



Inquiry into Manufacturing in
Queensland – Response by the
Department of State Development

Question

What are the new growth areas for Queensland's manufacturing sector?

Answer

The Department of State Development (DSD) has identified advanced manufacturing as a new growth area that will deliver significant benefits / innovations to Queensland's manufacturing sector (in terms of products, processes and business models).

Other growth areas for Queensland's manufacturing sector include, but are not limited to: aerospace; automotive and transport; biomedical and life sciences; defence; food and beverage processing; industrial biotechnology and bioproducts; mining equipment, technology and services (METS); precision agriculture; and renewable energy.

Question

What are the key challenges for Queensland's manufacturing businesses?

Answer

DSD has identified economic and industry challenges for Queensland's manufacturing businesses including:

- rising resource and energy production costs (against softening commodity prices)
- weak productivity growth (noting manufacturing centres in Europe, China and the United States are growing stronger, therefore increasing global competition)
- winding down of construction and investment in the resource sector
- closure of the passenger motor vehicle manufacturing sector (which is anticipated for the end of 2017).

Australian exchange rate fluctuations (particularly during commodity price booms) also pose a challenge, with a high Australian dollar disadvantaging Australian manufacturers in an international economy. To counter this, manufacturers must innovate productivity and/or performance (i.e. to reduce cost(s) or create new capability/capacity).

Other challenges to Queensland manufacturing businesses include:

- managing the transition to advanced manufacturing
- supply chains and related logistical issues
- workforce arrangements (e.g. high labour costs for skilled workers; limited availability of skills and training to innovate and implement new technologies and processes; low uptake of science, technology, engineering and maths (STEM) subjects in primary and secondary schools)
- compliance and regulatory costs
- entering established markets with new products and ideas.

Question

What are the key pathways through which the manufacturing sector contributes to economic growth and productivity improvements across the broader community?

Answer

The manufacturing sector is a significant contributor to the state's economic growth. Manufacturing is the fifth biggest contributor to the state's economy, generating approximately \$20 billion per year and employing approximately 167 400 Queenslanders (with more than 88 per cent of this workforce employed as full-time).

Over the past decade, Queensland manufacturing has increased its share of national industry gross value added from 16.8 per cent in 2004–05 to 19.7 per cent in 2014–15 (in current prices). However, while Queensland manufacturing contributes strongly to the state's output, it has

decreased its share of output from 12 per cent in 1989–90 to 7.1 per cent in 2014–15 (current prices).

Queensland export data (2015–16) indicated manufacturing accounted for approximately \$15.7 billion in international exports, making it one of the largest export industries in Queensland (representing one-third of the total value of Queensland's merchandise exports for the most recent financial year).¹

Manufacturing makes its biggest contribution to the economy through research and innovation. Endogenous Growth Theory proposes up to 85 per cent of growth in output in an economy can be attributed to technological innovation. In Queensland, manufacturing spent \$532 million on research and development (R&D) in 2013–14, accounting for 19.7 per cent of total business R&D in the state.² The University of Queensland Business School Innovation Survey highlights manufacturing is one of the most innovative sectors in Queensland, with 77 per cent of businesses innovating in 2013–14.

Question

Does manufacturing in Queensland aid technology diffusion across firms or encourage skill development in the broader workforce? How?

Answer

Data from the Australian Bureau of Statistics (ABS) indicates manufacturing is the most innovation-intensive sector in the economy, with \$4.8 billion spent on R&D in 2013–14 (more than any other sector of the economy).³

Approximately 5 per cent of manufacturing GDP is re-invested into innovation (i.e. four times the economy-wide average and higher than any other sector including professional and scientific services).⁴

Successful Queensland manufacturers are increasingly incorporating technological innovations into their products and processes, while also demanding the same from their suppliers (to drive financial and non-financial efficiencies). Examples of this include automation and inventory management systems that allow customers to view (in real time) the progress of their goods as they are manufactured.

Within Queensland, a range of advanced manufacturing technologies and processes are being used across several industries to innovate products. For example, additive manufacturing techniques and design practices are used to develop customised medical devices and dental implants (as well as provide energy storage solutions). Additionally, automation technologies and robotics are used in the defence, biomedical, agricultural and mining industries while innovative processing technologies are used in food and beverage manufacturing. Precision tooling and niche machining are used to produce mining equipment and medical devices are prominent in the aerospace industry.

Question

What are the new technologies and processes that are transforming manufacturing industries around the world? How widely used is this technology in Queensland's manufacturing sector?

Answer

DSD notes digitisation will be integral to technological changes for transforming manufacturing industries across the world. Key digitisation technologies include: advanced materials (including composites); smart robotics; automation; additive manufacturing (e.g. 3D printing); artificial intelligence; sensors and data analytics; and embedded electronics.

1 Queensland Government Statistician's Office, Trade data – overseas exports by industry (4-digit ANZSIC 1993 edition) and country of destination, Queensland and other states and territories, 1995-96 to 2015-16 (preliminary), <http://www.qgso.qld.gov.au/products/tables/trade-data-overseas-exports-industry-anzsic/index.php>

2 ABS, #8104.0, Research and experimental Development, Businesses, Australia, 2013-14.

3 Jim Stanford, Centre for Future Work at the Australia Institute, Manufacturing Still Matters, June 2016, Briefing Paper, p5

4 *ibid*

In the US, some key enabling technologies identified as supporting advances in manufacturing include:

- advanced robotics
- nano electronics
- materials-by-design
- biomanufacturing.⁵

As manufacturers transition to advanced manufacturing, there is an increased focus on the production of customised, well-designed and high-value/low-volume products in a sustainable manner. Within Queensland, there are world-class advanced manufacturing businesses using enabling technologies to produce high-quality goods (for national and international markets), including:

- Ferra Engineering, which supplies several global aeronautical corporations (i.e. Boeing; Lockheed Martin; Northrop Grumman)
- Bundaberg Brewed Drinks, which has been exporting brewed drinks to more than 32 countries since 2006
- L3 Microe, which is a leading designer and manufacturer of radio frequency and photonic products for radar and electronic warfare systems.

Question

What factors restrict Queensland firms in adopting advanced manufacturing processes and systems?

Answer

DSD notes a number of factors are restricting Queensland firms in adopting manufacturing processes and systems. These include:

- low awareness of appropriate advanced manufacturing technologies and key enabling technologies (and their benefits to the business)
- insufficient knowledge to inform purchase of technology
- low levels of expertise on how to use the technology
- high investment and ongoing maintenance costs.

In 2016, survey data published by Sensis noted only 19 per cent of Australian small-and-medium sized businesses had a digital business strategy.⁶

Question

How are new technologies impacting skill requirements? What are the key skills required for participation in global manufacturing supply chains?

Answer

DSD notes manufacturers will need to boost the skills in their workforce to operate efficiently in a digital economy. The key skills required for participation in global manufacturing supply chains includes: strong communication skills; the ability to collaborate effectively; knowledge of international practices and quality standards; and the ability to produce high-quality products.

⁵ President's Council of Advisors on Science and technology (2011) Report to the President on Ensuring American leadership in advanced manufacturing, Executive Office of the President, June 2011, p28.

⁶ <http://www.sensi.com.au/learn/australian-businesses-selling-online-more-than-ever>

Question

Are education and training providers producing graduates with the necessary competencies? If not, what are the skill gaps?

Answer

The Committee for Economic Development of Australia (CEDA) identifies the pace of technological change will continue to increase, with a significant portion of Australian jobs existing today made redundant over the next 20 years. CEDA estimates approximately 40 per cent of the workforce could be replaced by computers in the next 10 to 15 years⁷ (noting some job markets, such as agriculture, mining and manufacturing, have already been impacted by automation).

CEDA suggests the vocational education and training (VET) sector will be required to review:

- the capabilities required support and sustain knowledge-based jobs
- support mechanisms (existing and required) to boost the STEM curriculum across primary and secondary education (including assistance for young people to transition from school to further education, training or employment in related disciplines).⁸

This could be supported by Jobs Queensland, which was established by the Queensland Government to provide strategic advice to the government on future skills requirements, workforce planning and development issues and the apprenticeship and traineeship system in Queensland.

DSD identified several factors creating skills gaps, including:

- limited upskilling of current employees to improve their capability and competency (noting the challenge that the traditional manufacturing workforce has an ageing profile)
- workforce and succession planning by manufacturers to identify what new skills will be required to boost productivity (e.g. R&D; design; market sounding to identify and assess potential export markets).

Question

How do global supply chains impact manufacturing in Queensland? Are there barriers in accessing global markets?

Answer

In 2016, the Office of the Queensland Chief Scientist highlighted supply arrangements will be defined by greater collaboration between contractors, business partners and other stakeholders (e.g. software companies; universities and research organisations; professional specialists).⁹

This is reflected by DSD, which has identified the future of Queensland's manufacturing sector will be strongly linked to 'value chains' and how collaboration across the supply chain can increase value and efficiencies for stakeholders and customers.¹⁰

Within Queensland, some barriers to accessing global supply chains include limited knowledge of international:

- benchmarks and quality standards
- trading practices
- niche opportunities
- marketing and promotion of products and services.

⁷ The Committee for Economic Development of Australia (CEDA) *Australia's future workforce? June 2015 report*

⁸ The Committee for Economic Development of Australia (CEDA) *VET: securing skills for growth August 2016*

⁹ Office of the Queensland Chief Scientist, *Advanced Manufacturing Implications and opportunities for Queensland*, 17 February 2016

¹⁰ The Department of State Development, Office of the Chief Economist, *Manufacturing situation and economic outlook report*, January 2016

Question

What are the key factors driving a productive and competitive manufacturing sector? Are there relationships between these drivers?

Answer

Internal factors

A productive and competitive manufacturing sector is characterised by businesses with:

- an innovative agenda
- sophisticated technology (including a strong focus on digital expertise and a commitment to training, skills development and workforce planning)
- a comprehensive understanding of the domestic and international market for their products and services
- valuable global connections
- innovative business models with a strong and effective management structure.

External factors

Several drivers external to the scope of the manufacturing sector include:

- exchange rate
- supply of raw materials
- reliable telecommunications
- regulatory and policy environments (including quality standards)
- competitive and appropriately skilled labour
- other costs (e.g. workforce; capital; transport and logistics; energy; etc.).

Question

What is the capacity of the Queensland Government to influence these drivers?

Answer

While the Queensland Government is unable to influence some of the external factors outlined above, the government remains committed to:

- encouraging investment into Queensland industries and businesses
- delivering reliable infrastructure and transport networks
- developing a skilled and knowledge-based workforce.

DSD is supporting the growth and diversification of the Queensland economy through the development and implementation of 10-year roadmaps for emerging priority industries, including aerospace, biofutures, biomedical and life sciences, defence and METS.

On 14 December 2016, DSD released the 10-Year Advanced Manufacturing Roadmap and Action Plan (AM Roadmap) which outlines a pathway for: the growth of advanced manufacturing across the state; continuing the transition of existing manufacturers into world-class advanced manufacturers; and creating a knowledge-based employment market for Queenslanders.¹¹ This will be facilitated by an investment of \$7.6 million over three years into measures outlined in the AM Roadmap to accelerate the state's transition to advanced manufacturing, including:

- \$1.5 million program of workshops on robotics and digital business capability
- \$550 000 for hacker/maker spaces to connect manufacturers with ideas and innovations
- \$700 000 for workshops to encourage manufacturers to use design and engineering analysis software, new materials and advanced manufacturing techniques
- \$900 000 to improve manufacturers' energy efficiency and produce stronger environmental outcomes
- \$250 000 to get more young people into manufacturing careers.

¹¹ Queensland Government, *Queensland Advanced Manufacturing 10-Year Roadmap and Action Plan*, December 2016

Other initiatives under the leadership of DSD include the:

- Advance Queensland Industry Attraction Fund, which has been designed to attract businesses to Queensland (to either relocate or establish new projects in the state). The \$40 million fund will support jobs creation, regional growth, increased innovation and the building of local supply chains
- Queensland Charter for Local Content (the Charter), which provides a framework for encouraging government agencies to apply best practice in local content procurement while minimising the compliance burden on government agencies and contractors, and ensuring full, fair and reasonable opportunity for local suppliers. Additionally, DSD delivers workshops to assist industries and business to tender for government projects:
 - Capability Statement workshops – capability statements are a key requirement in the pre-qualification for government projects and tendering opportunities (as well as for private sector major projects and sub-contractor work). These workshops assist Queensland businesses to understand: what a capability statement is and how they are prepared; how to access the latest information on Queensland's major projects; and how to participate in major project supply chains
 - Tendering for Government Business workshops – this is the state's premier program for educating industry on the Queensland Government procurement process. This workshop helps suppliers maximise their chances of winning government work. It is also applicable to the private sector, including tendering for major projects.

The AM Roadmap is closely aligned to the recently established (December 2016) Made in Queensland (MIQ) Program, a \$20 million statewide manufacturing program dedicated to supporting Queensland's manufacturing industry. This reflects Queensland Government's commitment to work with local manufacturers to assist them to increase their international productivity and competitiveness, and adopt innovative processes and technologies. Under the MIQ Program, grants between \$50 000 and \$2.5 million will be offered to Queensland-based manufacturers to enable this.

Question

What factors influence a company's decision to locate its operations in Queensland?

Answer

DSD has identified several factors influencing a company's decision to locate its operations in Queensland, including:

- proximity to customers (including export markets, such as Asia) and suppliers
- infrastructure and supporting transport / logistical / telecommunication networks
- availability and cost of:
 - skilled labour
 - resources (i.e. energy; water) and raw materials
 - land (to establish and/or expand operations)
- lifestyle and liveability for employees.

Question

What are the sources of competitive advantage that manufacturing businesses in Queensland have over interstate and international rivals?

Answer

Queensland offers a favourable location and value proposition for international and domestic businesses seeking to establish, relocate or expand existing operations. Competitive advantages that Queensland has over interstate and international rivals include:

- a resilient, diverse, modern and vibrant economy
- a strong business environment, reflected by:
 - a state government that is pro-business, with a stable and supportive policy and regulatory regime
 - sound business confidence
 - competitive construction and operational cost(s)
 - supply of industrial land
 - the lowest overall payroll tax rate in Australia, and the highest exemption threshold of any mainland state
- proximity to growing export markets (e.g. India and China)
- infrastructure and supporting transport / logistical / telecommunication networks, including:
 - airports, ports and rail infrastructure that enables real connectivity with suppliers and markets
 - low congestion costs
 - reliable and cost-effective electricity, water, gas and ICT
- a VET sector that is strengthening its focus on knowledge-based employment outcomes
- being a destination of choice that offers sound liveability (i.e. lower costs of living and more affordable housing compared to other jurisdictions) and lifestyle options
- an abundance of natural resources.

Question

What is the extent of offshoring undertaken by Queensland manufacturing firms?

Answer

Noting the development and implementation of the AM Roadmap by DSD, offshoring (and reshoring) the operations of Queensland manufacturing firms was outside the scope of this activity. However, DSD will assess the findings and recommendations of the inquiry and will work with QPC accordingly to understand how they may impact the strategic intent of the AM Roadmap.

Question

What has been the international experience of reshoring?

Answer

The United Kingdom (UK) identified that reshoring manufacturing operations has faltered due to a lack of skills and capacity among 'smaller' manufacturers. The data also indicated the majority of manufacturers view reshoring as 'irrelevant' to their strategic and corporate intent (with uptake by remaining manufacturers being less than predicted).

For UK manufacturers that reshored, approximately:

- 50 per cent of operations were relocated from Brazil, Russia, India and China
- 30 per cent of operations were relocated from broader Asia
- 20 per cent of operations were relocated from Europe.¹²

¹² <http://www.iedp.com/articles/re-shoring-will-europe-follow-the-us/>

Question

What are the potential benefits of reshoring for the Queensland manufacturing industry and the Queensland economy in general?

Answer

Brisbane-based business, Signet (which produces packaging and office goods) recently reshored operations from Malaysia and China after investing heavily in robotic technology to make packaging and office supplies, with advantages of local production including:

- increased ability to turn around orders in 24 hours, instead of weeks (i.e. subject to operations of an Asian contractor)
- 'hedging' currency fluctuations.¹³

Other drivers to reshore include:

- rising costs in the emerging economies
- shortening supply chains (noting increased customer demand and technology to monitor production and delivery of goods)
- increased demand for service (e.g. maintenance) alongside manufacturing.¹⁴

Question

What are the barriers to Queensland firms reshoring?

Answer

DSD has identified the key barrier to Queensland firms reshoring is the cost of operations, which is more competitive when located in particular overseas economies such as China or India (noting this can be subject to the value of the Australian dollar).

Question

How effective have the Queensland Government manufacturing sector policies and programs been in achieving their objectives?

Answer

Government strategies, policies and programs have been appropriately developed, targeted and marketed in consultation with industry and other relevant stakeholders. It is noted this is being driven by the Advance Queensland initiative, which comprises a comprehensive suite of programs based on international evidence of best practice and collaboration between entrepreneurs, industry, universities and government.

Question

What lessons can be learnt from the design of existing policies? Are there examples of best practice or innovative solutions?

Answer

Project attraction and facilitation is part of DSD's charter to drive Queensland's economic development. To assist business and industry proponents, DSD provides professional support and advice, including coordinated case management support.

Services provided for projects accepted for case management support include:

- streamlining of approvals and access to Queensland Government contacts
- negotiating and identifying resources and links across Queensland Government agencies to overcome obstacles
- identifying opportunities to progress projects such as approval pathways, resource availability, site selection and access to economic data and business tools
- facilitating introductions with local companies and service providers

¹³The Weekend Australia, *How we're starting make things again*, November 19-20, p20

¹⁴ <http://www.civitas.org.uk/content/files/BringingManufacturingBack.pdf>

- liaison across government about projects and its contribution to Queensland's economic development
- providing support, advice and assistance to attract new project investment and facilitating investment to support major projects
- supporting engagement by companies with Queensland communities, local governments and landholders
- providing site-specific assistance and a range of other services including cultural heritage and native title matters.

DSD also provides case management support for projects that:

- will make a significant contribution to the Queensland economy through economic growth, exports, employment and infrastructure provision
- require multiple approvals and active facilitation across governments and stakeholders
- are complex or sensitive
- respond to a recognised regional need.

By providing a 'one-stop-shop', DSD case managers can:

- address issues that may inhibit a project's establishment or expansion
- ensure a coordinated approach
- provide a diverse suite of skills and experience to assist clients.

Question

Are there policies or initiatives that have been effective in other jurisdictions (including internationally)? Why were these successful?

Answer

Australia

Initiatives being led by the Australian Government include:

- the \$248 million Advanced Manufacturing Growth Centre, which was established to drive the competitiveness and productivity of the sector by: linking Australian manufacturers with global companies; identifying future job and skills needs; providing a pipeline of well-developed innovations ready to be commercialised; and considering regulation reforms to encourage investment, transformation and growth by manufacturers¹⁵
- the \$40 million Innovative Manufacturing Cooperative Research Centre, which is focused on the development and support of 'manufacturing innovation' in Australia¹⁶
- the \$90 million next generation manufacturing investment programs which are helping businesses investing in capital projects to establish or expand high-value manufacturing operations in South Australia and Victoria.¹⁷

Additionally, in November 2016 the CSIRO released 'Advanced Manufacturing – A Roadmap for unlocking future growth opportunities for Australia', that identifies a range of opportunities to ensure the future competitiveness and success of manufacturing in Australia.¹⁸

Germany

The German Centre for Research and Innovation (GCRI) and partner organisations (e.g. the Fraunhofer Institute) are examples of how a successful funding model has delivered technology and innovation partnerships focused on lifting productivity, diffusion and skills development across industry. The GCRI is also focused on an internationalisation of science and research (with the

¹⁵ <https://www.amgc.org.au/>

¹⁶ <http://www.imcrc.org/>

¹⁷ <https://www.business.gov.au/assistance/next-generation-manufacturing-investment-programme>

¹⁸ CSIRO Futures, *Advanced Manufacturing, A Roadmap for unlocking future growth opportunities for Australia*, November 2016

Fraunhofer Institute having a presence in North and South America, Africa, Middle East, Asia and Australia).¹⁹

Question

What are the costs and benefits of current policies (including impacts in resource allocation, spill-overs, administration costs for government and compliance costs for business)?

Answer

Economic activities over the short and long term in Queensland (including regional economies) are focused around harnessing growth in emerging industries and value adding in existing industry. The downturn in the resources sector has impacted major regional centres like Townsville, whose unemployment rate has consistently increased each month since the start of 2016. As at October 2016, Townsville's unemployment of 10.6 per cent represented:

- an increase of 2.2 percentage points over the year
- the second highest unemployment rate for any region in Queensland (behind the outback Queensland region at 12.4 per cent).

Resetting the economic environment and accelerating the transition to new priority industry sectors to deliver new manufacturing and knowledge-based jobs of the future is paramount to ensuring jobs and growth for a prosperous future for all Queenslanders.

Question

What should be the respective roles for the Australian and Queensland governments' manufacturing industry policies?

Answer

The Queensland Government's role should be to create an environment that encourages the growth and transformation of the manufacturing industry. DSD has identified the success of the AM Roadmap will be contingent on the continued partnership with industry, government (i.e. the Australian Government and local governments), communities and other stakeholders (e.g. universities and other peak bodies).

Question

Where can government action provide best value?

Answer

As above.

Question

What are the economic and social impacts of structural adjustment on businesses, workers and the community?

Answer

Over the next decade, the disruptive impact of technology, the growing middle class in the Indo-Pacific region, the ageing world population, and the significant movement in people and data, sustainability demands and security requirements will shape Queensland's future industry growth opportunities. In this environment, a strong manufacturing industry will be integral to a growing and prosperous economy.

Queensland's manufacturing industry can build on its existing strengths and benefit from emerging market opportunities by being agile and responsive to disruptive changes. The state must foster innovative and sustainable businesses producing low-volume/high-value, customised products. Manufacturing small-to-medium enterprises (SMEs) will also provide pre-production and post-sales services and be active participants in dynamic global supply chains.

¹⁹ <http://www.germaninnovation.org/>

To be innovative and technologically advanced, the industry must continue transitioning from broad-based to advanced manufacturing. To support this shift, it is essential that the state's manufacturing businesses are able to operate within a predictable business environment that encourages innovation, investment and growth.

Question

Have areas of regional Queensland been adversely impacted? If so, to what extent?

Answer

For the year ending September quarter 2016, Greater Brisbane accounted for 55.4 per cent of total manufacturing employment across the state, with the 'rest of Queensland' regions accounting for the remaining 44.6 per cent. The largest regional shares were Gold Coast (11.5 per cent), Wide Bay (5.5 per cent), Sunshine Coast (4.8 per cent), Mackay (4.6 per cent) and Fitzroy (4.5 per cent).

The mining sector's boom-bust cycle and mining project's different phases impact regional Queensland significantly. This is especially true during the downturn cycle and when mining projects move from the construction phase into the production phase, opportunities for manufacturers supplying to the mining sector declines.

Industry downturns also result in loss of skilled staff in the development, manufacture and maintenance of specialised mining equipment. It is difficult to replace or find skilled staff, particularly in regional areas that have smaller pools of skilled labour.

Question

What should be the objectives of government in providing structural adjustment assistance?

Answer

DSD is committed to providing structural adjustment assistance from a whole-of-industry perspective. This is through active engagement with companies, with the aim of encouraging the relocation and establishment of new projects, or reinvestment and expansion of existing operations in Queensland. DSD will continue to work closely across government and with private sector agencies to provide Queensland a one-stop-shop approach for advice, information and facilitation support.

Noting the case management support listed above, other types of facilitation support that may be provided can include:

- providing the business case information as to 'Why Queensland' – delivering information addressing project requirements, business costs, skills availability and other business investment drivers
- identifying suitable site options reflecting project requirements
- providing streamlined access to government services
- coordinating pre-lodgement meetings and giving advice on the development approval process to expedite approvals and reduce red tape barriers
- providing advice and provision of contacts or introductions to universities and various service providers such as property groups, utilities, education and training organisations, raw materials suppliers and other organisations to allow business to effectively expand in the state.

Question

What forms of structural adjustment assistance that apply specifically to the manufacturing sector are available to firms, employees or affected communities? How successful have these packages been in the past? Are there better solutions?

Answer

As above. Additionally, as per the AM Roadmap, three strategies (with supporting actions) have been developed to deliver an innovative, productive and robust advanced manufacturing sector in the state:

- increase productivity and international competitiveness
- target the adoption and adaptation of innovative technologies and processes
- promotion and marketing (domestic and international).

DSD has also established the Industry and Manufacturing Advisory Group (IMAG) to support the state's manufacturing industry. The group is helping position Queensland manufacturing businesses to maximise domestic and international opportunities by monitoring and assessing:

- changing demand and emerging opportunities
- productivity and competitiveness
- innovation and technology
- local content, business costs and regulation.

IMAG (which is chaired by the Minister for State Development and Minister for Natural Resources and Mines and comprises representation from business, unions and a peak industry body), will provide the Queensland Government with strategic advice on the AM Roadmap as it is rolled out and report on its progress accordingly.

Question

What forms of government assistance have other countries provided in response to a decline in their manufacturing sectors?

Answer

Manufacturing USA (i.e. the National Network for Manufacturing Innovation) comprises nine established manufacturing innovation institutes (with six more planned by 2017). These manufacturing institutes are public-private partnerships, each with distinct technology focus areas but working towards a common goal (i.e. to secure America's future through manufacturing innovation, education, and collaboration). Manufacturing USA institutes focus on progressing viable, early-stage research into proven capabilities ready for adoption by US manufacturers and provide members with access to state-of-the-art facilities and equipment (as well as workforce training and skills development customized to support new technology areas).²⁰

In the UK, the High Value Manufacturing Catapult was established in 2011 by the government to provide a stimulus for British manufacturing through a consortium of seven manufacturing technology centres. These provide cross-sector manufacturing and process technology support to SMEs and large multinational industrial partners. The aim of the consortium is to accelerate technology commercialisation by combining capability and equipment to help industry give commercial life to great ideas.²¹

In Germany, the Fraunhofer Society is an established network of government-backed research institutes which has helped make Germany one of the leading exporters of high-tech manufactured goods (despite the country's relatively high wages and high levels of regulation).²²

²⁰ <https://www.manufacturing.gov/nnmi/>

²¹ <http://www.the-mtc.org/our-members/high-value-manufacturing-catapult>

²² <http://www.wsj.com/articles/behind-germanys-success-story-in-manufacturing>

Question

What should be the main policy criteria for the provision of structural adjustment assistance?

Answer

DSD identifies the main policy criteria for the provision of structural adjustment assistance is that it contributes to the vision of the AM Roadmap. That is, it contributes and capitalises on Queensland's competitive strengths in existing and emerging sectors to ensure the state is a recognised leader (nationally and internationally) by 2026 for its advanced manufacturing technologies, products, systems and services that are innovative, sustainable and embedded in local and global supply chains.

Question

What are the Queensland Government regulations that currently apply to manufacturing industries?

Answer

Noting the development and implementation of the AM Roadmap by DSD, assessment of regulations applicable to Queensland manufacturing firms was outside the scope of this activity. This reflects Queensland Productivity Commission's position that:

- much of the regulation affecting the Queensland manufacturing sector is set at a national level
- many regulations do not directly target the manufacturing sector (notwithstanding legislative frameworks outlining provisions for: workplace health and safety; environmental protection; consumer protection; etc.).

DSD will assess the findings and recommendations of the inquiry and will work with QPC accordingly to understand how they may impact the strategic intent of the AM Roadmap.

Question

What are the costs and benefits of regulations? Are there any adverse or unintended impacts?

Answer

As above.

Question

How could regulation be improved?

Answer

As above.

Question

Are there any alternatives to these regulations that would achieve the same objectives?

Answer

As above.

Question

Are there regulations that could be removed or revised on the basis that their costs outweigh their benefits?

Answer

As above.

Question

Do the existing regulatory arrangements act as an impediment to the development and implementation of new manufacturing processes and business models? If so, which and how?

Answer

As above.