

TO: The Senate Standing Committee on Rural and Regional Affairs and Transport

RE: An inquiry into Australia's rail industry (2017)

Dear Senators:

Thank you for giving Siemens the opportunity to participate in the inquiry into Australia's rail industry.

Let me divide my comment in three parts: An overview about Siemens Australia in general, a more detailed view on our rail portfolio and footprint, and lastly a couple of thoughts and ideas about what would be required to further grow our industry.

## **I Siemens Australia**

Just a couple of weeks ago Siemens Ltd. had its 145<sup>th</sup> birthday in Australia. We are a proud Australian company with a long history currently employing more than 2,200 people across 16 locations in Australia and New Zealand. Our businesses supply approx. 2 billion dollars' worth of technology to the local markets. Our local financial commitments through equity and debt participation in local public infrastructure is approximately 1 billion dollars.

Siemens is a good example of an Australian company that is part of a multinational group providing access for Australian employees and customers to global best-practice rail technology. We are very proud not only to strengthen the Australian economy with our investments and solutions, but also by developing local jobs and skills.

We enable approx. 29,000 other jobs in Australia, contribute approx. 3.8 billion dollars to the GDP, we employ more than 700 engineers and hired 128 graduates between 2013 and 2016. We are also leading the first Industry 4.0 apprenticeship with AiGroup and Swinburne University. Last year we invested 5.5 million dollars in internal learning programs.

More recently, last month Siemens announced the largest ever software grant in Australia of \$135 million Dollars to Swinburne University of technology. This Siemens software will help prepare Australia's next generation to have the right tools and skills to participate in global value chains.

## **II Rail**

The rail industry as a key enabler of growth and sustainability is of high importance for Siemens. We believe that an effective public transport and freight system is key to prosperity and liveability.

Let me give you a quick overview of our local capabilities here in Australia. The Mobility Division of Siemens, which covers all products, services and solutions for both the rail and the road industry, currently employs 500 people and covers the full value chain. We have local research & development, local engineering, local manufacturing, local testing & commissioning and local service capabilities. We cover all major domains of railways: Signalling, Rail Electrification, Rolling Stock and Control Systems. Our major locations, which include local manufacturing and R&D, are based in Melbourne, Brisbane, Sydney and Perth, while we have additional project and service facilities in Adelaide and Mackay QLD.

Specifically, our local signalling competencies are quite unique. Siemens is not only a long-term key supplier of almost all railroads and rail operators, but we also delivered the first two commercial European Train Control System (abbreviated as ETCS) projects in the southern hemisphere: First in Auckland, then in Adelaide. KiwiRail and the South Australian Department of Transport have chosen this ETCS system as it is the **global standard** for the signalling and safety protection of mainline high density networks. New South Wales is also following that lead and is adopting ETCS.

ETCS is used in almost all European countries and is also in operation or under deployment in the Middle East, in South Africa, Mexico, India, Algeria, Chile, Egypt and as a derivative is also used in China. More than 12,000 trains are now equipped. As a standardised system, ETCS ensures interoperability, both between rail networks and between different vendors, and it ensures an ongoing competitive supply market.

This forward-looking decision of these two governments has enabled Siemens to grow and develop local competence. We can now not only offer new and state-of-the-art solutions to our existing local customers, but we are also able to **export** these and other technologies to other countries. Currently we are for example delivering an ETCS solution from Australia into Thailand and we are deploying Train Control and SCADA systems into Hong Kong.

By using and leveraging global standards here in Australia we are able to participate in the global value chain. We are pleased to see more and more other rail operators and jurisdictions using existing global standards instead of developing bespoke systems for a limited number of applications.

There is also another opportunity for the Australian rail industry to participate in the global value generation for new technologies by locally developing and setting a **global** standard or developing a **global** solution. For example Siemens has just recently acquired Perth-based

MRX Technologies, which is a high-tech company active in the area of visual inspection and condition monitoring for both rail vehicles and rail infrastructure.

This highly innovative team of scientists and engineers with 100 employees in Perth and 40 employees in the UK has developed technology in Australia for export to the world to predict the right moment when maintenance or repair is truly required. With that, unplanned disturbances to the railways can be minimised and operators and their customers can benefit from high availability and predictable schedules.

### III Thoughts and Ideas

What do we need to enable us and other technology suppliers to further develop value-for-money solutions for our customers here in Australia?

Beside the above mentioned leverage of existing global technologies and developing new global technologies, we see some other important points.

From a railway's perspective, Australia is more a continent than a country. We have different jurisdictions, different rules, different track gauges and rail electrification systems. This is quite a challenge for the rail industry as we have limited scale and very specific requirements to fulfil.

In order to better leverage our local workforces and our local expertise we would benefit from more flexibility and more consistency in a couple of areas:

1) **Barriers to growth and productivity: Increased mutual recognition of type approvals and licences.**

Barriers to growth and productivity would be reduced if a product or a solution which already has a type approval from another Australian or NZ operator or a major overseas railway like Network Rail, Deutsche Bahn, or the US class 1 railroads is recognised here.

National type approval and mutual recognition would achieve significant time and cost savings by avoiding duplication of the same or similar tests.

2) **The rail industry as a skills and technology incubator: Focus on functional requirements in tenders.**

Skills and technology development is stimulated by allowing suppliers to come up with new, more cost effective and more innovative solutions rather than responding to requests for specified solutions and specified technologies.

In our view, rail procurement projects, apart from **specifying the core global standards** to be followed, requests for tender should limit themselves to specifying **functional requirements**, and not detail specific solutions and specific technology.

3) **Nationally coordinated approach to competency requirements.**

Productivity can be improved by allowing mutual recognition of State based competency requirements for working in the rail industry.

For example, a senior signalling expert, who has worked 25 years in the rail networks of NSW, is not able to work as a senior design engineer in other rail networks such as Queensland or Victoria which have specific and restrictive requirements for detailed experience on their networks.

In our view this is an unnecessary barrier to growth and productivity given that key technical signalling principles are much the same despite different operator processes.

We believe that the approach of Transport for NSW is a good approach: Transport for NSW requires a supplier to prove that they have a holistic and sustainable competency management system in place, which anyhow is required for example under CENELEC safety standards. This system can be regularly audited in order to ensure usage and implementation of latest developments in the industry.

4) **The potential costs of further decline of rail manufacturing: Consider long term frame agreements and business relationships.**

The specific requirements for sustainability of the Australian rail industry need to be considered when entering into contractual relationships.

As well as the basic and not-negotiable high safety requirements in delivery, operations and maintenance we have a very long life-cycle to manage.

For example a radio and data communication system for the railways or a signalling system both have lifecycle requirements of 10-30 years. This is a particular challenge in the area of electronic parts and software. Our sub-suppliers of (e.g.) computer equipment, electronic cards or software platforms have significant shorter life-cycles.

It is our local knowledge and understanding which enables us to migrate our solutions over many years and manage the obsolescence of our parts. In order to be

able to service and enhance our originally offered and deployed solution we need to continuously educate and train our local staff.

This is only possible if we have continuous business with our customers. We therefore propose a long term view on original delivery contracts, on service, maintenance and enhancement contracts. Concerns regarding competition can be managed by ensuring that more Australian rail suppliers remain in business through long term commitments and by using contractual mechanisms such as benchmarking, open-book contracts and availability and productivity key performance indicators.

To conclude: the Rail Industry is a key driver for national employment and for innovation, which allows Australia to further grow its population, its economy and the wealth of its companies and citizens. We welcome this inquiry into Australia's rail industry to ensure the right decisions are made for the future.

We need to improve the technical education in schools and universities, diminish local barriers, leverage global standards and take a long term view for rail procurement in order to grow our local industry and allow it to participate in local and global value chains.

Kind regards

Siemens Ltd.

Dr. Maximilian (Max) Eichhorn  
Executive General Manager  
Mobility Division