

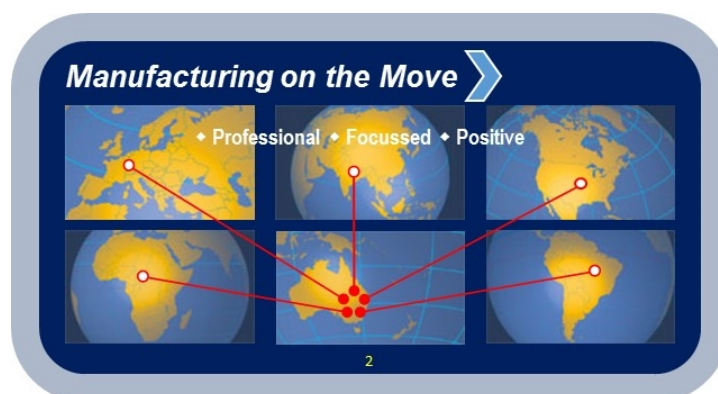
Securing Australia's Manufacturing Future

[updated]



Collaborative Industry Submission

Compiled by:



**Window on High-Value Manufacturing
in and from Australia**

July 2016

Background to 2016 update



Members of the ***Manufacturing on the Move™*** [MotM™] Leadership Group collaborated on the compilation of a submission (dated 31st January 2014) in response to the invitation and 'call to arms' on the industry by the Australian Government – as anchored in media releases issued in December 2013.

'*Securing Australia's Manufacturing Future*' was compiled against the backdrop of 'Re-energising Industry and Economy'. Much of the 2014 content is still valid, such that we are republishing and adding this summary note on '2016 significant factors':

- Rise of Additive Manufacturing
- Push to expand Australia's FTA arrangements
- Realignment of trading blocks and economic / political associations, plus the emergence of potential new markets, e.g. the UK as a result of the BREXIT decision
- FOREX / AUD changes
- The Australian Government's National Science & Innovation Agenda, released in December 2015, and emergence of a new 'start-up' culture
- Development of the Australian Government's Industry Growth Centres
- Moves by various state governments to better manage the transition away from mining to other industries
- Announcement of Sydney's second airport, and a renewed focus on creating advanced manufacturing opportunities in Greater Western Sydney
- Comparison with the UK Catapult centres and other incubator / accelerator models
- Development of Industry-Research / University engagement and collaboration, e.g. Industry Advisory Network of UNSW Mechanical and Manufacturing Engineering
- Emergence of Automation, robotics and actuation, and IOT technologies, and digitalisation of manufacturing generally
- Changes brought about by the escalating 'new energy' revolution
- Emergence of the Innovative Manufacturing CRC
- Onshoring / reshoring realignments
- Changes to VET, STEM, skillsets and talent pipelines
- Aerospace & Defence cross-pollination / trickle down / spill over
- Announcement of the DCNS submarine contract



INDUSTRY-LED INITIATIVE – the 2014 Submission

This is an industry-driven initiative, developed as a result of discussions in and via the membership base of **Manufacturing on the Move™** [MotM™] – a specialist, practice-based networking group with international reach, comprising highly-engaged professionals and leaders with a strong focus on Australian High-Value Manufacturing.

This proposal outlines key issues informing Australia's competitive future with recommendations for a viable course of action for government - industry collaboration.

Our goal is to also establish a **'Virtual Network'** channel for constructive, ongoing, industry-led dialogue towards **securing the competitive future of Australia's manufacturing industry** and collaboration-driven, future prosperity for Australia.

1. WHY?

It is an imperative for Australia to build a diversified, sustainable, thriving economy based on our strengths and competitive advantages to allow us to become globally competitive, and to take a leading role in the developed and developing world in terms of future economic opportunities.

Key factors contributing to the current situation include:

- 1.1 Rapidly advancing global technologies:** not easily accessible to smaller, non-multinational manufacturers and other producers in Australia.
These technologies are developing and impacting our lives faster than we can keep up - certainly faster than economic planning or policy settings.
- 1.2 Declining Manufacturing Sector:** generally decreased attractiveness and competitiveness due in part to the high Australian dollar, associated with inadequate focus on markets, customers and innovation – resulting in and further impacted by the demise of the traditional automotive sector.
- 1.3 Innovation Culture:** lack of innovation strategy to create and leverage resources and stable political and social climate.
- 1.4 Inclement Business Environment:** high cost of energy and finance, counter-productive company tax, over-regulation and unfavourable R&D regimes compared to competing economies.
- 1.5 Productivity:** apparent decline in national economic competitiveness (rank 21 out of 148 countries).
- 1.6 Cross-Sector & Cross-Border Collaboration:** weak connectivity and level of collaboration at the Australian and State/Territory Government-Industry-Universities-Research Institutions-Business interface.
- 1.7 Skills & Training:** skills training system increasingly lacking relevance and sophistication required to meet evolving needs of advanced manufacturing and other industries.
- 1.8 Trade Agreements:** Disadvantageous trade agreements – or lack of (including dumping and unfair pricing for Australia).
- 1.9 Vision for the Country ['Australia Brand']:** lack of substantial and visionary planning to build synergies among complementing industries, e.g. food, tourism, digital and creative industries etc.



- 1.10 Immediate Crisis:** urgent need to re-focus and re-deploy talent and expertise from the declining 'old automotive' sector, in conjunction with state-of-the-art materials and processing, to advanced design engineering to create unique new-generation technology components, assemblies and systems.

2. WHAT?

Australia needs a decisive manufacturing strategy and an assertive action plan, based on implementation of an identified set of strategic priorities that will strengthen and diversify the economy by creating synergies and leverages for all 'producing' industry sectors.

Priority strategic options available to Government include:

- 2.1 Economic planning** to grow our economy by engagement and linkage to rapidly advancing global technologies; identifying long-term strategic, competitive direction for Australia's unique opportunities; aggressively pursuing resulting early windows of opportunity, with carefully targeted investment in advanced manufacturing, science and infrastructure as the best catalyst for sustainable growth and long-term wealth creation.
- 2.2** Identifying initiatives to **drive the 'value-add'** in the natural resources sectors (mining and energy production, agriculture, forestry, advanced materials etc.).
- 2.3** Developing leadership in water storage and management and associated transferable technologies; and in secure renewable and alternative energy sources, energy storage and smart energy distribution systems (e.g. micro-grids), whilst also driving energy efficiency leadership across all industry and public sectors.
- 2.4** A plan to encourage the **development and rapid adoption of the next generation, 'game changing' manufacturing technologies** to deliver positive commercial outcomes by employing, e.g. advanced composites and lightweight materials, large format and developing hybrid additive manufacturing, seamless processing robotics and software developments – all of which underpin the 'Industrial Revolution Gen 4' already evident in leading advanced manufacturing economies.
- 2.5 Build a presence in rapidly expanding markets for 'near zero emissions vehicles'** within our global geography. Australia has 'whole-of-vehicle' capabilities in advanced hybrid electric vehicles, underpinned by, e.g. cutting-edge 'light-weighting' such as composites or advanced high-strength steels and titanium (plus the all-important design tools and methodologies to go rapidly to market); high-performance drive-trains built around CSIRO-derived ultra-high-efficiency 'E-motors' and a range of 'clean energy' technologies that can deliver commercial volumes in harmony with definitive action on carbon mitigation.
- 2.6** Development of a **National Skills Strategy and Action Plan** which recognises the need for new structured career pathways that can drive innovation – particularly solutions-oriented technologists who combine high-level technical and analytical process with hands-on practicality.



- 2.7** Developing an **Australian Business Model** that supports business niche specialisation and excellence based on quality and customisation and clear market needs orientation, rather than on price and volume. This includes providing guidelines and incentives to implement appropriate model elements from economies that lead in advanced manufacturing.
- 2.8** Consolidate 1-7 [above] into the 'DNA' of the brand-in-the-making 'Made in Australia'. It is vital that this becomes much more than a slogan or eye-catching graphics, i.e. is synonymous with the intended '**Australia Brand**' core values – product integrity, fitness for purpose, value-not-price leadership, enviro-deliverables, delivery performance, high quality assurance, etc.

Inputs into policy settings to build a stronger, more balanced economy:

- 2.9** Manufacturing **Industry engagement with fast-developing advanced material and process technologies** that will drive economic growth.
- 2.10** Explore the opportunity to integrate and **facilitate Australian-developed enabling technologies** (ICTs, advanced and new materials and processes, energy saving, plus associated hybrid developments) into established international industry verticals.
- 2.11** **Energy security and energy reform** - to support competitiveness of the Australian manufacturing sector through the implementation of cost efficiency measures underpinned by access to emerging energy enhancement technologies.
- 2.12** Refreshed guidelines plus **incentives for investment in the manufacturing industry** – beyond R&D, innovative business acceleration solutions and local new venture capital options.
- 2.13** **A National Skills Strategy** to build a smart nation – creating new positive career perceptions and interest, and attracting our brightest talent to structured STEM vocational and professional career pathways.
- 2.14** **Creating 'value adding' partnerships and strategic alliances** involving **industry, business, government and research institutions** which achieve new industrialisation outcomes. **Facilitate new connections** across the Australian innovation system through the establishment of '**innovation centres of excellence**' reflecting various forms of industry engagement and collaboration, including manufacturing hubs, product realisation centres and supply-chain accelerators.
- 2.15** **Recasting analysis about the future of existing manufacturing industry sectors** such as 'old automotive' from a focus on outdated business models to embracing new, market-facing models underpinned by the rapidly evolving 'clean energy', advanced materials and digital technology platforms.
- 2.16** Creating a supportive business climate through tax reform, flow of investment, de-regulation and a commitment towards transparent and equitable trade agreements enhance by the appeal of '**Made in Australia**' as a **destination-of-choice for offshore potential investor/sponsors and alliance partners**.
- 2.17** **Develop a national public sector IP commercialisation strategy** to provide more focus on market-driven R&D which will result in maximising ROI gains from IP for Australia.



3. HOW?

- 3.1 Development of a recommended **national advanced manufacturing industry plan for Australia** that should include a comprehensive and cohesive set of **economic and strategic priorities** with policy recommendations towards the creation of a new stronger more balanced and diversified manufacturing sector.
- 3.2 The establishment of a broad-based and representative **‘Prime Minister’s Industry Advisory Council’** – perhaps based on the PMSEIC model – to assist the Government with input towards the implementation of the plan. This must be highly collaborative and mandate the active involvement of, and support from, the Council of Australian Governments (COAG) and key manufacturing industry groups, as an imperative to the overall success of the plan.
- 3.3 Effective communication by the Government of these strategic imperatives and direction as an **ongoing drive to build a competitive ‘Australia Brand’**, and engagement from the industry, will generate good-will and engagement by other key stakeholders.
- 3.4 Appointment of an **‘Industry Champion’** as a national catalyst to connect all groups and stakeholders in strategic collaboration and to assist and advise the Minister for Industry. It is submitted that this person need not have a technical background, but must have affinity with manufacturing, innovation, marketing strategy and above all, outstanding communication skills and the proven ability to mobilise cross-functional teams towards achieving strategic outcomes.

4. FURTHER CONSULTATION

Members of ***Manufacturing on the Move™*** [MotM™] are available to provide further input about ideas for advancement of the manufacturing industry with, for example, specific reference to:

- The automotive manufacturing sector
- Creating collaborative cross-industry, cross-border, Australasian networks and engagement
- Establishing the culture that needs to underpin the ‘Australia Brand’ business model
- Assisting Australian manufacturers with implementing more effective business models and processes
- Mentoring the industry

Primary contact for ***MotM™*** working group:

Angus M Robinson

E: angus@leisuresolutions.com.au

M: +61 (0) 418 488 340



5. PEOPLE BEHIND THE INITIATIVE

The initiative draws on a shared passion for a prosperous future for Australia as a highly competitive, diverse economy, and the need for agile Australian enterprises to operate in a dynamic local and international business environment.

The collective voice of this industry-led, E-media-generated initiative has been captured, mapped and amplified by a group of dedicated professionals and business people, with extensive experience in the manufacturing sector and broader industry experience, and based on specific inputs by Founder/Managers of ***Manufacturing on the Move™***:

- **Jon Bradshaw** <https://www.linkedin.com/in/jon-bradshaw-a45b6823>
- **Richard Jefferies** <https://www.linkedin.com/in/rgj2015>
- **Angus M Robinson** <https://au.linkedin.com/in/angusmrobinson>
- **Eduardo Sifontes** <https://www.linkedin.com/in/eduardosifontes>

This initiative is endorsed by the Founder/Patron of ***Manufacturing on the Move™***, Bruce Grey.



<https://www.linkedin.com/groups/6987032>

Also via:



Manufacturing Moves @Networks_2015
https://twitter.com/Networks_2015



6. RATIONALE & SUPPORTING RESOURCES

This introductory outline is both directional and specific, and supported by extensive research papers and references recent industry material from quality Australian and international sources.

These resources include but are not limited to:

- Deloitte: Australian Productivity Report [2013]
- Dow Chemical Company: Advanced Manufacturing Plan for Australia [2013]
- The Australian CEO Survey [Dec. 2013]
- Trade In Primary and Manufactured Products Australia 2012-2013 report
- Manufacturing workforce issues paper [Oct 2013]
- Global Competitiveness Report 2013-2014
- Relevant international business models and initiatives:
 - ❖ Germany: Mittelstand
 - ❖ Industry 4.0 is evolving in Germany:
(<https://www.deutschland.de/en/topic/business/innovation-technology/networking-the-world>)
 - ❖ USA: Advanced Manufacturing Partnership – Capturing Domestic Competitive Advantage

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