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HOUSE OF REPRESENTATIVES  
STANDING COMMITTEE ON  
TRANSPORT AND  
REGIONAL SERVICES

Australia Intelligent Transport Systems (ITS)

## NATIONAL TICKETING AND TOLLING

The National Ticketing and Tolling Working Group seeks to develop a nationally consistent standard for public transport ticketing smart cards in Australia. These cards could be issued by public transport operators, banks, Telstra, ...any one with an e-purse function on a smart card. They would be interoperable with all transport in Australia and would greatly enhance the tourism task

Due to our small population size, unlike the many other smartcard operations being deployed globally, local applications (if not interoperable or integrated) will be unable to enjoy economies of scale sufficient to ensure viable large scale smart card infrastructure deployment.

If separate back office reconciliation or clearance banks are created, they too will not be able to enjoy the necessary economies of scale and will have to charge higher transaction fees. This will hinder broader deployment into non PT applications and importantly will reduce the success of the product against existing payment mechanisms (i.e. credit card, EFTPOS) or emerging mechanisms such as mobile phone payment, where a low transaction processing fee is charged. The cost to merchants be they banks, stores, Australia Post etc who have to work in the network to refill e-purses or top up smart cards will be prohibitive if they have to replicate systems in each retail outlet. Australia Post now has some 9000 outlets and this is likely to expand. To upgrade or duplicate systems in this many outlet across the country would be prohibitive. If they were forced to change systems for each state, this would be an even greater issue.

Would Albury have one standard (rail gauge issue again) and Wodonga another. Tweed Heads / Coolangatta, Canberra / Queanbeyan, Renmark and many other school buses would have two lots of readers. Having different smart cards would be the equivalent of having different state currencies.

Interstate travellers will also be unable to use systems outside their local area. This may be considered a low priority to state operators, however when the statistics for passenger movements are considered in addition to the low returns currently enjoyed by airport-city rail operations, every possible mechanism to encourage PT use by interstate travellers should be used.

Recently, the move towards smart cards in the airline industry may have opened up possibilities of there being a travel chain between public transport and air travel.

Despite the influx of international travellers for these large scale events, the tourism industry is dominated by domestic tourists and in 1999, 78 percent of tourism consumption activity in Australia was Australians travelling in their own country and Australians spend almost 300 million nights away from home in 2000.

( ITS Australia study for the Department of Industry Science and Resources  
"Investigation into the Provision of On-Line Transport Information to Tourists.  
Sept. 2001 )

In 1997-1998 the Australian tourism industry employed six percent of the total Australian workforce, and generated more than \$600 billion dollars in economic activity annually (ABS2000) tourism generates 11.2 percent of total export earnings and 5.1 million tourists visited Australia in 2000/2001. For international travellers, the ability to include an e-purse application on a card acceptable across all systems will encourage substantial rider-ship in the high tourist areas. Interoperability at this time will also enable tourists travelling for example along the Eastern sea board to spend more money more readily on PT and entrance into low value tourism destinations.

When travelling in Europe, it is common to use a Eurail pass, with the developments of the National Ticketing and Tolling Working Group in Australia, tourists will be able to purchase similar tickets here.

Interoperability is critical for tolling also. It is essential if Australia is to have any sense of integrated solutions to its transport task. Interoperability essential for future freight operations and for addressing efficiency in e-toll booth operation and expanding this valuable payment mechanism into port clearance, ERP, and IAP style applications through an expansion of low cost roadside DSRC receivers. Vehicle manufacturers are keen to exploit integration of tolling technology within the vehicle. This could see an expansion of over 800,000 vehicles per year in the Australian road network with integrated tolling devices (OBUs). These are being deployed in Japan (Nissan and Toyota ) today. Manufacturers will not however work toward this end until interoperability issues are solved at the policy end. i.e. if we are unable to specify single standard for incorporation of tag at the vehicle manufacture stage. Integration will: reduce the cost of consumer acquisition of tags, reduce vehicle theft, reduce unregistered vehicle use, and enable future ERP style schemes to come into effect.

In 1996 when the National Reference Architecture investigation for ITS was launched and when the background issues of interoperability were discussed with the broad industry, government, academia and consumer organisations investigation found:

"Interoperability is one of the major keys to ensuring that ITS is taken up as widely as possible by the transport sector and its benefits passed onto their

customers. Interoperability is dependent on the establishment and adoption of common international standards for products and services. The ability of ITS to communicate and work with each other, transferring information and adding value to data supplied by other applications, termed 'interoperability', is one of the key aspects of a successful ITS framework. It is difficult to over-estimate the importance of efforts to achieve interoperability. Interoperability means applications can achieve more, have wider coverage, a larger potential market (domestic and overseas), more sophisticated ITS can be developed from more basic applications, systems can be integrated, costs can be lower, and the long-term benefits of ITS are increased, as systems can build on what went before, without technical discontinuity and incompatibility."

The alternative to cooperation to achieve interoperability is a proprietary approach to architecture and standards, where competition and differentiation of basic standards and protocols prevails. This approach carries enormous risks of fragmentation and long-term discontinuity, that will be costly to remedy. Australia's transport history of different rail gauges and road regulations demonstrate the costs of fragmented standards and regulatory frameworks. The National Strategy for ITS seeks to avoid these mistakes and promote wide cooperation to build an integrated, compatible national infrastructure of standards, harmonised with international standards.

Achievement of compatibility requires cooperation between government and industry and within governments and industry, to focus on the long-term purposes and benefits of a national ITS framework, and indeed a national transport system.

The NTTWG is moving toward ticketing interoperability and should be commended for its valuable work program. There is no Commonwealth representation on the NTTWG from a tourism nor DOTARS perspective.

#### TOLLING

Interoperability in electronic tolling will be achieved between the states by June 2003. we can then move forward to embedding the etag within the vehicle body management module and costs will fall as a result. The opportunity to do so and mandate inclusion through the ADRs is significant as Australia currently has the third highest vehicle theft rate (139,000 vehicles a year. This costs the community over \$1b per annum.) and something must be done beyond immobilisers to reduce this rate. Policy must be developed.

## EPIRBS FOR CARS

EPIRBs are completely self-contained radio transmitters designed for emergency use. When activated, they simultaneously transmit an internationally recognised distress signal on both 121.5 and 243 MHz.

EPIRBs permit approximate location identification by satellite (those fitted with GPS locate to within 150 metres immediately ) and then subsequent Sea Air Rescue can home in on the beacon to rescue personnel.

They are designed to be used when the safety of sailors, hikers, aircrew, skiers, outdoor staff or their craft or crew is endangered and there is no other means of communication.

EPIRBs are currently used throughout our fishing fleets on most vessels and in all lift rafts. Planes and defence aircrew use the smaller personal EPIRBs and carry these in their flight suits. This device is small (the size of a mobile phone) and can be placed in a pocket. 700 units of the Personal use EPIRB Pains-Wessex (RB3) were recently purchased by the ARMY, they are not however unfortunately they are not issued to sea going navy staff and thus 'men' overboard cannot be quickly located.

In addition to being used by vessels at sea, the small sized personal beacons are now even used by Government outdoor staff, MAUI-Brits Australia Campervans - 100 units (these are driven by tourists from Darwin into the red centre), and are now compulsory for use by all sailors in the Sydney to Hobart Yacht Race. They are also used by all state police and ambulance helicopter crews, Oil rigs staff etc...

They are now available for approximately \$200 retail. It is possible to also include these in cars at production for a very low cost of say \$50.

This would resolve the inequity of emergency response between planes, ships and land transport, improve incident response (say for example a petrol tanker roll over) and allow weight to be put behind the launch of the Australian National Strategic Policy for GNUS

<http://www.dotars.gov.au/agcc/policy.htm> which comments that "The Government values innovation and the application of new technologies for purposes such as enhancing transport efficiency, improving national accessibility of services, industry development, public safety, and other economic, environmental and social outcomes." and the need for "Developing an innovative, world-class industry that is internationally competitive in the development, provision and use of applications that utilise GNSS technology"

To date the smallest EPIRBS are built in Australia and Australia could lead the world in commercialisation and service provision of land transport EPIRBS.

## WHAT IS TRANSPORT and Why Talk about Information

Transport is not just about the movement of people and goods it is was ten years ago, it is now about the movement of people goods and information. Much of the fragmentation that occurs in the freight task today can be related to the blockages, duplication etc of the information flows. This was noted in the Milklink program [www.milklink.net](http://www.milklink.net)

"There is a lack of integrity and accurate information along the supply chain for perishable products, which has been scoped and confirmed in many supply chains.

The key issues are:

Lack of track and traceability throughout the supply chain Inadequate addressing of food safety issues such as temperature and contamination Lack of forward planning (strategic) as well as the planning knowledge of day to day operations for logistics and manufacturing Lack of timely data for planning.

Abundance of paper documentation, re-keying and transcribing of information at each juncture of the supply chain.

Milklink's purpose is to provide greater transparency and control in the supply chain by integrating Logistics and Quality within the supply chain through a seamless process management system which has advanced transactional capture, track & trace capabilities, interface options and web enablement.

This system can monitor all integral information (Consignment Note, Product Temperature, Food Safety/ Quality Plan, Proof of Delivery, Demand Planning, etc) for fresh food chain partners:

Farmer  
Processor  
Transport Provider  
Manufacturer  
Distributor  
Consumer"

A national transport plan needs to rise above the type of load carried and the type of mode it is carried upon. People are not really concerned with how they get there but rather that they can get there, in a safe, secure and timely fashion. It is the same with moving freight. We don't really care How it gets there, but that it does get there on time in good condition. We need to therefore plan the transport system in a modal agnostic fashion.

We need to ensure that people are moved from origin to destination seamlessly - mobility

We need to ensure that freight is moved from origin to destination seamlessly - integrated freight

We need to ensure that the data of the load is moved from origin to destination seamlessly - i.e. an Intelligent Transport System

From a road perspective we must do better. Traffic information, travel times, incidents and accident information is not currently distributed by the road authorities free of charge. Whilst the information is available on the internet and to some radio providers on an incident basis, none of us use the internet whilst driving or are lucky enough to tune in to the right channel when we need to which is when we are approaching a traffic jam. The potential revenue stream for selling traffic data is small and insignificant when compared to the benefit gained by running our road network more efficiently and integrating traffic information into our logistics routing software and providing it via "tourist radio" style transmitters and other mechanisms such as Radio Data System (RDS) (much like teletext for car radios with a voice over) which has been provided free of charge in Europe and the USA for many years.

A significant opportunity exists to integrate information as we do with NEVDIS (National Exchange of Vehicle and Driver Information System) between the states so that industry (radio stations, navigation suppliers, logistics vendors) which operates nationally can benefit and not have to sign up for contracts in each state and then build systems to integrate the different data sets and then value add the data and turn it into information. We now have an Australian Tourism Data Warehouse which is a joint initiative of the Government Tourism Organisations from all Australian States and Territories and the Australian Tourist Commission. These organizations are working together to increase the number and expenditure of visitors to Australia. The ATDW will position Australia as a major competitor in the rapidly evolving global eEconomy.

<http://www.seeaustralia.com>     <http://www.atdw.com.au/facts.asp>

What is the ATDW?

The Australian Tourism Data Warehouse (ATDW) is a central storage facility for tourism product and destination information from all Australian States and Territories. The information will be compiled in a nationally agreed format and electronically accessible by operators, wholesalers, retailers and distributors for inclusion in their web sites.

Why develop the ATDW?

The ATDW was developed following an identified need to market a comprehensive range of Australian tourism product and destination information without limitations of geographical boundaries. Currently, the States and Territories maintain their own, separate tourism information databases. All agree

the integration of their databases into an Australian warehouse will produce significant benefits for consumers in the global marketplace. The system will aid the conversion process, by turning looking into booking, and broaden the distribution of the economic benefits of tourism.

We now need to build an National Multimodal Transport Information System following on from the e-transport National 13 number trial to store traffic and travel times, public transport timetables, incident, road works etc etc ... Content.