FEDERAL COURT OF AUSTRALIA

Vehicle Monitoring Systems Pty Limited v Sarb Management Group Pty Ltd (trading as Database Consultants Australia) (No 2) [2013] FCA 395

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| Citation: | Vehicle Monitoring Systems Pty Limited v Sarb Management Group Pty Ltd (trading as Database Consultants Australia) (No 2) [2013] FCA 395 |
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| Parties: | **VEHICLE MONITORING SYSTEMS PTY LIMITED ACN 107 396 136 v SARB MANAGEMENT GROUP PTY LTD (T/A DATABASE CONSULTANTS AUSTRALIA) ACN 106 549 722** |
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| File number: |  |
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| Judge: |  |
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| Date of judgment: | 3 May 2013 |
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| Catchwords: | **PATENTS** – innovation patent – methods and apparatuses for identifying overstay of a vehicle in a parking space – meaning of “wake-up signals”**PATENTS** – infringement – direct infringement – contributory infringement under s 117(1) of the *Patents Act 1990* (Cth) – whether the defence under s 119(1) of the Act available – authorisation – temporal relation between respondent’s exploitation and the priority date of the claims**PATENTS** – determination of priority date of the claims where patent based on divisional applications – discussion of test under regs 3.12(1)(b) and (c) of the *Patents Regulations 1991* (Cth) – whether claims fairly based on matter disclosed in the priority documents**PATENTS** – validity – whether claims fairly based on the matter described in the specification – whether invention as claimed novel – “paper anticipation” – prior use – adequacy of disclosure – whether invention as claimed supported by an innovative step  |
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| Legislation: | *Patents Act 1990* (Cth), ss 7(1), (4), (5) and (6), 18(1A)(b)(i) and (ii), 40(3), 43(2), 117, 119(1) and (5), 138(3)(b) and (f)*Patents Regulations 1991* (Cth), regs 3.12(1) and 3.12(2C)  |
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| Cases cited: | *Apotex Pty Ltd v Sanofi-Aventis* (2008) 78 IPR 485*Bristol-Myers Squibb Company v F H Faulding & Co Limited* (2000) 97 FCR 524*Dura-Post (Aust) Pty Ltd v Delnorth Pty Ltd* (2009) 177 FCR 239*H Lundbeck A/S v Alphapharm Pty Ltd* (2009) 177 FCR 151*International Business Machines Corporation v Commissioner of Patents* (1991) 33 FCR 218*Jupiters Ltd v Neurizon Pty Ltd* (2005) 222 ALR 155*Kimberly-Clark Australia Pty Limited v Arico Trading International Pty Limited* (2001) 207 CLR 1*Leonardis v Sartas No 1 Pty Ltd* (1996) 67 FCR 126*Lockwood Security Products Pty Limited v Doric Products Pty Limited* (2004) 217 CLR 274 *Lux Traffic Controls Limited v Pike Signals Limited* [1993] RPC 107*Northern Territory of Australia v Collins* (2008) 235 CLR 619 *Olin Corporation v Super Cartridge Co Pty Ltd* (1977) 180 CLR 236 *Ramset Fasteners (Aust) Pty Ltd v Advanced Building Systems Pty Ltd* (1999) 44 IPR 481*Rehm Pty Ltd v Websters Security Systems (International) Pty Ltd* (1988) 81 ALR 79*Samsung Electronics Co Ltd v Apple Inc* (2011) 286 ALR 257*The General Tire & Rubber Company v The Firestone Tyre and Rubber Company Limited* [1972] RPC 457 *University of New South Wales v Moorhouse* (1975) 133 CLR 1  |
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| Date of hearing: | 23, 24, 26, 27 April 2012, 2, 24, 25 May 2012 |
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| Place: |  |
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| Division: |  |
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| Category: | Catchwords |
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| Number of paragraphs: | 255 |
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| Counsel for the Applicant: | Mr R Cobden SC with Mr J S Cooke |
|  |  |
| Counsel for the Respondent: | Mr N Murray with Ms K Beattie |
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| Solicitor for the Applicant: | Spruson Ferguson Lawyers |
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| Solicitor for the Respondent: | Norton Rose Australia |
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| IN THE FEDERAL COURT OF AUSTRALIA |  |
| NEW SOUTH WALES DISTRICT REGISTRY |  |
| GENERAL DIVISION | NSD 395 of 2011 |

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| BETWEEN: | VEHICLE MONITORING SYSTEMS PTY LIMITED ACN 107 396 136Applicant |
| AND: | SARB MANAGEMENT GROUP PTY LTD (T/A DATABASE CONSULTANTS AUSTRALIA) ACN 106 549 722Respondent |

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| JUDGE: | YATES J |
| DATE OF ORDER: | 3 MAY 2013 |
| WHERE MADE: | SYDNEY |

THE COURT ORDERS THAT:

1. Within 14 days, the parties are to bring in draft orders that are appropriate to give effect to these reasons.
2. Until further order, paragraphs [81] to [93] of the reasons for judgment delivered today (**the reasons**) are not to be disclosed to any person other than the parties and, in the case of the applicant, are to be disclosed only to the applicant’s external legal representatives.
3. Within 7 days, the respondent is to notify the Court and the applicant of any continuing claim for confidentiality in relation to the matters stated in paragraphs [81] to [93] of the reasons.

Note: Entry of orders is dealt with in Rule 39.32 of the *Federal Court Rules 2011*.

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| IN THE FEDERAL COURT OF AUSTRALIA |  |
|  DISTRICT REGISTRY |  |
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| BETWEEN: | VEHICLE MONITORING SYSTEMS PTY LIMITED ACN 107 396 136Applicant |
| AND: | SARB MANAGEMENT GROUP PTY LTD (T/A DATABASE CONSULTANTS AUSTRALIA) ACN 106 549 722Respondent |

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| : |  |
| DATE: |  |
| PLACE: |  |

**REASONS FOR JUDGMENT**

The applicant is the patentee of Patent No. 2010101354 entitled “Method, apparatus and system for parking overstay detection” **(the patent**).

The respondent supplies a vehicle detection unit known as the PinForce Sentinel VDU (**the accused product**). The accused product is used in a method for detecting the overstay of a vehicle in a parking space. The applicant alleges that, by supplying the accused product, and doing certain other acts, the respondent has infringed each of the claims of the patent.

The respondent denies that it has infringed the patent. Principally, it alleges that the claims are invalid on a number of grounds. It has cross-claimed for revocation, accordingly. It also contends that the accused product does not possess, in any event, an essential feature of claim 2 of the patent. It says, therefore, that it has not infringed that claim or claim 5 of the patent, insofar as it is dependent on claim 2. The respondent has also raised a defence under s 119 of the *Patents Act 1990* (Cth) (**the Act**).

The questions presently before the Court are: (a) whether the respondent has infringed the claims, (b) whether the claims of the patent are valid, and (c) whether the defence under s 119 of the Act has been made out. All other questions have been reserved for subsequent determination, if necessary.

# The patent

## Background

The patent is an innovation patent. It was certified on 14 January 2011, prior to the commencement of this proceeding.

The complete application for the patent was filed on 2 December 2010 as a divisional application of Patent Application No. 2008200089 (**the parent application**). The parent application was filed on 8 January 2008 as a divisional application of Patent Application No. 2005243110 (**the grandparent application**), but lapsed on 31 July 2011. Nothing turns on the fact that the parent application has lapsed.

The grandparent application was filed on 9 May 2005 as a PCT application under Chapter 8 of the Act. The grandparent application was amended twice during the course of prosecution. The first amendments were made on 15 December 2005 (**the 2005 amendments**) under Article 34 of the Patent Cooperation Treaty signed at Washington on 19 June 1970. The grandparent application was further amended on 24 May 2007 (**the 2007 amendments**) after the grandparent application entered the national phase in Australia on 25 October 2006. The grandparent application proceeded to grant on 13 March 2008 as Patent No. 2005243110 (**the grandparent patent**). The claims of the grandparent patent claim priority from Provisional Patent Application No. 2004902622 filed on 17 May 2004 (**the provisional application**).

The parties are at issue as to the correct priority date of the claims of the patent.

## The invention described in the complete specification

The complete specification describes the invention as relating to parking violations, particularly the detection of vehicles that overstay a defined time interval in parking spaces. It summarises the invention in four consistory statements that are later reflected in claims 1 to 4 of the patent.

By way of background, the complete specification states that effective parking management requires regular and consistent enforcement and that existing methods for identifying vehicles that have exceeded a parking space’s time limit are inefficient. This statement is illustrated by a discussion of the traditional enforcement method of a parking officer manually placing a chalk mark on a tyre of vehicles parked in specific time-limited zones and returning to the vehicles at an appropriate time to check whether any of the vehicles with “chalked” tyres is still parked. Some of the disadvantages associated with that method are noted. The specification then declares a need for a method, an apparatus and a system that “overcomes or at least ameliorates one or more of the foregoing disadvantages”. It is significant to note that the disadvantages that are identified are all associated with the inconvenience and shortcomings of the traditional method of checking parked vehicles for overstay. The complete specification does not seek to describe an advance over any other method of detecting vehicle overstay. The identified disadvantages include shortcomings that relate to defeating the detection of vehicular overstay and thus the enforcement of time restrictions which are said to be a central element of an effective parking management program.

The complete specification describes a small number of embodiments that are given by way of example only. The fact that examples only are described is reinforced later in the complete specification where, after describing the embodiments, the following is stated:

The embodiments described hereinbefore may be practised independently of or in conjunction with various parking payment systems such as single or multi-bay parking meters and pay and display systems. The foregoing detailed description provides exemplary embodiments only, and is not intended to limit the scope, applicability or configurations of the invention. Rather, the description of the exemplary embodiments provides those skilled in the art with enabling descriptions for implementing an embodiment of the invention. Various changes may be made in the function and arrangement of elements without departing from the spirit and scope of the invention as set forth in the claims hereinafter.

The description of the exemplary embodiments proceeds by reference to flow, block and schematic diagrams.

The apparatus elements of the embodiments are described by reference to two apparatuses. The first is an apparatus for monitoring the presence of a vehicle in a parking space. This is referred to, in the main, as the detection apparatus or the monitoring apparatus. For ease of exposition, I will refer to it as the detection apparatus even though, from the description that follows, it is clear that this device undertakes the functions of both detecting and monitoring the presence of parked vehicles. The second is an apparatus for collecting data from the detection apparatus. I will refer to it as the data collection apparatus.

When describing the embodiments, the complete specification uses the word “comprising” in the sense of “including principally but not necessarily solely” or “having” or “including”, and not “consisting only of”. I adopt that convention in the description that follows and when considering the respondent’s challenge to the validity of the claims in later paragraphs of these reasons.

## The preferred embodiments: a detection apparatus

The complete specification describes one embodiment of a detection apparatus, although variations of that apparatus are identified. As described, the apparatus comprises:

* a detector for detecting the presence of a vehicle in the parking space;
* a processor for processing data received from the detector;
* a memory for storing data before and after processing;
* a radio receiver for receiving a wake-up signal from a data collection apparatus located remotely from the parking space;
* a radio transmitter for transmitting at least a portion of the data to the data collection apparatus; and
* a battery for powering these elements.

The detector is described by reference to a particular magnetometer which detects changes in the earth’s magnetic field that result from close proximity to the detector of a vehicle having a substantial metal content. The complete specification makes clear, however, that other magnetometers or sensing devices, which are described in general terms, may be used in place of, or in addition to, the particular device that is described.

The processor is described by reference to a particular microcontroller but, once again, the complete specification makes clear that other microprocessors and microcontrollers may be used. In the described embodiment, the processor is coupled to each of the detector, the memory, the radio receiver and the radio transmitter. The described processor is a microcontroller with an on-board real-time clock and on-board flash memory for storing data and the software program executed by the microcontroller. Operational data (for example, data relating to vehicle presence) are stored in a separate serial flash memory. The specification states that other peripheral combinations may be practised, such as an off-board real-time clock and other types of memory (such as random access memory and read only memory).

The radio receiver and the radio transmitter in the described embodiment are present as a particular UHF (ultra-high frequency) transceiver that transmits and receives radio signals to and from the data collection apparatus at 433 MHz. Once again, the complete specification makes clear that other types of transmitters, receivers or transceivers, and other frequencies, including low frequencies, may be used.

The battery is described as a lithium manganese dioxide battery. The complete specification makes clear that other battery types may be used.

The complete specification describes the detection apparatus as operating in a low power mode when detecting vehicle movements and presence. This is to conserve battery life. These functions can be performed on a continuous or periodic basis. The radio receiver consumes a small amount of power (relative to other radio receivers) but is only turned on for the shortest possible time duration at regular intervals to detect the presence of the data collection apparatus. At other times it is turned off to conserve battery life. The complete specification is silent on the operation of the radio transmitter in this regard. It is a fair inference, and the person skilled in the art would understand the specification as teaching, that the radio transmitter is also to be operated in a manner that would conserve battery life. Plainly, however, when the radio receiver is turned on for the stated purpose, or is on for other purposes, the detection apparatus is operating in a high power state.

The detection apparatus can be installed subterraneously as an in-ground unit that is not intended to be removed. It can also be installed on a road or parking space surface.

The detection apparatus records vehicle movement events with respect to a parking space. These events are stored with related time stamp information to enable overstay events to be detected. In one form, the detection apparatus determines and maintains three primary types of information:

* the status of the parking space in terms of vehicle presence and the amount of time the space has remained in that state;
* a record of each vehicle movement in the parking space including the dates and times of those movements; and
* overstay information that is detected when a vehicle remains in a parking space for a duration longer than a defined time interval.

The detection apparatus can be programmed with information relating to the hours of operation of an associated parking space and the parking time limits that apply to that space. Information of this kind, as well as other information, including application firmware, can also be downloaded to it using a radio receiver, which may be the same radio receiver that is used to receive “wake-up signals”.

Decisions relating to vehicle overstay can also be made by the data collection apparatus operating by radio communication with the detection apparatus, rather than the detection apparatus itself making those decisions. These embodiments, however, are not claimed.

The detection apparatus can also communicate with other detection apparatuses with a view to eliminating or reducing cross-talk between parking spaces in close proximity to each other. Such communication may also enable vehicle detection to be made with greater confidence. A further advantage of inter-detection device communications noted in the complete specification is that messages, such as parking overstay alerts, may be forwarded from parking space to parking space to, for example, a transmitter, repeater or collection device at the end of a street.

## The preferred embodiments: data collection apparatuses

The complete specification describes two embodiments of a data collection apparatus for collecting data from one or more detection apparatuses, such as the detection apparatus previously described.

In one embodiment, the data collection apparatus comprises a processing unit coupled to a radio transmitter, a radio receiver and a memory unit. The radio transmitter and the radio receiver may be present as a transceiver that performs bi-directional communications with one or more detection apparatuses. The exemplified transceiver operates in the UHF band at 433 MHz but other frequency bands, including low frequency bands, can be used to transmit a wake-up signal to a detection apparatus.

In another embodiment, the data collection apparatus comprises an interface unit coupled to a computer unit by means of a Bluetooth wireless communications link. The complete specification makes clear that other wireless and wired communications links can be used.

The interface unit comprises:

* a communications interface for communicating with the computer unit;
* a processor for processing data; and
* a transceiver for communicating with one or more of the detection apparatuses, including sending wake-up signals.

The computer unit comprises:

* a communications interface for communicating with the interface unit;
* a processor for processing data;
* a display, such as an LCD (liquid crystal display) screen, for displaying data;
* an input device, such as a keyboard, for inputting data; and
* a memory for storing data.

The complete specification describes the exemplified data collection apparatus as typically providing the following functions:

* waking up all or some of the detection apparatuses;
* inquiring if a vehicle presently parked has overstayed an allowable time limit;
* inquiring as to the current status of the parking space; and
* collecting historical vehicle movement data.

The complete specification says that the exemplified data collection apparatus may be implemented as a portable, hand-held device operated by pedestrian parking enforcement officers or as a vehicle-mounted device operated from a moving vehicle. A vehicle-mounted data collection apparatus is illustrated in Fig. 5 in the accompanying drawings and described in the associated text of the complete specification. In these portable or mobile forms, the data collection apparatus transmits a wake-up signal and listens for valid responses from the detection apparatus. If no response is received from the detection apparatus, the data collection apparatus repeatedly transmits the wake-up signal.

The complete specification describes other systems where the data collection apparatus is not portable or mobile. For example:

* Fig. 6 and its associated text describes detection apparatuses that are in radio communication with a data collection apparatus that is either at a fixed location or comprises a portable hand-held device carried by a pedestrian enforcement officer.
* Fig. 7 and its associated text describes detection apparatuses that are in radio communication with repeaters at fixed locations. The repeaters, in turn, are in communication with a central data collection apparatus, also at a fixed location. Communication between the repeaters and the central data collection apparatus may be via radio, the telephone system, a data or communication network, or “any other known communication means”.

## The preferred embodiments: methods

The complete specification describes a method for identifying overstay of a vehicle in a parking space by reference to a flow diagram (Fig. 1) which shows the steps of:

* detecting vehicle presence in a parking space using a detection apparatus;
* processing and storing data relating to the presence of the vehicle in the detection apparatus;
* wirelessly waking-up the detection apparatus;
* wirelessly retrieving at least a portion of the data from the detection apparatus; and
* indicating the overstay of the vehicle in the parking space based on the retrieved data.

The complete specification describes a method of operating a detection apparatus, such as the detection apparatus previously described. The description is by reference to a flow diagram (Fig. 8) which depicts a cycle of operation which can be described as follows:

* Once the cycle commences there is a wait period (t1), after which the radio receiver of the detection apparatus is turned on.
* After a further wait period (t2) to allow the receiver to stabilise, the received radio frequency signal strength is measured.
* If the signal strength fails to reach a threshold, the radio receiver is turned off and a new cycle of operation begins.
* If the signal strength reaches a threshold, the detection apparatus determines whether the signal relates to a data collection apparatus.
* If a data collection apparatus is not detected, the radio receiver is turned off and a new operation cycle begins.
* If a data collection apparatus is detected, a communications session is established between the detection apparatus and the data collection apparatus, which typically involves transmission and reception by both the detector apparatus and the data collection apparatus.
* When the communications session is finished, the radio receiver is turned off and a new operation cycle begins.

The complete specification describes a method of operating a data collection apparatus, such as the two described apparatuses. The description is by reference to a flow diagram (Fig. 9) which depicts a cycle of operation which can be described as follows:

* After the cycle commences the radio transmitter of the data collection apparatus is turned on and a signal is transmitted continuously for a time duration (t3) that is greater than t1 to ensure wake-up of a detection apparatus.
* The radio transmitter is then turned off and the radio receiver is turned on.
* A determination is made by the data collection apparatus as to whether a response from a detection apparatus has been made.
* If a response has been detected, a communications session occurs between the detection apparatus and the data collection apparatus, which typically involves transmission and reception by both the detector apparatus and the data collection apparatus.
* After termination of the communications session, a new operation cycle begins.

Each of these embodiments involves the transmission by the data collection apparatus and the receipt by the detection apparatus of a wake-up signal. However, other passages of the complete specification make clear that such signals are optional, not mandatory, for the working of the described invention.

By way of example, the complete specification states:

Methods, apparatuses and systems for identifying overstay of vehicles in parking spaces have been described herein. Embodiments described include detection or monitoring apparatuses that can be woken-up repeatedly, but at irregular time intervals, depending on when a data collection apparatus is present. This advantageously avoids the need for a persistent wide area network. The use of a portable data collection apparatus further enables parking overstay information to be directly available to enforcement officers in the field. This advantageously overcomes the difficulty of relaying such information back to a central location and subsequently dispatching or alerting enforcement officers accordingly.

The complete specification also states:

Repeated wireless wake-up of a detection apparatus may be performed irregularly with respect to time depending on the presence of a data collection device. Wireless retrieval of data may be performed in response to wireless wake-up of a detection apparatus.

These passages make clear that:

* the described methods, apparatuses and systems can be, but are not required to be, practised using wake-up signals transmitted to the detection apparatuses;
* in particular, the wireless retrieval of data from the detection apparatuses may be performed in response to a wake-up signal from a portable data collection apparatus;
* whether wake-up signals are employed depends on the presence of the data collection apparatus in relation to the detection apparatus; and that
* portable data collection apparatuses can be used advantageously.

It is equally clear, however, that the described invention is not limited to methods, apparatuses or systems in which portable or mobile data collection apparatuses are used. The embodiments described by reference to Figs. 6 and 7 and their associated text unambiguously disclose data collection apparatuses that are not portable or mobile but reside at fixed locations. Another example is provided by the description in the complete specification of inter-detection device communications where messages, such as parking overstay alerts, may be forwarded from parking space to parking space to a transmitter, repeater or collection device at the end of a street.

The importance of drawing attention to these embodiments is that these apparatuses are always present for radio communication with a detection apparatus, unlike the portable or mobile embodiments that might be out of range from time to time. Thus, in systems where the data collection apparatuses are at fixed locations, the detection apparatuses do not need to detect, through the receipt of wake-up signals, whether the fixed data collection apparatuses are present for wireless communication. For practical purposes, these data collection apparatuses are always present for such communication. This would be understood by the person skilled in the art. This explains the advisedly used inclusive and otherwise permissory language of the passages quoted in [38] and [39] above with respect to the use of wake-up signals when practising the described invention.

## The claims

The complete specification ends with five claims. Claims 1 and 3 are method claims. Claims 2 and 4, and claim 5 (which is alternately dependent on claims 2 and 4), are apparatus claims.

The method claims are as follows:

1. A method for identifying overstay of a vehicle in a parking space, said method comprising the steps of:

detecting presence of a vehicle in said parking space using a battery-powered apparatus encased in a self-contained, sealed housing;

processing and storing, in said battery-powered apparatus encased in a self-contained, sealed housing, data relating to presence of said vehicle in said parking space;

determining from said stored data, by said battery-powered apparatus encased in a self-contained, sealed housing and independently of any parking payment system, whether said vehicle has overstayed a defined time duration in said parking space; and

wirelessly transmitting, from said battery-powered apparatus encased in a self-contained, sealed housing, data relating to an identified instance of overstay of said vehicle in said parking space.

3. A method for identifying overstay of a vehicle in a parking space, said method comprising the steps of:

detecting presence of a vehicle in said parking space using a battery-powered apparatus;

 processing and storing, in said battery-powered apparatus, data relating to presence of said vehicle in said parking space;

 determining from said stored data, by said battery-powered apparatus and independently of any parking payment system, whether said vehicle has overstayed a defined time duration in said parking space; and

 wirelessly transmitting, from said battery-powered apparatus, data relating to an identified instance of overstay of said vehicle in said parking space.

Claim 3 is broader than claim 1. It is not an essential feature of claim 3 that the apparatus employed in the method be encased in a self-contained, sealed housing.

The apparatus claims are directed to detection apparatuses. The claims are as follows:

2. An apparatus for identifying overstay of a vehicle in a parking space, said apparatus comprising:

 a detector adapted to detect presence of a vehicle in the parking space;

 a processor coupled to said detector, said processor adapted to process and store data received from said detector and to determine from said data and independently of any parking payment system whether said vehicle has overstayed a defined time duration in said parking space;

 a radio receiver coupled to said processor for receiving wake-up signals;

a radio transmitter coupled to said processor for transmitting data relating to identified instances of overstay of said vehicle in said parking space; and

a battery for providing power to said detector, processor, radio receiver, and radio transmitter;

wherein said apparatus is encased in a self-contained, sealed housing.

1. An apparatus for indentifying overstay of a vehicle in a parking space, said apparatus comprising:

a detector adapted to detect presence of a vehicle in the parking space;

a processor coupled to said detector, said processor adapted to process and store data received from said detector and to determine from said data and independently of any parking payment system whether said vehicle has overstayed a defined time duration in said parking space;

a radio transmitter coupled to said processor for transmitting data relating to identified instances of overstay of said vehicle in said parking space; and

a battery for providing power to said detector, processor, and radio transmitter.

5. The apparatus of claim 2 or claim 4, wherein said detector comprises a magnetic field sensor and said apparatus is adapted for subterraneous operation below the pavement surface of said parking space.

Claim 4 is broader than claim 2. It is not an essential feature of claim 4 that the apparatus include a radio receiver coupled to a processor for receiving wake-up signals or that the apparatus be encased in a self-contained, sealed housing. Similarly, insofar as it is dependent on claim 4, it is not an essential feature of claim 5 that the apparatus include these features.

# The witnesses

## The applicant’s witness

The applicant called Mr Tony Spirovski as a witness. Mr Spirovski made three affidavits and prepared a joint report with Dr Klein, who was called as a witness by the respondent.

Mr Spirovski is a qualified electrical engineer. He graduated with the degree of Bachelor of Electrical Engineering (with distinction) from Footscray Institute of Technology (now, Victoria University) in 1989. His studies included coursework in microprocessors and radiofrequency (**RF**) communications. Between 1989 and 1993, he was employed as an electrical engineer in the Defence Science and Technology Organisation within the Australian Department of Defence. He worked in the Materials Research Laboratories. His work included the design, construction, maintenance and operation of devices using microprocessors and RF communications. Between 1993 and 1995, he worked as a freelance electronics design engineer developing audio equipment.

In 1995, he incorporated Front End Technologies Pty Limited (**Front End Technologies**). Front End Technologies is the corporate vehicle through which Mr Spirovski supplies specialist electronic design services. His work for Front End Technologies has included the development of a low power coded RF transceiver system operating at 433 MHz used for the proximity detection of vehicles and personnel to avoid collisions. Since 2005, these services have been supplied principally to Millennium Electronics Pty Limited (**Millennium Electronics**). Millennium Electronics is an Australian company with offices in Hong Kong and Los Angeles. It is engaged in the development and manufacture of electronic microprocessor-based products and RF equipment.

Mr Spirovski gave evidence concerning his understanding of the meaning of terms and expressions used in the complete specification (most notably, the expression “wake-up signals”); the field of technology covered by the claimed invention; and the disclosures made in the complete specification and in a large number of documents relied on by the respondent as constituting relevant prior art information. Mr Spirovski also gave evidence, in confidential exhibits to his affidavits, concerning the operation of the accused product. This evidence was based on documents provided by the respondent in the course of the preparation of this matter for hearing. Mr Spirovski’s affidavits also included a commentary on various matters raised in affidavits filed on behalf of the respondent (namely, affidavits made by Dr  Klein and Mr Toal).

Mr Spirovski was cross-examined.

## The respondent’s witnesses

The respondent called Lawrence Arnold Klein and Stephen Andrew Milton Toal as witnesses. The respondent also relied on an affidavit made by Jillianne Nguyen, who is employed by the respondent’s solicitors. Ms Nguyen’s affidavit concerned the publication in Australia of a textbook written by Dr Klein called *Sensor Technologies and Data Requirements for ITS*.

Dr Klein is a qualified electrical engineer. He graduated with the degree of Bachelor of Electrical Engineering from the City College of New York in 1963, with the degree of Master of Science (Electrical Engineering) from the University of Rochester, New York in 1996, and with the degree of Doctor of Philosophy in Electrical Engineering from New York University in 1973. From 1966 to 1995, he was engaged by various businesses and organisations in various research projects involving sensor technology, including in relation to weapons systems, weather monitoring, earth resource monitoring, and vehicle detection and traffic management. In 1996, he formed the firm of Klein and Associates through which he provides consultancy services to governments, academic institutions and private enterprises. His principal areas of consulting work relate to the specification and evaluation of sensors for traffic management and aerospace applications, sensor and data fusion architecture and algorithm recommendations, and multimodal transportation architecture development.

Dr Klein is the author or co-author of over 50 publications relating to sensor networks, sensor and data fusion, traffic management and related technologies. He holds or has held a number of academic appointments as well as a number of professional appointments on committees and editorial boards, too numerous to detail in these reasons. He has also given presentations and lectures at numerous academic and research institutions.

Dr Klein made one affidavit in which he gave evidence concerning terminology used in the field of the invention; sensor technology; his understanding of the meaning of terms and expressions used in the complete specification; and the disclosures in the complete specification and in the documents relied on by the respondent as prior art information. As I have noted, Dr Klein also prepared a joint report with Mr Spirovski.

Mr Toal was called principally as a witness of fact. He holds the position of Director, Software Development within the respondent. He has been employed by the respondent since 1999. He graduated with the degree of Bachelor of Science from the University of Melbourne in 1982, majoring in Computing. He has had 29 years’ experience in software development, working primarily for system vendors developing and supplying off-the-shelf systems and consulting to large corporate clients.

Mr Toal made two affidavits in which he gave evidence concerning the respondent’s business and, in particular, its supply of products in the PinForce product range (including the accused product) and the technology used in the accused product which, he said, was the subject of the following Australian patents and patent application: Patent No. 2008100796 entitled Vehicle Detection; Patent No. 2011101179 entitled Vehicle Detection, and Patent Application No. 2008288710, also entitled Vehicle Detection. Each of the granted patents is an innovation patent and has been certified. The patent application is for a standard patent. Mr Toal is named as an inventor in each case.

Mr Toal engaged with Mr Spirovski on a number of matters concerning the manner in which the accused product operates. This was in the form of a confidential exhibit to one of his affidavits. Mr Toal also gave evidence concerning a demonstration of the accused product to the Council of the City of Perth, on which the respondent relied as part of its challenge to the novelty of the invention as claimed. I will touch on that evidence later in these reasons.

Dr Klein and Mr Toal were cross-examined.

# THE PERSON SKILLED IN THE ART

In my view, the person skilled in the art in relation to the claimed invention is one who possesses the general skills of an electrical engineer with working knowledge of the operation of sensing devices of the kind broadly described in the complete specification, and of radio frequency communications and communication devices involving the transmission of data. Such a person would also be conversant with the use of devices for the processing and storage of data to be communicated by radio frequency transmission.

As the person skilled in the art is an hypothetical construct, the relevant person, for present purposes, may possess an amalgam of attributes drawn from those practising in what might otherwise be disparate areas of specialist practice in electrical engineering. In this sense, the person skilled in the art may be conceptualised as a “team” of participants who direct their individual skills and knowledge to the field of endeavour marked out in the complete specification – in this case, the detection of vehicles that overstay a defined time interval in parking spaces. It is, of course, essential, for the purposes of considering patentability, that such a person be taken as not inventive but as possessing, nevertheless, general knowledge that is commonly held in the field before the priority date or dates of the claims.

The applicant advanced Mr Spirovski as being representative of the person skilled in the art before the priority date of the claims. The respondent advanced Dr Klein on the same basis.

The applicant submitted that Mr Spirovski was the only expert witness in the proceeding who was able to assist in putting the Court in the position of the person skilled in the art at the relevant time. It submitted that Dr Klein’s education and work had been in the United States of America. It also submitted that Dr Klein’s expertise was in sensors whereas the field of the invention was wider. In this connection, the applicant submitted that the “central relevant field of technology covered by the patent” relates to apparatuses and methods performed by apparatuses that employ radio frequency communications. It also submitted in this connection that, in any event, Dr Klein’s expertise in sensors was at a considerably higher level than that to be expected of the hypothetical person skilled in the art.

The respondent submitted that Dr Klein’s experience was not confined to sensors but extended to the use of sensors in traffic management applications, including how such sensors work and transmit their data. It submitted that his higher level of expertise should be preferred on technical questions. On the other hand, the respondent submitted that, although Mr Spirovski was working in the field of radio frequency transmitters and transceivers up to and in 2004, his experience in relation to sensor technology was limited. It submitted that Mr Spirovski was not aware of and did not read (what it said were) “standard publications in the field”.

In my view, it is not necessary for me to resolve this debate. Mr Spirovski and Dr  Klein were each qualified to give evidence in relation to the invention and the prior art that was brought forward. I found their evidence to be of considerable assistance in my understanding of the invention described in the patent and in my understanding of the disclosures in the prior art. However, the limited role of the expert witness in those tasks must be borne in mind.

# infringement

## Generally

The case pleaded against the respondent is that it has directly infringed each of the claims of the patent by its own exploitation of the claimed apparatuses and methods, and by its authorisation of others to exploit those apparatuses and methods.

The applicant has also alleged that infringement by the respondent has arisen by operation of s 117(1) of the Act dealing with contributory infringement. Section 117 provides:

(1) If the use of a product by a person would infringe a patent, the supply of that product by one person to another is an infringement of the patent by the supplier unless the supplier is the patentee or licensee of the patent.

(2) A reference in subsection (1) to the use of a product by a person is a reference to:

(a) if the product is capable of only one reasonable use, having regard to its nature or design - that use; or

(b) if the product is not a staple commercial product - any use of the product, if the supplier had reason to believe that the person would put it to that use; or

(c) in any case - the use of the product in accordance with any instructions for the use of the product, or any inducement to use the product, given to the person by the supplier or contained in an advertisement published by or with the authority of the supplier.

The only issue of construction between the parties on the question of infringement is whether the accused product has a “radio receiver … for receiving wake-up signals”, one of the essential features of the apparatus claimed in claim 2 and claim 5 (to the extent that it is dependent on claim 2). In this connection, the respondent has accepted that the accused product has a radio receiver coupled to a processor. The point of difference, on the respondent’s case, is that the radio receiver is not for receiving wake-up signals. The issue that divided the parties was the meaning of the expression “wake-up signals” used in claim 2. The respondent has admitted that the accused product possesses all the other essential features of the apparatus claims.

## A radio receiver for “receiving wake-up signals”

The complete specification does not define the expression “wake-up signals”. The parties are at issue as to whether the complete specification uses the expression in a technical sense having a special meaning to the person skilled in the art. The applicant contended, and the respondent disputed, that the expression had such a meaning.

In my view, the words “wake-up” are used colloquially in the complete specification to characterise a particular signal according to its function. The expression does not have a fixed technical meaning that is complete in itself, such that the person skilled in the art could put the disputed feature of the invention (as claimed in claim 2) into practice without further study of the description and claims of the complete specification to understand what the expression means. Thus, the expression has a contextual meaning derived from the functions and operations that are described and claimed in the complete specification. In context, those functions and operations relevantly involve the interoperability of detection apparatuses and data collection apparatuses of the kind described in the complete specification.

Reading the complete specification as a whole, it is apparent that “wake-up signals” are signals sent by radio frequency transmission to, and received by, a detection apparatus. So much is clear, in any event, from claim 2 itself which speaks of “a radio receiver … for *receiving* wake-up signals” (emphasis added). Moreover, the specification makes clear that wake-up signals are sent to the detection apparatus by a data collection apparatus.

Claim 2 also makes clear that these signals are received in the context of the apparatus transmitting data relating to instances of overstay of a vehicle in a parking space. This is confirmed by other passages in the specification. For example, when describing communications which involve the transmission of “download information” to a detection apparatus (such as application firmware, a table of operating hours and time limits applicable to an associated parking space, operating parameters for the detection apparatus, and information for updating or synchronising the real-time clock with a more accurate real-time source) – as opposed to communications involving the transmission by the detection apparatus of data relating to vehicle overstay – the complete specification says:

The same radio receiver as used for receiving wake-up signals or a separate radio receiver may be used for this purpose.

 This statement plainly distinguishes wake-up signals from other wireless transmissions sent to the detection apparatus.

Dr Klein’s evidence in chief was that, for the purposes of claim 2, a wake-up signal is not only a signal sent to the detection apparatus to instruct it to send data to a data collection apparatus, but also a signal sent to the detection apparatus for the purpose of downloading information to it. In his view, any signal that would take the detection apparatus out of its normal operating mode is a wake-up signal. Also, in the course of his cross-examination, Mr Spirovski acceded to the proposition that, in the context of claim 2 of the patent, wake-up signals are not limited to wake-up signals for the communication of overstay data. I do not accept Dr Klein’s and Mr Spirovski’s evidence in this regard. For the reasons I have given above, claim 2, when read with the description in the complete specification, makes clear that wake-up signals relate specifically to the function of the detection apparatus transmitting data relating to identified instances of overstay of a vehicle in a parking space, and not to other communications involving that apparatus.

Further, the complete specification refers to wake-up signals as “activation signals”. With this understanding, it can be seen that wake-up signals are signals that activate the detection apparatus to transmit data concerning vehicle overstay. This characteristic is consistent with the power management strategies that are described in the complete specification: the described detection apparatus is operated in a high power state intermittently, and otherwise in a low power state while detecting the movement and presence of vehicles.

However, the advantages and implications of power management must be understood. A wake-up signal needs to be “received” by the detection apparatus. In order for this to happen, the receiver for receiving the wake-up signal must be turned on. The complete specification makes clear that, when the receiver is on to detect whether a data collection apparatus is present (that is, to identify whether a wake-up signal has been sent by the data collection apparatus), the detection apparatus is already operating in a high power state, albeit intermittently for this purpose.

The flow diagram in Fig. 8 (see [35] above) illustrates that if, when operating in its high power state, the detection apparatus detects the presence of a data collection apparatus (through recognition of a wake-up signal sent by the data collection apparatus) the detection apparatus will then engage in a communications session with the data collection apparatus. In so doing, the detection apparatus will continue to operate in its high power state until this communications session is finished, at which time the receiver will be turned off and the apparatus will resume its low power state. When this is recognised, the true characteristics of a wake-up signal can be understood. The wake-up signal is a signal that activates the transmission of data relating to vehicle overstay by the detection apparatus when it is already operating in its high power state to determine whether a wake-up signal has been sent. It is not a signal that causes the detection apparatus to change from one power state to another relatively higher power state.

Thus, “wake-up signals” within the meaning of claim 2 are signals that are sent wirelessly by a data collection apparatus to a detection apparatus that, upon receipt by the detection apparatus, activate it to engage in a communications session with the data collection apparatus, in which the detection apparatus wirelessly transmits data relating to identified instances of overstay of a vehicle in a parking space.

## The accused product

A significant amount of technical evidence was adduced in relation to the operation of the accused product. Much of this evidence was the subject of confidentiality orders. It is not necessary for me to descend to the detail of that evidence in these reasons in order to explain the conclusion to which I have come on whether the accused product possesses the disputed feature of claim 2. The following is a generalised version of the evidence that was given.

The accused product is a battery-powered vehicle detection unit that identifies overstay of a vehicle in a parking space. It has a magnetic sensor for detecting the presence of a vehicle. The sensor is coupled to a microprocessor in a module that includes, amongst other components, a radio transceiver.

The unit operates in three main power states, which were described in the evidence as “asleep”, “sampling” and “communicating”.

The “asleep” state is the lowest power state. The unit is in this state for most of the time, in order to conserve power. In this state, the transceiver is turned off. [Redaction pursuant to orders made on 4 June 2013.]

When in the “sampling” state, the processor and the sensor are both turned on. The processor takes a reading from the sensor. This reading is stored and then processed by the processor in order to determine the presence or absence of a vehicle. In this state, the transceiver is not turned on. Overall, the unit can be seen to be operating in a relatively low power state, but nevertheless in a higher power state than when “asleep”.

In order to communicate the processed data, the unit attempts to communicate with a TMT (a data collection apparatus). When it makes this attempt, the processor, sensor and transceiver are all turned on (in the case of the sensor, periodically). Thus, overall, the unit is operating in a high power state. [Redaction pursuant to orders made on 4 June 2013.] The unit then returns to its lower power states.

There are two main reasons why the unit attempts to communicate. First, if it determines that a vehicle is present for longer than is allowed (a “potential violation”), the unit will attempt to communicate with a TMT to notify it of that fact. It will also attempt to communicate the fact that a detected vehicle will soon go into violation (a “pending violation”). In order to conserve power, the unit attempts to connect to a TMT at regular but infrequent intervals.

The second reason why the unit attempts to communicate with a TMT is to allow maintenance by a system administrator. This maintenance includes such things as updating the system information (for example, by changing parking information). The process is similar to the process for attempting to communicate potential and pending violation information. [Redaction pursuant to orders made on 4 June 2013.] However, the occasions on which the unit attempts to communicate to allow maintenance by a system administrator are different to the occasions on which it attempts to communicate a potential or pending violation.

[Redaction pursuant to orders made on 4 June 2013.]

[Redaction pursuant to orders made on 4 June 2013.]

The following process takes place when the unit attempts to communicate with a TMT:

[Redaction pursuant to orders made on 4 June 2013.]

During this process, the unit is in its high power state. [Redaction pursuant to orders made on 4 June 2013.] If the unit receives [redaction pursuant to orders made on 4 June 2013] from the TMT, the unit and the TMT then engage in a communications session in which the potential or pending violation information is transmitted wirelessly by the unit to the TMT. During this communications session, the unit remains in its high power state.

In my view, when related to the communication of potential or pending violations, the [redaction pursuant to orders made on 4 June 2013] is a wake-up signal for the purposes of claim 2 of the patent. It is a signal that is sent wirelessly by the TMT (a data collection apparatus) to the unit (a detection apparatus) that, upon receipt by the unit, activates it to engage in a communications session with the TMT in which the unit wirelessly transmits data relating to identified instances of overstay of a vehicle in a parking space. I am satisfied, therefore, that the accused product possesses the disputed feature of a “radio receiver … for receiving wake-up signals”.

[Redaction pursuant to orders made on 4 June 2013.] The critical question for infringement is whether the accused product possesses all the essential features of claim 2. I have found that it does. The fact that it might have other features [redaction pursuant to orders made on 4 June 2013] is not to the point, unless an apparatus having such a feature is excluded by the language of the claim. In my view, such an apparatus is not excluded.

##  Conclusion on infringement

Subject to the question of the validity of the claims, and the availability of the defence under s 119(1) of the Act, I am satisfied that the respondent has infringed the patent.

First, the respondent has admitted that, since about October 2007, it has manufactured, sold or otherwise disposed of, offered to sell or otherwise dispose of, and used and kept (for the foregoing purposes), the accused product. In light of concessions properly made by the respondent as to the features of the accused product, and the finding I have made above concerning the presence in that product of the disputed feature of claim 2, I am satisfied that the accused product possesses all the essential features of the product claims of the patent.

Secondly, the respondent has admitted that, since about October 2007, it has used the accused product in a method for identifying overstay of a vehicle in a parking space, which it has termed the PinForce Sentinel VDU Method. The respondent has accepted that that method possesses all the essential features of the method claims of the patent.

Thirdly, I am satisfied that the respondent has authorised others to exploit the invention claimed in the patent. In this connection, the respondent has made the following admissions:

* It has supplied the accused product in Australia to persons who have used that product in a method for indentifying overstay of a vehicle in a parking space.
* The method has all the features of the methods claimed in claims 1 and 3.
* Such use by such persons has been in accordance with instructions and inducements given to them by the respondent or contained in advertisements published by it or with its authority.
* The accused product has all the features of the claimed apparatus other than in claim 2: see, however, my findings with respect to the construction of claim 2 and the presence in the accused product of the disputed feature of that claim.
* The respondent’s conduct was without the applicant’s licence.

The word “authorise”, as used in s 13(1) of the Act, is to be taken, by analogy, to have the meaning it has in the comparable text of the *Copyright Act 1968* (Cth): *Bristol-Myers Squibb Company v F H Faulding & Co Limited* (2000) 97 FCR 524 at [97]. In that context, “authorise” has been given the meaning of “sanction, approve, countenance”: *University of New South Wales v Moorhouse* (1975) 133 CLR 1 at 20-21. I am satisfied that the respondent’s admitted acts constitute authorisation within that meaning.

Fourthly, I am satisfied that the respondent has infringed the patent by operation of s 117(1) of the Act. In that connection, the respondent’s admissions – that, in relation to its supply of the accused product to other persons, those persons have used the product in the PinForce Sentinel VDU Method in accordance with instructions and inducements given to them by the respondent or contained in advertisements published by it or with its authority – show that s 117(2)(c) has been engaged in relation to that supply. I am also satisfied that s 117(2)(b) has been engaged. In that connection, the respondent has admitted, in connection with its supply of the accused product, that it had reason to believe that the product would be used by such persons in accordance with the PinForce Sentinel VDU Method. I am also satisfied, in that connection, that the accused product is not a staple commercial product for the purposes of that provision: *Northern Territory of Australia v Collins* (2008) 235 CLR 619 at [41]-[50] and [142]-[145].

# The section 119(1) defence

Section 119(1) of the Act provides:

A person may, without infringing a patent, do an act that exploits a product, method or process and would infringe the patent apart from this subsection, if immediately before the priority date of the relevant claim the person:

(a) was exploiting the product, method or process in the patent area; or

(b) had taken definite steps (contractually or otherwise) to exploit the product, method or process in the patent area.

Section 119(5) defines the word “exploit” for the purposes of this defence: cf the definition of “exploit” in Schedule 1 of the Act, which appears to be in materially the same terms. Section 119(5) provides:

***exploit*** includes:

(a) in relation to a product:

 (i) make, hire, sell or otherwise dispose of the product; and

 (ii) offer to make, hire, sell or otherwise dispose of the product; and

 (iii) use or import the product; and

(iv) keep the product for the purpose of doing an act described in subparagraph (i), (ii) or (iii); and

(b) in relation to a method or process:

 (i) use the method or process; and

(ii) do an act described in subparagraph (a)(i), (ii), (iii) or (iv) with a product resulting from the use of the method or process.

It is apparent from s 119(1) that this defence will only be available to the respondent if, in respect of its exploitation, the priority date of the claims is later than October 2007.

It is also important to observe, however, that the defence under s 119(1) is limited to the alleged infringer’s own acts that exploit a product, method or process in a way that would infringe a patent. The defence does not cover the act of authorising another person to exploit the invention. For the reasons given above, I am satisfied that the respondent has authorised others to exploit the invention claimed in the patent. Therefore, regardless of whether the respondent’s own exploitation occurred immediately before the priority date of the claims (a matter to which I will return), the defence under s 119(1) does not assist the respondent to avoid a finding of infringement on the basis of authorisation, assuming the claims to be valid. In these circumstances, it is not necessary for me to address the discrete question of whether the defence under s 119(1) of the Act is otherwise available for an infringement arising under s 117(1) of the Act.

# The priority date of the claims

## Legislative background

The priority date of the claims of a patent is either the filing date of the complete specification in respect of the patent application or the date determined under the *Patents Regulations 1991* (Cth) (**the Regulations**), where a different date is so provided: s 43(2) of the Act.

The parties were at issue as to who bears the onus of proving the correct priority date. It is not necessary to resolve that debate, substantially because each party has advanced a number of contentions as to why its position on the correct priority date should be preferred. The real question is the correctness of the competing positions. The applicant’s primary position is that the claims have a priority date of 17 May 2004, being the filing of the provisional application from which the claims claim priority. The respondent’s primary position is that the claims have a priority date of 2 December 2010, being the date of filing of the complete specification in respect of the complete application for the patent.

It is convenient to address the position advanced by the respondent which was based, first, on an iterative application of reg 3.12(1)(c), and then an application of reg 3.12(1)(b), of the Regulations to various specifications filed in respect of the family of patent applications to which the complete specification relates.

Regulation 3.12(1) relevantly provides:

Subject to regulations 3.13 and 3.14 and subregulation (2), the priority date of a claim of a specification is the earliest of the following dates:

(a) the date of filing of the specification;

(b) if the claim is fairly based on matter disclosed in 1 or more priority documents, the date of filing the priority document in which the matter was first disclosed;

(c) if the specification is a complete specification filed in respect of a divisional application under section 79B of the Act and the claim is fairly based on matter disclosed in the specification referred to in paragraph 79B(1)(a) of the Act — the date mentioned in subregulation (2C);

(d) ...

With respect to reg 3.12(1)(c), the specification referred to in s 79B(1)(a) of the Act is the specification filed in respect of the complete application from which the divisional application is made.

Regulation 3.12(2C) provides:

The date for a specification to which paragraph 3.12(1)(c) applies is the date that would have been the priority date of the claim if it had been included in the specification referred to in paragraph 79B(1)(a) of the Act.

## The respondent’s contentions

The respondent submitted that the claims of the patent are not fairly based on the specification filed in respect of the parent application on 8 January 2008 (**the parent specification**) because:

1. claims 1 to 4 are not limited to a “subterraneous detection apparatus” or, at least, to an apparatus fixed to a road surface (in the case of claims 2 and 4) or to the use of such an apparatus (in the case of claims 1 and 3);
2. claims 4 and 5 are not limited to an apparatus that has “a radio receiver … for receiving wake-up signals”; and
3. claims 1 and 3 are not limited to the use of an apparatus that has “a radio receiver … for receiving wake-up signals”.

It submitted, therefore, that the priority date of the claims is 2 December 2010, being the filing date of the complete specification.

If it be found, contrary to its submission, that the claims are fairly based on the parent specification, it becomes necessary to consider whether they are also fairly based on the specification filed in respect of the grandparent application (**the grandparent specification**). This is because reg 3.12(2C) prompts the question: what would the priority date of the claims be if they had been included in the parent specification? Thus, a further application of reg 3.12(1)(c) is required. For this purpose, the respondent submitted that the grandparent specification is the one originally filed on 9 May 2005, and not the specifications amended by the 2005 amendments or the 2007 amendments.

The respondent submitted that claims 1, 3, 4 and 5 are not fairly based on the grandparent specification as originally filed because they are not limited to an apparatus that has “a radio receiver … for receiving wake-up signals” (claims 4 and 5) or to the use of an apparatus that has that feature (claims 1 and 3).

Further, the respondent submitted that claims 1, 3, 4 and 5 would only be entitled to a priority date of 17 May 2004 if they are fairly based on the provisional specification filed in respect of the provisional application (**the provisional specification**): reg 3.12(1)(b). It submitted that those claims are not fairly based on the provisional specification, for the same reason that they are not fairly based on the grandparent specification.

It is apparent that, if I am satisfied that claim 2 of the patent is fairly based on the parent specification, then the respondent has accepted that the priority date of that claim is 17 May 2004.

It is necessary to consider each step in the respondent’s argument. In order to do so, it is convenient to make some general observations, first, about each of the specifications with which, the respondent says, the claims are to be compared, and secondly, about the nature of the comparison required between the claims and the specifications from which they claim priority.

## General comments on prior specifications

The respondent accepted that the “Detailed Description” of the invention contained in the parent specification is substantially identical to the corresponding description in the complete specification. The respondent submitted, however, that the “Summary” of the invention in the parent specification is substantially different to the corresponding section in the complete specification. In this connection, the respondent pointed to the fact that each aspect of the invention that is summarised refers to “a subterraneous detection apparatus” or an “apparatus for subterraneous installation” or a system comprising a plurality of detection apparatuses “when subterraneously installed”. Each of the claims of the parent specification is limited to a method of “subterraneous detection” (in relation to the method claims) or an apparatus “for subterraneous installation” or to a system comprising apparatuses “when subterraneously installed”. The respondent also submitted that there is no real or reasonably clear disclosure of an apparatus (including as used in the method) that does not require a radio receiver for receiving wake-up signals.

The respondent also accepted that the “Detailed Description” of the invention contained in the grandparent specification as originally filed is substantially identical to the corresponding description in the complete specification. The respondent pointed, however, to the fact that each aspect of the invention summarised in the “Summary” in the grandparent specification as originally filed refers to “wirelessly wake-up the detection apparatus” or an apparatus with a receiver “for receiving a wake-up signal” or to a system in which “wake-up signals” are transmitted to a plurality of detection apparatuses.

The “Summary” and “Detailed Description” in the provisional specification is substantially the same as in the grandparent specification as originally filed.

## The nature of the required comparison

Regulations 3.12(1)(b) and (c) each require, relevantly, that the claim be “fairly based on matter disclosed” in the specification from which priority is claimed.

The parties accepted that the expression “fairly based” has the same meaning in this context as it has in s 40(3) of the Act dealing with internal fair basing, namely that there be “a real and reasonably clear disclosure” in the compared specification of that which is claimed: *Lockwood Security Products Pty Limited v Doric Products Pty Limited* (2004) 217 CLR 274 at [69]. However, the test of fair basis for determining the priority date of a claim is not the same as the test under s 40(3). Under s 40(3), the invention as claimed must be “fairly based on the matter described in the specification”. This comparison alludes to the coordinate requirement of s 40(2)(a) that the complete specification – of which the claims form part – must describe the invention fully. There is no corresponding requirement in relation to a priority document.

Section 40(3) of the Act deals with the question of claim width: *Olin Corporation v Super Cartridge Co Pty Ltd* (1977) 180 CLR 236 at 240; *Kimberly-Clark Australia Pty Limited v Arico Trading International Pty Limited* (2001) 207 CLR 1 at [15]. Section 40(3) of the Act is directed, in a general sense, to ensuring internal consistency between that which is described as the invention, and that which is claimed as the invention. Even so, the requirement is only that the claim be “fairly based”. The provision does not mandate a more stringent requirement. Thus, when considering the circumstances under which the prescription of s 40(3) will have been obeyed, the High Court in *Lockwood* (at [68]) said:

The comparison which s 40(3) calls for is not analogous to that between a claim and an alleged anticipation or infringement. It is wrong to employ “an over meticulous verbal analysis”. It is wrong to seek to isolate in the body of the specification “essential integers” or “essential features” of an alleged invention and to ask whether they correspond with the essential integers of the claim in question.

[Footnotes omitted]

It was in this context that the High Court addressed and affirmed the requirement for “a real and reasonably clear disclosure” and noted that, even in the context of s 40(3), those words do not limit the relevant disclosure to the description of preferred embodiments. The High Court (at [69]) quoted with approval the following observations in *Rehm Pty Ltd v Websters Security Systems (International) Pty Ltd* (1988) 81 ALR 79 at 95:

The circumstance that something is a requirement for the best method of performing an invention does not make it necessarily a requirement for all claims; likewise, the circumstance that material is part of the description of the invention does not mean that it must be included as an integer of each claim. Rather, the question is whether there is a real and reasonably clear disclosure in the body of the specification of what is then claimed, so that the alleged invention as claimed is broadly, that is to say in a general sense, described in the body of the specification.

It was in this context that the High Court in *Lockwood* drew attention to the need to look to the specification as a whole, “putting aside particular parts which, although in isolation they might appear to point against the ‘real’ disclosure, are in truth only loose or stray remarks”: at [69].

In *Leonardis v Sartas No 1 Pty Ltd* (1996) 67 FCR 126 the Full Court specifically drew attention to the different language used for the purposes of regs 3.12(1)(b) and (c). The Full Court (at 139) said:

The expression "the claim is fairly based on matter disclosed in 1 or more priority documents", in reg 3.12(1)(b), corresponds with the expression used in reg 3.12(1)(c), concerned with divisional applications, "the claim is fairly based on matter disclosed in the specification". Both provisions are to be contrasted with s 40(3) of the Act, referring to "*the* matter described in the specification". Whatever the precise effect of the definite article in s 40(3), in the regulation, its absence plainly suggests that the fair basis in question need not relate to *all* the matters disclosed in the respective documents referred to in pars (b) and (c). Paragraph (b), as is made clear by subreg (2)(a), relates to s 38 of the Act, subs (1) of which provides:

"If an applicant makes a provisional application, the applicant may make one or more complete applications associated with the provisional application at any time within the prescribed period."

This indicates that the provisional application may provide fair basis for several complete applications, and the absence of a definite article which might require one claim to be fairly based on *all* the matter disclosed in a provisional application seems deliberate and appropriate. That the draftsman's choice of words was deliberate is also suggested by the final words of reg 3.12(1)(b), in which the expression "*the* matter" is used to refer to the particular matter that provides the fair basis. Just as the nature of a provisional application, having regard to s 38, may explain the reference to "matter" in par (b), so the nature of a divisional application may explain the use of the same word, again without any article, in par (c).

These observations make clear that some part or parts of the overall disclosure made in the prior specification can provide “matter” on which a claim can be fairly based for the purpose of assigning a priority date to that claim.

## Comparison with parent specification

I am satisfied that each of the claims of the patent is fairly based on matter disclosed in the parent specification. Specifically, I am satisfied that, in the parent specification, there is a real and reasonably clear disclosure of methods, apparatuses and systems for identifying overstay of vehicles in parking spaces which include detection apparatuses that are not limited to subterraneous operation or require a radio receiver for receiving wake-up signals.

The “Summary” of the invention in the parent specification discloses a number of aspects of the described invention. All of these aspects identify subterraneously installed and operated detection apparatuses. However, the “Detailed Description” makes clear that the detection apparatus need not be subterraneously installed and operated. It exemplifies a detection apparatus configured in a low-profile, high-strength plastic domed housing that can be fixed to a road or parking space surface by any suitable method, including by use of an adhesive. The same disclosure is made in the complete specification. The person skilled in the art would not read this disclosure as itself limiting the detection apparatus to that form. Rather, the person skilled in the art would understand this disclosure as teaching that the methods, apparatuses and systems that are disclosed are not confined to a detection apparatus that is installed and operated subterraneously, and that the alternative embodiment that is described is provided as no more than an illustrative example.

The “Summary” of the invention in the parent specification also discloses a detection apparatus which, in operation, is not confined to one that receives wake-up signals: see page 2 lines 5 to 11. This disclosure stands as the consistory statement for claim 1 of the parent specification, which is directed to a method of operating a detection apparatus: compare, in that regard, claim 2 of the parent specification which adds the limitation that the method is performed in conjunction with the receipt of a wake-up signal. It does not matter for this purpose that the method that is disclosed is one provided where the detection apparatus is subterraneously installed and operated. Another passage in the “Summary” makes clear that wireless retrieval of data *may* (not *must*) be performed in response to a wake-up signal received by the detection apparatus: see page 3 lines 6 and 7.

Other passages in the “Detailed Description” in the parent specification disclose embodiments in which the detection apparatus is not required to operate in response to the receipt of a wake-up signal: see page 10 lines 16 to 18 and Figure 6; page 10 lines 24 to 27 and Figure 7; and page 13 lines 10 to 13; see also the passages at page 3 lines 4 to 8 and page 13 lines 15 to 23, which find corresponding expression in the complete specification (quoted in [38] and [39] above). In these embodiments, the detection apparatus is in radio communication with a data collection apparatus at a fixed location rather than with a portable or mobile data collection apparatus which, at any particular point in time, might not be in radio communication with the detection apparatus. The radio communication between the detection apparatus and the data collection apparatus at a fixed location may be via repeaters (in which case, the data collection apparatus can be seen to function as a central data collection apparatus) or via inter-detection apparatus communications. I repeat the observation I have made in [42] above.

## Comparison with grandparent specification

I am also satisfied that claims 1, 3, 4 and 5 of the patent are fairly based on matter disclosed in the grandparent specification. It is to be recalled that the respondent’s contention in this regard is that these claims are not fairly based on the grandparent specification as originally filed because they are not limited to an apparatus that has a radio receiver for receiving wake-up signals or to the use of an apparatus that has that feature. Each of the passages in the parent specification which I have identified above concerning methods, apparatuses and systems for identifying overstay of vehicles in parking spaces that use data collection apparatuses at fixed locations, and which speak of the significance of wake-up signals with respect to the presence of portable or mobile data collection apparatuses, find corresponding expression in the grandparent specification.

## Comparison with provisional specification

The respondent says that claims 1, 3, 4 and 5 of the patent are not fairly based on the provisional specification for the same reason that those claims are not fairly based on the grandparent specification. The text and drawings of the provisional specification are materially the same as the text and drawings of the grandparent specification. I will not detail the differences between the two, save to note that, in the provisional specification, the passage relating to inter-detection apparatus communications being forwarded to a data collection apparatus at the end of a street does not appear. This is without significance given the inclusion in the provisional specification of the other passages (including Figures) relating to the use of data collection apparatuses at fixed locations.

I am satisfied, therefore, that claims 1, 3, 4 and 5 of the patent are fairly based on matter disclosed in the provisional specification.

## Conclusion on priority date

Given these findings, I conclude that the priority date of each of the claims is 17 May 2004, being the filing date of the provisional specification.

My own analysis and comparison of the claims with each of the relevant priority documents involves (a) the rejection of each of the reasons advanced by the respondent for contending that the priority date of the claims is a date after 17 May 2004, and (b) an acceptance of the applicant’s countervailing contentions. In so concluding, I have assumed – in favour of the respondent and without deciding – that I should not take into account the amendments made to the grandparent specification on 15 December 2005. Those amendments introduced a further disclosure of a detection apparatus, and the use of a detection apparatus, that does not require the use of wake-up signals within the meaning of claim 2 of the patent.

Having reached this overall conclusion, it is not necessary for me to decide a number of alternative contentions advanced by the applicant based on the 2005 amendments and involving (a) the application of s 114(1) of the Act and reg 3.14 of the Regulations to find an alternative priority date of 15 December 2005, and (b) the subsequent application of s 24(1) of the Act to provide a grace period from 15 December 2004 in relation to disclosures that might defeat the validity of the invention as claimed.

My conclusion on the priority date of the claims has the following consequences. First, a number of disclosures relied upon by the respondent to impugn the validity of the claimed invention cannot be taken into account for that purpose because those disclosures are based on publication or use after that date. Secondly, the defence under s 119(1) of the Act is not available to the respondent at the outset because the exploitation on which it relies did not commence before 17 May 2004: see [102] above.

# The respondent’s case on invalidity

The respondent’s case on invalidity was advanced on three bases.

First, the respondent submitted that claims 1, 3, 4 and 5 of the patent are not fairly based on the matter described in the complete specification because they are not limited to a method or apparatus using wake-up signals. If so, the consequence will be that s 40(3) of the Act is not satisfied and the ground of revocation under s 138(3)(f) of the Act will have been established in respect of these claims.

Secondly, the respondent submitted that none of the claims claim an invention that is novel. If so, the consequence will be that, in each case, the invention as claimed is not a patentable invention within the meaning of s 18(1A)(b)(i) of the Act and, for this reason, the ground of revocation under s 138(3)(b) of the Act will have been established.

Thirdly, the respondent submitted that none of the claims claim an invention that involves an innovative step. If so, the consequence will be that, in each case, the invention as claimed is not a patentable invention within the meaning of s 18(1A)(b)(ii) of the Act and, for this reason, the ground of revocation under s 138(3)(b) of the Act will have been established.

# internal fair basis

I do not accept the respondent’s submission that claims 1, 3, 4 and 5 of the patent are not fairly based on the matter described in the complete specification because they are not limited to a method or apparatus using wake-up signals. There is no necessity, arising by dint of s 40(3) of the Act, for the claims to be so limited. I have identified a number of passages in the parent, grandparent and provisional specifications that describe the operation of detection apparatuses that do not require a wake-up signal for their operation. I have also identified the passages in those specifications which describe the particular significance of wake-up signals where the data collection apparatus is portable or mobile and not at a fixed location. All of these passages find corresponding expression in the complete specification. In this connection, I also refer to my summary of the invention described in the specification in [9] to [42] above. Additionally, the complete specification contains consistory statements supporting each of claims 1, 3 and 4.

The respondent sought to treat all these disclosures, individually and cumulatively, as mere stray phrases that do not truly describe the invention. I do not accept that contention. It is true that the complete specification refers on many occasions to the use of wake-up signals. However, on a fair reading of the specification, those references are directed principally to embodiments where a portable or mobile data collection apparatus is employed. This is not to say that wake-up signals cannot be used where the data collection apparatus is at a fixed location. But there is no need for wake-up signals when a data collection apparatus is at a fixed location. In my view, this is made clear by the complete specification itself, especially (but not exclusively) in the passages I have quoted in [38] and [39] above. The specification makes plain that the invention it describes is not one limited to embodiments involving a portable or mobile data collection apparatus. It also makes plain that the invention it describes includes embodiments that employ a persistent wide area network. The recognition in the specification that some embodiments of the invention have advantages that others do not – because, advantageously a portable or mobile data collection device can be used – does not mean that the other described embodiments cannot be claimed validly.

# Lack of novelty

## Introduction

An invention will not be a patentable invention for the purposes of an innovation patent if the invention, so far as claimed in any claim, is not novel, when compared with the prior art base as it existed before the priority date of that claim: s 18(1A)(b)(i) of the Act. Relevantly to the present case, an invention is to be taken to be novel when compared with the prior art base unless it is not novel in the light of prior art information made publicly available in a single document or through doing a single act: s 7(1)(a) of the Act.

Although a large number of documents were originally particularised as anticipating the claims in suit, by the time of final submissions the respondent relied on two publications, assuming the priority date of the claims to be 17 May 2004. The first was US Patent Application No 2002/0109611 A1 (**Howard I**) published on 15 August 2002 and Japanese Patent Application No 1-334065 (**Tetsuya**) published on 23 August 1991.

The issue respecting novelty arising in this connection is the well-known one of “paper anticipation”. There was no contest between the parties as to the principles and standard to be applied. A number of these principles were collected by Bennett J in *H Lundbeck A/S v Alphapharm Pty Ltd* (2009) 177 FCR 151 at [169]-[177].

In *Samsung Electronics Co Ltd v Apple Inc* (2011) 286 ALR 257, the Full Court (at [127]) said:

It is trite law that, if the alleged paper anticipation is to deprive an invention of novelty, it must clearly disclose each and every essential feature of that invention, as claimed. This principle has its genesis in Lord Westbury's seminal statement in *Hill v Evans* (1862) 4 De GF & J 288; 1A IPR 1 at 7 that “the information as to the alleged invention given by the prior publication must, for the purposes of practical utility, be equal to that given by the subsequent patent”, a statement which Lord Reid described in *C Van der Lely NV v Bamfords Ltd* (1962) 1A IPR 86 at 90; [1963] RPC 61 at 72 (*Van der Lely*) as “universally accepted”. The stringency with which the prior disclosure is to be assessed in order to be novelty-destroying has been discussed in a number of decisions in this court, most notably in *Nicaro Holdings Pty Ltd v Martin Engineering Co* (1990) 91 ALR 513; 16 IPR 545 (*Martin Engineering*) and *Ramset Fasteners (Aust) Pty Ltd v Advanced Building Systems Pty Ltd* (1999) 164 ALR 239; [1999] FCA 898 (*Ramset*) and, more recently, in *H Lundbeck A/S v Alphapharm Pty Ltd* (2009) 177 FCR 151; 81 IPR 228; [2009] FCAFC 70. It is not necessary to set out the discussion in those cases of the relevant principles. It is enough to note that a prior publication will not amount to an anticipation of an invention claimed as a combination if it discloses some, but not all, of the essential features of that combination.

The “stringency” referred to by the Full Court is illustrated in a number of cases, including *The General Tire & Rubber Company v The Firestone Tyre and Rubber Company Limited* [1972] RPC 457 at 486 (“A signpost, however clear, upon the road to the patentee’s invention will not suffice. The prior inventor must be clearly shown to have planted his flag at the precise destination before the patentee”) and *Apotex Pty Ltd v Sanofi-Aventis* (2008) 78 IPR 485 at [91] (“Anticipation is deadly but requires the accuracy of a sniper, not the firing of a 12 gauge shotgun”).

## Howard I

### Disclosure

Howard I relates to an invention entitled “Parking Management Systems”. It describes the field of the invention as follows:

The invention relates to methods and systems for managing parking facilities, and more particularly to methods and systems that combine information from a payment system with vehicle information to determine if and/or when a parking infraction occurs.

It summarises the invention as follows:

The systems and methods described herein include one or more wireless vehicle detectors, along with a distributed parking payment system such as parking meters and/or a paystation. Information from the payment system and the vehicle detectors may be combined to determine when a parking violation occurs, or is about to occur. This information may then be transmitted through a communication system to a parking enforcement officer, along with information about the geographic location of the violation. The information may also, or instead be transmitted to a parking payer to notify the payer of an impending infraction so that the payer may purchase additional parking time before the violation.

Howard I describes a number of aspects of the invention. Each of these aspects describes a system that includes a sensor for detecting the presence of a vehicle within a parking space and a parking meter associated with the parking space. However, the detailed description of the preferred embodiments makes clear that various sections of the described system can be “omitted or rearranged or adapted in various ways”. It discloses that the difference between “parking spaces, areas, zones or no parking zones” is mainly their administration and that the described vehicle sensing method and system can be applied to monitoring “no parking spaces/areas/zones”. I interpolate that, in that particular application, there would appear to be no role for parking meters and pay stations.

The described system is a “wireless sensor network” in which wireless sensors scan areas for the presence of vehicles and the network determines whether a vehicle is present. The network stores and transmits, amongst other things, “the properties of the space”. The system uses information that includes “the status of the parking spaces (including but not limited to percentage occupied, time of occupancy and historical data), the rules and regulations of the parking spaces, and the demand for parking spaces”.

Howard I discloses, by way of a flow diagram and related text, “a process for determining if a vehicle is in violation of any laws using a wireless sensor network”. The process is described as follows:

When a vehicle is present in a sensor area for a designated amount of time, the sensor notifies the server system. The server combines information gathered from the sensor and the parking information associated with the sensor to determine whether the vehicle is in violation of any laws. This may include, for example, rules and restrictions associated with the monitored parking space, as well as payment information for the parking space, such as cash provided to a parking meter associated with the space.

This description is of a sensor “notifying” a “server system”. Importantly, it is the “server” that “determines if the vehicle present is in violation of any laws”, not the sensor itself. If the vehicle is in violation, “the system notifies the proper authorities that there is a vehicle in the scanning area that is in violation of a law”. Here, as in other passages, Howard I uses the term “sensor” synonymously with a vehicle detector that contains a sensor and other components to carry out the function of detecting the presence of a vehicle in a particular parking space.

Howard I also discloses, by way of a diagram (Fig 14) and related text, how, in one embodiment, individual sections of a parking information system interact with a “central server”. It uses terms such as “host”, “server” and “central computer” interchangeably to describe “a processing system for receiving, processing, and transmitting data, and managing communications among the different entities and devices of the parking system” it describes. In this system, vehicle sensors may communicate with base stations and with each other. They may also communicate directly with “the central server”, either wirelessly or by wired connection. It is, however, the “central server” that is responsible for the collection, processing and dissemination of parking information.

Howard I states, with reference to the system described by Fig 14, that, “in certain embodiments”, the “host” (that is, the central server) can reside in a common housing with the sensor. It does not describe, however, how this might be done or how, in such a configuration, the “host” communicates with the sensor. Presumably, in that configuration, the communication would be by wired connection. There would seem little point in using wireless communication. Here, once again, it is clear that, when describing this system, Howard I is using the term “sensor” synonymously with a vehicle detector containing a sensor and other components.

Howard I also describes a wireless vehicle detector that can be used in the system. The detector is described as including a vehicle sensor (here, strictly described as such), a microcontroller, a wireless transceiver, an antenna, “one or more other sensors”, and a communication port.

The operation of the detector is described as follows (omitting references):

The vehicle sensor … is coupled to the micro-controller … which is in turn coupled to the transmitter ... Generally, the microcontroller … processes raw data from the sensor … including low-level processing such as sampling, filtering, and the like. The microcontroller … may also analyze data from the sensor … to derive, for example, a presence or absence signal. The transmitter … receives processed data from the microcontroller …and transforms the data into a form suitable for wireless communication via the antenna… and broadcasts the transformed information through wireless transmissions. The sensor information is typically available as baseband electrical signals, such as voltage or current levels, or sequences of binary digits, or bits, of information. The vehicle detector … may include a plurality of vehicle sensors … to provide greater accuracy or signal resolution.

Howard I discloses that the transceiver can be used for bi-directional communication between the vehicle detector and a base station or central computer. The application states (omitting references):

The transmitter … may include a transceiver for bi-directional communication between the vehicle detector … and a base station or central computer. Using two-way communications, vehicle sensor code may be uploaded to the microcontroller … to update operation of the detector ... A two-way communication link may also be used, for example, to poll vehicle detectors … to verify correct operation, or to enable ad hoc network formation so that vehicle detectors … may be added to or removed from the network and automatically be recognized by the parking system. A suitably configured receiver receives wireless signals through the antenna and converts the wireless signals into electrical signals. Such a receive capability is particularly useful for performing remote diagnostics or remote repair (e.g., receiving updated system firmware). Since the receive capability represents another power dissipation source, the receive capability may be configured to operate periodically. For example, the receiver may routinely operate only during a predetermined duration of time and according to a predetermined period (e.g., the receiver operates for five minutes each day at 12 o’clock). Occasionally, any extended periods of operation that may be required, such as during a firmware upgrade, could be negotiated during the routinely occurring operational periods.

The application discloses that the vehicle detector may be battery-operated and configured in a single, self-contained and environmentally-sealed package for installation which may be beneath, beside or overhead the surface to be scanned.

### Conclusion and reasons

Howard I does not anticipate the invention as claimed.

An essential feature of the claimed methods of the patent is the use of a single, battery-powered apparatus that carries out the steps of detecting the presence of a vehicle in a parking space; processing and storing data relating to that presence; determining from the stored data whether the vehicle has overstayed a defined time duration in the parking space; and wirelessly transmitting data relating to that overstay. The claimed apparatuses are single, battery-powered apparatuses that have identified features that carry out or are adapted to carry out each of these steps.

Howard I does not disclose a method in which the steps are carried out by a single apparatus; nor does it disclose a single apparatus that is characterised by features that carry out or are adapted to carry out these steps.

Howard I makes clear that it is the central server, not the sensor (vehicle detector), that determines from processed information whether there has been vehicle overstay. The wireless vehicle detector described in Howard I may have a microcontroller. This microcontroller is described as processing raw data from the sensor (strictly called), including low-level processing such as sampling, filtering and the like, and transforming the data into a form suitable for wireless communication. So described, the microcontroller does not carry out the function of determining from the data it processes and formats whether there has been overstay.

Howard I discloses that the central server can, in certain embodiments, reside in a common housing with the sensor (vehicle detector). This disclosure is not made with respect to the described wireless vehicle detector (see [157] to [160] above) but with respect to one embodiment of the distributed parking information system that interacts with the central server (see [155] and [156] above). I have already remarked on the fact that Howard I does not describe how this might be done or how the sensor (vehicle detector) communicates with the central server in this particular configuration. Even so, in the parking information system so described, the sensor (vehicle detector) and the central server retain their separate identities and functions within that system. The central server is not the same apparatus as the sensor (vehicle detector) simply because it might reside in a common housing with the sensor (vehicle detector). In this connection, the central server is still fulfilling the function of interacting with all elements of the distributed parking information system. This function is described as collecting, processing and disseminating information from other sensors, pay stations, and a host of other devices which Howard I exemplifies as:

… weight-in-motion devices, video surveillance equipment, or [licence] plate reading equipment, or payment devices or methods, such as cell phones, credit card payment systems, and other payment system[s] …

In other words, the central server remains a data collection apparatus and, as such, determines from data supplied by the sensor (vehicle detector) whether there has been overstay.

The respondent placed considerable emphasis on a particular passage in Mr Spirovski’s cross-examination, in which the following exchange took place:

And putting aside for a minute the fact that there are other shortcomings, you say, in the apparatus, but just focussing on whether this apparatus identifies overstay, is it right to say that your evidence is to the effect that the defect – the alleged defect in Howard I is that the exercise of detecting overstay is shared as between the detector and the server?---The – the exercise – that model alone as a subset, there is an embodiment of the – there is a description of an embodiment in there, that could – so that section of it alone doesn’t – I would say, yes, there is an apparatus for determining overstay.

I see. So if we go to paragraph 60, is that the one you’re referring to?---Yes.

Yes. And that suggests that this component that fulfils the server function might be in a common housing with the detector?---Yes.

And so do you accept that if, in terms of the ingredients of the claim, we focussed just on whether there is an apparatus - - -?---Yes.

- - - for identifying overstay, that as it were, in a single apparatus, that Howard I discloses that?---Yes. It does.

Once again, this exchange was not made with respect to the disclosure in Howard I of the described wireless vehicle detector, but the parking information system described with respect to Fig 14. I find it difficult, from this exchange, to understand precisely what Mr Spirovski was accepting. His evidence, in this regard, seems to rise no higher than an acceptance that the residence of the central server within the same housing as a sensor (vehicle detector) could be regarded as a single apparatus for identifying vehicle overstay. This evidence does not address, however, the particular features of the claims in suit. If Mr Spirovski was purporting to give evidence that, by stating that a sensor (vehicle detector) and the central server can reside in a common housing, Howard I discloses a single apparatus as defined in the claims in suit, or the steps of the method defined in the claims in suit, then I do not accept that evidence.

For completeness I would add that even if, contrary to my view, the central server and a sensor (vehicle detector) residing in a common housing can be considered to be a single apparatus for the purposes of the claims in suit, Howard I would still not anticipate the invention as claimed because there is no disclosure that such an apparatus would itself wirelessly transmits data relating to identified instances of overstay of a vehicle in a parking space.

Although Howard I states that the described wireless vehicle detector ([157] to [160] above) may be used with the systems it describes, I do not accept that the person skilled in the art would read Howard I as disclosing that that detector is one that would be used in one of the “certain embodiments” of a parking system in which the sensor (vehicle detector) and the central server reside in a common housing. There are a number of clear indicators for this conclusion.

First, the described vehicle detector is configured for wireless communication with the central server. It simply does not make sense that it would communicate wirelessly with the central server in an embodiment in which both reside in a common housing.

Secondly, Howard I discloses that the described vehicle detector may, with battery power, be fully wireless. There is no suggestion in Howard I that the central server in the distributed parking system would be battery-powered. It would make no sense for the described detector to be in a common housing with the central server where the detector is battery-powered but the central server is not.

Thirdly, the features of the wireless detector in Howard I are fully described. This includes an embodiment in which the detector is configured in a single, self-contained and environmentally-sealed package. This is in the context of the detector being compact, battery-powered and fully wireless, so that it might be conveniently located, wherever desired. There is no suggestion in that part of Howard I that the central server would also reside in the same single, self-contained and environmentally-sealed package.

But once again, even if the person skilled in the art would read Howard I as disclosing that the described wireless vehicle detector and the central server could reside in a common housing, the observations I have made in [165], [166] and [169] above would apply equally to such an embodiment.

In summary, neither the parking information systems described in Howard I, nor those systems operating with the wireless vehicle detector that is described, whether or not residing in a common housing with the central server, discloses the single apparatus defined in the claims in suit or the steps of the methods defined in the claims in suit.

Moreover, with respect to claim 2, Howard I does not disclose an apparatus in which a radio receiver is coupled to a processor for receiving wake-up signals. The wireless vehicle detector described in Howard I does refer to the presence of a “suitably configured” receiver for receiving wireless signals. But this is in the context of the detector receiving signals for remote diagnostics or remote repair. I have quoted the relevant passage in [159] above. As will be apparent from that passage, Howard I discloses that such a receiver, operating in that context, is a source of power dissipation. The solution it proposes is that the wireless vehicle detector be configured to operate periodically “only during a predetermined duration of time and according to a predetermined period”, which is exemplified as five minutes each day at 12 o’clock.

Significantly, both Dr Klein and Mr Spirovski read the passage quoted in [159] above as disclosing the transmission of wake-up signals, although both proceeded on the basis that such signals were for the purposes of establishing communications for maintenance and programming. However convenient it might be to describe them in such terms, these signals are not the wake-up signals to which claim 2 refers. I doubt, however, that Dr Klein’s and Mr Spirovski’s reading of that passage is correct in any event. Naturally, I am cautious about not accepting their specific evidence in this regard. But it seems to me that the passage quoted in [159] above does not speak of a signal that is received by the described vehicle detector to activate a communication session between it and other elements of the system. In the quoted passage, Howard I plainly proposes an alternative solution of periodic operation based on the predetermined and specified operating times of the vehicle detector itself. There would seem to be no role for a wake-up signal of any kind in the implementation of that solution. Be that as it may, I am certainly not persuaded that Howard I discloses wake-up signals of the kind to which claim 2 of the patent refers.

Finally, with respect to claim 5, Howard I does not disclose an apparatus in which the detector comprises a magnetic field sensor. This finding is supported by the evidence of both Dr Klein and Mr Spirovski, and is informed by my own reading of Howard I.

On this aspect of the case, the respondent sought to rely on evidence that, before the priority date, the person skilled in the art would be familiar with magnetic field sensors. The respondent submitted that the person skilled in the art would immediately, and as a matter of course, understand and perceive a magnetic field sensor to be the “ideal vehicle ‘sensor’ for this application”. In this connection, the respondent relied on evidence given by Dr Klein that, for a sensor to be self-contained in a sealed unit and to be capable of operating wirelessly, a magnetometer would be his first choice as an ideal sensor.

 I do not accept that, according to the correct legal standard, Howard I discloses the use of a magnetic field sensor. There is no explicit disclosure of that feature and the evidence falls short of establishing an implicit disclosure. In order for a publication to be anticipatory, it is not sufficient that the person skilled in the art, on reading it, would think that a feature, not disclosed by the publication itself, might be a good idea*: Ramset Fasteners (Aust) Pty Ltd v Advanced Building Systems Pty Ltd* (1999) 44 IPR 481 at [23]-[25]. The question for novelty purposes is: what does the publication disclose? In seeking to answer this question, the respondent’s submissions introduce into the inquiry considerations that are more appropriate when determining obviousness in the context of s 7(2) of the Act, where the common general knowledge and a documentary disclosure can be combined in an appropriate case. The present is not such a case, and the relevant inquiry is not about whether the invention as claimed is supported by an inventive step.

Moreover, claim 5 is dependent on each of the two other apparatus claims (claims 2 and 4). Howard I does not anticipate either of those claims, for reasons that are unrelated to any failure to disclose a magnetic field sensor. Howard I cannot, therefore, anticipate claim 5, regardless of whether or not it discloses an apparatus that comprises a magnetic field sensor.

## Tetsuya

### Disclosure

Tetsuya concerns an invention entitled “Method and Device for Preventing Illegal Parking”. The description which follows summarises the relevant passages from a translation of the application. There was no issue between the parties as to the accuracy of the translation.

After referring to the obstruction to movement of both vehicular and pedestrian traffic caused by “illegally parked vehicles”, Tetsuya identifies a number of prior art solutions and their shortcomings.

Tetsuya continues, as follows:

The problem to be solved by the present invention is to take account of the fact that illegal parking causes great inconvenience and danger to others and is a matter for concern as explained above, that it is not at all decreasing but has been tending to increase recently, and that it cannot be ignored, and to find a solution to the problem. Thus it is an objective of the present invention to achieve this, and to provide a method and device for preventing illegal parking which are effective and relatively simple of constitution.

[As in translation]

Tetsuya then identifies various means (both methods and devices) to solve “the problem”. One means is a device to prevent illegal parking. The device is located in an area of the road where parking is prohibited. It detects the presence of illegally parked cars by employing a “count management means” which “knows the time during which the vehicle is in a stationary state when a stationary vehicle is present”. The device has wireless communication means by which it relays, to a base station, the fact that a vehicle is illegally parked in a particular area. The detection means, count management means, and wireless communication means are “compactly integrated”. The device may be embedded in the roadway or temporarily mounted on or fixed to the roadway.

The detection means may be an ultrasound or an infra-red sensor. It may also be a high frequency sensor “which generates a high frequency magnetic field”. It generates or emits waves periodically (stated to be at intervals of five minutes). When a vehicle is present, the waves are generated or emitted more frequently (stated to be every 10 seconds) “to monitor the continuity or … the consistency of the stationary vehicle”.

The count management means may employ a counter and decoder or “other devices”. The other devices are not specified or otherwise described. When a detection means detects a stationary vehicle, “a count is commenced”. The translation gives the following example (omitting references):

If for example a vehicle in a stationary state for not less than 30 minutes is subject to control as an illegally parked vehicle, when the detection means … emits or generates ultrasound waves or high frequency waves every 10 seconds as described above, the wireless communication means … or the warning means … may be set as to send signals at the point in time at which 180 times is counted, which is to say at the point in time at which the stationary state has continued for 30 minutes.

[As in translation]

As explained in Mr Spirovski’s cross-examination, the counter is a simple binary counter. The decoder compares the count value from the counter to a fixed number. Once the number is reached, the state of the device is changed to register the presence of the illegally parked vehicle.

The wireless communication means is described as:

… a device that transmits signals for the purpose of relaying wirelessly to the base station the fact and area of an illegally parked vehicle as described above.

The base station may be a police station in which a control panel is provided that displays the “no parking” areas in the controlled area and signals from the wireless communication means. The fact that a vehicle is parked illegally may be displayed by means of lamps.

Tetsuya states:

… the method and device for preventing illegal parking envisaged by the present invention automatically and without human intervention are able to detect illegally parked vehicles which remain stationary for not less than a fixed period of time in a No Parking area on a roadway, relay the fact of the illegally parked vehicle and the location thereof to a police station and so forth, and warn the driver that a vehicle is parked illegally.

[As in translation]

### Conclusion and reasons

Tetsuya does not anticipate the invention as claimed.

Tetsuya makes clear that the disclosed device and methods pertain to vehicles that are stationary in areas where parking is prohibited, not time-limited. In that context, a count is commenced once the stationary state of the vehicle is detected. When the count reaches a predetermined limit (that is, a pre-set number of counts) this fact is registered and sent from the count management means to the wireless communication means, which then relays this fact to a base station. As I have noted, Tetsuya exemplifies the count management means as a counter and decoder.

The devices and methods thus described do not disclose the storage of data by the detector and the subsequent determination by the detector, from stored data, whether a vehicle has overstayed a defined duration in a parking space. Similarly, Tetsuya does not disclose an apparatus in which a processor is coupled to a sensor, in which the processor is adapted to process and store data received from the sensor and to determine from the stored data whether a vehicle has overstayed a defined time duration in a parking space.

When giving his evidence in chief of his understanding of words and expressions used in the method claims of the patent, Dr Klein said that the steps of processing and storing data, and then determining from the stored data whether a vehicle has overstayed a defined time duration, involve the use of a time-stamped signal. He gave this evidence with respect to the steps of processing and storing data when the sensor in the apparatus is a magnetometer:

… When the sensor is a magnetometer, the vehicle perturbs the Earth’s ambient magnetic field and that perturbation is the signal that is detected by the sensor. The signal produced by the perturbation is time stamped and then various features of the signal are processed (or analysed) in order to determine that the signal represents a vehicle in the parking space. That processed data is then stored within the self contained device.

He gave the following evidence with respect to the step of determining overstay from stored data:

The time-stamped signal is used to begin the process of determining whether the vehicle has overstayed any allowed time. Technically, time-stamping is not difficult to implement. The sensing device will typically contain a clock that gives the time. I note that at page 5, line 9, the specification refers to ‘an on-board real-time clock’. In general, a real-time clock can be designed to have various resolutions, i.e., record time to seconds, tenths of seconds, hundredths of seconds, milliseconds, etc. The clock may also be synchronized, i.e., referenced to a universal time code that gives time based on a 24 hour clock. For an application such as monitoring the time a vehicle is in a particular parking spot, where a fine is the penalty for an infraction, I would presume that the correct time of day and day of week would be included in the processed and stored data for legal purposes. Depending upon how the clock is initialised, it might also count elapsed time rather than be synchronized to a particular time of day.

In giving his understanding of certain words or expressions used in the apparatus claims of the patent, Dr Klein described the processor in the following terms:

The processor is a device that filters, amplifies, time stamps, and performs other functions required to analyse a received signal from the detector for the intended purpose of the apparatus.

Mr Spirovski’s evidence was to similar effect. He said that determining overstay of a vehicle requires comparing time-stamped data to a defined time duration which may take into account a number of parameters such as knowledge of operating hours and time limits applicable to a particular parking space, including daylight saving and other statutory changes to timing.

The IBM Dictionary of Computing (which, the respondent accepted, would speak at the time of publication of Tetsuya and the complete specification) defines a “processor” in a computer as:

… a functional unit that interprets and executes instructions. A processor consists of at least an instruction control unit and an arithmetic and logic unit.

It defines “process” in the context of data processing as:

… the course of events that occurs during the execution of all or part of a program.

It also defines “process” more generally as:

Any operation or combination of operations on data.

As I have noted (see [17] above), the complete specification exemplifies the processor as a microcontroller with an on-board real-time clock and on-board flash memory for storing data and the software program executed by the microcontroller.

In my view, when the apparatus claims of the patent refer to a processor coupled to the detector, they are referring to a processor of the kind discussed by Dr Klein and Mr Spirovski, exemplified and discussed in the complete specification, and defined in the IBM Dictionary – that is to say, a functional unit that interprets and executes instructions. This is the context provided by the complete specification in which the word “processor” is subsequently used in the claims. This is an example of where “the whole of the context rises up to insist” that, when the claims refer to “a processor”, they mean a processor of this kind: *International Business Machines Corporation v Commissioner of Patents* (1991) 33 FCR 218 at 223. Indeed, the claims make clear, in any event, that the processor must process and store data received from the detector and determine, from that stored data, whether a vehicle has overstayed a defined time duration in a parking space. Furthermore, read in the context of the apparatus claims, and in the context of the complete specification as a whole, the steps of the claimed methods take their meaning and colour from the operation of a processor so understood. This is the effect of Mr Spirovski’s evidence, which I accept.

Dr Klein read the claims of the patent more widely when dealing with the question of whether those claims were anticipated by Tetsuya. He saw the step of “processing” as encompassing the more general definition to which I have referred above, namely as any operation on data. According to Dr Klein, this processing did not need to be software-controlled. He saw the steps of storing data, and determining overstay from the stored data, as also being accomplished by the counter and decoder, exemplified in Tetsuya as the count management means. Dr Klein accepted that the counter and decoder did not constitute a microprocessor or microcontroller. He pointed out, however, that the word used in the apparatus claims was “processor”, not microprocessor or microcontroller. He said that he took the word “processor” to mean “a more general device”.

For the reasons I have given, I do not consider that the apparatus claims use the word “processor” in the very broad sense adopted by Dr Klein for this purpose. His evidence in this regard also sits discordantly with his evidence in chief about the meaning of terms and expressions used in the patent claims, absent a consideration of the cited prior art: see [195] to [197] above. His evidence also involves accepting that the incremental counting by the counter in Tetsuya involves the “storing” of all preceding counts and hence, in that sense, the storage of data from which overstay is determined. Although, to some, this contention might have a philosophical appeal, it is not the storage of data to which the claims of the patent refer. The fact is that the device in Tetsuya communicates the presence of an illegally parked vehicle upon the counter reaching a predetermined number of counts. It does not in any real sense operate by processing and storing data from which it then determines whether a vehicle has overstayed a defined time duration.

So far as claim 2 of the patent is concerned, Tetsuya does not disclose an apparatus that includes a radio receiver coupled to a processor for receiving wake-up signals. The respondent did not suggest otherwise.

So far as claim 5 is concerned, Tetsuya does not disclose an apparatus that is adapted for subterraneous operation below the pavement of a parking space. Once again, the respondent did not suggest otherwise. Moreover, claim 5 is dependent on each of the two other apparatus claims (claims 2 and 4). Tetsuya does not anticipate either of those claims, for reasons that are unrelated to any failure to disclose the adaptation of the claimed apparatus for subterraneous operation. Tetsuya cannot, therefore, anticipate claim 5 regardless of whether or not it discloses an apparatus adapted for subterraneous operation.

## Other matters

As I have foreshadowed, my finding that the priority date of the claims is 17 May 2004 makes it unnecessary for me to make findings in relation to other publications or acts relied upon by the respondent as anticipating the claims of the patent. Nevertheless, for completeness, I should briefly record the following matters.

First, the applicant accepts that, had I found the priority date of the claims to be 2 December 2010 (**the deferred date**), then claims 1, 3 and 4 of the patent would not have been novel over the prior art information disclosed in Australian Patent Application No. 2006235864 A1 (**Collins**). On the basis of that concession, claims 1, 3 and 4 of the patent would have been invalid and could not have been infringed.

 Secondly, the respondent specifically advanced the parent specification as an anticipatory disclosure of the invention as claimed in all claims. Had I found the priority date of the claims to be the deferred date, I would also have found that none of the claims of the patent would have been novel over the prior art information disclosed in the parent specification. Thus, on that basis, the claims would have been invalid and could not have been infringed. But if the disclosures in the parent specification anticipate the invention as claimed (as the respondent contended), the claims must at least pass the threshold of being fairly based on matter disclosed in the parent specification, in the sense that there must be a real and reasonably clear disclosure of the invention as claimed. I reject the respondent’s contrary submission. It can be seen, therefore, that the respondent’s challenge to validity, based on the prior publication of the parent specification, is self-defeating because that challenge provides an undeniable foundation for finding that the priority date of the claims is not the deferred date.

I would add for completeness that, had I found the priority date of the claims to be the deferred date, I would also have found that none of the claims would have been novel over the prior art information disclosed in, respectively, the grandparent specification and the provisional specification. In each case, however, the same self-defeating argument would arise.

Thirdly, the respondent sought to rely on a demonstration of the accused product given to the Council of the City of Perth (**the Council**) in or around December 2009 as anticipating the invention as claimed. This aspect of its case on invalidity involved a significant factual dispute between the parties as to what prior art information was made publicly available by this act. It also depended on the priority date of the claims being the deferred date. It is sufficient for me to record the following matters:

* The evidence concerning the demonstration was adduced through Mr Toal. Mr Toal was not, however, present at the demonstration.
* The content of the demonstration is only disclosed through minutes of the Council meeting held on 8 December 2009. These minutes give an overview of how the accused product works. The respondent’s case was that I could infer from the minutes what was disclosed by the demonstration itself.
* The overview provided by the minutes falls far short of disclosing, with the requisite clarity and precision, the essential features of the invention claimed in the patent. It is perhaps for this reason that the respondent did not contend that the minutes themselves constituted an anticipatory disclosure of the invention as claimed. The suggestion was that I should find that the demonstration disclosed more than what the minutes record. However, so to find would be to speculate.
* Mr Toal said that, prior to installation, the vehicle detection unit of the accused product is encased in a cylinder with a press fit cap, which can be popped off. Mr Toal also produced a photograph of a printed circuit board incorporating a “MeshNetics ZigBit” module (which incorporates a transceiver, processor and antenna) and battery leads. The suggestion in his evidence was that, if the accused product was presented in a form in which access could be gained to the module, this is what would have been seen. However, the evidence does not disclose the form in which a vehicle detection unit is supplied for the purposes of demonstration and whether, for the purposes of the demonstration given to the Council, the vehicle detection unit was provided in a cylinder with a press fit cap or otherwise in a form in which the module could be inspected. Moreover, there is no evidence as to what would have been gleaned from simply viewing a module, such as the one photographed.
* “There is a difference between circumstances where the public have an article in their possession to handle, measure and test and where they can only look at it. What is made available to the public will often differ in those circumstances. In the latter case it could be nothing material; whereas in the former the public would have had the opportunity of a complete examination”: *Lux Traffic Controls Limited v Pike Signals Limited* [1993] RPC 107 at 134; see also the extensive discussion in *Jupiters Ltd v Neurizon Pty Ltd* (2005) 222 ALR 155 at [125]-[147] regarding public disclosure.
* The picture is further clouded by Mr Toal’s evidence that some information is provided to councils on a confidential basis and some information is provided on a non-confidential basis. He did say that demonstrations are typically not confidential. That evidence, however, simply begs the question of what precisely is made publicly available by a demonstration of the accused product and, specifically to this case, what was made publicly available by the demonstration to the Council.

On the evidence, the questions of access and disclosure in relation to and resulting from the demonstration to the Council are unclear. Had I found the priority date of the claims to be the deferred date, I would not have been satisfied that the respondent had discharged its onus of establishing that the features of the invention as claimed were made publicly available by the demonstration on which it relies.

# Lack of innovative step

## Introduction

An invention will not be a patentable invention for the purposes of an innovation patent if the invention, so far as claimed in any claim, does not involve an innovative step: s 18(1A)(b)(ii) of the Act. An invention is to be taken to involve an innovative step when compared with the prior art base unless the invention would, to a person skilled in the art, in the light of the common general knowledge as it existed in the patent area before the priority date, only vary from certain forms of prior art information in ways that make no substantial contribution to the working of the invention: s 7(4).

Relevantly to the present case, the information by reference to which the variation is to be gauged is prior art information made publicly available in a single document: s 7(5)(a) of the Act. For this purpose, the respondent relied on the publication of Howard I (in respect of claim 5 of the patent) and Tetsuya (in respect of all claims but claim 2 of the patent). It also relied on US Patent Application No 2002/0190856 A1 (**Howard II**) published on 19 December 2002 (in respect of all claims of the patent) and UK Patent Application No 2 350 921 A (**Walker**) published on 13 December 2000 (in respect of all claims but claim 2 of the patent). The relevant determination is to be made by reference to each publication, considered separately: s 7(6) of the Act.

## Relevant principles

There was no dispute between the parties as to the relevant principles to be applied. The principles are discussed in *Dura-Post (Aust) Pty Ltd v Delnorth Pty Ltd* (2009) 177 FCR 239 at [49]-[79] and [91]-[98].

The essential task is to compare the invention as claimed with the relevant prior art information; to identify the difference or differences between that which is claimed in the patent and that which is disclosed in the relevant prior art information; and to determine whether the difference or differences make a substantial contribution to the working of the invention as claimed: *Dura-Post* at [73]-[74].

This determination is a factual inquiry and involves an assessment from the perspective of the notional person skilled in the art, having regard to the common general knowledge in the relevant art before the priority date: *Dura-Post* at [79]. In the present case, there was no extensive discussion in the evidence about the content of the common general knowledge as it existed in Australia before the priority date of the claims, although some evidence was led, principally through Dr Klein, in relation to sensor technology. There was, however, no discussion of methods, apparatuses or systems for parking overstay detection in Australia before the priority date, beyond what was described in the complete specification itself.

Although the common general knowledge has a role to play in the required assessment, it is not the role that is played when assessing obviousness in the context of an inquiry about the presence or absence of an inventive step: cf s 7(2) of the Act. In that context, the common general knowledge is the standard against which obviousness is gauged and thus whether the invention as claimed lacks an inventive step. However, the presence or absence of an inventive step has no role to play in the inquiry about the presence or absence of an innovative step. Thus, in the case of an innovation patent, it is of no significance that the feature or features that distinguish the invention as claimed over the prior art represents or represent an obvious deployment of the common general knowledge if that feature or those features nevertheless makes or make a substantial contribution to the working of the invention. As will become apparent, the submissions advanced by the respondent on this aspect of its case did not always observe this important distinction.

When s 7(4) talks about a substantial contribution, it is referring to one that is “real” or “of substance”, and nothing more: *Dura-Post* at [74].

## Howard I

The respondent’s challenge on this ground was limited to claim 5 of the patent and concentrated on the requirement in that claim that the apparatus be one in which the detector comprises a magnetic field sensor.

This challenge is flawed. It ignores the dependency of claim 5 on each of claims 2 and 4. The invention claimed in claim 5 differs from Howard I in that, in Howard I, there is no disclosure of:

* an apparatus or methods in which the steps of detecting the presence of a vehicle in a parking space; processing and storing data in relation to that presence; determining from the stored data whether the vehicle has overstayed a defined time duration in the parking space; and wirelessly transmitting data relating to that overstay, are carried out by a single battery-powered apparatus;
* a single battery-powered apparatus comprising, amongst other things, the features of the apparatus described above, which also comprises a radio receiver coupled to a processor for receiving wake-up signals (claim 2); or
* a single battery-powered apparatus comprising, amongst other things, the features of the apparatuses described above which also comprises a magnetic field sensor *and* is adapted for subterraneous operation below the pavement surface of the parking space (claim 5).

By ignoring this dependency, the respondent’s challenge proceeds on the incorrect basis that the apparatus claimed in claim 5 only differs from the prior art information made available in Howard I by the presence in the invention of a magnetic field sensor. This is plainly not the case. The apparatus claimed in claim 5 differs from the prior art information made available by Howard I in a variety of ways. Save for discussing the contribution of the magnetic field sensor, the respondent made no submission about the contribution to the working of the invention of the other features that distinguish the invention over the disclosures in Howard I. Indeed, implicit in the respondent’s limitation of its challenge to claim 5 is its acceptance that, if claims 1 to 4 of the patent are novel over Howard I, they are also supported by an innovative step.

It is for the respondent to make good the case that the invention, so far as claimed in any claim, only varies from the particular prior art information in ways that make no substantial contribution to the working of the invention: *Dura-Post* at [50]. The respondent has not discharged, and cannot discharge, that onus in relation to this prior art information. Therefore, the invention, as claimed, must be taken to involve an innovative step: s 7(4).

However, for the sake of completeness, I observe that, in his evidence in chief, Dr Klein addressed some of the ways in which the claimed invention differs from the prior art information and expressed an opinion on whether those differences make a substantial contribution to the working of the invention.

In relation to the invention claimed in claim 2, he said that the feature of “a radio receiver coupled to [the] processor for receiving wake-up signals” does not substantially contribute to the working of the invention as there claimed because, absent this feature, the apparatus would still operate effectively, although the batteries may need to be replaced more frequently. He also said:

The wake-up feature may be desirable, but not necessary for the apparatus to function effectively. Depending on the manner in which the apparatus’ functions are implemented through the choice of hardware and data processing algorithms, it may be possible to extend the life of the apparatus to a time comparable with that for an apparatus having the wake-up feature.

Dr Klein’s evidence in this regard was given with respect to the disclosures in Tetsuya. This evidence is, however, equally relevant to the present question. In my view, it establishes, rather than gainsays, the proposition that the radio receiver adapted to receive wake-up signals makes a substantial contribution to the invention claimed in claim 2 of the patent. The use of wake-up signals to initiate particular communication sessions as a way of prolonging battery life plainly makes a contribution to the working of the invention that is real and of substance. Moreover, in relation to the present inquiry, the question is not whether, absent the identified feature, the apparatus could still work effectively or whether, by other means, it could be adapted to work just as effectively. The question is whether, by this particular identified feature, a substantial contribution is made to the working of the invention as claimed. I am satisfied that this feature makes such a contribution.

So far as concerns the use of a magnetic field sensor, the evidence also supports the proposition that such use does contribute to the working of the invention as claimed, in ways that are real and of substance. In cross-examination, Mr Spirovski agreed that a magnetic sensor is a particularly attractive option for an apparatus that is adapted for subterraneous operation, because other sensors, such as infra-red sensors, will not work as effectively, in such an application. Dr Klein’s evidence was to similar effect. The respondent’s challenge therefore fails even on the limited basis on which it was advanced.

## Tetsuya

The respondent’s challenge on this ground was directed to all claims but claim 2, and had two aspects. The first aspect related to the fact that Tetsuya is directed to illegal parking in areas where parking is prohibited as opposed to vehicle overstay in time-limited parking areas. The second aspect related, once again, to magnetic field sensors.

As to the first aspect, I accept that the deployment of the invention as claimed to determining vehicle overstay in a parking space of defined time duration, rather than to identifying illegal parking in a prohibited parking area, makes no substantial contribution to the working of the invention, when regard is also had to the disclosure in Tetsuya of the example of a vehicle that has been stationary (and hence parked illegally) for 30 minutes before the fact of its illegal status is transmitted. Nevertheless, the respondent’s challenge, once again, did not address the other differences between the invention as claimed and the prior art information represented, in this instance, by Tetsuya.

In this connection, the apparatuses and methods claimed in the patent operate, unlike the device disclosed in Tetsuya, by a processor that processes data from the sensor, which it stores and then analyses to determine whether overstay has occurred in a parking space of defined time duration. There was no contest between Dr Klein and Mr Spirovski about how the invention described and claimed in the patent works. Both were in agreement that the processing and storage of data, and the subsequent determination from the stored data of whether there was overstay, involved time-stamping. I refer to the passages from Dr Klein’s evidence in chief which I have quoted above: see [195] to [197]. Mr Spirovski gave this evidence:

A defined time duration for a parking space may exist for only part of the day and may only apply to certain days and not others and may involve different parking restrictions at different times of the day. Accordingly, the processor in the apparatus will need to be programmed to take into account:

a. Knowledge of local time, day of week and time of day (real time clock);

b. Knowledge of operating hours and time limits (time of day and day of week) applicable to the particular parking space. Daylight saving and other statutory changes to timing further impact upon determination of overstay and add a further level of complexity.

I observe that these are noted at page 7, lines 1-18 of [the patent].

Dr Klein’s and Mr Spirovski’s evidence in this regard supports the finding, which I make, that the claimed methods and apparatuses in the patent differ from the prior art information disclosed in Tetsuya in ways that make a substantial contribution to the working of the invention. As I have noted above, the device disclosed in Tetsuya provides only for a simple count management means. It does not possess the claimed processor functions, and hence mode of operation, of the invention claimed in the patent. Dr Klein’s and Mr Spirovski’s evidence speaks of the flexibility in operation, and scope of operation, of the invention as claimed, which is absent from the device disclosed in Tetsuya.

Accordingly, the respondent has not established that the invention claimed in claims 1, 3 and 4 of the patent is not supported by an innovative step.

As I have noted, the second aspect of the respondent’s challenge (relating to claim 5) is based on the disclosure in Tetsuya of a magnetic field sensor. The respondent submitted that, if a magnetic field sensor were to be used in the vehicle detector disclosed in Tetsuya, that detector *could* be installed subterraneously. It then submitted that such a detector, *if* deployed subterraneously, would not operate differently from the apparatus claimed in claim 5 of the patent.

This reasoning confuses the magnetic field sensor (a component of the apparatus that is claimed) with the apparatus itself and, in so doing, ignores the question whether the adaptation of the claimed apparatus for subterraneous operation makes a substantial contribution to the working of that embodiment. In my view, it does. As the complete specification makes clear, subterraneous installation conceals the apparatus and makes it less susceptible to vandalism. On any view, this feature is a contribution to the working of the invention that is real and of substance. In any event, claim 5 is dependent on claims 2 and 4. The respondent does not contend that claim 2 is not supported by an innovative step. It has not established that claim 4 is not supported by an innovative step.

## Howard II

Howard II discloses a wireless vehicle detector and wireless vehicle detection system in which sensors measure the presence and location of a vehicle, as well as the speed of passing vehicles. The sensors may also be capable of identifying and classifying vehicles. There is, however, no disclosure of a method or apparatus for identifying vehicle overstay. More specifically, there is no disclosure in Howard II of any method or apparatus claimed in the patent. It is for this reason, no doubt, that, in the final analysis, the respondent did not rely on Howard II as an anticipatory publication.

The wireless vehicle detector disclosed in Howard II is one that includes a controller that undertakes a variety of functions. Those functions are control functions (such as switching the device on and off) and “overhead functions”. The latter functions are exemplified as input/output and communications control (that is, switching the transmitter on and off); data formatting (that is, putting the digitised signals into an appropriate form for transmission); power management; and timing and synchronisation (that is, ensuring that the various components of the device work together and at certain predetermined times). Those functions are, however, quite different to the processing and storing of data from which the processor then determines whether a vehicle has overstayed a defined time duration in a parking space.

The wireless vehicle detector disclosed in Howard II is, in a number of respects, similar to the wireless vehicle detector described in Howard I. However, the detector disclosed in Howard II is one that is adapted to perform tasks that are different to the tasks that the wireless vehicle detector in Howard I performs. More relevantly, and as I have already observed, the wireless vehicle detector disclosed in Howard II is not adapted to determine vehicle overstay.

The respondent sought to advance a series of propositions – based on Mr Spirovski’s acceptance of them in cross-examination – to contend that the wireless vehicle detector disclosed in Howard II *could* be programmed so that it *could* be used to identify whether a vehicle has overstayed a defined time duration in a parking space.

This argument highlights what, in my view, is an insurmountable obstacle to the respondent succeeding in its challenge based on Howard II. The invention as claimed relates to methods and apparatuses that are characterised by a specific function, namely to identify, in a particular way, the overstay of a vehicle in a parking space. The wireless vehicle detector disclosed in Howard II is not adapted to perform that function, let alone to perform that function in the way claimed. Its essential character would need to be changed so that it is transformed into a differently functioning device. It follows inexorably that the invention as claimed differs from the prior art information in Howard II in ways that make a substantial contribution to the working of the invention.

## Walker

Walker discloses means for monitoring the use of restricted parking areas, such as those provided for the exclusive use of disabled drivers, and for deterring the use of such areas by drivers who are not entitled to use them. The means includes a detector unit for detecting changes in a magnetic field in the region of the parking space to be monitored. The deterrent system is exemplified as an illuminated sign or notice that is triggered by a radio receiver, to warn a motorist that he or she is parked in a use-restricted space, or as a flashing light, an audible alarm (including a voice message) or a physical detaining barrier. There may also be a radio link to alert someone charged with the duty of monitoring the use of the parking space that a violation has occurred.

The exemplified detector unit includes a microcontroller with an integral program and memory, and a real-time clock that allows a separate but associated base unit to be effectively switched off during hours when the facilities provided by the detector unit are not required.

Walker discloses that modifications can be made to the system to render it capable of recording the time of arrival in, and the time of departure from, the car parking space by an unauthorised vehicle.

Walker also discloses that the detector unit can be located on or just beneath the surface of the ground within the parking space to be monitored. As illustrated in the accompanying Figures, the top surface of the detector unit, in this configuration, sits somewhat proud of the road surface, even though it is described as being “just flush with the surface of the ground”. The Figures illustrate precisely what is meant by that description. Walker also discloses that, instead of being “partially sunk into the ground”, the detector unit can be constructed as a flat plate for installation on the ground surface. This form of construction is said to provide a minimum of danger to pedestrians while at the same time being easier and therefore cheaper to install than one that is required to be partially buried in the ground.

The respondent’s challenge based on Walker proceeded in much the same way as its challenge based on Howard II. The gravamen of its challenge was that the detector unit in Walker could be modified to perform a task that it does not perform, namely to determine vehicle overstay. Moreover, the detector unit in Walker would need to be modified to determine vehicle overstay in the particular way claimed in the patent. Once again, it must follow that the invention as claimed differs from the prior art information in Walker in ways that necessarily make a substantial contribution to the working of the invention.

There was an additional aspect to this challenge. There was a dispute between the parties as to whether Walker discloses an apparatus adapted for subterraneous operation below the pavement surface of a parking space. In my view, Walker does not make that disclosure. The respondent submitted that, if no such disclosure is made, then the fact that the claimed apparatus is so adapted makes no substantial contribution to the way it works. For the reasons I have given when dealing with Tetsuya, I am satisfied that a substantial contribution is made by this adaptation. In any event, claim 5 is dependent on claims 2 and 4, each of which claims an apparatus with features that do make a substantial contribution to the way the invention works.

# conclusion

Based on my findings with respect to the respondent’s challenge to the validity of the claims, I make the following additional findings:

* Each of the claims is valid.
* Accordingly, the respondent has infringed each of the claims of the patent.

# Provisionally admitted evidence

The parties were content for me to make certain rulings on the evidence when delivering these reasons for judgment.

Some passages in Dr Klein’s affidavit were objected to on the ground of relevance and were admitted provisionally: paras 28 (various parts), 29 (and Annexure LAK-4), 33 (part), 34 to 38, and 40 to 42 as identified in Administrative Exhibit 2. In the main, these paragraphs deal with sensor technology generally and magnetometers in particular. The main thrust of the objection was that Dr Klein could not give evidence of the common general knowledge in Australia. Despite the objection that was taken, Dr Klein was cross-examined, albeit in somewhat general terms, about sensors, including by reference to a number of the passages to which objection had been taken. His affidavit evidence was also relevant to how, in general terms, sensors (and magnetometers in particular) work. This evidence assisted me in reaching an understanding of the technology described in the complete specification and in the prior art information. Part of the impugned evidence also assisted in establishing Dr Klein’s experience and expertise. I will admit these passages unconditionally.

Relatedly, the respondent submitted that I should find that “certain of the matters expressed” in Dr Klein’s textbook *Sensor Technologies and Data Requirements for ITS* “were part of the common general knowledge of the hypothetical addressee in the field”. The respondent pointed to the fact that the textbook was available in a number of libraries in Australia. The respondent’s submission did not identify “the certain matters” to which it referred, although, as I have indicated, Dr Klein’s own evidence addressed a number of matters relating to sensor technology. Annexure LAK-4 to his affidavit was a 71 page extract from the textbook: Chapter 5 *Traffic Flow Sensor Technologies*.

The evidence does not enable me to make any sure finding as to the state of the common general knowledge in Australia in that regard, and no specific finding was urged on me. Further, I am not persuaded that, despite its availability in a number of libraries in Australia, Dr Klein’s textbook itself constituted part of the common general knowledge in Australia before the priority date. Even if it had been established that all or some of the matters referred to in the extract from Dr Klein’s textbook were part of the relevant common general knowledge in Australia before the priority date, those matters would not have affected my analysis of whether the invention as claimed is supported by an innovative step, in light of the reasons I have given.

Exhibit G was objected to on the ground of relevance and admitted provisionally. It consists of the complete specifications of the innovation patents and standard patent application referred to in [58] above. The applicant sought to place reliance on these specifications because the descriptions in them of the invention subsequently claimed includes reference to “a smart middle tier” (which the applicant submitted was a reference to a TMT) that broadcasts “wake-up messages” to vehicle detection units that are within range. The respondent submitted that these specifications could only be relevant to the question of infringement provided that the accused product was shown to be an embodiment of the invention claimed or described in them. It submitted that that fact had not been established.

 I will admit Exhibit G unconditionally. I am satisfied that these specifications pass the test of relevance, in that Mr Toal himself advanced them as representing the technology used in the accused product. Having said that, I am unmoved by the fact that they refer to “wake-up messages”. As I have explained above, the expression “wake-up signals”, as used in claim 2 of the patent, has a contextual meaning derived from the functions and operations that are described and claimed in the complete specification, specifically in relation to a detection apparatus. No assistance on that question is provided by the specifications in Exhibit G simply because they use the expression “wake-up messages” in the context of broadcasts made by “a smart middle tier” (assuming it to be a TMT). As to my finding concerning the presence of the disputed feature of claim 2, I have only found it necessary to rely on the respondent’s own description of the operation of the accused product as expressed through Mr Toal, and not on anything stated in Exhibit G, whose contents were not an area of additional evidence or discussion.

I should record that, in written submissions, the parties treated Exhibit D as having been provisionally admitted. The exhibit consists of correspondence passing between the parties in relation to the informal production of documents. Exhibit D was not admitted provisionally. The applicant relied on this correspondence to advance a submission that the initial production of documents by the respondent did not contain certain information on which it later relied to challenge the existence of the disputed feature in claim 2 of the patent in the accused product. The information on which the respondent later relied concerned the content of the beacon request. As I understand it, the thrust of the applicant’s submission was not to complain about the fact that documents containing this information were not initially produced, but to argue that the information was not substantively relevant to the disputed question of infringement, and that the respondent’s initial non-production of documents containing that information signified its own acceptance or recognition of that fact. The question of the production of documents was not fully explored in the evidence. I would not draw the inference that the applicant asks me to draw simply from Exhibit D itself.

# Disposition

Within 14 days, the parties are to bring in draft orders that are appropriate to give effect to these reasons. I will allow the respondent a short period of time within which to consider the description of the accused product in these reasons so that, on advice, it may pursue any proper claim of confidentiality relating to that description.

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| I certify that the preceding two hundred and fifty-five (255) numbered paragraphs are a true copy of the Reasons for Judgment herein of the Honourable Justice Yates. |

Associate:

Dated: 3 May 2013