

15 April 2008

Committee Secretary
Senate Economics Committee
Department of the Senate
PO Box 6100
Parliament House
Canberra ACT 2600 Australia

Senate Standing Committee on Economics
Inquiry into The Current State of Australia's Space Science & Industry Sector

To Committee Secretary,

As a brief introduction, GPSat Systems is a Melbourne based company solely focused on Satellite Navigation as technology assisting the broader introduction to Australian and regional markets. Our business mix is a combination of industry premium GNSS product sales, professional engineering consultancy and unique product development for all levels of government and local corporations.

GPSat Systems has a close ongoing association with the Airservices's Groundbased Regional Augmentation System (GRAS) project, as we continue to be keen supporters of this innovative Australian initiative reforming global air navigation away from outdated WWII era VHF radio navigation aids. GRAS is the largest Australian satellite navigation project yet to be undertaken and our involvement spans both the original Engineering Test Bed and the present Certification Phases. For over a decade, GPSat has invested, provided technical support, lobbied and serviced the project at various levels to develop and demonstrate Australian technical expertise and capabilities.

In short, it is hoped that future Australian industry will be direct beneficiaries of the GRAS project at many levels. From improved air safety and optimised navigation in the airspace, to the generation jobs and commercial returns for Australian business as the technology is exported to global markets. We encourage the Senate through this inquiry to both endorse and support this important Australian initiative by Airservices.

However, it is also appropriate to draw the committee's attention to a number of serious deficiencies in government sector's approach to supporting Australia's future development of a sustainable and vibrant satellite navigation industry.

Past Government DOTARS Policy:

On the 28th August 2002, Hon John Anderson Minister for Transport and Regional Services gave a speech (ref AS25/2002) to the house Representatives stressing the importance of satellite based navigation technology for underpinning Australia's future economic development and commending Professor Don Sinnott, the chairman of the Australian GNSS Co-ordinating Committee's for the DOTAR's policy "Positioning for the Future".

The speech was accurate in stating the significance of this new technology's present and future roles in Australia's economic development, BUT, in-accurate in stating Australian's collective contribution. At a government level, the "Positioning for the Future" policy was essentially ignored and the GNSS Co-ordinating Committee was quickly disbanded. Subsequently, there has been no significant outcome stemming from this policy to date.

ADF Defence Sector:

Satellite navigation which underpins all of Australia's national defence assets, from the Airforce F18 fighters etc., Naval shipping, Army land warfare vehicles and even the soldier's personal navigation is ALL based on imported product. There is no initiative or any desire on behalf of either DSTO or DMO to support and/or encourage Australian industry solutions.

Even DSTO's navigation warfare simulation facility (Salisbury SA) within the Electronics and Surveillance Research Laboratory is in disrepair. This is supposed to be the DoD's premium laboratory for performing vendor navigation equipment, platform integration and vulnerability testing. It's understood that this work is now nearly all done offshore. This is a major concern.

Science Sector (GeoScience, CSIRO, NMI):

On 27th November 2006 the Minister for Education, Science and Training, the Hon Julie Bishop MP, launched NCRIS funding for part research into "Structure and Evolution of the Australian Continent", also known as "AuScope". It is understood that today this important initiative is close to collapse due to the inability of the participants (academia, state and federal organisations) to agree on project funding and technical direction.

Even with GPS timing underpinning Australia's modern telecommunication and banking infrastructure, the Australian Government's own National Measurement Institute (NMI) lacks sufficient funding to acquire appropriate navigation test and measurement equipment to adequately perform their calibration and test functions.

Aviation Sector (AsA, CASA, ATSB):

Over the past several years, AirServices has commendably invested in two significant satellite based navigation initiatives to modernise Australian airspace, these being, the Groundbased Regional Augmentation System (GRAS) for future continental replacement of aging VHF radio navigation aids, and, Automatic Dependence Surveillance-Broadcast (ADS-B) for aircraft position reporting via radio to reduce the dependence on expensive and less accurate ATC radar installations. As with defence, these technical solutions are fully imported with no significant desire to foster future Australian industry development.

Today, it is understood that both these important initiatives are under pressure from within the local Aviation industry due to fear of change and in-trenched vested interests. Furthermore, collectively ASA, CASA, and ATSB-Aviation lack either the funds and/or desire to establish a comprehensive national test facility to cover all aviation industry aspects governing the future introduction of satellite navigation to Australian airspace. This is again a major concern.

Education Sector (Tertiary):

Fortunately, several of Australia's leading tertiary institutions are now offering courses in space sciences and machine automation incorporating satellite navigation. However, with one exception (UNSW Geomatics), these courses are generally focused on navigation application topics utilising imported navigation receiver and sensor products, rather than, the actual science/technology behind these products. Again, this is due to the lack of commitment and adequate investment in the high technology research tools required to perform this work.

Industry Sector:

As a general statement, the progressive up take of satellite navigation technology by broader Australian industry could at best be described as “patchy” without any clear direction, strategy or significant investment. The broader industry philosophy has been to use imported navigation technologies for “operational problem solving” and only then leveraging commercial value from others within that industry. In the relatively small Australian market, commercial returns are often difficult to realise and the ongoing R&D is always under financial pressure.

Summary:

It is a fallacy to believe that Australia today is a significant contributor to the global development of satellite navigation systems. Due to GPSat System’s ongoing international alliances, we are very aware of the heavy investments other countries are making into this technology with regards to training, technical research equipment and financial investment. Quite frankly, Australian sciences and investment into satellite navigation technology has fallen way below acceptable international levels and would be only be on par with that of a developing country.

Hon John Anderson in his speech 2002 had it right with regards to stating the significance of Satellite Navigation to the Australian nation, but then DOTARs totally “dropped the ball” with regards to following through and implementing it’s policy “Positioning for the Future”. A total waste of time and money, as Australia has simply become net importers of the technology and totally reliant on others.

It is hoped this Senate inquiry will recommend the resurrection of the DOTAR’s policy in some form and then some initiatives to nurture genuine future Australian GNSS industry growth.

Yours faithfully,

GPSat Systems Australia Pty Ltd.



Graeme Hooper
Managing Director