

1 June 2005

Tas Luttrell  
Principal research Officer  
Committee Secretary  
Standing Committee on Transport and Regional Services  
Parliament House  
**CANBERRA ACT 2600**



Dear Tas

**RE: SUBMISSION – INQUIRY INTO THE INTEGRATION OF REGIONAL RAIL AND ROAD FREIGHT TRANSPORT AND THEIR INTERFACE WITH PORTS**

I have much pleasure in submitting a submission (attached) for consideration by the Standing Committee. In my earlier email communications with your team, I was advised that an extension of time could be granted for this response.

The submission specifically focuses on how government can assist ongoing development of the emerging intelligent transport systems technology, a burgeoning industry that has already delivered significant efficiencies and safety benefits to freight transport in Australia. Future applications are similarly exciting in their potential to reduce wasted time, increase productivity through better end-destination connections, and streamline processes such as load monitoring and inter-modal communications.

In short, the policies and measures required to assist in achieving greater efficiencies in our transport network encompass:

**Policy leadership** - provide national leadership initiatives, set clear priorities and support the take up of ITS. Provide seed funding for demonstration projects and studies. Develop a national Strategy for Intelligent Transport Systems.

**Legislative and regulatory framework** – enable new technology to be effectively used by regulating to enable electronic enforcement

**Facilitate partnerships** – at all levels of government, R&D centres and the private sector. Set up public-private partnership to share risks and returns.

**Interoperability and standards** – support national standards, competitive provision and access to technology

**Build capability** – raise awareness, access to technical advice, undertake R&D, promote training and development opportunities.

**Invest wisely** – target government investment to demonstration projects

**Target support** – ensure any subsidies and support programs are targeted at priority outcomes.

The issues raised in our submission echo those articulated in the Handbook on Intelligent Transport Systems, developed by ITS Australia, a partner with AEEMA in the telematics cluster project described herein.

AEEMA's submission clearly recognises that there is an opportunity for government to play a key role in further kick-starting this critical emerging industry that is developing around intelligent transport applications.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Angus M Robinson'. The signature is fluid and cursive, with a large initial 'A'.

Angus M Robinson  
**Chief Executive**  
encl

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## **INQUIRY INTO THE INTEGRATION OF REGIONAL RAIL AND ROAD FREIGHT TRANSPORT AND THEIR INTERFACE WITH PORTS**

### **SUBMISSION BY AEEMA**

The Australian Electrical and Electronic Manufacturers' Association Ltd (AEEMA) is the peak national, industry body in Australia representing some 400 infrastructure providers for Australia's ICT, electronics, and electrical manufacturing industries. AEEMA is organised in three principal divisions (electrical, electronics and 'ICT Australia<sup>®</sup>'); member companies, belong to some 17 industry forums and provides secretariat services for three other associations; the Armed Forces Communications and Electronics Association, IES The Lighting Society, and the Consumer Electronics Suppliers' Association. AEEMA also supports industry-led clusters linked to national strategic development.

AEEMA is leading a national strategic plan aimed at developing further world-competitive Australian capabilities in contract electronics manufacturing of complex products, integrated systems for home networking, telematics, medical electronics and devices, defence electronics systems, photonics and opto-electronics. The Association is closely linked with the principal R&D institutions throughout Australia that specialise in ICT technologies (for example, microelectronics and photonics) and nanotechnology.

AEEMA has its head office in the national capital, Canberra, and enjoys strong links with the Australian Government and regional government agencies. Its innovative Industry Cluster-Queensland is breaking new ground in collaborative activity for regional, technology-based small to medium-sized enterprises (SMEs).

Internationally, AEEMA is pro-active in developing strategic alliances, under framework agreements with overseas kindred associations, in order to build commercial partnerships for its members with the constituents of these industry associations.

<http://www.aeema.asn.au/ArticleDocuments/27/Strategic%20Alliances.pdf>

Further information: [www.aeema.asn.au](http://www.aeema.asn.au)

## **TERMS OF REFERENCE**

As indicated in our earlier communications with this Committee, AEEMA wishes to provide a brief response to one part of the Committee's Terms of Reference, namely "policies and measures required to assist in achieving greater efficiency in the Australian transport network, with particular reference to:  
...possible advantages from the use of intelligent tracking technology."

### **Intelligent Transport Systems**

AEEMA believes that one of its most recent project successes in the automotive sector – the National Telematics Industry Initiative - is apposite to the Committee's considerations of the advantages of intelligent tracking, in particular the efficiencies that can be delivered through effective deployment of intelligent transport systems (ITS).

Commerce and industry have become part of a global economy; to remain competitive transport networks must constantly increase efficiency, productivity, travel time reliability and connections to end-destinations. The Europeans, for example, are currently focussing on the following aspects of intelligent transport systems.

- Travel and Traffic Information – to reduce times for cars & public transport
- Network and Traffic Management – improved traffic forecasting and traffic information
- Public Transport – more efficient bus transport
- Automatic Debiting and Demand Management – via smartcards
- Advanced Driver Assistance Systems – increased safety and comfort
- Railway/Collective Transport – improved passenger security at stations
- Freight and Intermodal Transport – reduced costs and pollutant emissions
- Waterborne Transport – new maritime information systems
- Air Transport – reduced workloads for air traffic controllers and increased communication capacity.
- Global Navigation Satellite Systems

The focus on Intelligent Transport Systems, and in particular the rapid emergence of telematics, is also of primary interest in the United States, Japan, Korea, the United Kingdom and Sweden.

AEEMA is confident a niche market for intelligent transport systems and its associated technology area, telematics, can be established in Australia with appropriate industry and government collaboration.

### **The National Telematics Industry Initiative**

One of the most important outcomes from the Electronics Industry Action Agenda (being implemented by AEEMA) is the embryonic emergence of a new industry for Australia – automotive telematics. This is the application of computing, information management and communications technologies to the vehicles and networks that move goods and people around Australia.

Employing cluster, product realisation, and market development strategies defined by the action agenda process, this initiative has been seeded by the Victorian Government and supported by major project funding from AusIndustry. Industry support has also been exceptional, with the initial \$0.4 million grant by the Australian Government supplemented by up to \$0.8 million of in-kind contributions from the private sector.

The considerable industry momentum built up through this project is best exemplified by the priority demonstrator project, "AT Signature" (the car of the future), with its attraction of exceptional nationwide media coverage in the Melbourne Age, Sydney Morning Herald, Financial Review and The Australian. Refer <http://www.smh.com.au/articles/2005/04/17/1113676643649.html>. Significantly, the 'car of the future' was developed in the extraordinarily short period of 8 weeks and involved the collaboration of up to 20 organisations. The project cluster approach has linked Australian electronics industry SMEs with major companies such as Holden, 3M, Clipsal and Sensis across the transport industry vertical. This landmark project has the potential to spawn a new Australian content industry.

The initiative has rapidly evolved to the stage where demonstrable pilot projects with realisable commercial potential are now being offered into key overseas market segments identified by Action Agenda planning.

Plans for Phase 2 of the project, led by AEEMA in liaison with ITS Australia and the Federation of Automotive Products Manufacturers (FAPM) incorporates the review of industry demonstrator projects submitted under the umbrella of the initiative as well as the determination of the optimum model for the engagement of Australian SMEs with major international corporations in the automotive telematics area. Five world-class transport telematics proposals have now been identified by an Industry Review Panel, from which the best three will be submitted for Australian Government support through its competitive grant programs. Significantly, there has emerged, through this process, intelligent transport systems/telematics opportunities for the defence sector.

The opportunity now exists for a major automotive telematics initiative to be incorporated within the Australia Taiwan Electronics and ICT Strategic Framework Agreement, the carriage of which is being negotiated and implemented by AEEMA. It is worth noting that Taiwanese industry has been very impressed with the short time frame of eight weeks that it took for the Australian project team to integrate existing technologies into a working prototype for the AT Signature project.

The multi-dimensional approach taken by the project team to this initiative is commended to the Australian Government as an ideal template for the development of new knowledge-based industries in Australia. It is strongly suggested that any one of these approaches, in isolation, would not create a new Australian industry and address the fragmentation issue, a common theme across most Action Agendas.

Rather, there is a mutually-reinforcing linkage between each of these elements. Therefore, whilst this project had separate Key Performance Indicators (KPI's) for each activity, the following holistic industry development 'package', as demonstrated in this initiative, is recommended for the pursuit of new industries in Australia, described broadly as follows:

<i>Activity</i>	<i>National Benefits</i>
Technology Roadmap	Sets direction and overall framework for industry and serves to bring parties together to work towards a common goal, albeit from different directions in accordance with discrete sub-sector of activity
Industry-led Cluster	Addresses fragmentation, assists ICT convergence – spin-off, and spin-on benefits – provides national forum of discussion on impediments to industry growth & opportunities - domestic and international knowledge transfer, critical to the development of a cohesive new industry.
National Capability Mapping	Cannot develop strategy or market capabilities in any industry without a complete map of those capabilities. It is particularly pertinent in a multi-sectoral new industry like telematics. Capability maps are also important from the perspective of investment attraction, collaborative project development and export enhancement
Industry Demonstrator Projects	It is considered that this component is essential for the sustainability of industry-led clusters and as an exemplar of industry capability. Such projects are also an excellent means of technology diffusion and gaining broader industry commitment. In this project, they have proven to be the 'hook' which ensures industry engagement
International Benchmarking	Linked integrally to the technology roadmap and the determination of which 'niche markets' Australia should pursue. It is also a mechanism which identifies potential offshore alliance partners for Australian SMEs
Investment Attraction	The above activities provide a marketing 'package'

	for interested offshore investors (via Invest Australia), convincing them that the Australian industry is a serious global player. It also points to specific areas of organizational and collaborative capability for joint venture activities, licensing arrangements etc.
Export Enhancement	The above process serves to identify new exporters and support the activities of existing exporters. In particular, clusters which encourage the industry development/export connection and project-oriented activity create the environment and spawn export action.

### The Government's Role

The opportunity exists for Government to support this innovative model, as described above, within the broad strategic policy framework of 'Backing Australia's Ability 2' during the period 2005 to 2011, and to develop further public funding programs which can enable higher levels of public investment in worthy industry-led projects.

In particular, the following prerequisites must be met:

- ❑ Australian government funding should be provided to maintain the momentum established by AEEMA's telematics project for a further two years, including cluster development, export activity and encouraging inwards investment;
- ❑ the industry must receive an assurance that government will continue to be a partner in the development of the underlying infrastructure;
- ❑ attention must be given by the relevant authorities to **removing any impediments in the regulatory environment**, to ensure the growth of this new industry;
- ❑ due **political recognition should be given by Australian and State Governments to the rapid emergence of the transport telematics sector globally** and the specific opportunities for Australian industry;
- ❑ multi-disciplinary cluster and 'supercluster' activity continues should be fostered to optimise the effective convergence between discrete contributing sectors, such as satellite, wireless, electronics and the automotive/transport industry;

- ❑ Invest Australia should reinstate an industry expert in this country, specialising in telematics/ITS.

### **The Benefits of Intelligent Transport Technologies**

Some of the advantages of the new intelligent transport systems include:

- ❑ train and bus managers can optimise fleet operations and offer real time running information
- ❑ commercial and freight vehicles can deliver goods on time and at lower costs
- ❑ safety and economic performance are improved through cost efficiencies while the impact of transport on the environment is reduced.

ITS offers the next major leap forward in transport in improving safety, convenience and productivity in commercial and personal travel. This emerging industry has already delivered practical benefits to transport, such as traffic control systems. Other developments, like the new crash avoidance systems are still in the pipeline, but it is timely for Governments **now** to support the growth of this new sector with appropriate policies and programs.

This is especially the case when one considers the international aspect of telematics industries and the crucial role they can play in improving the competitiveness of Australia's transport and freight systems on the global economic scene. In order to measure the impact of, and constraints in, the telematics sector, an International Benchmarking task was undertaken over a relatively short period of time by AEEMA's cluster project leader and the Executive Director of Intelligent Transport Systems Inc. Australia. This activity encompassed only a 'snap-shot' of the global industry, due to the resource and time constraints for this specific task, within the context of the overall telematics initiative. Industry review of this document has been positive.

The Benchmarking Report demonstrated the need to be aware of, and closely connected to global trends and opportunities in this rapidly evolving area, to prevent Australia being 'marginalised' from the 'main game'. In this respect, Australia's approach (ie by governments, industry and academic/research institutions) over the next 2-5 years will

be critical to the nation's emergence as an internationally credible telematics/ITS economy.

From the experience gained through this international benchmarking task, the following is recommended:

- There is an immediate need to disseminate positive information regarding Australia's transport telematics capabilities offshore, to address the 'image' issue
- The focus in Australia should be on strengthening the telematics value chain and ensuring a market-driven approach with an emphasis on delivering solutions
- Australia should be positioned as an international test-bed for the development of new solutions for offshore transport and automotive manufacturers and their suppliers (similar to Sweden's Telematics Valley test-bed environment)
- The country should market its skills in (i) rapid prototyping, flexible software engineering, localisation; and, (ii) taking Asian technology to the global market. This is enhanced by Australia's existing exposure to European (GMS) and North American (CDMA) communications systems
- In marketing Australia's telematics industry capabilities, an "Australia Inc" approach should be adopted, and be complementary to any State-based investment attraction strategies in this area
- The connection between the Australian telecommunications, electronics, and the automotive/transport telematics industry, through the cluster process and other mechanisms, should be strengthened
- The concept of a global expert team in 'transport telematics' should be pursued with Austrade and Invest Australia, similar to the former automotive experts program.
- The Australian Government should consider its role in working with industry to create the 'ultimate solution', through a cooperative system that allows industry access to necessary infrastructure and government-collected traffic data



- Recognition should be given by the Australian Government to the launch of Toyota's "E-Book" and its importance as defining a watershed for the Australian Transport Telematics Industry (ie the first launch globally outside of Japan).
- There is a need to develop the collaborative framework, standards and interoperability elements that underpin the development of a telematics industry
- It is important to link telematics industry development with investment attraction and export strategies
- Recognition should be given to Korea's strategic planning framework, with its strong focus on telematics, accompanied by significant political, resource and organizational commitment
- Recognition should be given to the importance of industry associations and the industry-government partnership in the development of the telematics sector.

### **Case Studies**

Given the Committee's specific focus on the national freight system and efficiencies therein, AEEMA considers it relevant to provide practical examples indicating how intelligent transport technology can assist specific transport challenges. The examples below include activities currently underway as well as emerging developments and projects, some of which are subject to commercial confidentiality.

**Issue:** Making freight transport more productive and safe

**How ITS helps:** Monitoring freight vehicles using GPS, vehicle tracking, freight tracking

**Government's role:** Provide leadership in setting policy parameters to ensure facilitating freight transport is a key priority

Facilitate optimal investment and management of rail, road sea and air modes and their interface

Enable legislative/regulation framework needed (such as regulations for electronic compliance – mass limits, driving hours, specified routes)

Design standards

Provide resources and funding for ITS infrastructure

**Examples:**

SAFE-T-CAM

Sm@rtTrans

Port Weighing (Brisbane, Fremantle. Alerts drivers to overload/uneven distribution of freight)

Intelligent Access project

Weigh-in-Motion and automatic pass systems – allowing monitoring of hazardous materials movement

Intermodal freight with improved communications systems (covering customs, tax, goods data) thus facilitating more efficient and timely cross-border transfers

Truck platooning capabilities for commercial freight allowing many full-size trucks to follow one another at close headway using an electronic towbar.

Please note: further examples of emerging telematics applications are attached as Appendix A. Because these activities are still in negotiation between the various parties, the contents of Appendix A are Commercial In Confidence.