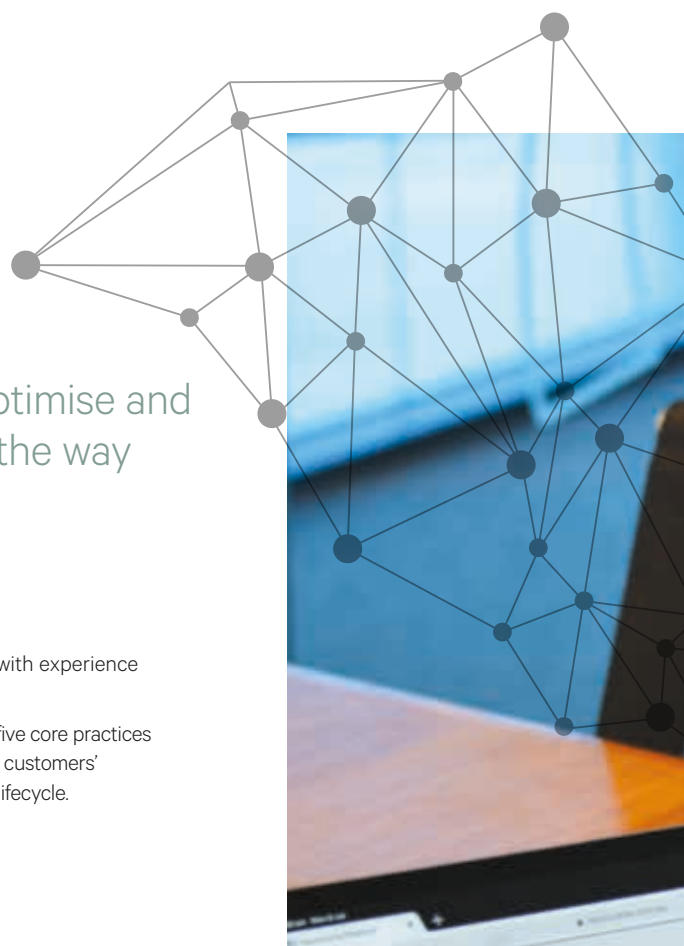
Downer provides a full suite of services to critical infrastructure and heavy industry organisations, government agencies, as well as the Australian and New Zealand Defence and National Security sector.

We specialise in the delivery of mission-critical and security-sensitive capabilities, providing the foundation for organisations to achieve a competitive advantage and align with strategic business goals.

Our expertise

We have a large national team with experience across a range of disciplines.

We deliver our services through five core practices designed to fit in and around our customers' ecosystems, spanning the asset lifecycle.

Strategy	Planning	Acquisition	Operate - Maintain - Dispose

Strategic planning

Enterprise architecture

Supply chain risk management

Programme and project management

Asset tracking

Asset management

Investment/ Portfolio planning

Business analysis

Human centered design

Asset Information System

Integrated Operations Centre

Asset awareness

Asset analytics and optimisation

User experience

Digital Visual Management

Improving productivity by applying intelligent automation

Securely supporting customers' information technology, operational technology and facilities

Capability and asset management

Managing capability and assets across the lifecycle by taking an integrated approach to planning, optimisation and support for better return on investment.

Programme delivery

Delivering mission-critical capabilities by bringing together programme, project, engineering and service management disciplines to ensure business objectives are met.

Intelligent automation

Optimising business processes and implementing automation solutions to achieve efficiencies.

Digital

Building innovative technology solutions to deliver applications, business intelligence and machine learning for improved business operations.

Security

Improving national and critical infrastructure security by providing leading edge assurance solutions to Information and Operational Technology infrastructure and data to protect against advanced persistent threats.

Moving towards predictive maintenance with TrainDNA

Downer has taken the first step in the journey towards predictive maintenance with the rollout of its data analytics platform, TrainDNA.

Using data analytics and machine learning, TrainDNA captures information from trains and performs assessments to predict the remaining life of its components.

Our TrainDNA platform enables Downer to make data-driven decisions, improving efficiencies in fleet maintenance.

These enhancements in Downer's asset management capability boost our ability to predict failure rates. This results in reduced unscheduled downtimes of the train fleet, and enriched outcomes for our customers and our business.

Built on the Downer-developed Neuroverse platform, and based on the Microsoft Azure software stack, it was an 18-month process to develop TrainDNA using in-house expertise and a strategic partnership with Deakin University.

We can apply Downer's DNA solution to a range of asset types.

Our DNA solution provides best of class predictive analytics and demonstrates our capability as a world-class maintainer and asset management partner of choice.

Capability and asset management

We help customers plan, build and operate capabilities and assets to meet business outcomes. We manage many long term asset and data-intensive projects and intimately understand our customers' business drivers.

Many of our customers are under increasing pressure to get more out of their investments. They need to manage financial constraints, forecast lifetime costs, limit unnecessary maintenance and future-proof. More than ever, they need a partner who can provide data-driven solutions.

We identify opportunities for business improvement through operational and strategic planning to manage capabilities and assets effectively.

Our services

- Strategic planning
- Asset management
- Investment / portfolio planning
- Human centred design
- Enterprise architecture
- Business analysis.

Our holistic approach incorporates understanding all components of an asset including personnel, processes, systems, data, supplies / suppliers and facilities, and their combined effect.

The synergy that occurs when these all work together determines the outcome. A systematic approach is needed to understand this, as well as identifying areas of optimisation, how risks can be identified and managed, and how opportunities could arise.

We develop and maintain customers' capabilities and assets to achieve their business objectives.
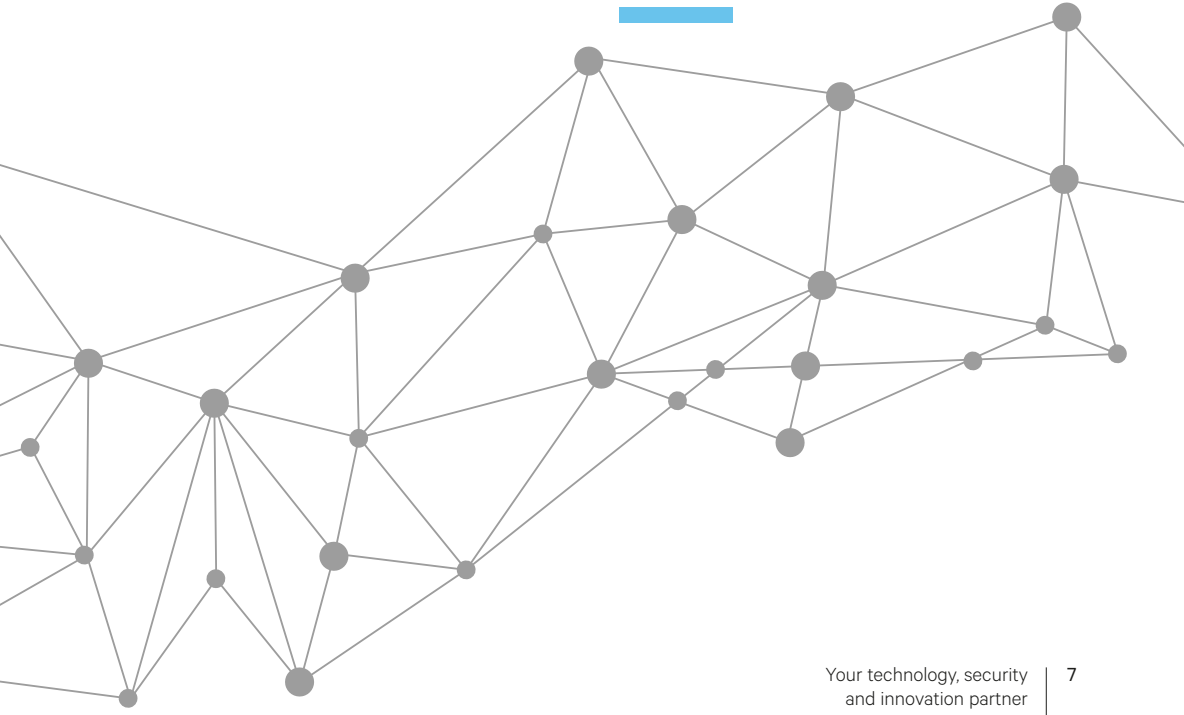
Programme delivery

Our programme delivery solutions help customers prioritise, plan and manage the delivery of capability and assets.

We understand the challenges faced when delivering operational solutions. A changing business environment, technology uncertainty, speed of delivery, reduced budgets and concerns with security can increase complexity which results in delays and outcomes that don't meet requirements.

Our delivery approach integrates project, engineering and technology disciplines to create innovative solutions to not only deliver the right outcome but consider through-life-support.

Bringing the right people together is essential to this.

Our services

- Programme management
- Project management
- Systems engineering
- Specialist engineering
- IT service management.

Our programme delivery solutions ensure the outcomes are defined, requirements captured, and the critical elements have focus. In doing this, we manage risk and achieve the target function and performance.

PMO as a service

We can mobilise teams to deliver turnkey Programme Management Office (PMO) as a service.

Equipped with proven methods and tools, we can run an extensive programme of works from concept through to completion. We take a pragmatic approach by focusing on the essential elements to ensure an effective use of time and resources - delivering success every time.

Delivering major national security programmes

Downer is contributing to the improvement of computer and communications network security for a $400 million cyber security capability improvement initiative.

Our programme management, project management and system solution services are helping to improve the security posture of critical systems.

Working closely with the customer, we are identifying, developing and delivering security solutions to scope, within budget, and on time.

Core activities include:

- Delivering proactive programme management and support services
- Coordinating project delivery services to successfully build systems and transition them into service
- Working with customers to develop comprehensive business cases to support future phases
- Providing subject matter expertise for cyber, identification and access management
- Contributing technical and engineering leadership across the projects.

We are improving productivity by applying Robotic Process Automation to eliminate repetitive and rules-based tasks that stifle creativity and innovation.
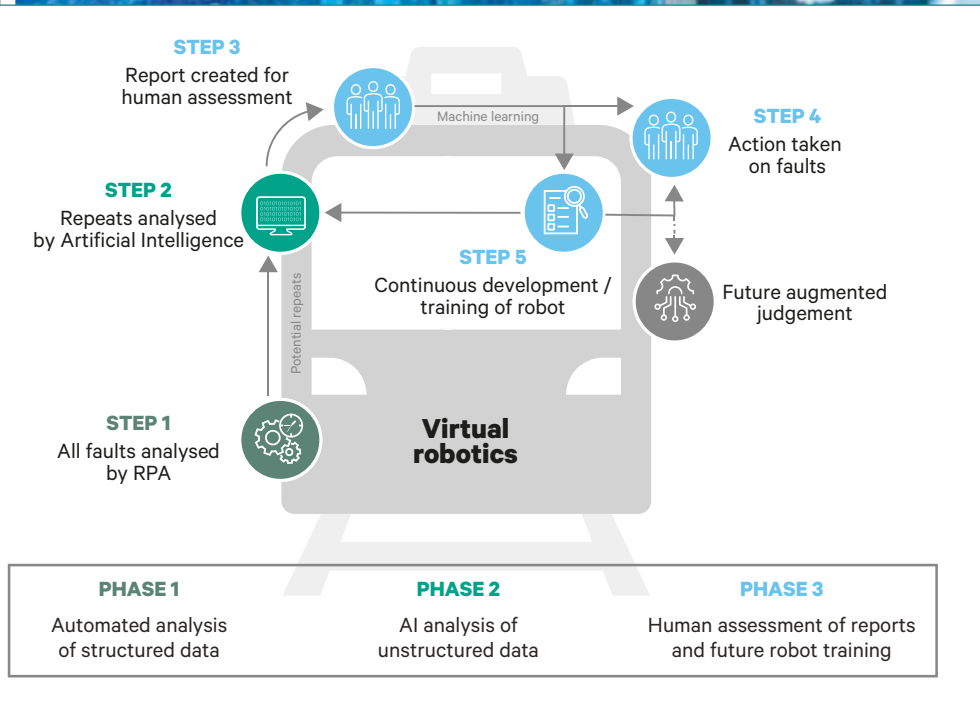
Using robots to reduce repeat faults in assets

Repeat faults in assets pose considerable financial and operational risk to Downer and our customers which is why we are applying RPA and AI technology to Sydney Trains' Waratah fleet, helping to improve reliability and availability.

We use a three-phase approach, so our engineers are now able to review a more concise report within 35 minutes of the fault occurring with 95 per cent accuracy.

Downer's RPA and AI technology for repeat fault automation analyses structured and unstructured data quickly and efficiently, producing insights for informed decision making, reducing financial and operational risk.

STEP 3
Report created for human assessment

Machine learning

STEP 4
Action taken on faults

STEP 2
Repeats analysed by Artificial Intelligence

STEP 5
Continuous development / training of robot

Future augmented judgement

Potential repeats

STEP 1
All faults analysed by RPA

Virtual robotics

PHASE 1
Automated analysis of structured data

PHASE 2
AI analysis of unstructured data

PHASE 3
Human assessment of reports and future robot training

Intelligent automation

Downer is driving value for customers by leveraging intelligent automation solutions to improve business performance.

Intelligent automation includes the systemisation of processes using digitisation, robotics, analytics and cognitive decision making.

Our Robotic Process Automation (RPA) solutions operate across applications or systems to create a virtual workforce at scale to perform tasks based on rules and context to:

- Minimise non-value-add human effort
- Reduce errors
- Enable employees to focus on higher-value activities
- Lower operating costs.

Our intelligent automation solutions also deliver intelligent dashboards to present results and insights.

RPA technology requires low capital investment, can be deployed in weeks and can provide positive returns in a short time frame.

At the heart of our intelligent automation offering is process engineering to systematically remove inefficiency and streamline workflows.

We use Lean Six Sigma methodology, together with a proven set of tools and platforms to deliver our intelligent automation solutions to:

- Assess for processes automation suitability
- Develop business cases for automation investment
- Prototype solutions to validate value
- Deploy virtual robots from both on-premise or cloud instances.

We know the value of intelligent automation because we use the technology ourselves. This first-hand experience, coupled with our expertise, is why customers engage us.

A range of business functions can adopt automation solutions:

- Data transfer, extraction, analysis and reconciliation
- Data management including creation and maintenance
- Hire-to-retire transactions and administration
- Auto-generation of reports, compliance and auditing
- Procure-to-pay processes
- Project and asset lifecycle support

Digitisation
Converting forms and information into machine-readable data with automated workflows

Process discovery
Understanding and modelling the current state and developing a business case for the improvement portfolio

Insights
Obtain insights from customers and employees to understand where improvement opportunities exist

Robotic Process Automation
Automating repetitive, rules-based processes to improve business productivity

Intelligent automation

Artificial Intelligence
Moving beyond rules-based automation with machine learning modules

Virtual workforce
Pre-trained virtual workers to drive performance and continuous improvement

Adding value by delivering advanced digital solutions

Downer's digital team delivers Internet of Things, advanced analytics, application development, mixed reality and artificial intelligence solutions.

Downer optimises the management of assets by bringing together data from multiple sources, applying advanced data analytics, and delivering meaningful information and insights on smart and interactive dashboards.

Artificial Intelligence, machine learning and data analytics

Combining big data with leading analytics and machine learning to extract useful business information

Digital services

Geospatial

Geospacial solutions combine layers of mapping and real-time imagery on a single platform to assess features over large areas quickly

Business Intelligence

Analysis and visualisation of data for informed decision making

Applications

User-centric applications designed and built with the customer in mind to capture and display relevant data efficiently and dynamically for a better experience

Internet of Things (IoT)

A range of sensors collecting asset data to deliver valuable insights

Neuroverse

Neuroverse improves the way companies extract value from their data. An innovative cloud-based solution, Neuroverse enables complex information to be easily captured and crystallised into insight, meaning and action.
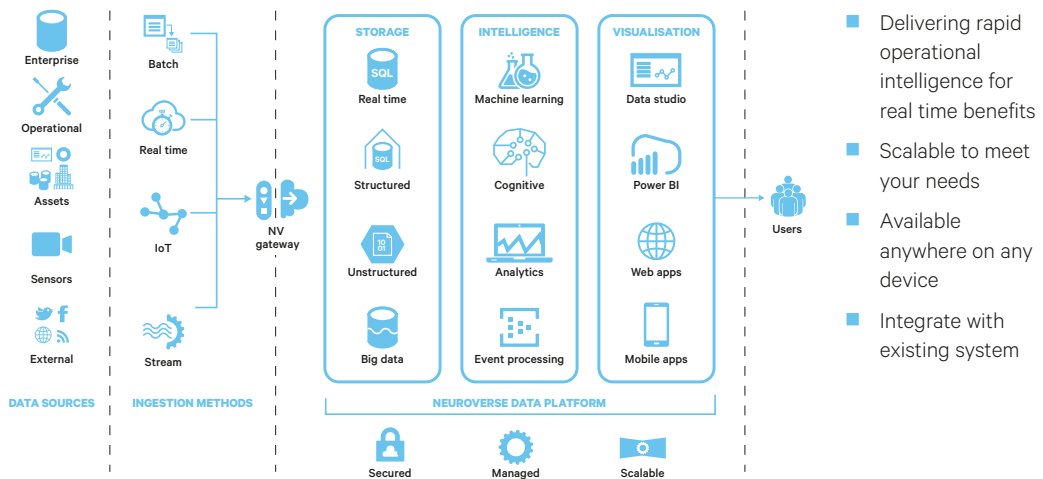
Featuring advanced analytics, visualisation and machine learning, Neuroverse delivers an Internet-of-Things (IoT) and big-data ready solution that is easy to use, scalable and secure, to optimise your operational needs.

Integration of asset and environment telemetry, conventional operational data and real-time unstructured data combined with the power of machine learning marks a significant improvement in the way companies extract value from their assets, services and products.

Built on the Microsoft Azure stack and fully featured on any device, Neuroverse empowers you to make strategic decisions quickly from your desk or in the field, harnessing the value in integration across disparate systems that are commonplace in today's corporate landscape.

End-to-end technology solutions delivering operational intelligence

DATA SOURCES: Enterprise, Operational, Assets, Sensors, External

INGESTION METHODS: Batch, Real time, IoT, Stream

NV gateway

NEUROVERSE DATA PLATFORM

STORAGE: Real time, Structured, Unstructured, Big data

INTELLIGENCE: Machine learning, Cognitive, Analytics, Event processing

VISUALISATION: Data studio, Power BI, Web apps, Mobile apps

Users

Secured | Managed | Scalable

- Delivering rapid operational intelligence for real time benefits
- Scalable to meet your needs
- Available anywhere on any device
- Integrate with existing system

Digitisation making life easier for remote workers

Together with our Spotless business, Downer is delivering better services for remote site workers through a guest services application.

As a facilities maintainer, Spotless wanted to make life easier for everyone onsite. By harnessing IoT, data analytics, AI, and driven by user preferences, Downer has created a mobile application.

Site personnel can now do almost anything from their fingertips, from ordering a meal, assisting with transportation to and from site, and even getting a lightbulb changed in their room.

Assisting QLD Health to improve physical security resilience

Downer is delivering a range of security services to support QLD Health. Our team are helping to assess risk, develop solution design, and deliver comprehensive physical security outcomes to prevent unauthorised access.

In particular, our team worked closely with QLD Health representatives to investigate different options to protect facilities from unauthorised access. Value for money, scalability and maintainability were key considerations.

Detecting abnormal behaviour at a QLD education facility

We are helping customers increase their security posture by leveraging advanced facial recognition and detecting abnormal behaviour from live CCTV feeds.

When there are too many cameras to monitor at one time, our Compute Vision Hub highlights the exceptions, easily identifying potential threats to public and personnel safety.

Working with Spotless, Downer has built an advanced technology solution at a leading QLD education facility. Autonomously processing over 200 CCTV camera feeds, the system detects unauthorised persons and suspicious behaviour.

Downer leads the way in cyber security for the Australian Defence Force

Downer is supporting the Australian Defence Force (ADF) by establishing its next-generation Defensive Cyberspace Operations capability for Maritime, Land and Air domains through the JP9131 project.

Downer is developing the capability to deliver improved defensive systems for deployed elements. By supporting the ADF's cyber security initiatives, Downer and its partners are contributing firsthand to the protection of Australia by designing, building and engineering systems that minimise cyber threats to keep Australians safe.

Security is key to protecting our customers' assets

As part of Downer's delivery of services to the national security and critical infrastructure sectors, we are focused on improving the security posture of their assets in what is an increasingly complex threat environment.

Downer is helping customers protect their Information Communications and Technology (ICT), Operational Technology (OT), and facilities from threats.

Our approach

Our approach to security is whole-of-life, ensuring planning, analysis, design, implementation and maintenance are all considered. Our expertise comes from an intimate understanding of the national security domain and how best to manage risks and threats from advanced adversaries.

Strategy and planning

Developing and planning of future security outcomes to align with business goals.
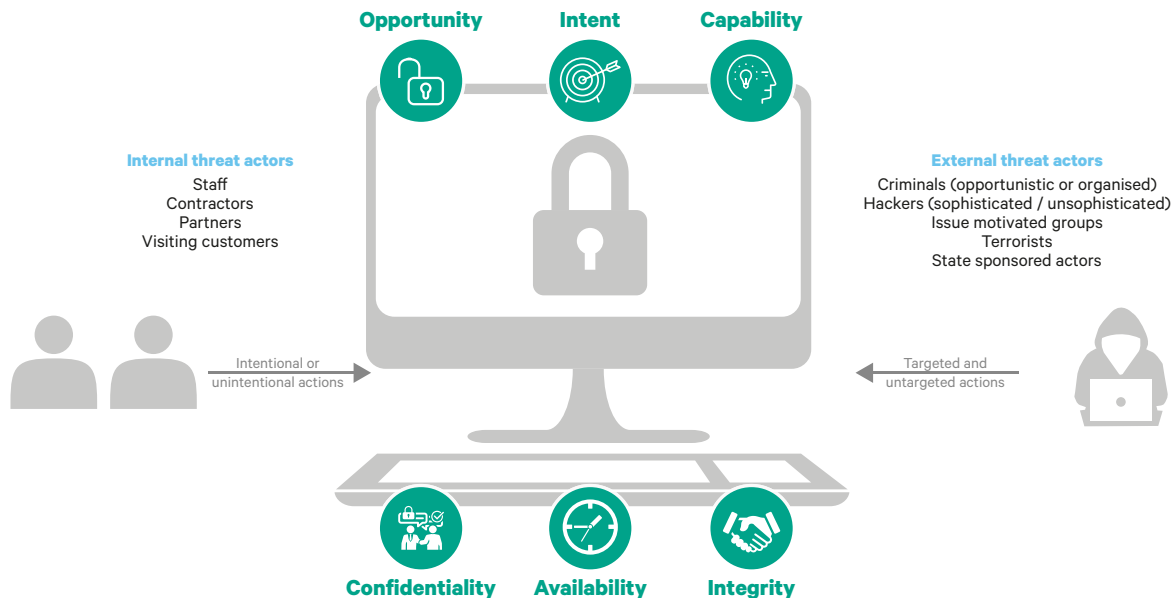
Architecture and design

Ensuring capability design meets security objectives, including the application of controls from security standards and risk assessments.

Implementation and deployment

Building the system or facility securely and independently verified against the applicable standards through testing, accreditation and training.

Operation and sustainment

Guaranteeing security around the clock, including ongoing assurance to validate security controls are effective and the ongoing identification of vulnerabilities.

Opportunity **Intent** **Capability**

Internal threat actors
Staff
Contractors
Partners
Visiting customers

Intentional or unintentional actions

External threat actors
Criminals (opportunistic or organised)
Hackers (sophisticated / unsophisticated)
Issue motivated groups
Terrorists
State sponsored actors

Targeted and untargeted actions

Confidentiality **Availability** **Integrity**

Information Technology and Operational Technology environments continue to change. We understand how human reliance on systems, rapid advancements, convergence of platforms and the explosion of devices that are being inter-networked are all contributing to the increase in critical vulnerabilities – which of course, adversaries can exploit. Improving an organisation's security posture is a key priority.

Downer

Relationships creating success

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