



DUNCAN
SOLUTIONS



City Parking Made Easy

www.duncansolutions.com.au

About Us

Duncan Solutions is an Australian business, with a history of intelligent parking solutions dating back to 1936, with the development of the first Duncan Solutions parking meter.

Reino International Pty Ltd was incorporated in June 1997. Since that time, it has been designing, manufacturing and operating parking equipment and software across Australia, New Zealand and within Asia and the USA. We are focused on providing best-practice solutions for parking and regulatory management. Trading as Duncan Solutions today, after the merger of Duncan Parking Technologies, Citation Management, Enforcement Technology and Reino Parking Systems.

Reino International helped pioneer the multi-space parking meter industry and is recognised around the world as a leader in Digital MultiSpace meter technology.

Enforcement Technology has been the leader in handheld ticket writing equipment and software since 1986. We design, develop and host handheld software focused on serving parking, traffic, criminal and other law enforcement requirements.

Duncan Solutions prides itself on fostering long term partnerships with our customers and upon being a trusted partner.

Duncan Solutions holds the following industry compliance certifications:

- PCI Certification
- EMVCO
- AS/NZ ISO 9001
- AS/NZS 4801
- ISO/IEC 27001



Office Locations:



To maintain the highest level of service standards and quality, Duncan Solutions maintains a network of offices around our clients. This is to ensure that our service teams are able to respond quickly and with local knowledge to major issues as they occur. Our offices include:

- Sydney (Head Office)
- Melbourne
- Canberra
- Cairns
- Perth
- Malaysia

Market Penetration

Key Clients





PEMS - IoT Platform

PEMS is the brain that unifies and integrates a modular range of parking technologies and services. It drives real-time data exchange and workflows between wirelessly-enabled in-field parking and enforcement devices. PEMS is a fully hosted managed service solution. It is a high availability, secure and robust system.

Connecting Technologies

PEMS supports managers, administrators and field teams involved in the operation and delivery of a parking system.





Intelligence and Analytics

PEMS delivers rich business intelligence and analytics across a parking system to support revenue management, parking policy regulation, asset management and enforcement. Through PEMS, Duncan Solutions' clients can capitalise on intelligent, adaptable and next generation city parking solutions.

Management



- Increased oversight of compliance operations
- Business intelligence and data collection
- Wireless management and coordination of 'in-field' systems
- Reduced congestion and better environmental outcomes

Enforcement Officers



- Guidance to non-complying vehicles
- Increased efficiency and the ability to cover larger areas
- Simple and legally effective infringement issuance
- Increased job satisfaction

Motorists



- More user-friendly payment methods
- Navigational assistance to parking locations
- Reduced frustration from circling
- More time spent on activity at destination

Payment Solutions

The NG Meter

The Duncan Solutions NG Meter represents the culmination of nearly 90 years of parking meter experience and wisdom. It is designed to be aesthetically pleasing and provides a familiar, easy to use colour touch display and facilitates contactless card and smartphone payments.



How does it help?

The NG Meter delivers an easy and intuitive experience for motorists. It is configurable to support both: -

- pay-by-plate or
- pay-by-space

Via PEMS it integrates with any pay by phone application.

As a cashless, ticketless system, operation costs are minimised as there are few moving parts. The need for cash collection is eliminated as is the cost of ticket rolls.

Payment Partners:



Who is it for?

Progressive cities and parking operators who want to enjoy the benefits of ticketless and cashless parking. Integrated with PEMS, it supports automated enforcement and delivers rich, real-time business intelligence for any parking fee system.



**GOOD
DESIGN
AWARD®
WINNER**



Award-Winning Design

In 2020, the NG Meter was recognised in Australia with a Good Design Award. The Good Design Award is considered to be the highest honour in the design industry, with more than 800 entrants.

In recognition of the capabilities of the machine, the judging panel made special mention of the unique touchscreen capabilities and the interoperability with IoT platforms such as PEMS as key features in their decision to award the NG Meter with the accolade.



**GOOD
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Payment Solutions

Pay The Way You Want

From coin to mobile wallet, communities expect a range of payment choices when parking. Duncan Solutions facilitates diverse, easy-to-use online and offline payment interfaces that allow councils to cater to all motorists.



The TX Machine

While there is an increasing trend towards online payments, physical parking machines represent a convenience for many motorists. As such, the TX Machine will be a central part of many municipal parking systems in the future. Duncan Solutions can also futureproof existing TX Machines by inserting upgrade kits, increasing the high-level of service that the machines offer motorists in the long term, while reducing the costs and environmental impacts.

The TX Machine is proudly Australian made and is designed for harsh climatic conditions. With a range of coin, debit, credit card and digital wallet options, the machine also accommodates the preferences of the diverse driving community. The TX Machine can be self-sustained via a roof mounted solar panel and features a user-friendly digital screen, coin and 'tap and go' facilities.



App Payment:

Duncan Solutions can integrate a broad range of app payments, including both those designed and developed by Duncan Solutions, as well as third-party platforms. Duncan Solutions has been pleased to lead the development and delivery of Park'nPay, an app making finding and paying for parking convenient regardless of council boundaries or parking operator sites.



Payment Security

Duncan Solutions maintains the highest level of security when managing coin as well as e-payments. Our security standards include:

- Payment Card Industry Data Security Standards (PCI-DSS)
- Visa Cardholder Information Security Program (CISP)
- Mastercard Site Data Protection (SDP)
- EMV certified Multicard Magtek 1-65 readers
- ISO7810, 7811 and 7816
- Digital wallet and contactless tap and go ISO 14443 compliant and certified to EMV Level 1 and 2

Enforcement

Enforce With Confidence

Parking enforcement has long been fraught with inefficiencies. The 'chalk and walk' method is highly time-consuming, creates OH&S issues and requires multiple patrols of the same area – a method that can only cover small areas. Manually issuing tickets is also subject to motorist disputes, wasting further time, energy and resources.

In-field Enforcement Devices

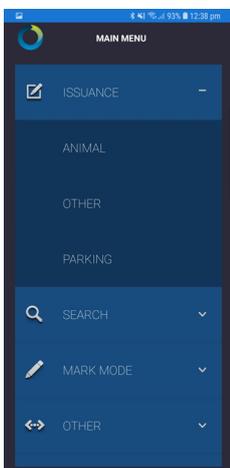
AutoISSUE was designed to be integrated with a range of third-party tools many councils use:



Mobile devices used by councils to view vehicle information and the area. This can be integrated with both iOS and Android devices.



For infringement issuance, AutoISSUE integrates seamlessly with industry standard, Bixolon Bluetooth printer.



Available on:





Information Sharing

Through PEMS, AutoISSUE links to a range of in-field assets. This integration means that patrolling parking officers have access to relevant information regarding vehicles and the parking area. AutoISSUE collates information from:

- Parking machines
- Sensors
- Phone apps
- License plate recognition cameras
- Permit programmes
- Council databases

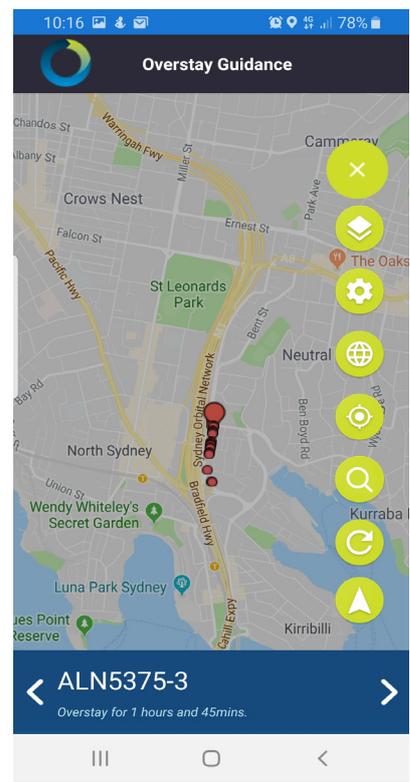
Local Law Enforcement Modules:

In addition to parking regulation enforcement, AutoISSUE can also implement a range of programmes used in other municipal regulatory enforcement, including: hygiene inspections, fire safety, animal control, pool safety and littering.



Directed Enforcement

Duncan Solutions' AutoISSUE is leading the industry in providing real-time directions for parking officers to offending vehicles. The automated enforcement technology that the system provides also ensures that issuing tickets is quick and highly resistant to motorist dispute, making the job of parking officers more rewarding and alleviating many of the issues that councils currently face.

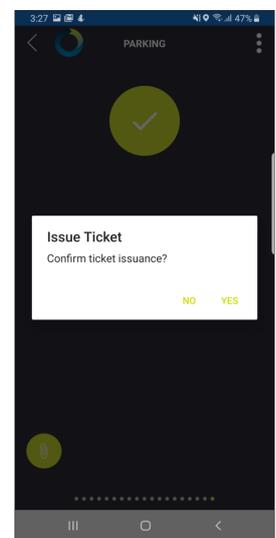
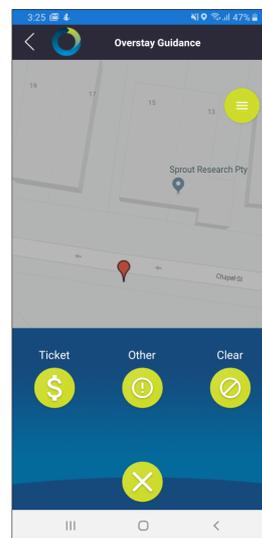
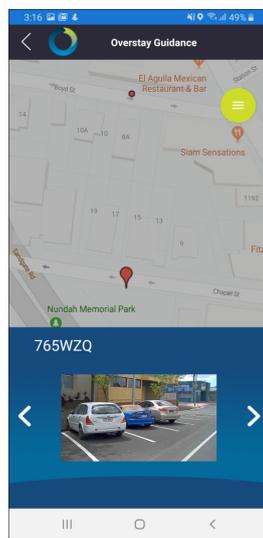


Automated Enforcement



The current walk and chalk method that is employed by many councils presents a range of drawbacks in the enforcement of parking regulations. Foot patrols can only cover a small area, are open to human error when enforcing regulations and often require a significant investment of personnel in order to be effective.

MLPR (Mobile Licence Plate Recognition) technology can greatly help in overcoming many of these challenges. The technology involves a series of cameras stationed within a pod that is attached to the roof of a council car and is able to cover far greater distances, with fewer parking officers required, all while maintaining a high level of accuracy.



Vehicle Detection

Having real-time, digitised parking information can significantly benefit a city, its parking officers, and motorists. For parking officials, knowing where offending vehicles are can increase resource efficiency through directed enforcement and reduce the rate of parking offences. For motorists, knowing the location of available parking can guide decision making when driving and reduce time and frustration.

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Technologies

Existing sensor technology comes in two forms - camera-based, as well as subsurface units. Duncan Solutions provides both technology types and depending on the nature of the site, can tailor a programme that implements either one or both technologies in unison.



In-ground



With 99% accuracy in vehicles detection, in-ground sensors are a highly reliable means to understand parking behaviour. Unlike many products on the market, Duncan Solutions' sensors are designed to be fully submerged below the road surface, invisible to motorists and pedestrians. This ensures that the sensors are protected from vandalism and damage, are not a 'trip hazard' all while maintaining a high level of accuracy.

Camera Based



Optical sensors are a great example of existing resources being utilising for broader purposes. With a clear line of site, ParkKam cameras are highly effective in detecting occupancy status and the length of stay of numerous vehicles in a parking area. The system can be easily deployed to existing CCTV cameras, meaning that as well as being used for parking enforcement purposes, it can also detect and prevent crime.

Guidance

Happy Motorists

The Internet of Things provides cities with the exciting possibility of offering motorists more accurate, real-time information about parking conditions – leading to better-informed decision making. This can create happier drivers, less congested roads and improved environmental outcomes.

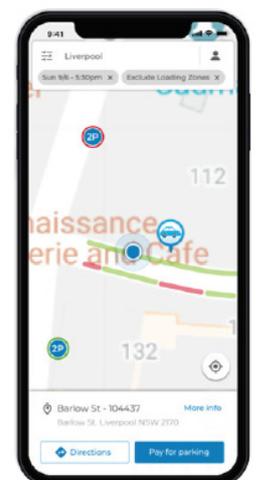
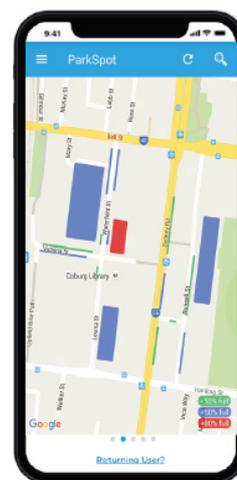
Through the power of PEMS, Duncan Solutions is providing accurate guidance information to drivers, integrating the information gathered from sensors deployed in the field.

App Guidance

Duncan Solutions has experience in integrating a range of guidance apps to be used by motorists. The aim of these apps is simple – to provide drivers with parking bay vacancy information at their intended destination.



Park'nPay is a NSW Government mobile phone application powered by Duncan Solutions' PEMS. The app offers parking availability information using a red, yellow and green 'traffic light status' indicating the likelihood of finding a vacant park in a location.





App guidance also provides the opportunity to inform motorists about other critical information about the area that they are parking in. Often it will allow motorists to make better informed decision about where they park based on length of permissible stay and the hourly rate.

Digital Signage

Highly durable, and able to communicate differing information, digital signage is fast becoming popular with many councils seeking to inform motorists while driving. Typically, a sign provides information regarding the number of free parking, paid parking or disabled parking spots available in an area.



Digital Permits

With many LGAs recognising the need for a different set of parking rights for visitors and residents, permits are an effective means to create a different set of parking rules. Many physical permit systems, however, face shortcomings in not being digitised, time consuming to apply for, and to maintain. A digital permit system from Duncan Solutions solves many of these problems.



A digital permit by Duncan Solutions is a fully hosted solution ensure that parking regulations are effectively segmented between visitors and residents, an ideal method for ensuring the interest of local residents in an area are maintained. This is a highly effective, paperless solution that is convenient to use for local residents, council customer service and administration teams as well as parking enforcement officers when enforcing regulations.

How does it work?

The signup page for the digital permit will ask some basic questions of the resident: their name, address, phone number, email address and supporting documentation are the standard requests. Additional or other details can be provided if requested by Council.

Motorists will then be required to undertake a user-friendly application or renewal process.

Once the resident has applied for their permit, it will be at the discretion of the Council to decide if the application is genuine. Once a decision has been reached, the car that is registered will be logged in PEMS and a valid permit holder. When a parking officer looks up the number plate using AutoISSUE (for enforcement purposes) they will be notified of the permit attached to the associated with the vehicle.

Key Features



The Duncan Solution digital permit system integrates effectively with enforcement tools used by Council, including the AutoISSUE application. This ensures that once licence plate details have been scanned by an officer the corresponding permit attached to the licence plate will be provided to the enforcement officer. This system effectively ensures that there is no human error.



The latest generation of Duncan Solutions pay by plate parking meters complement the digital permits tariff structures. In sites where the pay-by-plate model is deployed, payment details are communicated to motorists and enforcement officers in real-time.



The application for the digital permit is designed to be undertaken entirely online. Often this process takes less than 5 minutes for applicants to complete. This provides convenience for applicants who would otherwise be required to mail in details, or go to a Service Centre.



The online system provides convenience for council administrators. The streamlined process is fast, easy to verify and creates a quicker workflow than traditional permit schemes that rely on a physical stickers. The digital solutions will also provide council with a cost saving in printing and posting of permits.



PEMS ensures that there is an effective system of Parking permit management for Council. Once Council has verified motorist details, these are securely stored in PEMS, ensuring that the information can be communicated to other key devices or for Council to refer back to at a later date if required.

Innovations

Increasingly, cities around the world are looking to emerging technologies to solve current and predicted municipal problems. From finding new purposes for existing assets to developing new solutions, parking has a major role to play in making cities a better place to drive, live and work.

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Transactional Occupancy and Guidance

Having the ability to predict parking trends, can yield huge benefits for councils. Parking demand can impact a range of services offered by cities, from garbage collection to public events.

Duncan Solutions has been working closely with the CSIRO's Data61 - the data science division for the organisation to develop transactional occupancy and guidance technology. This technology uses machine learning to provide highly accurate pictures of future demand based of previous user habits, which is sourced from parking machines, sensors and pay by phone data.



OCCUPANCY LEVEL: ● 100-90% ● 89-75% ● 74-50% ● 49



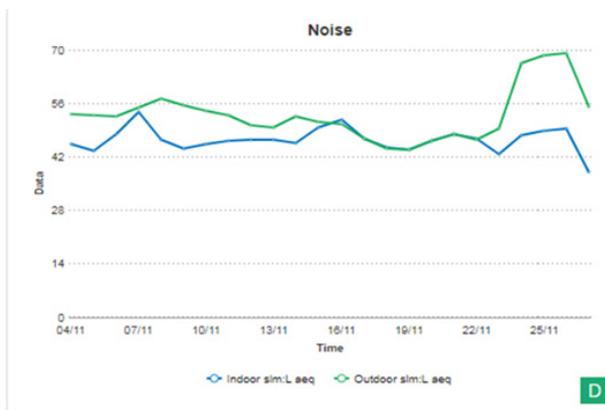
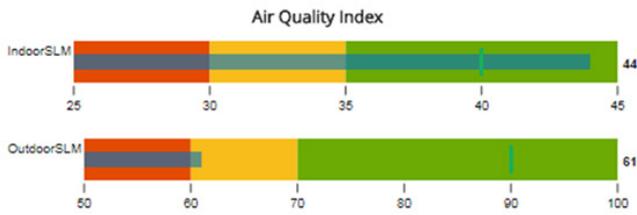
EV Charging

With major investments from the car industry, increasingly, E-cars will dominate the roads of tomorrow. While this technology can assist in reducing the carbon footprint of cities, the change significantly disrupts existing motorist practices, particularly, how to conveniently recharge a vehicle.

TX Machine can be upgraded to provide EV charging capabilities. Duncan Solutions has developed close relationships with leaders in the EV charging sector to ensure that councils are at the leading edge of the emerging technology by making these cars a more practical option for motorists.



Environmental Sensors



With an increasing awareness and demand for cleaner urban spaces, having clear information on environmental conditions is increasingly important for many councils.

Environmental sensors can be installed on Duncan Solutions TX Machines to provide accurate, real-time information on air quality, noise, and temperature. This can provide councils with a clear understanding of environmental conditions and can inform development of management strategies for future improvements.

Frictionless Off-Street Parking

Off-street parking can often lead to a frustrating driving experience. Queuing to pay at boom gates during peak times creates driver frustration, is costly to maintain and involves unnecessary tickets.

Using the power of licence plate recognition technology, Duncan Solutions can implement effective, user-friendly Frictionless Off-Street Parking systems which makes parking quicker for motorists and easier to maintain for councils.

Digital Permits

With many LGAs recognising the need for a different set of parking rights for visitors and residents, digital permits are an effective option that many parking authorities are adopting. A digital permit integrated by Duncan Solutions can ensure that parking regulations are effectively segmented between visitors and residents ensuring locals maintain special rights. This is a highly effective, paperless system that is convenient to use for residents, as well as parking enforcement officers.

Service and Support



Duncan Solutions offers clients the highest level of after-sale service, support and maintenance available in the industry. Through the network of account managers, Duncan Solutions maintains a strong understanding of the needs of councils and their future aims with the view to providing the best service experience possible.

To provide peace of mind, Duncan Solutions offers warranties for all our hardware and. We also provide a range of proactive and reactive in-field maintenance strategies to ensure that products are performing as designed and to the highest standard. In the unlikely event that there are service issues that require immediate attention, our Australian-based service staff are available 24-7.



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