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**Empowering Analytical Potential**

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**Committee Secretary  
Standing Committee on Industry, Innovation, Science and Resources  
PO Box 6021  
Parliament House  
Canberra ACT 2600**

**17 January 2017**

**Inquiry into the Social Issues Relating to Land-Based Driverless Vehicles in Australia  
requested by the Minister for Infrastructure and Transport, The Hon Darren Chester MP**

**REAPP Technology Pty. Ltd** is a fully Australian owned and operated company, established in 2007, specializing in inviolate hardware platform agnostic, operating system agnostic, fully scalable, embedded, sophisticated, cyber security and data analytical systems

– see further detail about REAPP Technology at attachment “A”.

**REAPP Technology makes the following submission to the above Inquiry:**

**Critical** to the assessment of any social issues relevant to land-based driverless vehicles

- whether the vehicles be private cars or trucks, or public taxis, buses or trains
- whether the vehicles are directly controlled, remotely controlled or fully autonomous
- including the assessment of each of the following social issues highlighted in the Inquiry Terms of Reference:
  - general social acceptance levels
  - passenger and non-passenger safety
  - legal responsibility and insurance
  - potential impacts on employment and different industry sectors (such as the taxi industry)
  - access and equity issues (such as increasing individual mobility for the elderly and people with disabilities)
  - potential public transport applications

is the extent to which the relevant driverless technology can electronically support:

1. real time, reliable, immediate, accurate, fine, detection of:
  - (a) moving other vehicles, motorbikes, bicycles and pedestrians;
  - (b) on road stationary other vehicles, motorbikes, bicycles, pedestrians and other objects;

- (c) traffic lights and traffic signs;
  - (d) road intersections, cambers, curves, hills and hill descents;
  - (e) lane markings, speed bumps, roundabouts, road drains and road surface conditions;
  - (f) rain, snow, other weather precipitation, and wind;
  - (g) off-road trees, pedestrians and other objects;
2. real time, reliable, immediate, accurate, fine, physical movement control of the subject vehicle and its physical controls in response to such detection;
  3. protection against, and minimisation in vehicle down time in respect of, vehicle physical or electronic break down – in turn, due to defects in vehicle manufacture, vehicle accidents, and vehicle fair wear and tear;
  4. protection against, and minimisation in vehicle down time in respect of, remote cyberattacks.

REAPP Technology, with its inviolate, hardware platform agnostic, operating system agnostic, fully scalable, embedded, real time, sophisticated, cyber security and data analytical systems, is *uniquely* able to provide the above desired electronic support for:

- real time, reliable, immediate, accurate, fine, detection capability;
- real time, reliable, immediate, accurate, fine, physical response capability;
- protection against, and minimisation in vehicle down time in respect of, vehicle physical or electronic break down;
- protection against, and minimisation in vehicle down time in respect of, remote cyberattacks.

REAPP Technology is available to confidentially discuss the above with the Standing Committee on Industry, Innovation, Science and Resources, and with relevant government departments, on request.

Yours Sincerely

**Dr Michael Kefaukos**

**John Piperides**

**Principals of REAPP Technology Pty Ltd**

“A”

## REAPP Technology

Since the inception of REAPP Technology in 2007, as a fully Australian owned and operated company, REAPP’s developmental effort has been directed towards establishing an inviolate, secure, electronic environment, which REAPP likens to the creation of a virtual fortress.

From the outset, REAPP Technology recognised that such an inviolate, secure, electronic, environment would be needed to create a virtually impenetrable electronic defence to cyber- attacks of any nature.

Historically, the REAPP-enabled virtual fortress has been described in a report by Dr Georgios Portokalidis, PhD in Computer Science, Vrije University Amsterdam, as follows:



Figure 1: Excerpt from Dr. G. Portokalidis report

*“...REAPP’s companion chip can be considered (at least for all practical purposes) impervious to attacks.”*

*“If REAPP succeeds, PC security would significantly improve compared with the current state of the art. Moreover, as [anti-virus (AV)] systems seem to be the most related technology to REAPP, its success would have a great impact on the AV market, and could potentially completely supersede it. Other products belonging to the same family, such as PC firewalls and anti-spyware, would also probably be replaced by REAPP. Enterprise AV solutions, such as the ones being run on the e-mail gateways of many organizations, would also lose value if REAPP is realized.”*

In its internal development strategy, REAPP Technology has focused entirely on achieving a, next generation, wide platform, electronic virtual fortress. The company had never sought to develop product using pre-existing anti-virus software technology, although REAPP Technology can work seamlessly with such pre-existing technology. Innovation, to achieve a hardware platform agnostic, operating system agnostic, and fully scalable, inviolate system in the electronic domain, was and remains the driving force of REAPP Technology.

REAPP Technology’s first dedicated application for physical product was for Android platform phones. The choice was made to utilise the Android platform over Apple iOS, because Android provided robust access to relevant system data from the hardware platform, in turn to enable a seamless integration of the REAPP security system at a primary level. REAPP Technology designated this capability as Ground Zero embedment.

REAPP Technology has since evolved to become an, all embracing, inviolate, sophisticated, cyber security and data management system, able to be embedded, and work seamlessly, on any current platform, with any current operating system, and to any level of scalability.