



Our performance in growing priority, new and emerging industries

Key highlights

To grow priority, new and emerging industries, the department:

- works closely with major stakeholders to deliver the government's vision in its support of economic infrastructure and the development of major projects of state and/or regional significance across several industries, including advanced manufacturing, aerospace, biofutures, biomedical and life sciences, defence, and mining equipment, technology and services (METS)
- is developing 10-year industry roadmaps and action plans for these priority sectors, forming a key component of the Queensland Government's \$405 million Advance Queensland Program
- established the Industry and Manufacturing Advisory Group.

Priority industry sector roadmaps

To build our competitive strengths, diversify our economy and create the knowledge-based jobs of the future, the Queensland Government's Advance Queensland Program is driving innovation-led economic growth through increased collaboration between government, industry and research organisations.

The department identified six priority industry sectors—biofutures, advanced manufacturing, defence, aerospace,

biomedical and life sciences and METS as having global growth potential and opportunities for diversifying and growing Queensland's economy and creating jobs.

The department is working closely with industry to develop 10-year roadmaps and action plans for each sector.

In line with Advance Queensland, the roadmaps and action plans will have a focus on collaboration between industry and research bodies to transform ideas and research into commercial outcomes, growing businesses and jobs.

This will contribute to Queensland being a destination of choice for businesses looking to partner with industry-savvy researchers and grow their export capability.

Across the state, 37 forums have been held to date with industry groups, peak bodies and businesses to discuss opportunities in these sectors.

Biofutures

A future industry whose opportunities lie in value adding to Queensland biomass (particularly cane) and waste streams, biofutures has strong research capacity in Queensland.

According to the World Economic Forum, the global biorefinery products market is expected to reach US\$1128 billion by 2022.

Queensland is well positioned to become the biofutures capital of Australia because of the state's favourable climate and natural resources, energy-dense and productive



feedstocks and strong agricultural expertise all underpinning the production and manufacture of future biofuels, bioplastics and biochemicals.

Anastacia Palaszczuk MP, Premier and Minister for the Arts, launched the *Queensland Biofutures 10-Year Roadmap and Action Plan* in June 2016 at the 2016 BIO International Convention in San Francisco. It outlines a vision for a \$1 billion sustainable and export-oriented industrial biotechnology and bioproducts sector in Queensland by 2026.

Development of the Biofutures Roadmap and Action Plan involved extensive consultation with industry, the research sector, and across government to ensure that the proposed initiatives addressed the needs and challenges for the sector.

Funding of almost \$20 million over three years has been approved to implement the Roadmap and Action Plan including for the following major initiatives:

- \$5 million Queensland Biofutures Industry Development Fund to assist proponents achieve financial close or bankable feasibility
- \$5 million Queensland Biofutures Commercialisation Program to support business partnerships with research organisations to scale up technology and increase novel product development and technology demonstration capacity
- \$4 million Queensland Biofutures Acceleration Program to identify opportunities to support the development of new biofutures projects in partnership with industry
- \$5.73 million for Biofutures Queensland to provide further support and assistance to industry, including the appointment of

a pre-eminent Biofutures Industry Envoy and a Chair for Biofuels.

The Queensland Government recently provided financial assistance to assist Southern Oil's advanced biofuel demonstration plant in Queensland.

The demonstration plant will be located at Southern Oil's Gladstone refinery. Once the demonstration plant proves successful Southern Oil Refining plans to build a commercial facility in Gladstone with an estimated cost of \$150 million and annual output of 200 million litres of advanced biofuel suitable for military, marine and aviation uses.

In addition, the department is working with a number of Queensland universities and institutes providing world-leading research and development on advanced biofuels, biochemical and bioplastics to explore options for translation of this research into economic development outcomes for Queensland.

Advanced manufacturing

Advanced manufacturing incorporates niche markets and products and a range of activities from design and research and development, to production distribution and after-sales service. The opportunities in this sector are likely to be split between improving the offerings of existing manufacturers and driving growth in emerging industries, such as biomedical.

On 24 February 2016, the government released a Queensland Advanced Manufacturing discussion paper, which was developed in consultation with the Industry and Manufacturing Advisory Group.

Consultation on the discussion paper—conducted in March 2016—included nine focus group sessions with small-to-medium



Biopharmaceutical manufacturing—Pantheon Biologics

enterprises in Caboolture, Cairns, Gladstone, Mackay, Maryborough, Springfield Lakes, Southport, Townsville and Toowoomba as well as discussions with research institutions, state and federal government agencies, peak industry bodies and unions.

The Advanced Manufacturing Roadmap and Action Plan is anticipated for release in late 2016.

The Advanced Manufacturing Roadmap and Action Plan aims to accelerate the transition of the Queensland manufacturing industry from broad based manufacturing to advanced manufacturing where businesses employ world-best technologies, systems and processes to produce high-value, customised products in a sustainable manner.

Actions in the roadmap focus on delivering increased industry productivity and competitiveness, strengthening the adoption and adaptation of innovative technologies and processes, and promoting and marketing the state's achievements in advanced manufacturing.

The department will continue to work with the Industry and Manufacturing Advisory Group, and industry more broadly, to ensure the Advanced Manufacturing 10-Year Roadmap and Action Plan supports this important sector to continue to innovate, grow and prosper—providing sustainable employment for Queenslanders.

Mining equipment, technology and services (METS)

As a mature Queensland industry, METS has considerable expertise across a range of products and services. Exporting that expertise and further developing our research and product development in this sector are significant opportunities.

More than 800 Queensland METS companies currently operate across all aspects of the energy and resources industry value chains. Queensland METS companies are world leaders in mine safety, mine rehabilitation and remediation processes, and technologies and contract mine servicing.

The department is currently developing the 10-Year Roadmap and Action Plan for the METS sector—expected to be released in late 2016—with targeted consultation undertaken in conjunction with METS Ignited across eight locations during April and May 2016, with 132 representatives from METS businesses, peak bodies and energy and resources sector focused research institutions participating.

Helping to realise the sector's continued growth potential, the new \$20 million METS Ignited Growth Centre was established by the Australian Government at QUT Gardens Point in October 2015—demonstrating confidence in Queensland's strength as a resource state.

The Queensland Government's contribution of \$6 million over four years to METS Ignited's activities complements the federal government's investment in the establishment of this centre. METS Ignited is focused on strengthening Australia's position as a global hub for mining innovation, and enhancing the global competitive advantage of the Australian METS industry sector.

Biomedical and life sciences

As an emerging sector in Queensland, opportunities lie in the commercialisation of emerging products and technologies, and investment attraction to the emerging health precincts across Queensland.



The sector is forecast to undergo steady growth globally—for example, the pharmaceutical industry is growing at 4.8 per cent per annum—and is driven by:

- increased demand for personalised and preventative medicines
- consumer expectations and demand including an ageing population
- the rise of infectious diseases.

In Queensland, the sector includes around 389 businesses employing around 6086 full time employees. The sector in Queensland has a total expenditure of around \$2.85 billion and exports approximately \$275 million of products and services.

The department released a Biomedical and Life Sciences discussion paper in June 2016. The department undertook consultation on this discussion paper during July and August 2016 to stimulate broad engagement with stakeholders. Workshops were held in Brisbane, Bundaberg, Cairns, Maroochydore, Southport, Springfield, Toowoomba and Townsville.

The Biomedical and Life Sciences 10-Year Roadmap and Action Plan is expected to be released in late 2016 and will particularly focus on activities in human and animal health and disease.

Defence

Defence is a key enabler of traditional industries and a significant contributor in its own right to Queensland's economic prosperity. Defence industries support an estimated 6500 full time equivalent jobs. During 2015–16 \$3.8 billion in defence contracts was awarded to Queensland-based companies which was a \$200 million increase on the previous year.

In recognition of the current and future opportunities for Queensland's defence industries, the Queensland Defence Industries 10-Year Roadmap and Action Plan is currently being developed to position Queensland organisations to capitalise on opportunities in the defence supply chain as they become available over the next 10 to 20 years. It is expected to be released in late 2016 following consultation with industry and other stakeholders.

Promotion of Queensland companies both nationally and internationally included participation at Pacific 2015 (Sydney), New Zealand Defence Industry Association Forum (Wellington), Singapore Airshow (Singapore) and the Sanctuary Cove International Boat Show (Gold Coast).

In May this year, the Australian and Singapore Governments announced that, under the Comprehensive Strategic Partnership between the two nations, Singapore will invest \$2.25 billion to expand its training operations in Australia—mainly in Townsville and at the Shoalwater Bay Training Area near Rockhampton—during the next 25 years.

The department is working with the Australian Defence Organisation and the Singapore High Commission to ensure Queensland industry can take early advantage of this significant investment.

Aerospace

Aerospace, both military and civil, encompasses all relevant technologies and key support systems necessary for the development, manufacture, modification, upgrade, testing, operation and maintenance of flight vehicles and related ground systems.



University of Queensland Hypersonics lab—aerospace industry

Queensland’s aerospace sector currently provides 4500 direct jobs in aircraft component manufacturing and repair services statewide, and contributed around \$600 million to the state economy in the 2014–15 financial year.

The Queensland Aerospace 10-Year Roadmap and Action Plan, currently under development and anticipated for release later in 2016, will set the scene to grow the industry for the benefit of all Queenslanders.

Its development is well progressed and included extensive engagement with industry throughout the state.

More than 100 participants from a diverse range of industry, academic and local government stakeholders have provided very useful input throughout May and June 2016.

A major opportunity identified through this process was the application of remotely piloted aircraft technologies across other industry sectors.

The Unmanned Airborne Vehicle (UAV) Challenge, which encourages development of Science, Technology, Engineering and Maths (STEM) skills from an early age, is supported by the department as part of the aerospace focus. It is conducted in two competitions—an open biennial challenge geared towards university-level competitors and a high school challenge held annually. The department supports both these events through prizes to the winning participants.

Industry and Manufacturing Advisory Group (IMAG)

IMAG was established in November 2015 to provide high-level industry advice on strategic matters in relation to building and promoting industry and manufacturing in Queensland. It is also advising on the Advanced Manufacturing Roadmap.

IMAG provides support to the state’s \$20.3 billion manufacturing industry and is helping to position Queensland’s manufacturing businesses to maximise domestic and international opportunities by concentrating on:

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

Chaired by the Minister for State Development, the group meets up to three times a year and includes six business leaders, two union representatives and one representative from a peak industry body.