Federation of Automotive Products Manufacturers

Productivity Commission Inquiry:

Review of the Australian Automotive Manufacturing Industry 2013

November 2013

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Dear Commissioners

Federation of Automotive Products Manufacturers (FAPM) Submission to the Productivity Commission's Inquiry into the Australian Automotive Manufacturing Industry

The Federation of Automotive Products Manufacturers is the association for manufacturers engaged in the production of a comprehensive range of automotive products. It was formed in 1958 and currently consists of some 80 member companies.

The objectives of the FAPM include promoting the interests and welfare of the automotive components industry, to encourage and support government policies which support the operation of a large and diverse industry and to advance the development in Australia of an increasingly efficient and internationally competitive motor vehicle industry.

The FAPM welcomes the Productivity Commission's Inquiry into the Australian Automotive Manufacturing Industry and the opportunity to respond to the Commission's Terms of Reference.

The FAPM believes that the onus for driving growth and sustainability rests with the industry, but believe that government has a key role in providing a policy environment that does not disadvantage the Australian industry against global competitors.

The FAPM has partnered with Deloitte and Deloitte Access Economics in responding to the inquiry. In preparing our submission, the FAPM has both surveyed its members and encouraged them to submit their own submissions.

The FAPM submission endeavours to address the Commission's Terms of Reference as best as possible while offering a number of measured recommendations. Should the Commission require any further information, clarity or detail, the FAPM is available as required.

The FAPM submission advocates for stable policy framework that ensures a viable and sustainable industry future.

With Regards

Richard Reilly
Chief Executive

Jim Griffin
National President

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ABBREVIATIONS

AA2020	Automotive Australia 2020
ABS	Australian Bureau of Statistics
ACE	Automotive Centre of Excellence
ACP	Automotive Component Producer
AISAP	Automotive Industry Structural Adjustment Program
AMTP	Automotive Machine Tool and Automotive Tooling Producer
ANCAP	Australasian New Car Assessment Program
ANMP	Automotive New Market Program
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASA	Auto Skills Australia
ASCDP	Automotive Supply Chain Development Program
ASEA	Automotive Supplier Excellence Australia
ASP	Automotive Service Providers
ATS	Automotive Transformation Scheme
AutoCRC	CRC for Advanced Automotive Technology
BOI	Board of Investment
CCIIP	China Council for International Investment Promotion
CEO	Chief Executive Officer
CNG	Compressed Natural Gas
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAE	Deloitte Access Economics
DSI	Drivetrain Systems International
e-Scan	Automotive Environmental Scan
EBA	Enterprise Bargaining Agreement
EU	European Union
EV	Electric Vehicle
FAPM	Federation of Automotive Products Manufacturers
FBT	Fringe Benefits Tax
FCAI	Australian Federal Chamber of Automotive Industries
FEG	Fair Entitlements Guarantee
GCIF	Green Car Innovation Fund
GEERS	General Employee Entitlements and Redundancy Scheme
GFC	Global Financial Crisis
GMH	General Motors Holden
JIS	Just-In-Sequence
JIT	Just-In-Time
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
M&A	Mergers and Acquisitions
MNC	Multinational Corporation
MoU	Memorandum of Understanding
MVP	Motor Vehicle Producers
NGO	Non-Government Organisation
OE	Original Equipment
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OICA	Organisation Internationale des Constructeurs d'Automobiles [International Organization of Motor Vehicle Manufacturers]
P&E	Plant and Equipment
PC	Productivity Commission
PPV	Passenger Pick-up Vehicles
R&D	Research and Development
RA	Reinvestment Allowance
SAE-A	Society of Automotive Engineers – Australasia
SME	Small and Medium Enterprises
SMR	Samvardhana Motherson Reflectec
SMRA	Samvardhana Motherson Reflectec Automotive
TAFE	Technical and Further Education
TAFTA	Thai-Australia Free Trade Agreement
TARP	Troubled Asset Relief Programme
TTT	Telescopic Trailer Tow
TWI	Trade Weighted Index
VAT	Value Added Tax
VCAMM	Victorian Centre for Advanced Manufacturing Materials

LIST OF FIGURES

LIST OF CASE STUDIES

LIST OF RECOMMENDATIONS

The FAPM supports the co-contribution nature of assistance to the automotive sector, and believes that this philosophy should underpin future policy settings.

Recommendation 1

That the Government advocates for mutually reciprocal trading conditions for Australia's automotive manufacturing industry.

Recommendation 2

That the Government addresses incentives for local MVPs to increase their domestic supply chain spend in return for additional Government support.

Recommendation 3

That the Government considers measures to ensure that MVPs are required to incorporate viable export markets in their planning in return for any additional Government support.

Recommendation 4

That local MVPs (and importers) be offered incentives to assist local component suppliers in establishing export contracts with their global networks, and that greater accountability be placed on them around the activities they are undertaking to this end.

Recommendation 5

That the Government ensures that new policy and program settings for the automotive industry incorporate funding to encourage new investment initiatives at both the MVP and ACP level.

Recommendation 6

That the Government delivers certainty to the industry by establishing assistance arrangements through to 2025, which aligns with commercial issues including investment lead times and model life cycles.

Recommendation 7

That in any review of the split between the MVP and non-MVP component of the ATS program, the following issues be taken into account:

- **The potential loss of local supply chain spend resulting from further shifts to global platform production**
- **The impact of Ford's operations (post 2016) being included in the non-MVP component**
- **The ability for the split to be renegotiated in the event that one MVP (in addition to Ford) ceases production in Australia**
- **A detailed analysis of the impact of changes to the split on recipients in light of any other amendments to the ATS program.**

Recommendation 8

That a specific program be established to encourage supply chain rationalisation that should address the deficiencies of the earlier AISAP initiative, and be subject to an independent assessment of potential transactions.

Recommendation 9

That the Government expands the ATS-type assistance package for 2015-2020 to $1.5 billion, given the raft of structural issues impacting the industry over the medium term.

Recommendation 10

That the benefit rate for P&E activities in the ATS program be increased from 15% to 35%. This level of assistance would dramatically improve the business case that is assessed by

management and boards when considering investing in new P&E and support the industry's efforts to strengthen its competitiveness.

Recommendation 11

That support for R&D under ATS should continue at the current rate of 50%. This reflects the importance of the industry's commitment to R&D and innovation, and the need to maintain these spend levels as a response to current industry issues.

Recommendation 12

That the level of ATS benefit for interchangeable tooling be increased to 50% for both ACPs and MVPs.

Recommendation 13

That once a company satisfies the automotive OE eligibility requirements for ATS the commitment it makes to diversification should be acknowledged by its investment in P&E and R&D relating to non-automotive activities being supported by the scheme.

Recommendation 14

That MVPs receiving ATS be required to report annually against a business plan on activities they have taken to support and assist Australian suppliers. This report would include:

- **Providing reasonable and transparent opportunities to secure additional local supply contracts**
- **Outlining local content levels in their locally made vehicles**
- **Proactively facilitating entry into regional and global supply chains**
- **Actively participating in a next generation supplier development program.**

That ACPs also be prepared to document their efforts in increasing their exposure to global supply chains

Recommendation 15

That an increase to the minimum turnover threshold for entry into the ATS program be considered.

Recommendation 16

That an automatic 10% uplift to cover existing ATS R&D entitlements around testing, trialling and validation be applied to the labour claim for production employees. This is to be applied prior to the existing uplift covering employee entitlements.

Recommendation 17

That a Next Generation Supplier Development Program be established with a focus on building on existing improvements in competitiveness through diversification, market development and export growth.

Recommendation 18

That through COAG, a comprehensive Australia-wide procurement policy be introduced for all bodies funded through taxpayer support. All states, local government, government agencies and the Commonwealth should introduce locally-produced fleet procurement policies for all vehicles, unless there is a functional reason why the role cannot be played by a locally-built car. This should extend to publicly-funded bodies including NGOs.

Recommendation 19

That an FBT exemption be applied to environmentally friendly models including hybrid and factory fitted LPG vehicles. This would generate environmental outcomes in addition to supporting local production.

Recommendation 20

That a policy be introduced that applies an additional government contribution to all new vehicles sold in Australia that do not meet the 5-star ANCAP requirements.

EXECUTIVE SUMMARY

Economic Contribution of the Automotive Industry

The Federation of Automotive Product Manufacturers believes there is a strong and vibrant future for the Australian automotive industry.

The contribution that the industry makes in its own right, in addition to the spill over benefits to the economy more broadly, and unique contribution to a range of areas including advanced manufacturing, skills and training, and lean principles and processes, highlights the breadth of its attributes.

One of only 13 countries globally with the capability to take a passenger vehicle from concept to the showroom floor, the FAPM believes the Australian automotive industry is too importance, too strategic and too valuable to let go.

The vision for the automotive industry in Australia

FAPM understands the changing nature of the automotive industry globally, and believes that industry policy must respond accordingly. The Federation notes the important role an integrated industry policy plays in all automotive jurisdictions around the world and believes it is timely for the Australian Government to consider a new set of arrangements to take the local sector through to 2025.

The Australian industry, especially the supply chain, has consistently proven its ability to adapt and respond to broader industry changes and global trends.

Suppliers have embraced change including the massive reduction in tariffs over recent decades, the move to global platforms, supplier consolidation, engagement with export markets (even in the face of the dollar at historic highs) and diversification to other industries. This has established the wherewithal of the supply chain to respond to challenging circumstances and we are ready for the next phase of this process.

The FAPM is looking to a future where the Australian industry is more sustainable, potentially incorporating scenarios including:

- Increasing local vehicle volumes to 300,000 through a range of export and local demand stimulus measures. This would generate critical scale economies for the sector
- Driving greater industry diversification – many suppliers have initiated efforts in this area, but the FAPM believes that much more can be achieved as suppliers utilise their significant skills and capabilities to drive activities in a range of other industry sectors
- Attracting a niche market MVP – the FAPM believes the changing face of the industry globally creates a key opportunity for Australia to seek to attract new vehicle production activity locally.

The FAPM understands that leadership in achieving these goals needs to come from the industry itself and our members and the broader supply chain have consistently displayed their ability and willingness to undertake the task.

The commercial reality for the sector does include significant government assistance and support programs for our competitors globally, and extends to significant barriers to market access for Australian made automotive products. In this context and in light of assistance delivered to other sectors of the Australian economy, the FAPM is seeking an appropriate, long term policy framework from the Australian Government to give the industry the opportunity to respond to these global challenges.

Strategic Value of the Automotive Industry

The Australian automotive industry contributes $5.4 billion to the Australian economy annually, generating 45,000 FTE positions in the economy. Within this, the supply chain makes a major contribution, accounting for $3.2 billion in value add, and employing more than 34,000 people.

FAPM believes that these numbers understate the true value of the industry, and its unique contribution extends to a range of other sectors of the economy from aerospace, defence and mining services through to the finance sector.

It is also a major contributor to R&D and innovation across the economy and despite the recent strength of the Australian dollar and restrictive market access issues, exports from the automotive manufacturing supply chain have continued to grow.

The supply chain response to global developments

Again, the FAPM understands that operating within a global environment means that the local industry must continually evolve and respond to international challenges.

Recent initiatives embraced by the local automotive supply chain to assist its on-going development include the generation of the Auto2020 Roadmap. Created through significant collaboration between industry, state and Federal governments and the research community, the Roadmap has identified four areas of long term sustainability for the industry – vehicle electrification, light-weighting, gaseous fuels, and data and communications.

The supply chain is embracing this opportunity, developing components from composites and materials that are more fuel efficient, and have significant application in alternatively-fuelled vehicles. This innovation and research also supports key successes that the supply chain has experienced beyond the automotive sector, into markets including aerospace and defence using this technology advantage as a key competitive differentiation.

The Australian automotive supply chain is also adapting to this changing environment in regard to:

- Understanding the value associated with sales from design and engineering services and technology transfer arrangements in addition to domestic and international sales of hard parts
- Continuing to align with the research community to maintain a technology premium over products and services. This includes collaborations with the CRC community, CSIRO and key universities
- Diversifying its activity base beyond automotive, and proactively positioning individual businesses to understand how to leverage from their core automotive activities into other industry sectors
- Maintaining the focus on the on-going development of the industry's skills and training, and continuing to ensure that people are at the centre of competitive advantage.

Spillover benefits

The industry also offers substantial flow-on benefits to other sectors in regard to the leading edge technologies, disciplines and operating procedures that are inherent to automotive manufacturing. These issues see the industry contribute up to 200,000 jobs.

These impacts see the automotive industry as a conduit for new technology developments to Australia across a range of areas. Recent examples include carbon fibre, advanced manufacturing techniques including additive manufacturing and 3-D printing, in addition to the lean process disciplines that are improving productivity across a range of sectors of the Australian economy, including banking and finance.

Australian industry in a global perspective

Export – global market opportunities

Export markets for automotive component sales, design and engineering services present a significant opportunity for the Australian industry.

The continued emergence of the Asian middle class, who will be in a position to pay a premium for high quality products presents a key opportunity for Australian automotive manufacturing more broadly, particularly with the strong likelihood of the exchange rate returning to a more modest level. The supply chain boasts a number of success stories in regard to product and services exports, and this continues to be a significant focus of activity. The FAPM and its member base fully appreciates the need to continue to make inroads into global markets. We acknowledge the role of MVPs in this regard, and see the most efficient way for an Australian automotive component to be exported as being in an Australian built vehicle.

International assistance arrangements

The Australian industry is the most open in the world, reflected by the fragmentation of the market with 66 different brands represented.

FAPM believes it is important for the Government to understand this broader landscape, both in terms of the assistance arrangements in place that support our competitors in other automotive jurisdictions and in regard to understanding the market access barriers faced by the local industry.

The most recent comparative analysis has seen the Australian industry identified as one of the least supported globally. Since the extensive stimulus packages offered to a range of industries around the world, automotive investment has continued to attract substantial government subsidies across a range of destinations.

Market access issues

While the Australian industry is the most open in the world, local manufacturers face significant trade and non-tariff barriers in seeking to enter export markets.

These extend from particular duties and imposts through to less tangible barriers that create difficulties in selling Australian cars and components into various markets. It should be noted that these also apply to countries where Australia has existing FTAs, such as Thailand.

These barriers significantly impact the ability of the Australian manufacturing industry to gain economies of scale and key volume increases through export. The impressive track record that the industry boasts (despite these factors) highlights what could be achieved in this regard.

The FAPM presents these issues as the reality of the global market in which the Australian supply chain operates. We fully expect our members to be operating world class businesses with leading edge technology, and there is substantial international benchmarking the underlines this. However, we believe the Australian policy and program framework into the future needs to reflect these global realities, and create an environment in which industry can proactively respond.

The impact of the shift to global platforms

FAPM believes that it is important for the Government to fully appreciate the impact of the shift to global platforms in Australian automotive manufacturing.

Typically, these moves see less componentry sourced locally and more parts imported based on international supply agreements. The shift does however represent an opportunity for certain suppliers and importantly places local MVPs and vehicle importers in a key position to assist the local industry in accessing international markets. This should be reflected in new policy and program settings.

Investment attraction incentives

Consistent with Australia seeking to position itself around a game-changing initiative for the industry, Government needs to ensure that policy and program settings support the prospects of attracting new vehicle or component investment to Australia.

This goes to issues of the quantum and period of funding on offer, which should align with the long term investment and model cycles experienced by the sector.

A new auto policy and program framework

Themes of a new framework

In establishing the basis for the Australian automotive manufacturing sector to success in this new global environment, FAPM believes it is important that policy and program settings reflect a number of key themes. These include creating the environment for the industry to drive:

- Productivity and competitiveness improvements
- Innovation
- Investment
- Industry rationalisation.

Critically, the arrangements must promote long term certainty for the sector.

FAPM is proposing a series of improvements to assistance arrangements that will increase the return to the taxpayer for their investment, and continue to incentivise the industry to commit to the co-investment model that has characterised the ACIS/ATS schemes.

These proposed changes would enhance outcomes across a range of key indicators, including:

- Improved productivity
- Enhanced capacity utilisation
- Greater export opportunity
- On-going supplier development and industry collaboration activities.

Further, the FAPM believes that demand development initiatives need to be incorporated into the overall government policy setting for the automotive industry.

Again this is an area where a number of competitor markets are significantly more advanced that the Australian industry, utilising a range of measures to enhance the sales of local vehicles. We are proposing a range of measures here incorporating:

- Procurement policy
- FBT incentives
- Regularity and safety standard issues
- Incentives for gaseous fuels.

In summary, on behalf of its members and the broader supply chain, the FAPM is firmly of the view that there is a sustainable and vibrant future for the Australian automotive industry, including the major contribution being made by the supply chain.

We expect our members to be operating and world's best practice, and are seeking a similarly competitive policy response from the Australian Government that incorporates the reality of the global settings that our competitors are operating within.

1. ECONOMIC CONTRIBUTION OF THE AUTOMOTIVE INDUSTRY

1.1 Australian Industry Context

Australia is one of only 13 countries globally with a full suite of capabilities to produce a passenger motor vehicle from concept to the showroom floor. The strategic importance of this capability is recognised by the number of governments around the world that seek to retain or secure an automotive industry of their own. FAPM considers that the automotive industry is too important, too valuable and too strategic to let go.

Automotive is the only large-scale manufacturing industry in Australia to support a comprehensive and diverse supply chain incorporating:

- World-class advanced design and engineering including vehicle concept design
- Design, development and prototyping of globally competitive components including drivetrain and braking systems, advanced interiors and control systems
- Manufacture of components from raw materials incorporating a range of advanced production techniques such as advanced casting and use of automation robotics
- Vehicle assembly by Motor Vehicle Producers (MVPs) including the application of lean manufacturing principles, sourcing and logistical supply of components
- Vehicle proving, testing and validation.

Figure 1 - Capabilities of the Australian component sector

This unique capability means that other manufacturing industries and the economy more broadly benefits from automotive to support and enhance their production capacity. Section 2.4 of this paper discusses these spillover benefits further.

In regard to its economic contribution, figures from the Federal Department of Industry highlight that the industry delivers around $5.4 billion in activity annually, employing 45,000 people.

The component industry is an integral element of this supply relationship and stands at the forefront of Australian innovation and manufacturing productivity. The loss of this capability would have

ramifications for Australia's technological capacity and our position more broadly as a competitive and advanced manufacturing economy. Indeed if Australia were to lose its automotive sector, we would stand alone with Saudi Arabia as the only G20 country without an automotive industry.[1] Saudi Arabia is the largest importer of cars and automotive parts in the Middle East and is currently positioning itself to be the new automotive production and distribution hub for the Middle East region.[2]

The changing face of the global automotive industry

The Australian automotive industry is not alone in trying to address the challenges of the sector. Globally, the industry is experiencing similar issues, especially those manufacturing in relatively high-cost locations.

The nature of the sector, the vehicles it produces, the way in which it does this, and the manner in which global supply chains work are all constantly shifting. These scenarios incorporate issues associated with:

- Alternative-power vehicles
- The redesign of production processes
- Reconfiguration of manufacturing plants and capacity levels
- The application of contract manufacturing business models to vehicle production
- The constant restructuring of global value chains and activities
- Market fragmentation in vehicle brands and models due to constantly changing consumer preferences.

This means the future of the Australian industry will look significantly different, and the FAPM believes that the industry requires an assistance framework that provides incentives for the sector to respond to these challenges and forge a path towards greater regional and global sustainability.

The role of an integrated industry policy

Globally, governments are realising the potential of an integrated, effective industry policy in supporting the activities of the manufacturing sector.

Recent work conducted by Deloitte and the World Economic Forum highlights the hallmarks of effective, integrated public policy in providing a backdrop to manufacturing competitiveness. These include:

- Consistency, stability and certainty
- Globally competitive, fair and enforced policies developed through dialogue and collaboration
- Financially prudent, balancing costs and benefits.[3]

FAPM believes that if the Federal Government can achieve these aims with the upcoming policy package, the circumstances will be created for the Australian automotive manufacturing sector to drive greater viability and sustainability.

1.2 The Vision For The Automotive Industry In Australia

1.2.1 Automotive component sector – contribution to Australian manufacturing

The component sector sits at the heart of the automotive manufacturing supply chain. A passenger vehicle is made of thousands of individual components ranging in complexity from low technology products (such decorative fittings) to advanced technology including chassis, drive-train and driver control systems.

[1] SAE International (2013) *Saudi Arabia strives to become Middle East auto hub*
[2] Ibid
[3] World Economic Forum and Deloitte, (2013) *Manufacturing for Growth: Strategies for Driving Growth and Employment, Vol 1 – Globally Competitive Policy*

The Australian automotive component industry includes approximately 150 businesses with the majority situated near the three MVPs in Victoria (Altona and Campbellfield) and South Australia (SA - Elizabeth). The sector is categorised into multinational corporations (MNCs), Australian tier 1 organisations and other small to medium enterprises (SMEs), The Australian sector incorporates a full suite of capabilities to produce a variety of elaborately transformed products using raw material substances and advanced manufacturing techniques.

Australia's three MVPs (General Motors Holden (GM Holden), Ford and Toyota) source between 30% and 50% of parts for their Australian-made vehicles from the local component sector. The remaining components are sourced from the global market, with Asia (Korea, China and Japan) being primary suppliers. In turn, a number of Australia's automotive component producers (ACPs) are supplying globally and contributing to the component sector's $1.6 billion in exports in FY13.

1.2.2 A snapshot of industry capability

The Australian industry is in a period of transition, as is automotive manufacturing globally. For many decades the local industry has proven itself on the world stage through its substantial vehicle and component exports. Two competency areas highlight the spectrum of our capability.

Niche and specialised capabilities - Australia's automotive component sector is small by world standards. Our 221,000 locally produced vehicles (2012) represented just 0.2% of global volumes. The position has however enabled the industry to develop a market advantage in specialised, nimble and lean manufacturing.

These capabilities require advanced design and engineering to develop complex and specialised solutions over short time-frames and smaller volume projects. This capability offers an advantage over large producers which generate competitiveness from scale benefits. Niche manufacturing also positions Australia to develop capabilities in advanced technologies, 3D printing and additive manufacturing.

Breadth of experience in vehicle manufacture - The Australian automotive industry has historically been a world-leading producer of a range of vehicles tested for durability across a range of climatic conditions. This skill requires a range of engineering, testing and production capabilities to develop highly durable units that can maintain performance over long distances. This capability is reflected in our industry's heavy investment in advanced design and engineering and automated/robotic manufacturing systems. Australia's automotive industry is also capital-intensive, with a relatively low labour/capital ratio for production.

Whilst consumer preferences globally are shifting toward smaller cars, there remains a substantial market for large cars. Australia continues to export more than 75,000 Commodore and Camry units to the Middle East and USA annually. The expansion of vehicle export markets into the future is key to the industry's long term viability.

1.2.3 Structural reform

The Australian automotive industry has experienced ongoing transformation since the first reduction of tariffs in the late 1970s. Over the past 40 years, the tariff rate has been reduced from 57.5% to 5% with the number of MVPs also reduced to three (and two from 2016). The Australian automotive market is now one of the most open and competitive globally and supports a total of 66 different brands. This is more than the UK at 57 brands, USA at 51 brands and Canada at 49 brands.[4]

Structural adjustment in the component sector is an ongoing process as the industry continues to adapt to changing global market conditions. Over the past five years, the sector has achieved a range of productivity and performance benchmarks. Of note, the component sector has:

- Undergone significant consolidation to reduce from 200 firms in 2005 to around 150 currently.[5]
- Extended its position as an Australian leader in lean manufacturing and skills development as increased competition forces existing organisations to compete with low-cost imports
- Continued to lead Australia's investment in R&D to drive world-class innovation that is competitive in one of the most open and global markets

4 Australian Government, Department of Industry (2013) Key Automotive Statistics 2012
5 Australian Bureau of Statistics (2005) Australia's Automotive Industry

- Diversified its capabilities across manufacturing industries including aerospace, defence, marine, rail, construction and the mining industry. These industries benefit from the world-class capabilities within the automotive supply chain.

1.2.4 Australia's automotive industry – global challenges

Australia's automotive industry is at a cross roads. Declining vehicle volumes have reduced scale benefits and are forcing production levels below a critical mass. Decisions made by MVPs and the Australian Government over the coming months will impact on the future of Australia's manufacturing capability.

FAPM views core challenges facing the automotive industry as:

- The reduction in local vehicle production volumes from approximately 407,000 units in 2004 to 221,000 in 2012.[6] Vehicle exports have reduced from 142,000 in 2005 to 89,400 in 2012.[7]
- Local content of components in vehicles has reduced from approximately $5 billion in 2004 to $2.3 billion in 2012.[8] Conversely, component imports have risen from approximately $6.7 billion in 2005 to $8.4 billion in FY13 despite falling volumes.[9]

Following the cessation of manufacture of local vehicles by Ford Australia in 2016, withdrawal of a second MVP from Australia could reduce local demand for components below a viable level. A sudden demise of the automotive industry in Australia would see the end of our comprehensive supply chain. Once gone, these capabilities will not be regained and their loss would have ramifications across the manufacturing sector.

1.2.5 High Australian dollar impacting volumes

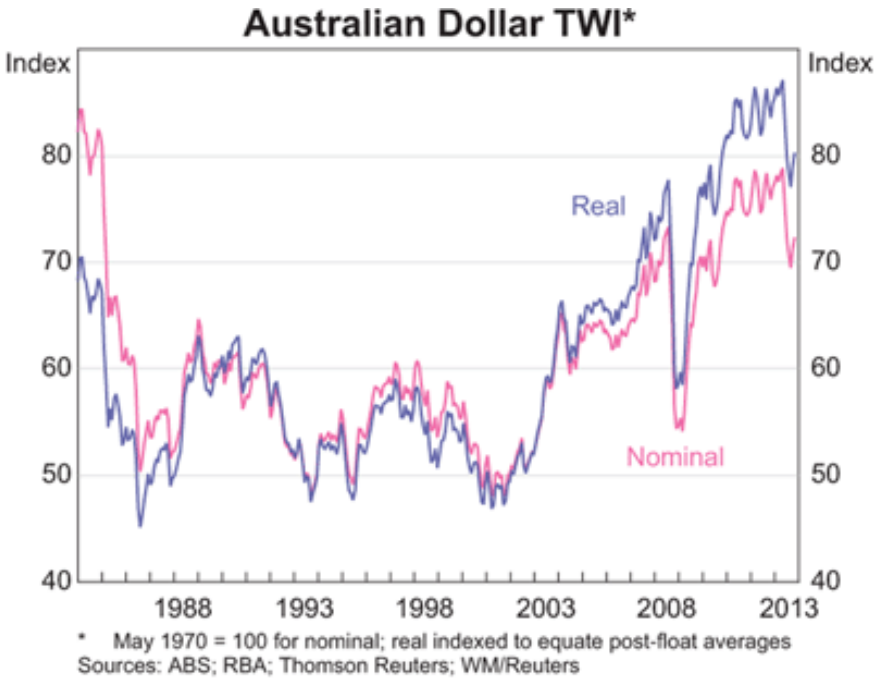
Australia's declining vehicle volumes reflect a number of structural challenges facing the automotive sector and manufacturing more broadly. These issues have been heavily debated across the economy in the wake of ongoing losses of manufacturing jobs.

An investigation into the future of the automotive sector in Australia requires a careful analysis of these issues, including their impact on our global competitiveness and how they are shaping Australia's technology and industrial future.

Since the period following the global financial crisis (GFC), the Australian dollar Trade Weighted Index (TWI) has reached its highest level following its float in 1983 (see Figure 2 below). The rising Australian dollar reflects in part the growth of the commodity sector including surging demand for resources in Asia and Australia's relatively strong economic position following the GFC. Currency appreciation has influenced structural change across Australia's trade-exposed industries including the loss of core manufacturing capability.

6 FAPM internal statistics
7 Department of Industry (2013) Key Automotive Statistics 2012
8 Department of Industry (2013) Key Automotive Statistics 2012
9 Department of Industry (2013) Key Automotive Statistics 2012

Figure 2 - Rise of the Australian dollar



Source: Reserve Bank of Australia

1.2.6 Automotive component industry – future potential

The Australian automotive component sector is the structural foundation that supports viable and sustainable production in Australia. The extensive range of capabilities across our supply chain and the substantial investment in advanced manufacturing technologies are a legacy of more than 60 years of automotive manufacture in Australia.

The automotive industry is changing. Ford's withdrawal (from manufacturing) in 2016 and the move by the remaining MVPs to global platforms is forcing the industry to source new markets for growth and sustainability. FAPM strongly believes that the capabilities of the automotive industry have an important role to play in Australia beyond 2020. However competing in the new environment will require a change in thinking about the way our industry conducts its business. This will also require a change in the range of policy parameters which support the industry.

Drawing on the sector's core capabilities, FAPM views three plausible scenarios which would position the component industry on a sustainable footing. These should be considered in regard to the policy and program settings that are currently being debated.

Increase local vehicle volumes to 300,000 annually

In 2012 Australian local production volumes stood at 221,000 vehicles, which is widely considered to be not sustainable in the long term. FAPM views a minimum viable rate of automotive production in Australia as 300,000 vehicles annually. This outcome is likely to be based on the following industry and market attributes:

- Ensuring future assistance arrangements for Australian MVPs are based on the development of export markets for their product portfolio
- A potential increase of around 40,000 vehicles for domestic sale – including targeting fleet and government vehicles
- A potential increase of 60,000 vehicles for export – including increasing opportunities for export volumes by overcoming a range of trade barriers.

Industry Diversification

The industry's sustainability also requires an ongoing commitment to diversification. As discussed further in section 2.3, the automotive supply chain is heavily integrated through various segments of the manufacturing industry. Further diversification will increase volumes and capabilities of suppliers and reduce their dependence on remaining MVPs.

Attracting a niche market MVP

Australia offers a strong business case within the Asia-Pacific region to attract additional niche market MVPs, especially as Asian countries advance their economic status. In addition to the suite of existing capabilities and structures to support automotive production, the Australian market is attractive in its own right with sales of more than 1 million vehicles annually.

The FAPM believes the concept of a 'game changing' initiative for the industry needs to be incorporated into future policy settings. This would create the circumstances for potential investment attraction programs around organisations such as:

- Tesla – high end performance electric vehicles which will be targeting the Asia-Pacific region
- Contract manufacturers such as Magna Steyr and Valmet Automotive, who specialise in mixed and flexible production runs suited to the fragmented Australian market
- Mahindra Reva – The Indian EV manufacturer promoting a franchise manufacturing model with a maximum annual capacity of 30,000 units per plant.

FAPM is conscious that industry needs to take the lead in these initiatives, and is seeking a competitive policy and program backdrop to underpin these opportunities.

1.2.7 The role of industry assistance

FAPM believes that the future sustainability of the industry rests in its own hands.

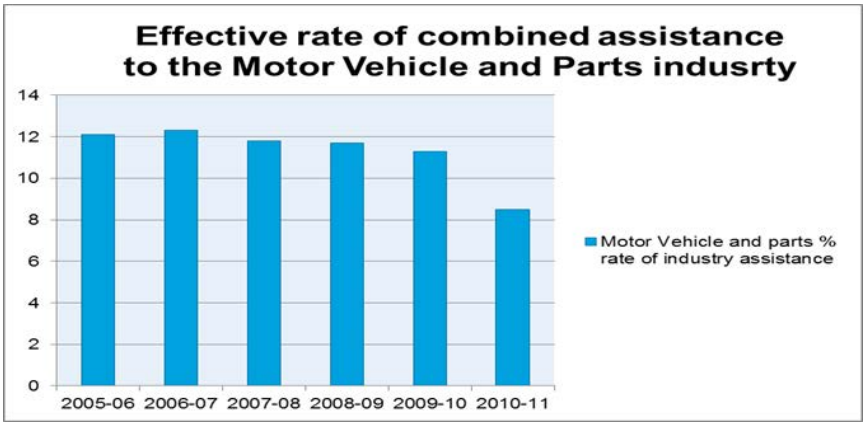
There is a range of activities that industry can pursue in regard to innovation, diversification, export market development and on-going productivity improvements that will assist the component sector in driving sustainability.

The reality of the global industry in which Australia's supply chain operates does bring assistance arrangements for other automotive jurisdictions into play, (including the restrictions potential export markets place on Australian products).

These directly impact the competitive landscape in which our suppliers operate, and consequently relevant supportive and innovative policy and program settings are crucial to ensuring that the Australian industry is provided an open environment in which to pursue long-term profitability. Assistance for the Australian industry also needs to be considered in light of government support to other sectors of the Australian economy.

As outlined by the Productivity Commission (PC) in the 2012 Review of Industry Assistance, while the effective value of support to the automotive industry is at the upper end, all sectors are supported to some extent. Additionally, support for the automotive sector has been declining over recent years.

Figure 3 - Reduction of automotive industry assistance over time



1.3 Key Direct And Flow-On Economic Impacts And Trends (Jobs Investment, Regional, R&D)

1.3.1 Employment

The automotive component industry makes a direct and indirect economic contribution to the Australian economy.

The industry generates 45,000 in employment activity across all of automotive manufacturing, with in excess of 34,000 engaged in the supply chain .

Automotive component jobs are predominantly located in key manufacturing states of Victoria, NSW and SA. Approximately 20% of industry capability is situated in regional areas, including Albury/Wodonga, Ballarat and Geelong.

Regional impacts

Within Victoria and South Australia, the automotive industry's employment pattern is characterised by regional clusters which directly correlate with the major MVPs and their key suppliers. There are three main employment clusters which are concentrated in Melbourne's north, south-east and greater Geelong regions. In SA, areas to the North including Elizabeth and Salisbury are home to automotive precincts.

One major implication from these employment clusters will be the economic impact on Melbourne's and Adelaide's regions following significant automotive industry restructuring.

The component sector forms an integral part of automotive industry value-add, contributing $3 billion in 2012/13.

1.3.2 Exports

Despite challenges associated with increased competition and a high dollar, the automotive industry provided $3.7 billion in exports in FY13.[10] Over 2012, the industry contributed approximately:

- 10% of total Australian manufacturing exports
- 13% of total elaborately transformed manufacturing exports
- 29% of total engineered exports.

The component industry contributed $1.6 billion in exports during FY13, up from $1.5 billion in FY12. This outcome in a very difficult market with an artificially high dollar underlies the willingness of the

[10] Ibid

component sector to positively respond to market challenges. The Middle East and North America remain the largest destination for Australian automotive exports, with the former contributing more than 38% of total exports.

1.3.3 Research & Development

Despite falling volumes, the automotive industry remains the largest contributor to Australian manufacturing R&D. This reflects the advanced technology requirements to deliver vehicles for a global market. The sector accounted for $694 million expenditure in R&D in 2011-12 which equated to 15% of total manufacturing expenditure on R&D. [11]

The table below outlines industry spend on R&D over the past five years, highlighting the dominance of the manufacturing spend, and the significant contribution made by the automotive sector.

Figure 4 - Research & Development Expenditure

$'000		%		%		%		%		%
	2007-08		2008-09		2009-10		2010-11		2011-12	
Manufacturing	$ 4,373,558		$ 4,377,014		$ 4,260,316		$ 4,804,956		$ 4,473,890	
Automotive	$ 798,000	18%	$ 655,000	15%	$ 680,000	16%	$ 740,000	15%	$ 693,000	15%
Mining	$ 3,439,180		$ 4,333,537		$ 3,713,104		$ 3,838,721		$ 4,104,123	
Financial and Insurance Services	$ 1,457,471		$ 2,102,722		$ 2,614,799		$ 2,768,414		$ 2,985,215	
Professional, Scientific and Technical Services	$ 2,337,245		$ 2,581,066		$ 2,548,111		$ 2,706,790		$ 2,831,737	

The two key state contributors to business expenditure on R&D are NSW and Victoria, which also include approximately 54.9% of Australia's original equipment manufacturing base.[12]

1.3.4 Economic modelling of the Australian automotive industry

To better understand and evidence the contribution that the Australian automotive industry makes to the Australian economy, FAPM engaged Deloitte Access Economics (DAE) to undertake detailed economic modelling and run an independent analysis of a range of future scenarios. This report has been submitted to the Productivity Commission.

Further detail from the modelling will be released through the course of the PC process.

1.4 Productivity And Competitiveness Of The Australian Automotive Industry

Our industry continues to achieve export growth amid a range of economic challenges demonstrating that the industry is achieving global benchmarks in competitiveness.

There is a range of indicators that highlight the competitiveness of the sector, and the contribution it is making to the productivity to the economy.

1.4.1 Export activity

One of the key indicators regarding industry competitiveness rests on the degree to which products and services can compete on world markets. In this context, total component exports have continued to rise following the challenges of the GFC.

[11] Lev, K., (2013) Motor Vehicle Manufacturing, IBISWorld Industry Road, Report C2311
[12] IBISWorld (2013) Motor Vehicle Manufacturing in Australia Industry Report

Figure 5 - Total Component Exports

Financial Year	Export figures (in billions)
2005	$1.68
2006	$1.80
2007	$1.83
2008	$1.72
2009	$1.23
2010	$1.46
2011	$1.58
2012	$1.57
2013	$1.62

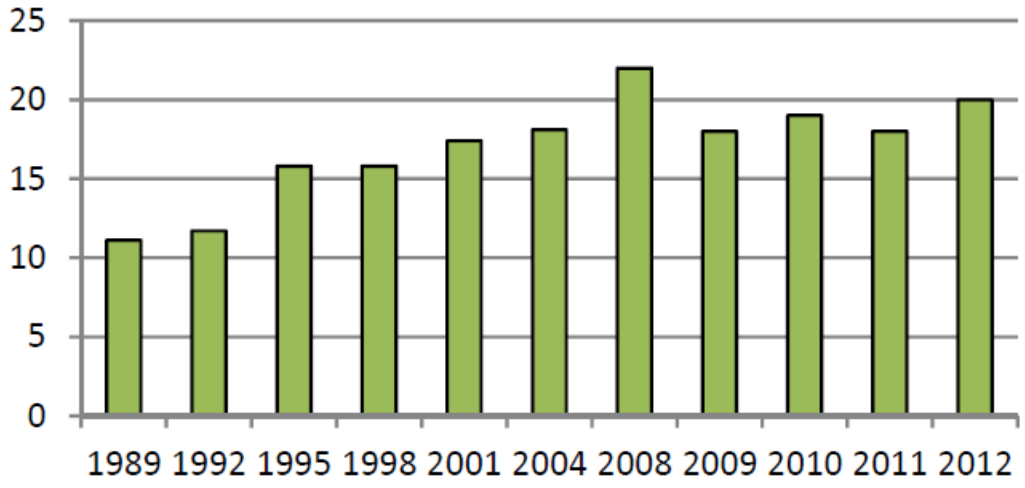
Source: Australian Government, Department of Industry (2013) Automotive Industry Data Card: September 2013 Automotive Update

These results need to be considered in light of the artificially high dollar, the restricted market access issues faced by the Australian sector, and generally deflated demand globally.

1.4.2 Labour Productivity

Australia's MVPs have achieved impressive growth in labour productivity. Since 1989 productivity has almost doubled from approximately 11 vehicles per employee to approximately 20 vehicles per employee in 2012. As outlined in the table below, based on data provided by the Federal Department of Industry, 2012 represented the second highest year of labour productivity for MVPs, despite declining volumes.

Figure 6 - Local Vehicle Manufacturers' Labour Productivity (Vehicles produced per Employee)



Source: Department of Industry, Automotive Industry Data Card (September 2013)

The drivers of MVP productivity extend to the component sector. MVPs are responsible for producing units which meet the technology and operational requirements of MVPs. ACPs must demonstrate flexibility and adaptability to meet the lean delivery requirements of vehicle producers.

This cost down process, almost unique to the automotive industry, institutionalises the need to identify productivity improvements and cost savings through the life of a contract by mandating that the part must be supplied at ever *decreasing* prices. These prices are set on signing of the contract, and have embedded the continuous improvement culture within the supply chain.

1.4.3 Global comparisons

The Australian component sector is consistently facing higher expectations regarding competitiveness, productivity, quality and time to market issues.

These are being driven by an increasingly globalised market, and also through the expectations of local car manufacturers.

The component sector is also continually measuring its own performance through mechanisms including the assessment and measurement processes of individual car companies, in addition to industry-wide initiatives such as the Automotive Supplier Excellence Australia program (ASEA) outlined below.

Improving automotive supply chain competitiveness

In 2007, the Automotive Co-operative Research Centre (AutoCRC) commenced the Automotive Supplier Excellence Australia (ASEA) Program. The intention of the Program was to assist the Australian automotive supply base in achieving international competitiveness and sustainability. The program established an independent, best-in-class benchmarking process and targeted supplier assistance initiatives.

The ASEA program was designed to equip automotive suppliers in achieving world-class capability and competency levels by conducting a standardised set of diagnostic reviews of representative companies to gauge their performance to global benchmarks.

The five year program from 2007-13 was funded by the Australian Government and developed by a collaboration of all domestic MVPs (Holden, Ford, Toyota, and at that time Mitsubishi), component producers, FAPM and the AutoCRC.

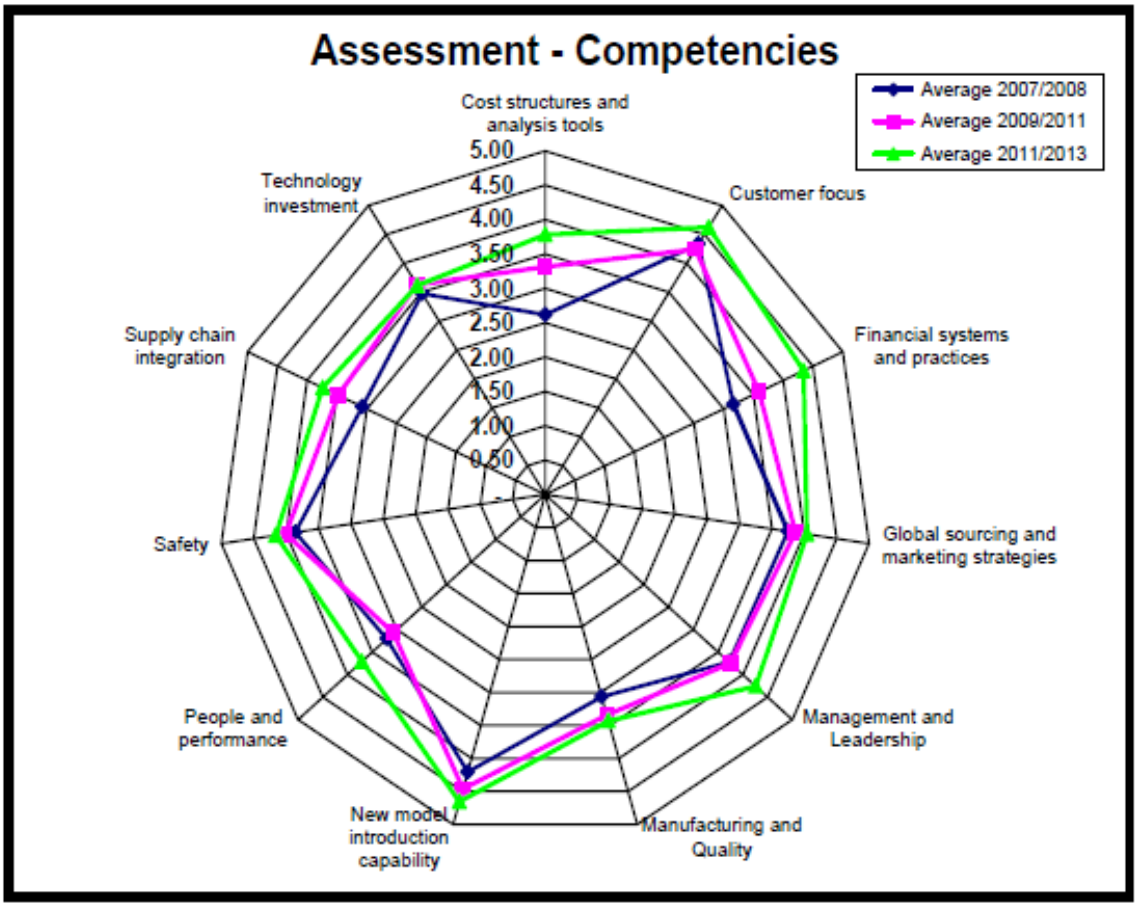
The ASEA program involved an annual benchmarking assessment of Australia's automotive component producers on a whole of business basis against 11 competencies:

- Management and Leadership
- Cost Structures and Analysis Tools
- Manufacturing and Quality
- New Model Introduction Capability
- Financial systems and practices
- Supply chain integration
- People and Performance
- Safety
- Global sourcing and marketing strategies
- Customer focus
- Technology Investment

Over the five year period, the component industry as a whole achieved enhanced performance in each of the assessable areas including a 45% improvement in *cost structures* and *analysis tools*, and a 37% step-up in *financial systems and practices* (see figures 6 and 7). The improvements were assessed to have resulted in potential savings opportunities of more than $2 million/per supplier over a three year period.[13]

[13] Automotive Supplier Excellence Australia (2013) Newsletter, Volume 5 Issue 2 March 2013

Figure 7 - Progression of 'average' ASEA participant company over assessment rounds



Source: ASEA Progression of 'average' ASEA participant company over assessment rounds.[14]

Most importantly, the ASEA outcomes occurred during a period that included the GFC, declining volumes, industry mergers and when the appreciating dollar reaching its highest levels. The achievement also highlights the adaptability and flexibility which is inherent in our supply chain as evidenced by the industry's propensity for niche and specialised manufacturing.

The program also measured the performance of the Australian sector against its global counterparts. This process reflects the reality of the global framework in which the Australian industry operates.

The Australian sector is on par and in some cases exceeds the global average for the competencies measured by the ASEA program.

[14] Ibid.

Figure 8 - Comparison of Australian sector capability against global average

Competency assessed by the ASEA program	Global average	ASEA Overall Average 2012
Cost structures and analysis tools	3.3	3.6
Financial systems and practices	3.9	3.9
Supply chain integration	3.4	3.5
People and Performance	2.9	3.5
Management and Leadership	3.8	4.0
Manufacturing and Quality	2.7	3.2
Safety	4.5	4.2
Global sourcing and marketing strategies	3.4	3.9
Customer focus	3.0	4.4
Technology Investment	2.8	3.6

Source: ASEA program database

Over 87 companies participated in and have completed the ASEA program over many years. This underlines the industry's preparedness to measure and monitor its performance, and to continually strive to improve.

Figure 9 - Competency improvement percentage of 'average' ASEA participant company

Competency assessed by the ASEA program	Improvement (%)
Cost structures and analysis tools	45%
Financial systems and practices	37%
Supply chain integration	22%
People and Performance	16%
Management and Leadership	14%
Manufacturing and Quality	12%
New model introduction capability	11%
Safety	8%
Global sourcing and marketing strategies	8%
Customer focus	7%
Technology Investment	4%

Source: ASEA - Competency improvement percentage of 'average' ASEA participant company.[15]

Australian component manufacturers are succeeding in one of the most competitive markets globally and the skills and competencies developed by the industry provide a benchmark in performance for other sectors of Australian manufacturing.

[15] ASEA (2013, Issue #03, p.1)

2. STRATEGIC VALUE OF THE AUTOMOTIVE INDUSTRY

2.1 Inherent Value Of Automotive Manufacturing

With its extensive range of supply chain capabilities, the automotive component industry is a key contributor to the Australian economy. This reflects over 50 years of human and capital investment within the industry from conceptual design through to production. Automotive remains a strategic industry given its unique capability to drive innovation and productivity.

Most major industrialised nations can credit their advanced manufacturing capacity to the development and sustainment of a strong automotive industry. Key examples include Japan, Korea, UK, USA, Canada, Germany and France. The two emerging economic superpowers of the 21st Century, China and India, are also investing heavily in automotive.

While the Australian industry is challenged by low volumes, its inherent capabilities in R&D and advanced design and engineering are comparable with any developed automotive producing nation. As outlined previously, this is also reflective of the industry's leading contribution to Australian manufacturing R&D expenditure.

The supply chain has been instrumental in introducing a number of world-class technologies to Australia. This position highlights the strategic nature of the industry as a source of innovation, and a driver of spillover benefits across the manufacturing sector.

2.1.1 The Australian automotive supply chain

Australia's automotive supply chain supports the country's position as one of only 13 globally that can build a vehicle from the concept stage.

It is a larger employer than the MVP sector, with up to 75% of total employment across the industry, generating $3.2 billion in economic activity annually.

Whilst dependent on local vehicle manufacture at its core, the industry supports the Australian manufacturing community through its sales into aerospace, defence and mining services amongst other sectors of the economy.

Historically, the industry has led the uptake of a range of product and process innovations, including the diffusion of lean manufacturing principles, which are now extending to the finance and public sectors. The industry is also driving the uptake of advanced manufacturing techniques across the Australian economy, including additive manufacturing, 3D printing and digital manufacturing.

Despite the recent strength of the dollar, and often prohibitive trade barriers, the sector has forged an extensive export network, both in its own right and as a key contributor to built-up vehicle sales from Australia.

Australia boasts a rich history of innovation and R&D activity in the automotive supply chain. These activities have built the base for the industry's ability to respond to global developments to move up the manufacturing value chain.

This recent history includes understanding that what defines automotive manufacturing in Australia has been changing, with design, development, engineering and a raft of associated activities forming part of the total value proposition from the industry. These developments are progressively extending beyond domestic customers to the Asia-Pacific region also.

There are a range of recent developments in the innovation space through Australia's automotive supply chain.

Auto2020 Roadmap

The range of advanced capabilities and R&D opportunities within the supply chain were highlighted in the 2010 roadmap study into industry capabilities, *2020 Automotive Australia* (AA2020).[16] This resulted from collaborations between component producers, non-automotive producers, MVPs and various research institutions.

AA2020 validated the range of advanced world-class capabilities within our industry and identified four key long-term priority areas to support the future technology needs. These are:

- Vehicle electrification - Hybrid and EV components ranging from high energy density batteries, electric powertrains, electric motors and supercapacitors
- Light weighting – Opportunities for Australian industry to include lightweight body panels, road wheels, steel alternatives, composite seats and interior structures
- Gaseous fuels – Technologies including LPG direct injection, fast fill platforms and high capacity storage tanks
- Data and Communication – Reflecting the increased availability of in-vehicle information systems such as by-wire systems. The major applications are in improved human-machine interfaces and driver information systems.

The roadmap demonstrated the range of advanced technology capabilities within Australian industry which can be competitive on a world-scale. The study provided a platform to identify opportunities for the industry to contribute to the technologies of tomorrow, and reinforced the broader value of the automotive industry in driving development of the world's leading technologies.

EV technologies

With significant support from the research sector, the Australian automotive supply chain is contributing to the development of the next generation of automotive technologies including clean energy and electric vehicle capabilities. This incorporates electric motors, batteries, power and control electronics, charging systems in addition to advanced lightweight components.

Case Study 1 - Futuris

Futuris - Futuris is a leading producer of automotive and transport seating and interior systems and continues to win supply contracts for high-end global EV platforms. The Futuris Technical Centre in Melbourne acts as the primary design and development facility for the company globally. The Australian facility designed and developed advanced lightweight seating and interior systems for Tesla Motor's 'Model S' electric sedan. This vehicle is considered one of the most sophisticated EVs available on the global market.

Futuris is also involved in a range of innovation projects for future automotive applications including the development of a patented 'lightweight' knitted composite seat structure using advanced composite and nanocellulose materials. This product has application in a range of sectors which require advanced lightweight textile materials.

This EV capability presents a substantial opportunity for the industry as the technology gains in popularity through the Asia-Pacific region.

Advanced lightweight components

The Australian sector is driving capabilities in advanced lightweight automotive components. The sector has built a global reputation for innovation in carbon fibre composites which have also been utilised in aerospace applications. Carbon fibre is now the material of choice for design engineers worldwide and has been adopted more broadly for a range of high performance applications in marine, sports and construction.

[16] AutoCRC (2013) *Automotive Roadmap: The 2020 Vision*

Case Study 2 - Carbon Revolution

Carbon Revolution is an Australian based company which designs, manufactures and sells carbon fibre composite wheels for automotive, commercial and aerospace applications.

It sells wheels to the automotive aftermarket globally and to Original Equipment Manufacturers ("OEMs" – the world's major automakers) in Europe and the US for use in series production of cars. It is also working with aerospace companies and trucking companies to develop applications for its wheels on planes, helicopters and trucks.

The company has strong skills and capabilities across automotive componentry, aircraft manufacturing, industrial composites manufacturing underpinned by world-leading materials and structures knowledge. Carbon Revolution also has formal partnerships for technology development and product testing around the world, including Deakin University and RMIT University in Australia.

Additionally, the automotive industry is driving research efforts into light metals such as aluminium, magnesium and titanium alloys. The Australian component sector is developing commercial opportunities for these new technologies in local and global markets.

Case Study 3 - Marand Precision Engineering

With its roots as a toolmaker to the automotive industry, over the past thirty years Melbourne-based Marand Precision Engineering has leveraged the technical skills and capabilities developed from being an automotive supplier to enter into other advanced manufacturing industries that also demand excellence.

Marand's automotive industry experience created the world class skills in designing and engineering innovative products that form the basis for its entry into the aerospace, defence and mining services industries.

Today its customer base includes Boeing, BAE Systems, BHP, Rio Tinto, Holden and Lockheed Martin, including major global projects such as the manufacture of vertical tails for the Joint Strike Fighter, with potentially $1.5 billion in contracts extending to 2031.

As Marand has entered these new markets, it is also creating new opportunities for other Australian businesses in its supply chain that can also meet these exacting requirements. While Marand has successfully diversified its business beyond automotive over several decades, it still considers that the retention of Australia's automotive industry is vital to maintaining core manufacturing capabilities that are the basis for seizing opportunities in other industries.

Marand is currently developing a vertical tail structure including associated materials and components as part of the global F-35 aircraft production supply chain for the Joint Strike Fighter with application in the aerospace industry.

This expansion builds on the diversified product and market portfolio that the company has developed since establishing itself as a dedicated automotive supplier in 1969.

Many automotive suppliers have also expanded into a range of markets that can be considered non-traditional in regard to the broader manufacturing space.

Case Study 4 - Composite Materials Engineering

Composite Materials Engineering (CME) – CME is a leading specialist composites business that designs and manufactures long glass fibre composite materials. The company operates three manufacturing facilities supported by a technical support centre which includes a materials laboratory. The centre employs an experienced engineering team with CAD systems and tooling design expertise to provide a range of solutions across design, testing, compounding, moulding, finishing, painting and assembly.

CME developed the first composite spare wheel, for GM globally and supplied to the Commodore. This new technology provided vehicle weight savings of 5kgs and design benefits not possible using steel. This is now being considered for new GM global platforms and the company is regarded as GM's global expert.

Further, the technology is now being applied to a new, lightweight pallet being developed with CHEP to replace wood.

2.1.2 Driving global integration and technology transfer

The technology requirements of the automotive sector enable the industry to act as a catalyst for technology transfer between Australia and global markets.

Australian component producers are rapidly increasing their integration with the global industry and this also provides spillovers for the manufacturing sector. Two examples below outline these advantages:

Case Study 5 - DSI Holdings

DSI Holdings (DSI) is a manufacturer and supplier of both specialty and high volume components and assemblies to the global automotive industry. With over 40 years of experience and knowledge in manufacturing complex components and assemblies, the facility specialises in high precision CNC machining and multi-function machining. The company has strong technical alliances sharing significant resources with access to over 1,700 engineers at its sister company in China.

DSI has an in-house technology group dedicated to design capabilities and a high level of volume assembly skills including jig design and manufacturing including mechanical / electrical software calibration. The company draws upon its significant international networks, collaborating with various overseas organisations through supply and purchasing. This has established DSI's position as an internationally competitive and leading components company for the local and global automotive industry.[17]

The automotive supply chain represents a mature cross-section of businesses from Australian-owned through to integrated multi-national corporates.

[17] Industry Capability Network (2011), Access Auto Australia, Melbourne

Case Study 6 - Robert Bosch Australia Pty Ltd

Bosch Australia is the regional subsidiary of the global parent Bosch Group based in Germany. Bosch Australia undertook a joint project with Electric Vehicle Engineering (EVE) to develop and apply a vehicle dynamics and stability system for an advanced EV prototype to be produced in Australia.

The knowledge gained through the project enabled Bosch Australia to develop a similar technology for a major Japanese manufacturer. This project involved software and application work in Australia and on-site work in Japan. The opportunity to export Australian technology was facilitated by the Robert Bosch's global network.

2.1.3 Driving linkages with the research sector

The automotive industry's technology advantage is built on extensive engagement with world-class research institutions both in Australia and internationally. A number of local automotive component organisations have linkages with research institutions through formal research alliances, MoUs and also postgraduate employment in private R&D centres. In this regard, Australia's automotive industry supports research and development by providing a platform to commercialise new manufacturing technologies.

CSIRO

The component industry has forged a strong relationship with Australia's premier science and research institution, the CSIRO. The institution has worked closely with industry to develop active programs in the latest technology areas including environmental sustainability and new materials, through to virtual design and manufacturing systems.

Some of CSIRO's automotive commercial achievements include the development of:

- Switched reluctance motors for the ECOmmodore and ultrabatteries which were commercialised by Ecoult at GM Holden
- Hybrid drivetrains for GM Holden
- Cold spray technologies now used in titanium component production
- Powder coating of plastic components for the automotive sector that are licensed by Dulux Coatings
- Supercapacitors used in low-emission, fuel-efficient car designs
- In collaboration with CME, CSIRO developed and licenses a unique system to bond a polypropylene composite wheel tub to the steel chassis of the Holden Commodore – this is a first for GM Holden.

These technologies have broader applications in a range of industries. For example, the powder coating technology has since been applied in timber to extend product life. The supercapacitor technology originally developed for automotive is now used in a range of consumer electronics such as computers, wireless modems, LED camera flashes and power tools.

Cooperative Research Centres

The automotive industry is also integrated within Australia's Cooperative Research Centre (CRCs) network. The CRCs include collaborations between research institution, government and industry. In addition to the AutoCRC, industry has collaborated with a range of other bodies including the Advanced Manufacturing CRC and various materials and polymers organisations.

The AutoCRC is dedicated to support the automotive industry and has developed programs in line with the AA2020 roadmap. The AutoCRC also contributed to a eWood project which included a collaboration between Swinburne University, Futuris (component supplier) and 'Close the Loop', a recycler of toner and inkjet cartridges. The project is aimed at developing an advanced recycled material (eWood) from recycled printer cartridges and waste plastic from Futuris' interior trim

manufacturing processes. This new material has the potential to replace or reduce the use of virgin plastic in the production of components, resulting in less waste material going to landfill.[18] The technology has application in a range of industrialised sectors which utilise plastic fibres and Futuris has identified a number of commercial opportunities for the technology globally.

A further project of the AutoCRC involves the University of SA and SA-based rear vision mirror producer SMR. This project aims to develop next generation nanocomposite thin film coatings and leverages knowledge gained from a previous collaboration to develop lightweight automotive mirrors that have performance attributes superior to glass.[19]

Between 2005 and 2012, the AutoCRC has supported 60 automotive-based research projects. Eleven key projects have resulted in a net economic benefit of $516 million[20].

These initiatives underline the willingness of the component sector to evolve in response to the demands of an increasing globalised industry, and its recognition that it needs to move up the value chain. These linkages with the research community will further expand to incorporate a broader spread of automotive suppliers across an increasing range of technologies to drive additional competitiveness. This will position the local industry to take advantage of the raft of global opportunities on offer.

2.1.4 Workforce practices and lean production

In light of the competitive pressures facing our industry, the automotive sector has introduced concepts of lean manufacturing to the Australian economy and remains the leader in these disciplines. The industry has specific expertise in:

- Continuous improvement
- Supply-chain management
- Just-In-Sequence (JIS)
- Just-In-Time (JIT)
- Kanban systems
- Flexible manufacturing models
- Status visualisation
- Root-cause analysis techniques.

These disciplines are underpinned by rigorous automotive quality procedures and advanced product quality planning methodologies.

This capability is providing a forum for knowledge exchange with a range of other manufacturing sectors such as defence, rail and aerospace. Many non-automotive sector participants believe that the automotive industry drives the development of quality systems and manufacturing excellence that exceed the requirements of existing industry certification models.

[18] AutoCRC,
[19] Ibid.
[20] The Cooperative Research Centre for Advanced Automotive Technology (2012) *Exit report 2005-2012*

Case Study 7 - Thales Australia

The significance of the skills and capabilities developed through the automotive industry and their impact on other industry sectors, such as defence, is highlighted by Thales Australia (Thales). Thales is part of the global Thales Group, a leading international electronics and systems company serving the defence, aerospace and space, security and transport markets worldwide.

Thales has been selected as the preferred tenderer for a Department of Defence (DoD) contract to produce up to 1,300 Protected Mobility Vehicles (PMV), otherwise known as the 'Hawkei'. This is the replacement for the world-renowned Bushmaster military vehicle. The company attributes the remarkable 18 month lead-time from concept to prototype in part to the skills and capabilities it could draw upon from the domestic automotive industry.

The highly technical and adaptable skill base of the automotive industry in project management, design, and supply-chain management are synergistic with the requirements of the defence industry. This facilitated the ability to rapidly integrate correctional design changes during the development of the Hawkei, and resulted in the reduction of technical project risk and development lead-time, whilst increasing the prospect of achieving unit cost benchmarks.

2.1.5 Driver of skills innovation

The automotive industry demands a diverse range of skills and specialist expertise to support its technology requirements. The sector is a significant employer of skilled trades personnel across a range of engineering disciplines including advanced design, manufacturing, electronics, drivetrain technologies, batteries, braking systems and robotic automation.

In order to meet the ever-changing needs of new automotive technologies such as electric and hybrid vehicles, the Australian industry requires continued support in its access to information, tools and resources to rapidly up-skill and enable continuous improvement to access global opportunities. The industry drives the delivery of world-class training programs including development of new skills to support development and manufacture of next generation vehicles. Training is provided through a combination of organisations (schools, TAFEs and universities), many with industry-specific relationships and on-the-job training.

Auto Skills Australia Limited

Auto Skills Australia Limited (ASA) is the key body responsible for the development and maintenance of nationally accredited automotive training qualifications in Australia. Funded by the Federal Government, ASA is focused on the development and continuous improvement of the skills capacity of the automotive industry. The organisation works closely with a number of industry groups, unions and manufacturers to ensure workforce development plans equip Australian businesses with the skills required to equip the automotive workforce of the future. For instance, training initiatives have been developed in response to emerging technologies, including through a Hybrid and Battery Electric Vehicle training course delivered by VACC and Kangan Institute of TAFE.

Kangan Institute

The Kangan Institute's Automotive Centre of Excellence (ACE) in Victoria is a dedicated industry focused and automotive training facility. The facility is a significant contributor to the automotive industry incorporating world-class vehicle and engine testing facilities, new workshop spaces and a purpose-built automotive electrical laboratory. Through access to state-of-the-art technology and hands-on training, ACE trains over 4,500 automotive students each year. ACE is designed to increase the industry's innovation capabilities and develop a more integrated approach to training and R&D. Program delivery is supported by industry sponsors including Nissan, Yamaha, Kawasaki, Suzuki, Froude Hoffman and PPG Industries.

2.1.6 Exports

The Australian automotive industry remains a strategic source of export revenue. As noted previously, at $3.7 billion in FY13, automotive exports represents an important contribution of

Australia's total manufacturing and elaborately transformed product exports. The value of automotive exports of vehicles and components increased in FY13 despite declining domestic production volumes.

Whilst the industry continues to diversify and expand its global integration, local production of vehicles over the short and medium term will be critical to sustain export capacity. For a large proportion of the supply chain, a sudden loss of volume would force production below a critical mass and make the maintenance and development of export markets unviable.

Section Three provides examples of Australian export success stories. Securing the range of opportunities in emerging export markets will require policy action to manage structural challenges facing the industry. Critical to this approach is the need to sustain core industry capabilities until the dollar returns to equilibrium levels and the industry can compete on a level playing field in international markets. The growth in the Asian middle class will also continue to create new export market opportunities over time, and it is incumbent on the local industry to position itself for this opportunity.

2.2 Long Term Sustainability Of The Automotive Supply Chain

In order for the Australian automotive industry to remain internationally competitive and sustainable, on-going improvements in productivity are required. Industry and firm restructuring and consolidation will improve productivity, build economies of scale and attract further investment. FAPM strongly believes there is a role for government in supporting this consolidation process to minimise the transition costs and reduce the number of unplanned exits.

Global integration of the industry will also be critical for the long term sustainability of the supply chain. This will have benefits through improved exposure to global vehicle platforms, technology support, access to infrastructure, global resourcing and marketing. In this regard, the supply chain is aware that the move to global platforms creates both a challenge and an opportunity. As referenced in Recommendation 4, FAPM believes that the right policy and program settings can create the backdrop for greater integration with global platforms through local vehicle manufacturers and importers.

Overall, it is important to restate that the long term viability of the supply chain is based on the continued presence of viable vehicle production in Australia.

2.3 Diversification Of The Australian Automotive Sector

The automotive supply chain is making substantial progress in diversifying into new markets to reduce its reliance on the domestic MVPs. This shift not only benefits the long-term sustainability of component suppliers, but also provides opportunities for Australia's broader manufacturing sector.

Diversification into new markets positions suppliers to increase volumes, which in turn improves their capital and labour productivity ratios. It is a critical way to access the benefits arising from increased plant utilisation at a time when vehicle production numbers are soft.

Case Study 8 - Venture Australia Group

Venture Australia Group is a global leader in manufacturing and decorating plastic components predominantly for the automotive sector, specialising in interior and exterior trim components and highly complex assemblies. As a result of the diminishing automotive industry in Australia, Venture has implemented a targeted diversification strategy into non-automotive industries including consumer goods, industrial products and construction materials. The company currently generates 10% of total revenue from consumer goods and industrial products, however is seeking to increase this share to approximately 50% within the next five years by diversifying its product portfolio. This would include both plastic and non-plastic industrial products and high-end construction materials such as an aluminium composite 'alcatop', noise absorption barriers and fibre reinforced plastic extrusions.

Venture's advanced tooling concepts have led to major productivity improvements, halving the time that consumer goods have traditionally required for manufacturing. These capabilities and competencies have enabled Venture to enter into the fuel storage container market, which was

dominated by imports supplied by a firm in Canada. Since the company's entrance into the consumer goods market, Venture has successfully won supply contracts for fuel storage containers, replacing imports and capturing 60% of the current market.

The opportunities presented by this diversification story highlight the attractiveness of automotive suppliers to new customers and markets. The production process employed, focus on innovation and a proactive approach to design are substantial, transferable attributes.

Case Study 9 - MHG

MHG Asia Pacific is part of the MH Group of Companies whose core business is in manufacturing exterior and interior solutions for the automotive industry worldwide. In 2009, MHG acquired the automotive glass operations of CSR Limited as part of a vigorous diversification strategy to complement its leading plastics division. MHG is now the sole manufacturer of MVP automotive glass in Australia and is the sole supplier of Toyota's glass automotive components.

Leveraging its skills and capabilities developed in the automotive industry, MHG is diversifying its product portfolio into broader transformation and non-automotive industries. This includes designing and producing specialised demisting glass for the local bus manufacturing industry and supplying glass windows for new train carriages for the rail industry. These new products have been developed from unique engineering competence within the automotive glass industry and are made possible through the skills developed in the broader advanced automotive manufacturing industry. The ongoing collaborative support between suppliers such as MHG Asia Pacific and the Australia automotive industry is paramount to the continued success of diversification and growth.

Due to MHG's relationship with the MVPs, the company participates in the global supply chain with particular focus on the Asia-Pacific region and this in turn generates export sales for Australia, none of which would be possible without global MVPs.

As outlined in Recommendation 7, the FAPM believes there are changes to the ATS program that can be implemented to further support supply chains diversification outcomes.

2.4 Spillover Benefits Of Automotive Activity To Other Industries

Australia's capabilities in automotive manufacturing have significant spillover effects into other parts of the economy. This includes benefits in the form of technology diffusion, skills and management processes which extend to the mining, food processing, aerospace and defence, healthcare and construction industries to name a few.

Case Study 10 - Backwell IXL

Backwell IXL is a 150 year old Geelong based company manufacturing metal stamping, metal finishing, roll form and assembly. They supply all three local OEMs with transmission housings, pump & valve bodies and suspension components. With support from ASEA, Backwell IXL began a business development and diversification strategy recognising the disciplines required to supply the automotive component market ensure that other customers enjoy the supply of low cost, quality assured products through their supply chains.

This has resulted in the establishment of Sampford IXL, a merger of Sampford & Staff with IXL Appliances manufacturing bathroom lighting, home heating and ventilation systems. Recently, Backwell IXL secured a high volume contract to manufacturing solar panels and parts for regional solar farms.

Engineering Manager Ross McDonald attributes this to "the very stringent underlying automotive principles that underpin the foundry make it competitive for other products that require durability."

2.4.1 Technology diffusion - lightweighting

The automotive sector plays a leading role in the dissemination of knowledge and diffusion in technology across a range of knowledge and competency areas.

Increasing the trend towards lightweighting provides one example of the leadership role played by the industry in assisting a cross-section of the economy to engage with new concepts.

With consumer and regulatory-driven demands for improvements in vehicle fuel efficiency, the automotive industry is constantly seeking to adopt new technologies that reduce vehicle weight. Given this imperative, the automotive industry is typically a leader in the development and uptake of new advanced materials technologies, including carbon fibre and light metals (aluminum, magnesium and titanium alloys).

Carbon fibre

According to the Victorian Centre for Advanced Materials Manufacturing (VCAMM), the global carbon fibre demand is estimated to increase at a CAGR of 13-17% per annum, and is forecast to reach approximately 150,000 metric tonnes by 2020. Similarly, independent market research forecasts that global demand for carbon fibre will grow from 46,000 tonnes in 2011 to 140,000 tonnes by 2020.[21]

This research also found that demand for carbon fibre is currently being generated by the industrial sector (including wind energy and automotive, representing 67% of total demand), followed by aerospace (17%) and sports goods (16%). By 2020, automotive and wind energy applications are estimated to account for 46% of the world's total demand for carbon fibre.

Carbon fibre in automotive parts is a potentially disruptive market, with global forecasts ranging from $300M to $1.2B (15,000 – 55,000 tons) based on key demand trigger points such as emission and fuel efficiency regulations, and technology improvements towards cost-effective manufacturing. The cost of manufactured carbon fibre parts is changing rapidly, based on innovations throughout the value chain, from precursor selection and carbon fibre production to component manufacturing processes.

Global Automotive MVPs are recognising the potential for carbon fibre composites in their products and need for close integration between fibre production, component manufacturing and system design. Many global automotive MVPs, most notably BMW, VW, Daimler and Ford are setting up partnerships with carbon fibre manufacturers to drive innovation through the manufacturing supply chain and create a competitive position. Currently this supply chain partnering is very immature and open to influence, and opportunities for new players are plentiful. The Australian automotive industry has an opportunity to position itself to exploit these opportunities.

Organisations such as Carbon Nexus (a partnership between Deakin University and VCAMM) have formed deep relationships with key global automotive MVPs, global Tier One and Two automotive suppliers as well as key players in the carbon fibre supply chain. These organisations are developing important intellectual property technology improvements with these players and this is assisting in the drive towards cost-effective manufacturing. Such Australian-developed technology can be transferred to existing Australian automotive suppliers enabling them to play a role in the immature and emerging global supply chain. (Carbon Revolution is highlighted in Case Study 2).

While carbon fibre technologies are also being used in aerospace manufacturing, the scale of the automotive manufacturing industry creates the critical mass in Australia and the basis for developing skills be integrated more broadly across manufacturing. Composites Australia and the Advanced Composites CRC complement the activities of the Australian automotive sector in establishing specialisation in this field across the Australian economy.

2.4.2 Skills spillovers

A number of related industries derive direct benefits from the skills enabled by the automotive sector. These include the aerospace, defence, mining, food, engineering and finance industries that benefit from automotive expertise in lean manufacturing, quality and supply chain management.

[21] Roberts, Tony (2010) *The Carbon Fibre Industry Worldwide 2011-2020: An Evaluation of Current Markets and Future Supply and Demand*

A 2008 Skills Audit of the Australian Medical Devices Industry commissioned by the Australian Government's Department of Industry found that the automotive industry was a key source of talent for the Australian medical devices industry.[22] This was due to the automotive industry's development and application of advanced technologies and the demanding regulatory environment. Given the small size of the local medical devices industry, the Australian sector would not be able to generate the skills that the industry needs. The report found that:

> *"…R&D professionals can also frequently be recruited from other industries. In particular, employees were reported to be recruited from the automotive industry. New entrants from other industries were generally aware of the types of product development methods, regulatory standards and the manufacturing processes involved in product R&D for domestic manufacturing (albeit on a smaller scale to the automotive industry)".*

Skills in automotive also has enormous benefits to the mining sector. Based on the results from the 2012 ASA e-Scan Report, it is anticipated that significant numbers of qualified automotive tradespeople will join the mining and civil construction industries over the next 12 months.

Case Study 11 - L&L Products Australia

With 70% of the business dedicated to the automotive industry, L&L Products Australia has over 35 years of experience developing acousticmaterials, parts and applications for leading MVPs in Australia and internationally. These include a suite of lightweight fibre-based 'DECI-TEX' noise-absorbing materials, and more recently a new class of 'short-fibre' materials for interior and exterior moulded parts. The remaining 30% of the business is focused on a range of industries including heavy trucks and air conditioning systems for buildings.

L&L's extensive knowledge and technologies for the automotive industry has generated spillover benefits into other industries by establishing a core understanding of complex environmental systems and compliance requirements. This has equipped the company with competencies and skills to deliver solutions that address the specifications, procedures and pricing strategies for non-automotive industries which are typically simpler than the complex requirements of the automotive industry.

The finance sector is another key beneficiary of the flow-on from skills and capabilities from the automotive industry. Larger banks including NAB and ANZ have initiated "lean teams" within their operations, often harnessing talent from the automotive sector. These organisations understand the improvement in business efficiency and productivity that comes from the disciplines established within the automotive sector.

Case Study 12 - BlueScope Steel

A further example demonstrating the significance and impact of the automotive skills and capabilities on other industry sectors is highlighted by BlueScope. BlueScope is a leading steel company in Australia and New Zealand manufacturing a range of flat steel products for building and construction, manufacturing and automotive applications.

BlueScope delivers steel directly to automotive customers that include the three domestic MVPs Toyota, GM Holden and Ford, and a large number of smaller volume automotive component companies which are serviced through BlueScope's distributor network.

In a number of instances, the product requirements of the automotive industry have underpinned the necessary equipment investment by BlueScope at its Western Port facility, which is the only BlueScope site with this processing capability. The expanded capability in turn facilitates both the improvement of process control/efficiency as well as the ability to supply many other diversified

[22] Australian Government, Department of Innovation, Industry, Science and Research, *Skills Audit of the Medical Devices Industry*

building and specialty manufacturing products including 1500mm wide steel for air conditioning ducts and 1405mm wide pre-painted steel hot water systems.

The company believes that the automotive industry sets the benchmark and is driving the development of manufacturing excellence and quality systems that exceed the levels of generally accepted industry certification models in the broader manufacturing industry.

The rigour of the automotive industry around manufacturing principles such as Change Management, Continuous Improvement, and Just-In-Time systems have encouraged BlueScope's Western Port facility to undertake a Lean Manufacturing Intervention program that involved employees from process worker to management executive. This program resulted in $7.6 million in bottom line cost savings and more than 25 kilo tonnes of new business. This initiative not only benefits the automotive aspect of BlueScope's business but flows through to the other industry sectors that the site services.

This cross-section of industry sectors impacted industries the extent to which the disciplines and principles of efficiency from the automotive sector have applications. This area is one example of the value delivered to the broader economy from the presence of a globally competitive automotive sector.

3. AUSTRALIAN INDUSTRY IN A GLOBAL PERSPECTIVE

3.1 Export – Global Market Opportunities And Success Stories

3.1.1 Global market opportunities

Export markets for automotive components and associated design and engineering services present an ongoing opportunity for the Australian industry.

Economic growth in emerging markets is driving global demand for vehicles with growth expected to expand significantly in the coming decade. Asia's emerging middle class presents opportunities for vehicle manufacturing in a high quality environment, where consumers are prepared to pay a premium for quality products. These trends represent significant opportunities for Australia's automotive technology and component capabilities.

Equally important is increasing Australian exports of completed vehicles with high local value add. For the component sector, this represents a preferable approach for export and simplifies the range of transactional costs associated with trade.

As outlined previously, the strength of the Australian dollar has made our exports comparatively expensive and has priced us out of many markets. However, as shown in Figure 2, the local currency has had dramatic fluctuations since it was floated in 1983, with its value only $US0.46 less than a decade ago. In such an environment, it is critical that industry stakeholders and government avoid taking short-term perspectives on the value of the Australian dollar and rather focus on the strategic opportunities that the Australian industry can pursue as the dollar returns to a more modest level.

In addition to vehicles and components, Australia has also increased its share of service exports in advanced design and engineering capabilities. This approach provides opportunities for high value-add returns by leveraging Australia's comparative advantage in research and technology. This is a strong area of complementarity with Asia, where emerging automotive markets have a substantial appetite for capabilities in design, development and innovation.

3.1.2 Export success stories

Australia's component exporters are winning business in key global markets based on their strengths in world-class innovation and their commitment to productivity. The following examples highlight the range of export opportunities that can be realised, the diversity of component suppliers realising these opportunities, and the calibre of global customers being serviced.

Case Study 13 - L&L Products Australia

L&L is a leading technology producer with unique expertise in static sealing, acoustics, vibration reduction, structural reinforcement and composite components for automotive and non-automotive industries globally.

The company recently established a significant export business division in Australia which generates approximately 40% of total revenue from sales of high-quality and lightweight acoustic automotive components into Germany, China and the USA. Of note, the advanced acoustic nature of this technology has enabled L&L to forge a market among leading luxury brands including models for Rolls Royce, and BMW's 5 and 7 Series vehicles for an improved acoustic performance and quieter ride.

Case Study 14 - Mett Pty Ltd

Mett Pty Ltd (Mett) is a leading manufacturer of advanced technology for die casting cells utilised for both aluminum and zinc casting. In recognition of a world class expertise, Mett has been awarded 'Global Supplier of the Year' by GM headquarters.

Mett has established a successful exporting division with increasing volumes of automotive components being supplied to markets across Asia, Europe, North and South America. The company has seen substantial growth in exports particularly over the last 6-8 years with only 15% of sales now generated by the local market.

Mett's competitive advantage lies in its advanced capabilities in precision tooling solutions including tool design, 3D modelling, prototyping, flow and solidification simulations through to CAD/CAM based die manufacturing. These advanced competencies are supported by Mett's world-class tool room facility in Melbourne which employs up to 40 specialists dedicated to automation, electronics and robotics.

Mett has won GM Holden's Global Supplier of the Year award eight times since the program started in 1992.

Consistent with the need for the local supply base to continue to move up the value chain, the focus on innovation and technology provides a competitive premium for the Australian sector.

Case Study 15 - SMR Automotive

SMR Automotive (SMRA) is part of the India-based SMR Group, one of the largest global manufacturers of rear-view mirrors for passenger vehicles. The company's export strategy has been supported by a dedicated R&D program focused on developing innovative new products to leverage the business. These new products include:

- 'Powerscope' Telescopic Trailer Tow (TTT) mirror, a safety towing mirror enabling powered extension and retraction of the mirror from inside the vehicle
- LogoLamp, which is a branded courtesy lamp activated with the central locking system of the vehicle.

The Australian company currently generates approximately 75% of total revenue from export sales, equivalent to over $80 million per annum. SMRA exports automotive componentry predominantly to the USA, UK, Hungary, France, Korea, China, Thailand and India.

Case Study 16 - MtM

MtM is an Australian-owned manufacturing and components design company established in 1965 that specialises in complex value added automotive and non-automotive components.

One supplier which is succeeding in technology transfer to emerging markets is Victorian-based MtM Pty Ltd (MtM).

MtM has implemented a robust export strategy over the last two decades in light of the declining Australian market. The export approach commenced with advanced door-checks for the Cadillac in North America, which has led to further opportunities including recent expansions of sales into South Africa, Thailand, Argentina, China and India through the supply of door-checks and automatic gear shift assemblies.

The company is also pursuing an aggressive export pathway into Korea, Mexico and Russia in 2014, and recently won a door-check program for sales in Malaysia for Proton.

However, MtM could not maintain its Australian based export business without volumes supplied to local MVPs. In the absence of local production, MtM would consider relocating the business overseas.

These diverse suppliers represent a cross-section of companies in terms of size, ownership structure and component type. Collectively, they highlight the possibilities for the vast majority of Australia's supply base to succeed in international markets off the back of a viable domestic industry.

3.2 International Assistance Arrangements

Australia's automotive market is among the world's most open and competitive with our vehicle tariff rate at 5%. Australia is an active advocate of the principles of free trade. However, Australian producers must be provided with a policy environment with fair and adequate opportunities to compete in export markets. Critical here are:

- Understanding the support level provided to other automotive industries around the world
- Fully appreciating the market access issues faced by the Australian industry.

In addition, Australia must remain an attractive destination for foreign capital. This includes providing an appropriate balance of incentives for foreign investors, and the public and private sectors being proactive in positioning Australia as a destination for footloose investment.

3.2.1 Global automotive subsidies and assistance

Whilst the global automotive industry is extremely competitive, rival companies do not compete on a level playing field. All major automotive industries including in North America, Europe and Asian markets continue to receive a range of direct and indirect subsidies from governments at a range of levels.

Government support can include tax exemptions, grants, R&D assistance, loans and investment attraction subsidies. Indirect barriers can exist in the form of excessive administrative burden for foreign producers or preferential procurement policies for local producers. For example a range of subsidies in the Europe Union (EU) rest within a range complex national and EU policies.[23]

OECD and Sapere reports

The range and scope of assistance across countries means that conducting an accurate assessment of support in the global industry is difficult. In 2010, the OECD attempted to compare assistance levels across major automotive producers.[24] However the report received criticism based on the quality of research being inadequate, which was claimed to have skewed the research findings.

Of note, the OECD report claimed that the Australian automotive industry received the second highest rate of public assistance at around $US200 per capita. This was based on Government support for the industry under the $6.2 million *New Car Plan for a Greener Future*, announced in 2008.

In response, a 2011 report by the *Sapere Research Group*[25] (commissioned by the Australian Federal Chamber of Automotive Industries (FCAI)) claimed that the OECD report had based its findings on incorrect analysis. The report had assumed that Australia's funding was committed over a two year period (as opposed a 13 year period) and that the assistance was stimulus in nature.

Referring to research by the Productivity Commission, the *Sapere* report suggested that Australian automotive assistance was closer to $US18 per capita and relatively modest among OECD nations.

Of note, the *Sapere* report claimed that Australian assistance during 2008-09 was lower on a per-capita basis than some of the world's most competitive manufacturing nations, including US and Germany.

23 The Conservation (2013) *FactCheck: do other countries subsidise their car industry more than we do?*
24 Organisation for Economic Co-operation and Development (2010) 'The automobile industry in and beyond the crisis'
25 Davey, A (2011) Budgetary Assistance to the Australian Automotive Sector - Sapere Research Group

Figure 10 - Government assistance globally

Per Capita Assistance for the Automotive Industry, $US 2007 (purchasing power parity), 2008-09					
Country	**Estimated Assistance (Local Currency)**	**Population (million)**	**Per Capita Assistance (Local currency)**	**Currency Conversion (purchasing power parity)**	**Per Capita Assistance $US**
Australia	$573.3 million	22.0	$26.11	1.467	$US17.80
Canada	$C4 billion	32.5	$C118.55	1.23	$US96.39
France	€8.6	62.1	€137.36	0.932	$US147.38
Germany	€6,5	81.7	€79.52	0.88	$US90.37
Sweden	28.5 billion kronor	9.2	3085.81 kronor	9.234	$US334.18
United Kingdom	£1.15 billion	61.8	£18.61	0.665	$US27.99
United States	$US81.3 billion	307.0	$US264.81	1.0	$US264.82

Source: Sapere Research Group

The Sapere report also highlighted the extensive bail-out packages provided by North American and European governments during the GFC (2008-09). This assistance included:

USA

- $US73.8 billion Automotive Industry Financing Plan which provided loan and equity injections to automotive manufacturers
- $US7.5 billion Advanced Technology Vehicle Manufacturing Loan Program which supported automotive industry loans of $25 million to assist US manufacturers meet high fuel costs and develop technologies to reduce US dependence on imported crude oil.

France

- €6 billion in loans to car maker Peugeot – Citroen and Renault
- €600 million to automotive component sector
- €2 billion was provided to the financial services division of Renault and Peugeot-Citroen.

Canada

- $C4 billion provided in loans to the Canadian auto industry

Germany

- €1.5 billion in loans to Opel and a further €5 billion of assistance in 2009 for its scrapping scheme

United Kingdom

- £2.3 billion in loans from February 2009 until December 2010 under the Automotive Assistance Programme

The Appendix incorporates an overview of assistance arrangements for selected countries incorporating both industry-specific assistance and broader programs to which the relative sectors have, or have had access. The following examples highlight the breadth of assistance arrangements in terms of geography and type.

US government assistance

In addition to the rescue support, an investigation by *The New York Times* found that the USA's top three manufacturing organisations had received $4.75 billion in various state-based subsidies and grants since 2007.[26] This funding included:

- US1.4 billion to Chrysler
- $US1.77 billion to GM
- $US1.58 billion Ford.

These assistance levels are typically supplemented by very generous grants and incentives paid by State Governments to attract automotive manufacturing activity. Recent examples include:

- Toyota Motor Manufacturing Kentucky has recently secured a $360 million investment that will create 750 new jobs at the first-ever U.S. production site of the top-selling Lexus ES 350 model in Georgetown, Kentucky. This investment was won for the State with assistance from the Kentucky Economic Development Finance Authority which preliminarily approved the company for tax incentives up to $146.5 million through the Kentucky Jobs Retention Act.[27]

- Ford Motor Company is investing $850 million in its Michigan plant between 2011 and 2013, which will generate up to 1,200 new full-time positions in manufacturing and engineering. This investment commitment was secured as a result of the new Michigan Economic Growth Authority (MEGA) package aimed at making the state a more competitive place to invest in new fuel-saving technologies and facilities.[28]

- General Motors Corporation invested over $413 million from 2006 to 2011 to expand its transmission plant in Toledo, Ohio. This investment was supported by an incentive package of state assistance valued at $75 million over 15 years including the Job Retention Tax Credit, Roadwork Development grant, and an Economic Development Contingency Fund grant. This investment has led to the retention of 2,000 existing full time jobs.[29]

In addition to the range of subsidies discussed above, the USA provides lucrative investment attraction incentives for foreign companies. Incentives range from sales tax exemptions, land tax exemptions, property tax abatements and other grants.

The New York Times Study revealed that the since 2007, the US had provided:

- $126 million to LG Chem, a South Korean battery manufacturer
- $113 million to Swiss-based based battery maker Fortu Powercell
- $167 million to French tyre producer Michelin[30].

[26] The New York Times (2013) United States of Subsidies – State Money Flow
[27] Examiner (2013) Toyota to build Lexus ES 350 in Kentucky; 750 new jobs accessed at http://www.examiner.com/article/toyota-to-build-lexus-es-350-kentucky-750-new-jobs
[28] Ford (2010) Ford to Invest Additional $850 million in Michigan to Design, Build Fuel-Efficient Vehicle accessed at http://corporate.ford.com/careers/careers-news-detail/pr-ford-to-invest-additional-850-33467?&ccode=AU
[29] Trade and Industry Development (2013) General Motors Corporation – Toledo, Ohio accessed at http://www.tradeandindustrydev.com/industry/manufacturing/general-motors-corporation-%E2%80%94-toledo-ohio-2291
[30] The New York Times (2013) United States of Subsidies – State Money Flow

Evidence also suggests that major foreign automotive manufacturers, Toyota, Volkswagen, BMW and Honda have also benefited from substantial state-based subsidies aimed at attracting new investment.[31]

3.2.2 Asia

The growth of Australia's core trading partners in Asia has been built on a myriad of government assistance.

China

China's rapid ascension as the world's largest car-maker and parts producer in recent years has been supported by a range of subsidies and assistance over ongoing five-year development plans. China's automotive parts exports grew from $7.4 billion in 2002 to more than $69 billion in 2011 – a nine-fold increase.[32] According to a report by the *Economic Policy Institute*, the Chinese auto parts industry has received around $27.5 billion in subsidies over the 10 years since 2001-11, while the Chinese Government has committed an additional $10.5 billion in subsidies for 2012-20.[33]

As a core 'pillar industry', the automotive sector has benefited from various government policies to support technology growth and expansion. This has includes a range of:

- Input subsidies including government controlled prices for raw materials and resources
- Direct subsidies including tax incentives to develop capacity in Special Economic Zones, subsidised financing, cash grants, tax subsidies and export subsidies. Local content requirements that are formally and informally enforced, particularly in regional areas.

China's current 12th Five-Year Plan sees the development of clean energy vehicles as one of seven pillars of national development. The plan includes a range of investment and procurement incentives and subsidies to build technology capacity and to attract foreign R&D to stimulate demand for clean energy vehicles.

Southeast Asia

Local automotive production in Malaysia, Indonesia and Thailand supported a range of tax import duties on imported vehicles. As discussed further, each of these nations has also implemented generous foreign investment incentives in the form of lucrative tax breaks and subsidies. Specific examples include:

Malaysia

The Malaysian Government provides a range of incentives to support new investment in manufacturing with specific assistance for the automotive industry. According to the Malaysian

Industry Development Authority, high value-add automotive component manufacturers are entitled to either of:

- 100% exemption from payments of statutory income for 10 years
- Investment tax allowance on capital expenditure for five years[34].

Companies investing in the manufacture of hybrid and EVs are eligible for the above allowances in addition to a 50% exemption on excise duty for locally assembled/manufactured vehicles[35].

[31] The Conservation (2013) *FactCheck: do other countries subsidise their car industry more than we do?*
[32] Canis, B & Morrison, W (2013) 'US-Chinese Motor Vehicle Trade: Overview and Issues', *US Congressional Research Service Reports*
[33] Haley, U (2012) 'Putting the pedal to the metal: Subsidies to China's auto-parts industry from 2001 to 2011', Economic Policy Institute
[34] Malaysian Investment Development Authority (2013) *Incentives for the Manufacturing Sector*
[35] Ibid

Indonesia

- Indonesia has developed a policy to support production and sales of low-cost green cars (LCGCs). The 'LCGC' program has provided five-year tax holidays for MVPs investing more than $US 100 million in vehicle assembly plants.[36] Recently, the program has expanded to include a luxury goods sales tax exemption (ranging from 10-30% of local vehicle cost) for cars with cylinder capacity of less than 1.2 litres for spark ignition engines and less than 1.5 litres for combustion-ignition engines, and with fuel capacity of less than 20km per litre of fuel.[37]

Thailand

Thailand offers a range of incentives for its automotive industry including:

- Eight-year corporate tax holiday and exemption from import duty on machinery for facilities which invest in high technology components
- A five year corporate tax holiday and exemption from import duties on capital for major assembly plant investments to the minimum value of $US 500 million and with minimum capacity of 100,000 annual units
- Duty exemption from imports for components that cannot be manufactured in Thailand
- Exception of machinery import duties and corporate tax payments for eight years for tyre manufacturers.[38]

FAPM is presenting this information on the basis of the reality of the competitive global environment in which it operates. Hence we are not seeking support from the Australian Government on the basis that it is needed of itself to make the local industry more productive, rather that it is required to 'level the playing field'.

FAPM expects its members to be operating at world's best practice, and across a range of indicators including exports and benchmarked productivity and competitiveness measures, there is much evidence to highlight our competitiveness.

Current levels of support offered to our international peers mean that without a competitive policy package in Australia, the local industry is expected to be operating at a level significantly above current global best practice.

3.2.3 Market Access Issues

Whilst the Australian automotive industry is the most open in the world, FAPM members and other stakeholders face significant barriers when seeking to enter export markets globally.

There are a range of tariff and non-tariff barriers that exist which have a severe impact on the ability of the Australian industry to access volume improvements based around export markets.

FAPM understands specific examples include:

- Japan's imposition of a technical quality check on all imported vehicles
- Germany's standard 10% tariff in addition to a 19% value added tax on Australian vehicles
- Thailand's imposition of a charge of between 50%-80%on vehicles imported from Australia.

Whilst recent Free Trade Agreements have either removed or reduced formal tariffs between core trading partners (including USA and countries within ASEAN), Australian automotive producers nevertheless face a range of non-tariff barriers (NTBs) among our core trading nations.

[36] WARDSAUTO (2013) *Green-Car Incentives Rev Up Indonesian Auto Industry*
[37] Just Auto (2013) *Analysis: Slow progress for Indonesia's small car programme*
[38] Thailand Board of Investment (2013) *Opportunities in Thailand's Automotive Industry*

ASEAN

The ASEAN region has historically included a number of Rules of Origin (ROO) policies which require minimum content of components for vehicles that are traded within the ASEAN block.

Thailand

As outlined in the example below, despite the Thailand-Australia Free Trade Agreement (TAFTA) eliminating or substantially phasing down automotive tariffs, sales of Australia's Ford Territory are impacted by non-tariff barriers in the form of a sales tax.

USA

Whilst the Australia-US Free Trade Agreement eliminated tariffs on Australian vehicles and components to the US, the Australian industry is nevertheless impacted by a range of policy-based trade barriers.

Following the 2008 GFC and in the wake of a considerable industry assistance package, the US Government further enhanced its 'Buy American' policy to encourage local procurement within the steel, textile and manufacturing industries. The policy incentivised US MVPs to source local automotive components given the substantial assistance they received under the broader GFC rescue package.

The US also imposes a *Gas Guzzler Tax* which limits opportunities for Australia's larger vehicles. The tax is based the average fuel efficiency of a manufacturer's fleet of vehicles and provides incentives for manufacturers to reduce their proportional sales of large cars. Of note, the tax is typically applied to a number of foreign luxury models including those from Ferrari, BMW and Bentley Maserati and Mercedes and does not apply to mini-vans, sports utility vehicles and pick-up trucks, which are predominately manufactured in the US.[39]

The *Gas Guzzler Tax* specifically impacts on the competitiveness of GMH's rear-wheel drive platform (Commodore) which has received sales success in the US market.

Europe

A standard 10% automotive tariff is imposed across most countries in the EU (slightly less for developing countries). The union also imposes strict vehicle emissions standards which impacts on sales of larger vehicles. Individual countries also impose specific non-tariff imposts including sales tax and duties. For example, FAPM understands that Germany imposes a 19% value-add tax on large vehicles which is applied to Australian utes.

FAPM is also conscious of the free trade agreements currently being negotiated, and the potential outcomes that might accrue to the automotive sector. These issues correlate directly with the requirement of the Australian industry to have a competitive government policy and program environment.

Similarly, if these market access issues were to change or free up, the local industry would be less reliant on industry assistance, which has been the main lever that successive Australian governments have been prepared to use to support the industry over many years.

[39] http://www.epa.gov/fueleconomy/guzzler/420b13037.pdf

Case Study 17 - Thailand Free Trade Agreement - Ford Territory

Australian automotive producers are placed at an unfair advantage where trading arrangements are not reciprocated among our key trading partners.

Thailand's implementation of changes to excise tax rules following the signing of Thai-Australia Free Trade Agreement (TAFTA) in 2005 is a well-known example of the lost opportunities associated with these arrangements. The example also highlights the challenges within our regional trading environment and the extent to which countries will support industries that are considered critical to their economic development.

At the time of the FTA negotiations, Australia's capabilities in manufacturing larger vehicles were seen to complement Thailand's advantage in smaller vehicles and pick-up trucks. Thailand was considered a possible market for the Ford Territory. Following the signing of the TAFTA agreement, the Thai Government changed its excise tax arrangements to a system that escalated based on engine capacity (+ some other parameters). This meant the excise on a Ford Territory 4.0L petrol vehicle went from 29% to 50%. At about the same time the Thai Government introduced a new vehicle category called Pick-up Passenger Vehicle (PPV) with an excise rate of only 20% for vehicles with engines less than 3,250cc. The PPV category favours Thai built pick-up trucks including derivatives like the Toyota Fortuner and Isuzu Mu-7 which are SUVs (i.e. potential competitors to Territory).

FAPM understands there is also a difference between the published and effective Thai excise rates. For example the published excise rate for a Ford Territory 2.7L diesel is 40% but the excise tax formula results in a 71.4% uplift on the CIF value. This is compounded with Interior tax and VAT. Currently, a Ford Territory Titanium AWD 2.7L diesel that has a A$62,740 Manufacturer's List Price in Australia, has a US$101,000 List Price in Thailand. This figure includes US$30,700 in excise tax.

Since 2005, the Australian industry has seen an influx of Thai components and vehicles into the Australian market as a result of the TAFTA. Australia's automotive trade deficit with Thailand has increased substantially from $771 million in 2004 prior to signing of the agreement to $4.2 billion in 2013.

Non-reciprocated trading conditions impact on the competitiveness of Australian industry. Further Australia's trade deficit in automotive goods is not an accurate reflection of the industry's capabilities to generate value in global markets.

Recommendation 1

That the Government advocates for mutually reciprocal trading conditions for Australia's automotive manufacturing industry.

3.3 Move To Global Platforms And Supplier Lists

The move to global vehicle platforms in Australia has a number of ramifications for our supply chain, including Australia's R&D capabilities. This change to global platforms will see the cessation of Australia unique national models GM Holden's (Commodore) and Ford (Falcon and Territory). The Toyota Camry is based on an existing global platform which is manufactured in Australia.

The manufacture of locally developed models generates a range of benefits for the local industry. Most notably, local production increases opportunities from design and engineering through to the manufacture of components. The shift to global platforms will adversely impact on volumes for local components, as evidenced by the number of local suppliers to the Holden Cruze compared to the Falcon or Commodore.

The impacts on the local supply chain from the shift to global platforms represent:

- Lower domestic supply levels as more components on the vehicle tend to be imported
- Less opportunity for suppliers to collaborate with MVPs around design, engineering and product development issues.

Estimated local content levels for the Commodore are currently around 50%, with Camry and Cruze global platforms only attracting around 30% local supply. It should be noted that even if Holden determined it was likely to stay beyond the current model cycle, the shift to a global large car platform beyond the current Commodore from 2017 would see the spend within the local supply chain drop substantially.

The following table highlights the annual impact on the local supply chain across a range of different scenarios.

Figure 11 - Domestic supply chain spend against different scenarios

Marquee	Model	Assumed production volumes (units)	Domestic supply chain spend ($ - million)			
			Base case scenario	Scenario 1 (exit Ford)	Scenario 2 (GMH local content decrease	Scenario 3 (exit GMH)
Holden	Cruze	25,336	$ 107	$ 107	$ 107	$ -
	Commodore	36,545	$ 428	$ 428	$ 257	$ -
Ford	Falcon	9,791	$ 112	$ -	$ -	$ -
	Territory	13,864	$ 186	$ -	$ -	$ -
Toyota	Camry	87,741	$ 527	$ 527	$ 527	$ 527
	Aurion	6,223	$ 40	$ 40	$ 40	$ 40
		Total	$ 1,400	$ 1,102	$ 931	$ 567

As these estimates show, with the removal of Ford, even in the event that GM Holden continues to manufacture locally, the shift to a large car platform would see a reduction in the annual supply chain spend of $469 million.

Recommendation 2

That the Government addresses incentives for local MVPs to increase their domestic supply chain spend in return for additional Government support.

Recommendation 3

That the government considers measures to ensure that MVPs are required to incorporate viable export markets in their planning in return for any additional government support.

3.3.1 MVPs in supporting global access by suppliers

The opportunity created by the shift to global platforms is the potential for domestic suppliers to sell components and services into international markets. Accessing these markets requires support from local MVPs to assist Australian suppliers in being positioned to win export contracts.

FAPM believes that MVPs and importers can play an important role in supporting suppliers to access global supply chains.

Case Study 18 - Diver Consolidated Industries

Diver Consolidated Industries (DCI) is a leading Australian-owned manufacturer of metal pressings, welded assemblies, hinges, heat and acoustic shields. Headquartered in Melbourne, DCI has been a supplier to the Australian and global automotive industries since 1948 with customers including GMH, Ford and Toyota.

Several years ago, DCI secured its position as the supplier of transmission tunnel insulators for the Chevrolet Camaro, delivering nearly 400,000 units to the assembly plant in Canada. This supply contract was won through GM Holden's close involvement in the design of the global platform vehicle at the Melbourne-based engineering facility. This led to the integration of a local Australian product, DCI's advanced sound insulator / heat shield into the global supply chain.

Local MVPs and importers are fully appraised of the strengths and capabilities of the Australian supply chain, and are already well positioned to facilitate commercial export outcomes. Moreover the FAPM believes there is significant scope to expand these global supply chain outcomes, both in

regard to MVPs manufacturing in Australia, and key importers (who do have access to ATS assistance under certain circumstances.

Recommendation 4

That local MVPs (and importers) be offered incentives to assist local component suppliers in establishing export contracts with their global networks, and that greater accountability be placed on them around the activities they are undertaking to this end.

3.4 Investment Attraction Incentives

FAPM believes that the Australian Government has an important role to play to attract new investment in the automotive sector. Investment attraction is a fundamental part of the suite of government support and needs to be accommodated in renewed policy and program settings.

3.4.1 Southeast Asia

Southeast Asia automotive manufacturing nations, Thailand, Indonesia and Malaysia each provide lucrative incentives for foreign investment. The Thailand Board of Investment (BOI) offers a range of fiscal and non-tax incentives exemption or reduction of import duties on machinery and raw materials, corporate income tax exemptions and reductions.

Investment associated with priority automotive technologies including hybrid cars and fuel cells have been eligible for specific incentives, including 50% reduction of corporate income tax and other input and capital investment tax breaks.[40] Investment incentives in Thailand have contributed to considerable Japanese investment, supporting the establishment of Thailand's 16 foreign joint venture car manufacturers.

3.4.2 Australia as an attractive investment destination

The future of Australia's automotive industry is contingent on attracting new international investment including in advanced and niche vehicle technologies.

The AA2020 Roadmap highlights areas where government can work with industry to seek to target inward investment opportunities that complement and grow Australia's capabilities in the four areas of focus identified (electrification, gaseous fuels, lightweighting and telematics).

Further, as outlined above a viable automotive industry over the long term is likely to require new investment at the OE level, reflecting the 'game changing' concept referred to earlier around Tesla, Magna Steyr or Mahindra Reva.

Recommendation 5

That the Government ensures that new policy and program settings for the automotive industry incorporate funding to encourage new investment initiatives at both the MVP and ACP level.

Government incentives which help transform industries and facilitate structural adjustment generate a range of flow-on benefits for the Australian economy. In strategically important industries such as automotive, these incentives extend beyond growth in jobs and output and assist in sustaining Australia's broader manufacturing capability.

[40] Thailand Board of Investment (2013) Opportunities in Thailand's Automotive Industry

4. A NEW AUTO POLICY AND PROGRAM FRAMEWORK

4.1 Key Themes Of A New Framework

Australian Governments have long recognised the need to adjust automotive policies according to the prevailing economic circumstances and stages in industry development. Policy frameworks have ranged from tariff reductions in the 1970s, industry rationalisation in the 1980s under the Button Car Plan, global connectivity in the 1990s to most recently the promotion of a *New Car Plan for a Greener Future.*

The Australian automotive market has never been more open and competitive, with effective tariff rates at 3% and 66 individual brands competing in an annual market of 1.1 million units. By comparison, in the larger US and UK markets there are only 51 and 53 marques respectively.

The automotive component industry has adapted to this changing industry and policy environment. The New Car Plan delivered a range of outcomes, including:

- Productivity and competitiveness improvements – Through its participation in the ASEA Business Capability Program, the automotive supply chain has completed more than 320 improvement projects against international performance benchmarks
- Innovation – the industry has invested $415 million in low carbon and energy efficient technologies.
- Investment - the ATS scheme has facilitated competitive investment and innovation in the automotive supply chain.
- Industry rationalisation – the number of suppliers has fallen from approximately 200 organisations to 150.

However, as outlined in this submission, the Australian automotive industry's operating environment has changed drastically since the last automotive plan was released in 2008. The sharp fall in production volumes during the GFC have not yet recovered, with key export markets lost. The persistently high Australian dollar has hovered around parity, eroding our export competitiveness and reducing the cost of imports. The announcement by Ford that it will cease manufacturing vehicles by October 2016 will also lead to a major restructure of the industry.

Notwithstanding the most challenging circumstances it has ever faced, the industry generally remains intact as an integrated supply chain, with more suppliers pursuing opportunities in new markets and industries. With the right policy and program framework in place that suits current and future circumstances, the automotive industry can continue to be the cornerstone of Australian manufacturing.

FAPM considers that the key themes outlined below should be the basis for the development of a new policy and program framework to guide the development of the automotive industry over the next decade.

4.1.1 Supply chain survey and workshops

The recommendations in this section have been informed by a major industry survey that FAPM conducted across more than 50 Australian automotive suppliers.

The survey considered issues around the way in which policy and program settings have been working over recent years, and what changes would work to improve the productivity and competitiveness of the industry sector.

In addition to this broader feedback, specific concepts and issues were tested through supplier workshops in Victoria and South Australia.

Consequently the FAPM's proposed position in regard to these policy and program issues has been based on an extensive consultation process with its member base, and the broader supplier community.

4.1.2 Policy certainty in a period of instability

FAPM is firmly of the view that an Australian automotive industry can be viable with the appropriate policy and program settings to support volume development, and two remaining MVPs. What is also apparent is that an automotive component industry cannot exist in Australia without at least one MVP, and preferably two.

Recommendation 6

That the Government delivers certainty to the industry by establishing assistance arrangements through to 2025, which aligns with commercial issues including investment lead times and model life cycles.

This approach will generate the longer term certainty required to encourage the existing car manufacturers to commit to the local market beyond current model cycles. Additionally, this would provide a framework to support the investment attraction activities outlined above by ensuring potential investors saw a long term alternative in the Australian market.

Despite suppliers' efforts to diversify into new industries and export to new markets, it is the local customer that generates the critical mass that makes local automotive manufacturing viable.
It is crucial for government to understand the likely long term scenarios associated with the departure of Holden.

This would leave Toyota as a sole MVP, and even in the event that a redistribution of the MVP split of ATS funding saw the company to commit to one future model cycle, the industry would be extremely exposed by 2021-22.

It should also be understood that in the event that GM Holden does commit to longer term production in Australia, but shifts the next large car to a global platform, there will be a substantial loss of local supply opportunities in the areas of:

- Powertrain
- Electrical systems
- Design, engineering, testing and validation services.

In the absence of such a commitment, there would be a high degree of policy uncertainty that may lead to a precipitous departure of the last MVP, rather than an orderly wind-down of the industry. This would:

- Lead to uncertainty regarding future investment decisions by the automotive supply chain
- Accentuate an adverse labour market environment for employees departing the automotive industry
- Prevent the opportunity for remaining suppliers to diversify and seek to access new markets
- Harm Australia's global reputation as an investment destination with a stable policy environment.

Additionally it should be recognised that Ford's change of circumstance beyond 2016 will likely see it register for ATS as an Automotive Service Provider (ASP) post 2016.

Recommendation 7

That in any review of the split between the MVP and non-MVP component of the ATS program, that the following issues be taken into account:

- **The potential loss of local supply chain spend resulting from further shifts to global platform production**
- **The impact of Ford's operations (post 2016) being included in the non-MVP component**
- **The ability for the split to be renegotiated in the event that one MVP (in addition to Ford) ceases production in Australia**
- **A detailed analysis of the impact of changes to the split on recipients in light of any other amendments to the ATS program.**

4.1.3 Productivity and competitiveness

FAPM considers that productivity and competitiveness must remain at the core of a new framework for the automotive industry. While substantial gains have been made by the automotive supply chain in boosting productivity, our global competitors are also continuing to improve their performance. As we outline below, FAPM considers that a next generation supplier development program based on the successful ASEA model must be a key element of the new framework.

Recommendation 18 further addresses this issue.

4.1.4 Diversification

Given the challenges that the Australian automotive industry has been facing, many automotive suppliers have sought to diversify their businesses into other advanced manufacturing industries, including aerospace, defence, mining, rail and energy.

There are several benefits from industry diversification. For the business, it can leverage its automotive capabilities into lucrative markets and capture volumes that improve the overall competitiveness and viability of the business. From a manufacturing sector perspective, diversification helps secure key capabilities that may otherwise be lost and promotes spillover benefits between manufacturing industries. Therefore, it is essential that a new automotive policy framework supports and encourages the supply chain to diversify into other industries.

Recommendation 13 further addressees this issue.

4.1.5 Research and development

Automotive remains the largest individual manufacturing industry contributor to Australia's R&D activities. The industry continues to invest heavily in R&D despite falling local vehicle volumes. As the local MVPs increasingly move to global platforms, their R&D spend is likely to fall significantly. However, FAPM considers R&D is essential to local suppliers remaining competitive through technological advancement and innovation. As outlined in the Auto2020 Roadmap, key areas of opportunity include vehicle electrification, light weighting and gaseous fuels. It is essential that the new policy and program framework continues to support this valuable R&D expenditure, which generates benefits beyond the automotive industry.

4.1.6 Supplier Consolidation

FAPM acknowledges that there is further work to be undertaken in rationalising the supply chain.

We understand the advantages associated with this process including higher utilisation levels, lower cost bases, and greater propensity to export or diversify. We acknowledge that there may be difficulties through this transition process, but believe the longer term viability of the industry is significantly enhanced through this mechanism.

We acknowledge the efforts of the former government under the Automotive Industry Structural Adjustment program (AISAP), but believe there were structural issues associated with the way in which it operated. These included the inability to incorporate redundancy costs as an eligible item for assistance, and the cumbersome application/advice process which did not align with the way these

transactions take place in a commercial manner. The timing of the rollout of AISAP was also problematic given its proximity to the GFC.

Case Study 19 - Chassis Brakes International Australia

Chassis Brakes International Australia (CBIA) is renowned as a world leader and advanced proponent of lean manufacturing techniques for the automotive industry. The company has initiated exchanges with other sectors such as defence, aerospace and rail to share knowledge in this field including with Alstom, BAE, Thales, TomCar, Boeing, Iveco, Dana, and supplier advocates for the rail and automotive industries. This manufacturing leadership is providing the potential for CBIA and the other sectors to explore collaborative business opportunities including scope for diversification of their core brake, rotor and calliper technologies to non-automotive industries including mining and rail.

The company's recent acquisition of Broens' forging business is a key example of effective industry consolidation. The approach and discipline that CBIA has brought to this operation has maintained the capability and economic activity within Australia, in addition to preserving key skill within the workforce.

Recommendation 8

That a specific program be established to encourage supply chain rationalisation that should address the deficiencies of the earlier AISAP initiative, and be subject to an independent assessment of potential transactions.

4.1.7 Accountability

FAPM recognises and welcomes the public's desire to ensure that the automotive industry is held fully accountable for any taxpayer funding provided and the outcomes that it achieves. It is important that the public is aware that the current grant agreements already mandate performance-based milestones and strict reporting requirements. A grant recipient must adhere to the following obligations in order to receive program funding:

- Ensure the project outcomes are achieved
- Commercialise the project or project outcomes, including any intellectual property
- Ensure that all agreed deliverables and project objectives are delivered in the agreed timeframe.

Notwithstanding these current requirements, FAPM considers there is an opportunity to further strengthen the current accountability arrangements, particularly in relation to obligations on MVPs to take practical measures to further support the development of the local supply chain. Recommendation 4 supports this position.

4.1.8 Demand development

Arguably the major challenge that the new framework must address is low production volumes for the industry.

In a post-Ford environment, the industry should be aiming to achieve production levels in the order of 300,000 units in order to generate reasonable economies of scale. While this represents a significant increase from post-GFC output levels, FAPM considers that a range of practical initiatives would assist the industry in reaching this outcome.

Recommendation 9

That the Government expands the assistance package for 2015-2020 to $1.5 billion, given the raft of structural issues impacting the industry over the medium term.

In conjunction with Recommendation 6 regarding policy and program certainty through to 2025, FAPM believes that this will lay the best foundation to achieve increased industry volumes

4.2 Program Reform

Just as the automotive supply chain has proven its capacity to adapt to changing circumstances, the policy and program framework within which in operates must also be responsive to ensure it continues to support industry outcomes.

Based on the key themes outlined above, FAPM is proposing a new policy and program framework to support the automotive industry in its next phase of development. It draws upon the most successful features of the current framework and identifies key areas of reform to improve the effectiveness of the initiatives.

4.2.1 Automotive Transformation Scheme

Current arrangements

The Automotive Transformation Scheme (ATS) is the core element of the current automotive policy. ATS aims to encourage competitive investment and innovation in the Australian automotive industry, and place it on an economically sustainable footing. This is intended to be achieved in a way that improves environmental outcomes and promotes the development of workforce skills.

Figure 12 - Automotive Transformation Scheme

Key aspects of the Scheme include:

- Four registration categories:
    - Motor vehicle producers (MVPs)
    - Automotive component producers (ACPs)
    - Automotive machine tool and automotive tooling producers (AMTPs)
    - Automotive service providers (ASPs)
- ATS has two five year stages from 1 January 2011 to 31 December 2020
- Funding includes:
    - Capped funding of $1.5 billion from 2011 to 2015 (Stage 1)
    - Capped funding of $1 billion from 2016 to 2020 (Stage 2)
    - Uncapped funding of approximately $847 million (MVPs only)
- Capped funding will be $300M per year until 2017 and then progressively phased down from 2018 to 2020
- Capped funding is split 55% to motor vehicle producers and 45% to non-MVPs
- Modulation of payments will occur to ensure that capped funding does not exceed the prescribed annual limits
- The ATS benefit is in the form of quarterly cash payments, at the following rates:
    - 50% of the value of eligible investment in R&D
    - 15% of the value of eligible investment in P&E
- MVPs also receive ATS benefit for allowable production of motor vehicles, engines and engine components, for local and export markets
- Eligibility varies per ATS category as is based on prescribed levels of annual original equipment activities. For example, an ACP is eligible if produces in Australia at least one kind of automotive component annually for OE use in at least 30,000 motor vehicles or 30,000 engines, with a production value of at least $500,000 or the ACP produces annually in Australia OE components with a production value of at least $500,000, which is more than

50% of the production value of all automotive components the ACP produces.

Based on FAPM's assessment of the operation of ATS in light of the changing nature of the automotive industry, a number of area of reform have been identified. These items are explored in more detail below.

Plant & Equipment (P&E) and Research & Development (R&D)

ATS participants currently may receive benefits at the following rates:

- 50% of the value of eligible investment in R&D
- 15% of the value of eligible investment in P&E.

Operating in an industry environment now comprising only two MVPs and current production levels in the order of 200,000 units means greater support for investment in P&E is required. This investment by the supply chain is critical to strengthening productivity, implementing product and process innovation and improving quality.

A significant issue of concern for FAPM is the relatively low level of ATS benefit for a company's investment in P&E. In the current environment characterised by falling volumes and thin margins, businesses have sought to cut costs by reducing capital expenditure, compromising long-term productivity and innovation.

Recommendation 10

That the benefit rate for P&E activities in the ATS program be increased from 15% to 35%. This level of assistance would dramatically improve the business case that is assessed by management and boards when considering investing in new P&E and support the industry's efforts to strengthen its competitiveness.

In regard to support for R&D activity, the need to invest in innovation has never been more important. The move to global platforms by the MVPs may lead to a reduction in their R&D expenditure compared to their previous investment in local models. However, from a supplier perspective, R&D remains a critical means of differentiating their products in the marketplace.

Recommendation 11

That support for R&D under ATS should continue at the current rate of 50%. This reflects the importance of the industry's commitment to R&D and innovation, and the need to maintain these spend levels as a response to current industry issues.

Tooling

Investment in automotive tooling is eligible at the time when the P&E is recognised as an asset, in the ATS participant's account, in accordance with Australian Accounting Standards.

ATS tooling generally falls into four categories:

- Tooling that is owned by a MVP, resides in the MVP's production facility, and is paid for at commissioning of the tool
- Tooling that is owned by an ACP, resides in the ACP's production facility, and is paid for at commissioning of the tool
- Tooling that is owned by a MVP, resides at an ACP's production facility, and is paid for at commissioning of the tool
- Tooling that is owned by a MVP, resides at an ACP's production facility, but the cost of which is amortised into the piece price of the component that is manufactured using the tool.

The treatment of interchangeable tooling in the fourth category has created a number of issues for FAPM members. In this scenario, it is the supplier that carries the considerable risk that its costs will

not be recovered over the life of the supply program. An example relates to tooling for the current Ford Falcon. Many suppliers have amortised the cost of tooling over the life of the model based on certain production forecasts developed by the MVP. With existing volumes dramatically lower than what was originally forecast, it is highly likely that these tooling costs will not be recovered by the ACP.

Additionally, the cost of interchangeable tooling required to produce automotive components in Australia for global vehicle platforms and export markets is a major obstacle to local suppliers competing for contracts against global suppliers, who often already produce the parts in high volumes from existing tooling.

With global platforms being the sole basis for motor vehicle assembly in Australia beyond 2016, improving the competitiveness of Australian suppliers by substantially reducing the final cost of tooling will be essential in retaining local value-adding manufacture and supply of components for the global platforms assembled in Australia.

Recommendation 12

That the level of ATS benefit for interchangeable tooling be increased to 50% for both ACPs and MVPs.

The FAPM is confident that this will not only remove any issues relating to the ACP not fully recovering its tooling costs, it will assist Australian suppliers win global vehicle platform contracts, providing economies of scale for local production and creating further opportunities to integrate local suppliers into global supply chains.

Case Study 20 - Precision Components

Precision Components has invested significantly in world-class facilities and production equipment in its South Australian operations, as well as developing an international joint-venture expansion into China, a hot stamping joint venture in Australia using licensed Korean owned hot stamping technology. Customers include GM Holden, Toyota, Ford and Geely (China).

Tooling costs are a prohibitive item when the company is looking to win new automotive and non-automotive work. It is estimated that in the past two years, nearly $9m of annual domestic and export sales have been lost due to the high tooling costs. This equates to an additional 36% on top of the company's existing sales. Additionally, while the cost of the majority of automotive tooling is covered by MVPs in lump sum payments, there are instances when the tooling cost is amortised into the piece price of the automotive components, based on forecast levels of production. As this cost is not claimed through ATS, and with falling production volumes, Precision Components will not recover the cost of the tooling over the life of the supply contract.

In order to have capitalised on the $9m domestic and export sale opportunities, Precision Components would have been required to invest $1.9m in tooling. At the current ATS benefit rate of 15% this would equate to a $285,000 return.

Should ATS be amended to enable tooling claims to be made by a component supplier, and the benefit rate increased as discussed above, Precision Components would be significantly better placed to win future domestic and local supply opportunities.

Support for diversification of automotive suppliers and the 5% cap

ATS support is currently available when a participant invests in 'allowable P&E and R&D'. This relates to activities with the automotive industry alone. Consequently, activities associated with the investment in P&E and R&D for non-automotive initiatives is not supported by ATS.

Additionally, in a calendar year, the ATS benefit paid to a participant, other than to a participant during an eligible start-up period, must not exceed 5% of the sales value of the ATS participant's automotive goods and services for the previous year.

The need for suppliers to the Australian automotive industry to expand product portfolios and diversify into different markets and industries has been well documented over recent years. Indeed, this has been a key action item through a number of industry reviews and the ASEA initiative. Governments have also been supporting this type of activity to a modest level through the Automotive New Markets Program (ANMP). While funding has been limited, this initiative has been a catalyst for companies wanting to establish new business beyond the automotive space.

Recommendation 13

That once a company satisfies the automotive OE eligibility requirements for ATS the commitment it makes to diversification should be acknowledged by its investment in P&E and R&D relating to non-automotive activities being supported by the scheme.

This would not only remove some of the burden associated with investing in diversification activities, but improve the overall performance and sustainability of the participant resulting in a stronger local automotive supply chain and significantly reduce security-of-supply risks. Akin to the outcomes from the ANMP initiative, this change would institutionalise the process of seeking new non-automotive business for Australian component manufacturers.

However, it is essential to the integrity of ATS and the retention of Australia's automotive capability that the automotive OE eligibility requirements be retained. The proposed reforms to ATS to support diversification activities by automotive suppliers must not permit manufacturers from other industries to access this funding. Such a development would carry the risk of further diluting the component company position of the ATS program across an additional number of businesses, when the number of participants needs to be reduced on the basis of the volume and scale issues outlined above. These businesses have a range of other support mechanisms available including the R&D Tax Incentive.

MVPs supporting the development of the supply chain

FAPM supports the provision of significant assistance to the MVPs under the ATS program, but believes more can be done by them to further support the development of the Australian supply chain, particularly through local and global business opportunities.

Recommendation 14

That MVPs receiving ATS be required to report annually against a business plan on activities they have taken to support and assist Australian suppliers. This report would include:

- **Providing reasonable and transparent opportunities to secure additional local supply contracts**
- **Outlining local content levels in their locally made vehicles**
- **Proactively facilitating entry into regional and global supply chains**
- **Actively participating in a next generation supplier development program.**

That ACPs also be prepared to document their efforts in increasing their exposure to global supply chains

Eligibility threshold

The ATS eligibility for ACPs is based on a minimum annual original equipment production value of $500,000. For AMTPs and ASPs, they need to undertake at least $500,000 of automotive activities with at least 50% of those activities being original equipment related.

The need for consolidation within the Australian automotive industry has also been well documented over recent years. A position where approximately 150 component companies in the Australian supply chain support the production of approximately 200,000 cars annually is not sustainable in the long term.

Recommendation 15

That an increase to the minimum turnover threshold for entry into the ATS program be considered.

Simplifying the labour claims under the current ATS arrangements, component companies are able to claim time of their employees spend on testing, trialling and validation activities associated with new production procedures. Often where this involves production line employees, the current recording requirements are too onerous and costly to make the process worthwhile.

Further, feedback received from FAPM suggests that on an annual basis, these activities would account for around 10% of an employee's time.

Recommendation 16

That an automatic 10% uplift to cover existing ATS R&D entitlements around testing, trialling and validation be applied to the labour claim for production employees. This is to be applied prior to the existing uplift covering employee entitlements.

4.2.2 Automotive New Markets Program

The Automotive New Markets Program (ANMP) provides grants up to $1m to automotive supply chain companies seeking to diversify their customer and product base, both domestically and internationally. The program is co-funded by the Federal and Victorian Governments and delivered in collaboration with the South Australian Government.

A project under the Program must involve one or more of the following eligible activities undertaken in Australia:

- Research and development
- Re tooling
- Proof of concept
- Early stage commercialisation
- Pre-production development
- Improving employee capabilities
- Other activities deemed necessary for broadening a company's customer or product base.

Over the first two completed rounds of the ANMP, there have been 23 successful grant applications totalling grant funding of $13.8m[41].

The imbedding of Australian automotive design and engineering employees with customers or partners to develop technical solutions for a project that is to lead directly to increasing the applicant's Australian based capabilities is also eligible.

The success of the ANMP program supports the FAPM's view in Recommendation 13 that assistance for diversification activities be brought under the operation of the ATS program.

4.2.3 Supporting structural adjustment

The previous $116 million Automotive Industry Structural Adjustment Program (AISAP) recognised that the automotive supply chain needs to consolidate if the industry is to achieve greater scale and retain core capabilities. The program assisted the local automotive components sector undertake structural adjustment by assisting firms with legal, relocation and other merger costs, and by providing training and assistance to displaced workers.

[41] Australian Government, AusIndustry, (2013) *Automotive New Market Program*

A structural adjustment initiative was defined as an initiative that:

- Involved the restructuring (including by way of M&A) or reconfiguration of two or more participant entities
- Created a resultant entity that was likely to be more financially viable or competitive than would have been the case if the initiative had not taken place
- Had the effect that only the resultant entity would be eligible to apply for ATS after the completion of the initiative.

Under the program, companies could apply for an AISAP grant relating to eligible expenditure that related to legal expenses, due diligence and plant and equipment. In relation to company that was to be involved in the transaction, there was also a need for the value of the assets to be supported by an independent valuation.

While there was strong industry support for the initiative, the program achieved limited success. The most significant problem was that redundancy costs were not considered eligible expenditure. This has proven to be a major obstacle to the acquisition of SME suppliers, who often have unfunded redundancy liabilities that have been built up over a number of years.

Assistance for employees owed outstanding employee entitlements is available through the Federal Government's Fair Entitlements Guarantee (FEG) or the General Employee Entitlements and Redundancy Scheme (GEERS). However, this mechanism can only be accessed following the insolvency or bankruptcy of a business. Consequently, it is often in the interests of acquiring companies for a target to become insolvent or bankrupt so that the employee entitlements including the redundancy liability would not be their responsibility. Additionally, it was also in the interests of the various unions as this often meant that their members at least received some of their entitlements.

This requires a liquidation event before assistance is activated, causing substantial dislocation for the industry. Due to the just-in-time nature of supply in the automotive industry, a break in production of a single component can place substantial stress on the supply chain and can ultimately lead to a stop in vehicle production, impacting thousands of employees. The additional costs associated with MVPs re-sourcing product not only impacts the cost of production, it also negatively affects the notion of a stable, low risk supply chain in the eyes of overseas based parents. This is then likely to have a negative bearing on the decision making process for future local investment.

Case Study 21 - Mackay Consolidated Industries

Redundancy costs as a barrier to consolidation

Mackay Consolidated Industries Pty Ltd – Since 1932, Mackay has been a supplier of a diverse range of engineered rubber and bonded metal/rubber composite products for the automotive, defence, transport, construction and industrial markets. The company currently employs 180 staff at its Moorabbin facility in South East Melbourne, and its range of products include:

- Anti-Vibration isolators
- Rubber seals, hoses, buffers and bellows
- Engine, exhaust and conical mounts
- Radiator and engine hoses
- Rubber compounding.

Mackay's capabilities focus on rubber product design and development, material formulations and all facets of production including rubber injection moulding and extrusion. These capabilities have enabled the successful penetration of markets outside the automotive sector.

Since 2005, the company has been approached by a number of entities looking for a business with rubber manufacturing capabilities. However, with a long serving workforce Mackay currently has a large redundancy liability, and this, along with the company's current exposure to the automotive industry, has deterred the interested parties from progressing with an acquisition. This will continue to be an issue for Mackay given Ford ceasing local assembly from 2016 and the current uncertainty surrounding GM Holden's future in Australia. Although Mackay is planning for this contingency, if it is

unsuccessful, the above competencies will be lost to the Australian automotive and broader manufacturing industries.

FAPM supports the need for greater industry consolidation, as reflected in Recommendations 8 and 15.

4.2.4 A Next Generation Supplier Development Program to drive productivity and competitiveness

In 2007 the Australian Government funded the AutoCRC to deliver the Automotive Supplier Excellence Australia (ASEA) program. The intention of the program was to assist the Australian automotive supply base in achieving international competitiveness and sustainability. The program established an independent, best-in-class benchmarking process and targeted supplier assistance initiatives.

The ASEA program is designed to equip automotive suppliers in achieving world-class capability and competency levels by conducting a standardised set of diagnostic reviews of representative companies to gauge their performance against global benchmarks. The program involved:

- A comprehensive supplier and motor vehicle producer (MVP) survey, individual interviews, and workshops, provided critical industry data to determine the key measures of supplier excellence, and identified areas of greatest potential and critical need within the Australian supply base
- The development of rigorous metrics of assessment to accurately identify good and poor performance by engaging relevant expertise in their development
- Benchmarking participants against relevant local and international data points to provide them with an accurate indication of where they are currently positioned in relation to the metrics in question
- The creation of a tailored action plan to assist companies in moving towards international best practice.

The first phase of the project sought to improve the way in which participants undertook strategic business planning, identified opportunities for improvement in existing manufacturing processes and sought to improve management skills to successfully implement projects.

The ASEA program has had over 90 participants since 2007 and identified approximately $2 million in potential improvement initiatives for each company involved. This has been reflected in significant improvements in key measures across the supply chain as a whole.

Recommendation 17

That a Next Generation Supplier Development Program be established with a focus on building on existing improvements in competitiveness through diversification, market development and export growth.

It is anticipated this program would be funded through the proposed $500 million increase to the ATS program.

The Next Generation Supplier Development Program would also assist participants to identify opportunities for diversification by conducting relevant market and competitive analysis and competency audit.

4.3 Demand Development

The fundamental challenge to boost the competitiveness and viability of the Australian automotive industry is to increase production volumes. FAPM supports demand development initiatives to bolster sales of locally produced vehicles.

Policy-based initiatives, including environmental and vehicle safety incentives are utilised across a range of automotive manufacturing countries. In the US, the 'Gas Guzzler' Tax is imposed on vehicles that do not meet a minimum level of fuel efficiency, while other initiatives, implemented following the GFC, encouraged the removal of ageing vehicles which don't align with current safety

and environmental requirements. Whilst supporting key social and environmental policies, these initiatives also support new vehicle sales.

There are opportunities in Australia to modify the current policy framework to achieve economic and social outcomes that benefit society and consumers, and expand the local manufacturing industry. FAPM has proposed a range of policy-based demand initiatives that would also promote increased new sales, including of locally-made vehicles.

4.3.1 Procurement Policy

During 2012 Government fleets accounted for 54,121 vehicles sold annually in Australia. Only 17,751 of Federal, State and local Government fleet purchases were of Australian made vehicles.[42]

In April 2013, the Victorian and South Australian Governments released a policy that stated only passenger vehicles substantially manufactured in Australia were permitted for lease or purchase by the respective Governments.[43] Further, the Federal Government announced in August 2013 that it will mandate a 100 per cent Australian-made target for the purchase of Commonwealth fleet passenger cars.[44] The remaining state governments, local government and government agencies do not have a comprehensive policy which preferences Australian vehicle suppliers.

Recommendation 18

That through COAG, a comprehensive Australia-wide procurement policy be introduced for all bodies funded through taxpayer support. All states, local government, government agencies and the Commonwealth should introduce locally-produced fleet procurement policies for all vehicles, unless there is a functional reason why the role cannot be played by a locally-built car. This should extend to publicly-funded bodies including and NGOs.

4.3.2 FBT incentives

The Federal Government has maintained the Fringe Benefit Tax (FBT) arrangements on vehicles which were in place prior to 16 July 2013, after reversing the previous Government's controversial proposed changes. These changes received widespread criticism from the automotive industry and were held responsible for the 3.1 per cent fall in vehicle sales in October 2013 and reports of widespread job losses from fleet leasing companies.

Recommendation 19

That an FBT exemption be applied to environmentally friendly models including hybrid and factory fitted LPG vehicles. This would generate environmental outcomes in addition to supporting local production.

4.3.3 Regulatory/Safety Standards

All Australian-made vehicles currently meet the 5 Star ANCAP rating. FAPM understands that, of Australia's total new vehicle sales of 1.1m annually, more than 300,000 vehicles do not meet the 5 Star rating, with the average imported vehicle only achieving a 4 Star ANCAP rating. This is a critical safety issue for the community, given that the annual economic cost of road crashes in Australia is estimated by the Australian Government at $27 billion.[45]

FAPM notes that ANCAP has proposed a review of the current rating system, which will introduce a range of tighter safety requirements for vehicles sold in Australia.

Recommendation 20

That a policy be introduced that applies an additional government contribution to all new vehicles sold in Australia that do not meet the 5-star ANCAP requirements.

4.3.4 Incentives for gaseous fuels

The Automotive Australia 2020 Roadmap identified gaseous fuels as one of four priority opportunity areas that build on Australia's strengths to address global market drivers. While the LPG industry is

[42] Commonwealth Department of Industry
[43] Smartfleet (2013) *Australian-made fleets for government*
[44] Federation of Automotive Products Manufacturers (2013) *FAPM welcomes 100% Australian-made Government Fleet*
[45] Australian Government, Department of Infrastructure and Regional Development (2013) *Road Safety*

currently experiencing a dramatic decline in market activity, FAPM welcomes efforts at rebuilding the industry by leveraging its competitive strengths, including an abundance of indigenous feedstock, established distribution infrastructure and conversion technology expertise.

FAPM notes that in May 2013 the Victorian Automobile Chamber of Commerce (VACC) released "Building a viable LPG industry in Australia to 2020" and, together with Gas Energy Australia, has established a National Autogas Task Force (NATF) that is advocating a strategy to support the revitalisation of the LPG industry.

This approach reflects the position in Recommendation 19 in regard to FBT treatment of locally produced vehicles.

5. CONCLUSION

The Australian automotive industry plays a pivotal role in its contribution to the Australian manufacturing sector and the national economy more broadly.

The FAPM believes the industry can enjoy a future based on growth and be sustainable in the longer term.

But achieving this goal relies on the automotive industry understanding and responding to the global changes that are impacting the sector. This in turn, is a function of the Australian government providing policy and program settings that provide the basis for the Australian sector to compete effectively on the world stage.

These outcomes require a bold vision.

For its part, the FAPM sees three potential scenarios that will contribute to this end:

- Increasing local vehicle production to 300,000 through increased local and export sales
- Driving greater industry diversification where suppliers leverage their core automotive expertise to continue to win business in new markets and industries
- Developing a focus on the attraction of a niche MVP, based on Australia understanding and engaging with the global industry change that is occurring.

The Australian automotive manufacturing industry is the most open in the world. We experience significant global competition, and do so in an environment where production volumes are at dangerously low levels, and the exchange rate at an historical high. The local industry is also prevented from accessing export markets on many occasions due to unfair trade and non-tariff barriers, and the sector faces reduced activity levels from the shift to global car platforms.

But despite this backdrop, the component industry continues to increase exports, invest in innovation, and embrace new technologies including advanced manufacturing techniques, lightweight components and vehicle electrification.

We are seeking to present a case to the Australian Government that highlights what is achievable if the best, long term policy and program settings are established to underpin certainty in the industry.

We are asking that this policy framework drive productivity, innovation, investment and industry rationalisation to support competitiveness. In our view it should also include demand development initiatives to support the manufacture and sale of locally built vehicles, just as all of our main international competitors do.

The FAPM endorses the continuation of the co-investment model for industry support, which requires a substantial contribution from the sector before any assistance is provided.

The FAPM believes that if these policy settings can be achieved, a strong and vibrant sector will emerge for Australia. It will reinforce the historic contribution that the automotive industry has made to the Australian economy, and reassert that it is too important, too strategic and too valuable to let go.

The FAPM commits its members to doing our part to see this goal reached.

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APPENDIX A – EXAMPLES OF AUTOMOTIVE INDUSTRY SUPPORT

Figure 13 - Examples of industry support globally

Country	Assistance arrangements
China	**Tax Incentives and other subsidies** In response to the GFC the Chinese Government reduced the tax on small engine vehicles effective to the end of 2009[46]. The Chinese auto parts industry has received around $27.5 billion in subsidies over 10 years since 2001-11, while the Chinese Government has committed an additional $10.5 billion in subsidies for 2012-20.[47] This has included: • Input subsidies including government controlled prices for raw materials and resources Direct subsidies including tax incentives to develop capacity in Special Economic Zones, subsidised financing, cash grants, tax subsidies and export subsidies. In addition, local content requirements are formally and informally enforced, particularly in regional areas. **Automotive procurement incentives** The Government provides a rebate of $US 9800 for an all-electric passenger car and $US81, 700 for an electric bus.[48]
Malaysia	**Tax Incentives and other subsidies** The Malaysian Development Authority encourages high value-add automotive component manufacturers with tax incentives including: • 100% exemption from payments to statutory income for 10 years • Investment tax allowance on capital expenditure for five years • Companies investing in the manufacturer of hybrid and EVs are eligible for the above allowances in addition to a 50% exemption on excise duty for locally assembled/manufactured vehicles.[49]
Thailand	**Tax Incentives and other subsidies** Thailand offers a range of incentives for its automotive industry including: • Eight-year corporate tax holiday and exemption from import duty on machinery for facilities which invest in high technology components • A five year corporate tax holiday and exemption from import duties on capital for major assembly plant investments to the minimum value of $US 500 million and with minimum capacity of 100,000 annual units • Duty exemption from imports for components that cannot be manufactured in Thailand Exception of machinery import duties and corporate tax payments for eight years for tyre manufacturers[50].

[46] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[47] Haley, U (2012) Putting the pedal to the medal: Subsidies to China's auto-parts industry from 2001 to 2011
[48] Tay, F (2013) China pushes ahead with green vehicle subsidies, Australia Network News
[49] Malaysian Investment Development Authority (2013) Incentives for the Manufacturing Sector
[50] Thailand Board of Investment (2013) *Opportunities in Thailand's Automotive Industry*

Country	Assistance arrangements
Indonesia	**Tax Incentives and other subsidies** Indonesia has developed the low-cost green cars policy (LCGC), which provides: A five-year tax holiday for MVPs who invest more than $US100 million in vehicle assembly plants[51]. **Automotive procurement incentives** Recently, the LCGC program has expanded to include a luxury goods sales tax exemption (ranging from 10-30% of local vehicle cost) for cars with cylinder capacity of less than 1.2 litres for spark ignition engines and less than 1.5 litres for combustion-ignition engines, and with fuel capacity of less than 20km per litre of fuel.
South Korea	**Loans** Under the Foreign Investment Promotion policy, the Government provides free land or loans to foreign investors [52] **Grants** The Government offers foreign investors grants to cover the costs and expenses incurred to develop their projects in Korea [53] During the GFC, the Korean Government announced that it would allocate KRW 18.3 trillion for an energy efficiency initiative that will run until 2012.[54] **Tax Incentives and other subsidies** Foreign business can receive tax breaks for a maximum of 7 years for corporate tax and income tax[55] **Automotive procurement incentives** In May 2009 – December 2009 the Korean Government introduced the following incentives for consumers trading in older vehicles • a 70% tax reduction on individual consumption tax • a 70% tax reduction on registration tax a reduction in the acquisition tax. [56]
Japan	**Tax Incentives and other subsidies** In 2007 Japan committed $UD1.72 billion to support the next-generation power trains and fuels to secure petrol consumption and reduce CO2 emissions.[57] **Automotive procurement incentives** The Government introduced in April 2009 a Green Car scheme for automobiles. A subsidy of between 125,000 yen to 250,000 yen was provided for the purchase of high efficiency cars. The program concluded in April 2012.[58]

[51] WARDSAUTO (2013) Green-Car Incentives Rev Up Indonesian Auto Industry
[52] Invest Korea - A Government on Your Side: Promoting Foreign Investment
[53] Ibid
[54] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[55] Invest Korea - A Government on Your Side: Promoting Foreign Investment
[56] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[57] Ibid
[58] Organisation for Economic Co-operation and Development, (2010) 'The automobile industry in and beyond the crisis', OECD Economic Outlook, vol. 2009 no. 2

Country	Assistance arrangements
India	**Grants** The Government provides funds to assist in the development of infrastructure to accommodate manufacturing and other industry sectors, under the Integrated Infrastructure Development Scheme. [59] **Automotive procurement incentives** Following the GFC, the Government introduced a reduction in excise duty of all cars and utility vehicles with an engine capacity of 2 000 cc and above, in addition to a reduction in excise duty for small cars from 16% to 12% and for hybrid cars from 24% to 14%.[60]
European Union	**Loans** In 2012, under the CARS 2020 policy the European Commission recommended a targeted European Investment Bank (EIB) financing program. During the GFC the EIB increased its lending volume to the automotive industry from an average of €2 billion per year to almost €14 billion in the period 2009-2010. In 2012, the European Council agreed to fund a further €10 billion to increase the available funding to the automotive sector for innovation and resource efficiency projects.[61] **Grants** The 2012 CARS 2020 Action Plan included a range of grants. The Commission recommended the following incentive measures: • An €80 billion Horizon 2020 framework designed to provide research and innovation funding from 2014-2020 to automotive manufacturers The €2.5 billion Competitiveness of Enterprises and SMEs Programme to enable SMEs and larger firms in the EU benefit from improved access.[62]

[59] Government of India - Main Incentive Schemes of Ministry of MSME
[60] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[61] European Commission (2012) CARS 2020: Action Plan for a competitive and sustainable automotive industry in Europe, Brussels, 8, 11.2012, COM (2012) 636
[62] Ibid

Country	Assistance arrangements
Germany	**Loans** The KfW Bankengruppe is the nationally operating development bank of Germany providing financing tools such a promotional loan program, mezzanine financing and private equity. In addition, each German state has its own development bank which provides loans programs, particularly directed at start-ups and growing companies in the local region[63]. The German Government also provides loans for: • Early Stage Investment Project Financing – designed for early stage commercialisation project that rely solely on funding • Later Stage Debt financing – providing a central debt financing resource for companies with a continuous cash flow.[64] **Grants** The German Government provided a €1.5 billion bridging loan to car maker Opel in May 2009[65] The German Government has a range of incentives available to all companies seeking to invest in Germany. These include: • Cash Incentives for Investment Projects – a program designed to provide complementary support to an investment project • Labour-related Incentives and R&D Project Grants – designed to provide further subsidies for companies who invest in growing the workforce or focus on R&D.[66] During the GFC the German Government committed €500 million of support for research programs into new energies in the automotive industry.[67] In 2006 the German Government also committed €500 million in support for the Hydrogen and Fuel Cell Technology Innovation Programme.[68] **Automotive procurement incentives** In 2009 the German Government developed a € 5 billion 'Cash for Clunkers" program which provided a rebate for those who invest in more efficient vehicles. The funds were exhausted by September 2009. [69]
France	**Loans** During the GFC, the French Government provided assistance to major car manufacturers including: • €6 billion was provided in loans to carmakers Peugeot-Citroen and Renault70 • €500 million to assist the auto-sector firms with operations in France[71] • €2 billion of direct assistance was provided to the financial services arm of Renault and Peugeot-Citroen[72] **Grants** Prior to the GFC the French Government provided: • Aid of €120 million for R&D expenditure by the automotive sector for the period of 2006-2008. • €150 million for assistance to employees of automotive supplier companies undergoing restructuring **Tax Incentives and other subsidies** A €20 billion Competitiveness and Employment Tax credit will provide an annual reduction in labour costs to encourage investment and create jobs. The tax credit will be calculated from 4% in 2013 and then 6% from 2014. [73] Prior to the GFC, the French Government also raised the threshold for tax credits on R&D expenditure by 100% to €16 million.[74]

[63] Germany Trade and Invest - Incentive Programs
[64] Germany Trade and Invest - The Automotive Industry in Germany Issue 2012/2013
[65] Davey, A (2011) Budgetary Assistance to the Australian Automotive Sector - Sapere Research Group
[66] Germany Trade and Invest - The Automotive Industry in Germany Issue 2012/2013
[67] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[68] Ibid
[69] Germany Trade and Invest - Incentive Programs
[70] Davey, A (2011) Budgetary Assistance to the Australian Automotive Sector - Sapere Research Group

Country	Assistance arrangements
United Kingdom	**Loans** During the GFC the United Kingdom introduced the following stimulus measures: • €2.3 billion guarantee scheme for loans going to low carbon projects[75] **Grants** As part of its response to the GFC the Government provided: • GBP 100 million designed to improve workforce skills in the automotive sector Established the GBP 50 million UK Economic Challenges Investment Fund to provide new opportunities for automotive employers to improve business performance and develop new opportunities in the supply chain[76] **Automotive procurement incentives** In May 2009 the United Kingdom introduced the "Cash for Clunkers" scheme which provided a $1000 pound incentive to the customer (conditionally upon the manufacturer also committing $1000 pounds). The scheme ran until March 2010.[77]
Canada	**Loans** During the GFC the Canadian Government provided loans of $C4 billion to the to GM Canada and Chrysler Canada in 2008-09[78] **Grants** In the 2013 budget the Government announced a comprehensive range of assistance measures set to commence from 2014. These include: • The $250 million Automotive Innovation Fund to promote private sector investment in Canada. The fund will support automotive firms' strategic, large-scale R&D projects.[79] • The $200 million Advanced Manufacturing Fund designed to support investments by manufacturing firms in activities that create new and innovative products or production methods over five years. Eligible projects include vehicle and powertrain assembly operations associated with significant automotive innovation.[80] The $81 million Auto21 Network Centre of Excellence, set to commence in 2015, aims to build a stronger automotive sector in Canada by funding research in public/private sector collaborative research and the development of human and social capital.[81] **Tax Incentives and other subsidies** The 2013 budget set out $1.4 billion in tax relief for Canada's manufacturing and processing sector over the 2014-15 period through a two-year extension of the temporary accelerated capital cost allowance for new investment in machinery and equipment.[82]

[71] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[72] Davey, A (2011) Budgetary Assistance to the Australian Automotive Sector - Sapere Research Group
[73] Invest in France Agency - France's National Pact for Growth, Competitiveness and Employment
[74] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[75] Organisation for Economic Co-operation and Development, (2009) Responding to the Economic Crisis: Fostering Industrial Restructuring and Renewal
[76] Ibid
[77] Organisation for Economic Co-operation and Development. (2010) 'The automobile industry in and beyond the crisis', OECD Economic Outlook, vol. 2009 no. 2.
[78] Davey, A (2011) Budgetary Assistance to the Australian Automotive Sector - Sapere Research Group
[79] Government of Canada, Industry Canada (2013) Automotive Innovation Fund – Program Summary
[80] Government of Canada - Budget 2013, Chapter 3.2 Helping Manufacturers and Business Succeed in the Global Economy
[81] Government of Canada - Auto21 Networks of Centres of Excellence
[82] Government of Canada - Budget 2013, Chapter 3.2 Helping Manufacturers and Business Succeed in the Global Economy

Country	Assistance arrangements
United States	**Loans** As part of a response to the GFC the United States developed the following loan programs: • $73.8 billion Automotive Industry Financing Plan which provided loan and equity injections to automotive manufacturers under the Troubled Asset Relief Program • $7.5 billion Advanced Technology Vehicle Manufacturing Loan Program which supported automotive industry loans of $25 million to assist US manufacturers meet high fuel costs and develop technologies to reduce US dependence on imported crude oil.[83] **Grants** During the GFC period the United States also provided: • $1.77 billion of direct assistance to GM Holden via 208 grants • $1.58 billion of direct assistance to Ford via 119 grants[84] Other assistance includes: • $101 million assistance to Daimler since 2007 via 24 grants from a variety of state and federal agencies • $1.4 billion assistance to Chrysler since 2007 and has received from fr14 grants in 3 states • $3.6 billion direct grants to Honda, Toyota and BMW. Grants obtained from a variety of sources including taxpayer gifts such as property and sales tax exemptions, income tax credits, infrastructure aid, land discounts, and training grants[85] • Toyota Motor Manufacturing Kentucky has recently secured a $360 million investment that will create 750 new jobs at the first-ever US production site of the Lexus ES 350 model • Ford motor company is investing $850 million in its Michigan plant. This investment was secured as a result of the Michigan Economic Growth Authority package aimed at making the state more competitive in new fuel saving technologies.[86] • GM invested $413 million from 2006 to 2011 to expand its transmission plant in Ohio. This investment was supported by a $75 million state assistance package[87] **Automotive procurement incentives** Scrapping scheme: $3 billion to encourage new vehicles sales, accounting for between 200,000 to 600,000 vehicle sales in the 2009/10 period.[88]

[83] Davey, A (2011) Budgetary Assistance to the Australian Automotive Sector - Sapere Research Group
[84] Ibid
[85] Organisation for Economic Co-operation and Development. (2010) 'The automobile industry in and beyond the crisis', OECD Economic Outlook, vol. 2009 no. 2.
[86] Ford (2010) Ford to invest additional $850 Million in Michigan to Design, Build Fuel-Efficient Vehicle
[87] Trade and Industry Development (2013) General Motors Corporation – Toledo, Ohio
[88] Organisation for Economic Co-operation and Development (2010) 'The automobile industry in and beyond the crisis', OECD Economic Outlook, vol. 2009 no. 2