

# 8

# Industry Growth Centres: challenges and opportunities

*Demonstrating how Industry Growth Centres are working to address challenges to further growth at the sector level by improving competitiveness, productivity and innovative capacity.*



Industry Growth Centres have been established in high potential industry sectors with competitive strengths



Working to address challenges to further grow their sectors to drive competitiveness, productivity and innovation



Helping Australia transition to smarter, higher value and more export focused industries



## The Industry Growth Centres



Advanced Manufacturing



Food and Agribusiness



Medical Technologies and Pharmaceuticals



Mining Equipment, Technology and Services



Oil, Gas and Energy Resources



Cyber Security



Australian Government  
Department of Industry,  
Innovation and Science

Office of the  
Chief Economist

Australian Industry Report 2016



The Australian Government is refocusing its industry policy to drive innovation and entrepreneurship, not dependence on handouts and protection. As part of this endeavour, it has established Industry Growth Centres (IGCs) — independent, industry-led, not-for-profit companies that work with identified sectors to improve competitiveness, productivity and innovative capacity to increase growth.

There are currently five Industry Growth Centres in operation:

- The Advanced Manufacturing Growth Centre (AMGC) which is developing an internationally competitive, dynamic and thriving Australian Advanced Manufacturing sector.
- Food Innovation Australia Ltd (FIAL), which foster commercially driven collaboration and innovation in the Australian Food & Agribusiness sector.
- MTPConnect which aims to accelerate the rate of growth of the medical technologies, biotechnologies and pharmaceuticals sector to achieve greater commercialisation and establish Australia as an Asia-Pacific hub for Medical Technology and Pharmaceutical (MTP) companies.
- METS Ignited, the IGC for the Mining Equipment, Technology & Services (METS) sector, who seeks to strengthen Australia's position as a global hub for mining innovation, and, enhance the global competitive advantage of the Australian METS industry.
- National Energy Resources Australia (NERA) which was established to maximise the value to the Australian economy by having an energy resources industry that is globally competitive, sustainable, innovative and diverse.

A sixth Growth Centre relating to cyber security (not covered in this chapter) was announced as part of the Australian Government's *National Innovation and Science Agenda* on 7 December 2015.<sup>138</sup>

These five sectors of competitive strength<sup>139</sup> and one sector of strategic importance were identified by the Government as being well positioned to take advantage of emerging opportunities and showing strong potential for further growth. These growth opportunities were discussed in Chapter 3 of the *Australian Industry Report 2014*.

This chapter discusses the challenges and opportunities facing five of the industry growth sectors, and their endeavours for improvement across the four main objectives of the IGCs. To achieve further growth, the IGCs will focus on:

- Improving engagement between research and industry as well as within industry, to achieve stronger research coordination and collaboration and stronger commercialisation outcomes
- Enhancing management capability and workforce skills
- Improving capabilities to engage with international markets and global supply chains
- Identifying regulations that are unnecessary or over-burdensome and suggesting possible reforms.

<sup>138</sup> Commonwealth of Australia (2015) Department of the Prime Minister and Cabinet, *National Innovation and Science Agenda*

<sup>139</sup> Competitive strength refers to an advantage over competitors by offering consumers greater value through cheaper prices or by providing benefits and services that justifies the higher price. Competitive strengths can include not only lower costs, but also value differentiation such as brand, reputation for quality and reliability, innovative features, world leading technology and pre and post-sale customer support (adapted from the draft AMGC Sector Competitiveness Plan).

This chapter draws on consultations with these Growth Centres, their Sector Competitiveness Plans, and *Business Characteristics Survey* data for 2013–14 to summarise further growth challenges and identify some of their work in overcoming these issues.

## Industry Growth Centres and competitiveness

Improving the international competitiveness of Australia's industry sectors will increase demands for exports, increase economic growth, and create jobs in those sectors. The Growth Centres are addressing competitiveness challenges at the sector level where economic growth can be maximised. Box 8.1 provides an overview of the initiative.

### Box 8.1: Industry Growth Centres initiative

The Australian Government's *Industry Innovation and Competitiveness Agenda*, released in October 2014, identified five initial key industry sectors as areas of competitive strength in the Australian economy.

The Government is investing \$250 million over four years from 2016–17 in IGCs that are aimed at driving excellence in Australian industries, rather than dependence, to create an economy that ensures Australia's ongoing prosperity.

The initiative is a new approach to industry policy. It aims to build capability and stronger industry systems at the sectoral level through a collaborative, industry-led approach. The IGCs are not-for-profit organisations, led by a strategic board of industry experts who will oversee their operation. Similar growth sector initiatives have been successfully implemented in other countries including the United States of America (Small Business Administration Regional Cluster Initiative), the United Kingdom (Catapult Centres) and Canada (Business-Led Networks of Centres of Excellence).

The IGCs focus on addressing challenges at the sector level and complement other government initiatives focused on improving capabilities at the firm level, such as the Entrepreneurs' Programme. The IGCs are helping align industry- and innovation-related policy and programmes, including Cooperative Research Centres (CRCs); the Australian Research Council Industrial Transformational Research Programme, and other initiatives under the National Innovation and Science Agenda.

Source: Department of Industry, Innovation and Science (2016)  
<http://www.industry.gov.au/industry/Industry-Growth-Centres/Pages/default.aspx>

### A note on definitions

How growth sectors are defined is an important but contentious issue. Previous editions of the *Australian Industry Report* have attempted to draw a line around growth sectors using the ABS' *Australia New Zealand Standard Industry Classification* (ANZSIC). The appeal of this approach is that it provides consistency with ABS data and allows for an analysis of each sector's economic performance.

However, no growth sector sits neatly within the ANZSIC classifications. These definitions have been used only as a best available approximation.

In an effort to improve the measurability of the sectors the department has been working to improve how the sectors are defined. For example, together with the AMGC, the department commissioned AlphaBeta and McKinsey & Company to develop a more robust definition of the Advanced Manufacturing sector. A summary of this work is presented in Box 8.2.

This work is ongoing and is not yet complete. The ABS data presented in this chapter is consistent with the definitions presented in the *Australian Industry Report 2015*.

## Box 8.2: Advanced Manufacturing: It's what you do AND the way that you do it

*Tarah Barzanji — Engagement Manager, AlphaBeta*

The current definition of IGCs is based on ANZSIC Manufacturing classes that demonstrate high R&D intensity and high skill use. However, many firms outside these so-called 'advanced' sub-industries also use highly skilled workers, cutting edge processes and unique business models. And many manufacturing firms within the ANZSIC classes are not particularly advanced in their production processes, knowledge intensity or business models.

When it comes to manufacturing, being 'advanced' can still be about 'what' you make, but is increasingly becoming more about 'how' you make it. AlphaBeta and McKinsey & Company undertook a study to understand the characteristics of advanced manufacturing firms, where 'advanced' was defined not by the firms' products, but by their success in creating sustainable competitive advantage through high productivity and product 'value'. By analysing the characteristics of the most productive and profitable manufacturing firms in a 3,000-firm global dataset, the study found that top performers exhibit a set of common characteristics (see Figure 8.1).

The world's most productive manufacturing firms are more likely to exhibit:

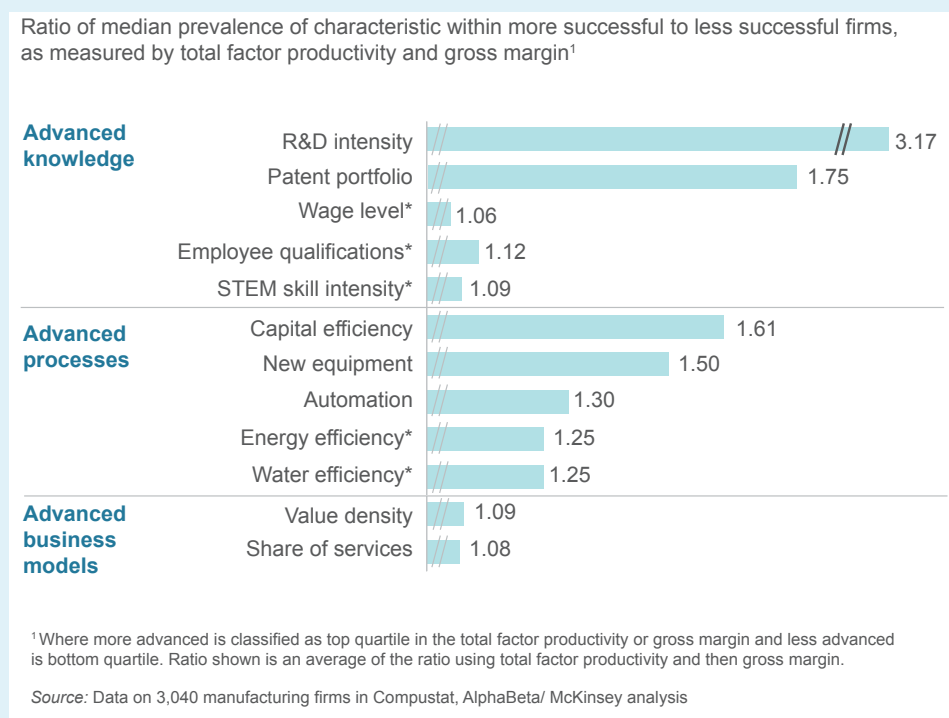
- Advanced knowledge such as high investment in R&D, patents, wage levels and employee qualifications. For example, top global manufacturers have an R&D intensity of more than three times larger than that of bottom quartile performers and nearly two times the patent portfolio.
- Advanced processes such as automation, high levels of capital investment and process improvement. For example, top global manufacturers have equipment that is 1.5 times younger than bottom quartile performers and are 1.6 times more capital efficient.
- Advanced business models such as high levels of 'servitisation' (high share of services in revenue) or strategies to find niche markets.

These characteristics provide an alternative definition of what it means to be a more 'advanced manufacturer', based more on inputs than outputs. Tracking these characteristics in Australian data will help us understand how every part of Australian manufacturing is advancing.

The department and the Growth Centre can use this definition to focus government and industry efforts to help Australian manufacturers advance their knowledge, processes or business models. Using this definition, it will be possible to measure whether Australian manufacturing is 'advancing' in terms of increases in R&D intensity, STEM qualifications in the workforce, and share of services in revenue.

Some other IGCs are also exploring strengthening definitions to more accurately reflect their sectors.

Figure 8.1: Top global manufacturing firms exhibit advanced knowledge, processes and/or business models



Source: AlphaBeta  
Tarah.Barzanji@alphabeta.com

## Increasing collaboration and commercialisation

Collaboration refers to participation in joint projects with other businesses or organisations (including wider parts of the business enterprise group). It helps firms gain a marketplace advantage, and supports growth by:

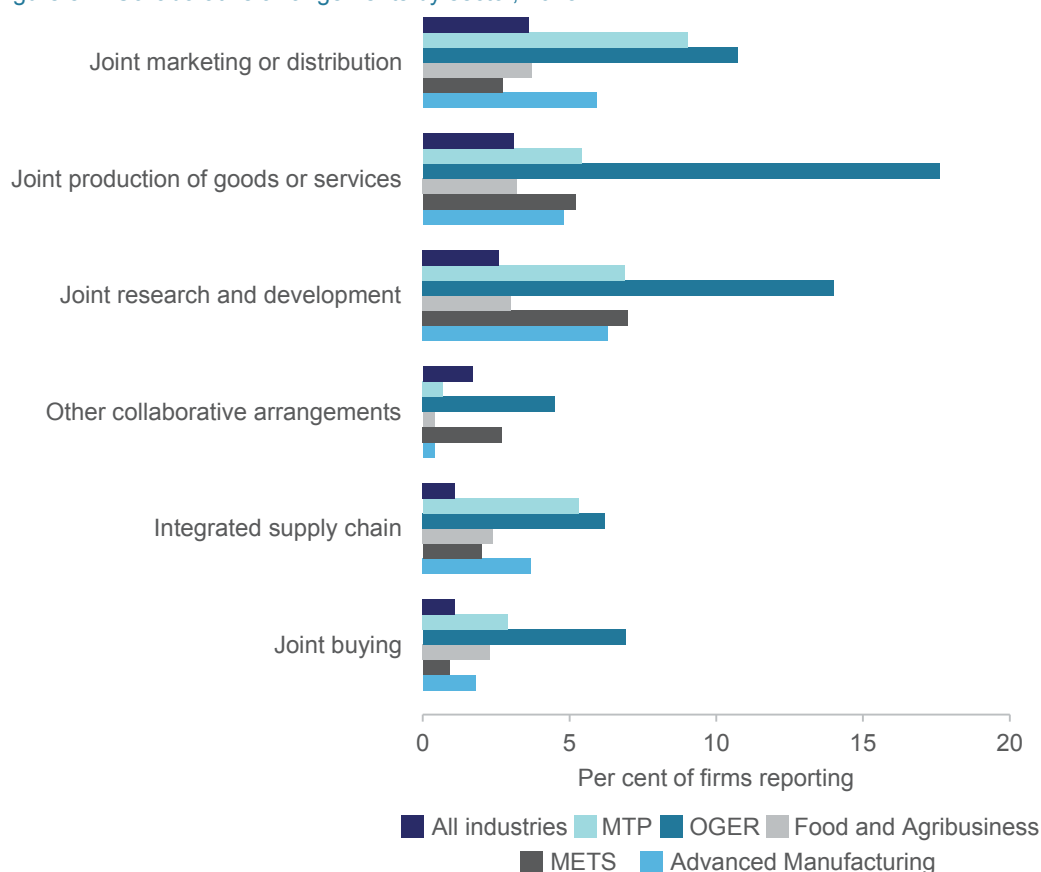
- helping firms reach critical mass to achieve cost saving measures such as R&D, joint buying or production of goods and services, joint marketing and distribution
- encouraging idea sharing (to improve ways of doing things) and encourages joint ventures (domestically and internationally) to achieve success where it would not have been possible otherwise.

The IGCs will increase engagement between industry and research institutions as well as within industry to achieve stronger commercialisation outcomes. Data show that while growth sectors in Australia are more collaborative compared to other sectors of the Australian economy, Australian industry is generally less collaborative compared to international benchmarks. For example, OECD results show Australia's collaboration performance to be below the OECD average, particularly between business and research institutions.<sup>140</sup>

<sup>140</sup> Department of Industry, Innovation and Science (2016) *Australian Innovation System Report 2015*, Office of the Chief Economist, p. 124

ABS data show that Oil, Gas and Energy resources (OGER) firms were particularly active across the recorded six types of collaboration arrangements. But on the whole, all growth sectors collaborated well when compared to other sectors of the economy (the all-industries benchmark).<sup>141</sup> Figure 8.2 reflects ABS data and shows the proportion of firms per growth sector reporting different types of collaborative arrangements in their firms.

Figure 8.2: Collaborative arrangements by sector, 2013–14



Notes: Figure shows the proportion of firms per growth sector reporting having undertaken different collaborative arrangements. Figure ordered by the all-industries benchmark (most reported collaborative arrangements to least reported).

Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 2

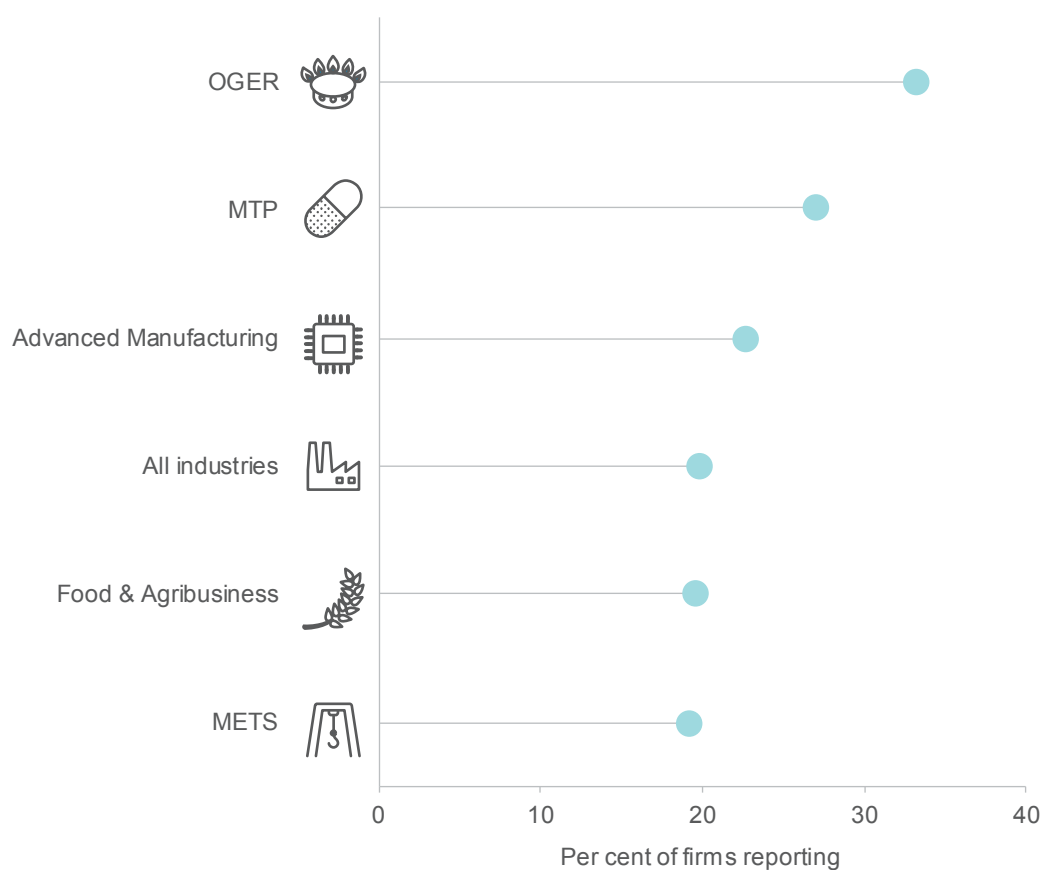
Innovative firms in three of the five growth sectors were more innovative than innovative firms in other sectors of the economy. Figure 8.3 shows the proportion of innovative firms that collaborated for the purposes of innovation.

<sup>141</sup> Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 2





Figure 8.3: Innovation-active businesses that collaborated for the purpose of innovation, 2013–14



*Notes:* Figure shows the proportion of innovative firms per growth sector that collaborated for the purposes of innovation.

*Source:* ABC cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 12



In addition to collaboration, commercialisation is also important to growth. It paves the way for new products and services, and increases export opportunities, which results in not only higher sales but also more jobs. Commercialisation also benefits firms selling or leasing new products and has a flow on effect to the broader economy through firms using new products.

Australian enterprises are innovative by OECD standards.<sup>142</sup> However, this innovation does not always translate well into product commercialisation. Some positive commercialisation trends exist in the publicly-funded research sector, particularly with respect to Intellectual Property (IP) licencing and research collaborations and contracts with industry. Some areas are not improving such as start-up company creation and invention disclosures.<sup>143</sup>

The data show good levels of collaboration. But there is still room for improvement. While each growth sector is unique and faces different challenges and opportunities, the IGCs have identified several common areas for improvement at the firm and sector level (see Table 8.1).

<sup>142</sup> Department of Industry, Innovation and Science (2016) *Industry Monitor 2016*, Office of the Chief Economist, p. 21

<sup>143</sup> Total invention disclosures and number of start-up companies have both declined. In 2014 there were 1,133 invention disclosures, a decline of 20 per cent from 2013. The number of start-up companies reported in 2014 is also substantially lower compared to previous years — 26 in 2013 and 22 in 2012. In 2014, there was a 30 per cent decrease in the value of equity holdings in start-up companies by research organisations compared to 2013. However, the 2014 equity holdings figures are broadly similar to 2012 data. Source: Australian Government (2016) *Summary of Selected National Survey of Research Commercialisation (NSRC) Survey metrics for 2012, 2013 and 2014*.



Table 8.1: Challenges to growth relating to collaboration and commercialisation

*Lack of collaboration for the purposes of commercialisation*

A common view was that Australia needs to become more effective in translating research into the commercialisation of new products and services. It is widely accepted that Australian firms are innovative, but may not be successful when it comes to bringing a new product or service to market. According to MTPConnect, achieving this requires collaboration across the full value-chain, from research through to commercial marketing and sales of products. Once a product or service is commercialised, AMGC also noted the importance of engaging in iterative developments, constantly improving products and services through collaboration with customers, leading again to research and commercialisation.

*Commercial pressures*

Slowing global demand leads buyers to reduce spending, which places pressure on firms' profit margins.<sup>(a)</sup> For example, FIAL, MTPConnect and METS Ignited noted how buyers (including large supermarket chains, pharmacists, hospitals and miners) were putting pressure on supplier profits, especially in times of an economic downturn.

NERA also noted that slowing global demand for key resources put pressure on the sector to identify and implement productivity and efficiency measures as the sector transitions from construction to production. These conditions can lead to fewer collaboration and commercialisation activities (e.g. research, development and marketing). In good economic times, there may be a lack of collaboration because there is little imperative to work with others. But collaboration in difficult economic times can be just as challenging as buyers are pressured to reduce costs which affects supplier prices. This tension between buyers and suppliers can make collaboration between them difficult. Focusing more on product differentiation and value propositions such as quality, performance, on time delivery and the after sales experience may help to avoid some of the issues of competitive pricing.

*Other firms as a threat*

Some firms see other firms as a threat, rather than as a potential partner. While the market is competitive and firms compete against each other, collaboration can provide an alternative knowledge base and potentially benefit all participants. For FIAL, collaborating on a unified marketing and messaging strategy when targeting international markets (but still using separate branding in the domestic market) is an example of collaboration that would benefit competitors. (Refer to Table 8.3 International Markets for further discussion on collaboration on branding).

*Securing funds for commercialisation<sup>(b)</sup>*

It can be difficult to demonstrate that a new product works prior to securing commercialisation funds. METS Ignited highlighted the difficulty of getting proof of concept funding for new products. This is because miners may be reluctant to interrupt production for METS firms to undertake proof-of-concept trials. Difficulty in securing funding for commercialisation leads to latent growth — products that have been developed but are waiting to be funded. This is particularly true of smaller firms which typically have less access to capital. There may also be a lack of investment ready firms — firms that are developing new products, but are not attractive to investors due to a poor business proposition or an inability to show a well-defined commercial opportunity.

*Risk aversion and lack of demand for new products*

Entrepreneurial ideas may be discouraged, especially in bigger firms. NERA noted that the bigger the firm, the more risk averse they tend to be and processes are often in place to remove risk-tolerant outliers (despite this being where new ideas are generated). Likewise, according to METS Ignited, procurement processes often lead to risk aversion, with some miners preferring to stick with old but proven technology and products, resulting in a lack of customer demand for new products.<sup>(c)</sup>

**Lack of early collaboration**

Collaboration at both the pre-feasibility and feasibility phase of a project is important. METS Ignited noted that once a new mine is built, it is costly to incorporate new technology. So it is crucial that METS firms engage early in the project to get the best chance of incorporating their product into mine operations.

**Research undertaken and industry needs**

While Australia has top class researchers, a possible mismatch was identified between research being undertaken and the needs of customers in industry. The AMGC noted the potential for researchers and industry to work together more closely to better target applied research to areas that could be commercialised and to provide solutions for customer problems.

*Notes:* (a) ABS data show that lower profit margins to remain competitive was listed in the top three barriers to performance by firms in all five growth sectors. Thirty-four per cent of Advanced Manufacturing firms reported this barrier — followed by Medical Technologies & Pharmaceutical firms at 32 per cent. Source: ABS cat. no. 8170.0 — *Characteristics of Businesses in Selected Growth Sectors*, table 14.

(b) When reporting a lack of access to additional funds as a barrier to business performance, all five growth sectors either met or exceeded the all-industries benchmark (other sectors of the Australian economy). Between 16 and 23 per cent of firms in the five growth sectors reported this barrier. In relation to barriers to innovation, lack of access to additional funds was listed in the top two barriers to innovation by all five of the growth sectors. Source: ABS cat. no. 8170.0 — *Characteristics of Businesses in Selected Growth Sectors*, tables 13 and 14.

(c) A lack of customer demand for goods or services was reported in the top two barriers to business performance in all but one growth sector (Food & Agribusinesses, which reported lack of customer demand for goods and services in the bottom three barriers). Twenty seven per cent of Advanced Manufacturing and Mining Equipment, Technology & Services firms and 23 per cent of Medical Technologies & Pharmaceuticals firms reported this barrier. In relation to barriers to innovation, four of five growth sectors (excluding Food & Agribusiness) reported uncertain demand for goods and services in the top three barriers to innovation. Advanced Manufacturing firms had the highest percentage of firms who reported that uncertain demand affected innovation, (23 per cent of respondents), and were almost twice as likely to experience this barrier compared to the all-industries benchmark. Source: ABS cat. no. 8170.0 — *Characteristics of Businesses in Selected Growth Sectors*, tables 13 and 14.

## Actions to address challenges

The Industry Growth Centres initiative is still in its early days. However, the IGCs have already begun to address these challenges and see results. For example, FIAL uses the Collaborative Circles process (developed by the Hargraves Institute), to facilitate workshops for large and small businesses to collaborate and overcome technical challenges by sharing ideas, advice and connections. As of September 2016, 175 participants have identified average savings of \$116,000 by sharing business-to-business ideas, advice and connections. One workshop resulted in several larger manufacturers offering to combine packaging orders with an SME attending the workshop. That SME now has access to cost-effective packaging through economies of scale.

METS Ignited and AMGC have signed memorandums of understanding (MOU) with the CRC for Optimising Resource Extraction (CRC ORE) and the CRC for Innovative Manufacturing respectively to encourage industry-focused research. The AMGC has also established two advanced manufacturing collaboration hubs to stimulate industry collaboration and announced co-funding for the Advanced Fibre Cluster in Geelong.

Collaborating more on R&D activities will allow resource companies to achieve efficiencies and will help assist Australian firms integrate into global supply chains. According to NERA, as the mining investment boom wanes and firms struggle with profitability, it has become more important to increase collaboration. Many resources firms lack understanding of the capabilities and capacities of Australian firms. Increased collaboration between resource companies and Australian firms (especially SMEs) will provide a clearer understanding of these abilities and improve Australian firms' ability to access global supply chain opportunities and improve Australian firms' ability to access global supply chains.

FIAL noted that government funding (such as the CSIRO Innovation Fund) and funding for collaborative projects through the Growth Centres could target collaboration between researchers and industry.

The IGCs will advocate for a greater portion of research spending to target applied research that has commercialisation potential and solves existing industry problems. Through their *Industry Knowledge Priorities* (which set out the industry research needs and commercialisation opportunities in each sector), The IGCs will recommend where research should be undertaken. They will work with the Government's Accelerating Commercialisation programme to support commercialisation investment in each growth sector as well as the Innovation Connections programme to identify opportunities to work with research organisations to test and develop new ideas. R&D investment that is more focused towards commercial outcomes would also help achieve higher commercialisation rates.

In relation to common branding and marketing, FIAL is leveraging the experience and collateral of Austrade, State and regional organisations to develop a library of imagery and messaging for industry-wide use. Creating common marketing tools will help the sector collaborate on building a more unified approach when engaging with international markets.

MTPConnect noted that some universities had specific staff to connect with industry, which works well. Undertaking internship programmes or exchanges between researchers and industry to share skills and information was also suggested to improve collaboration.

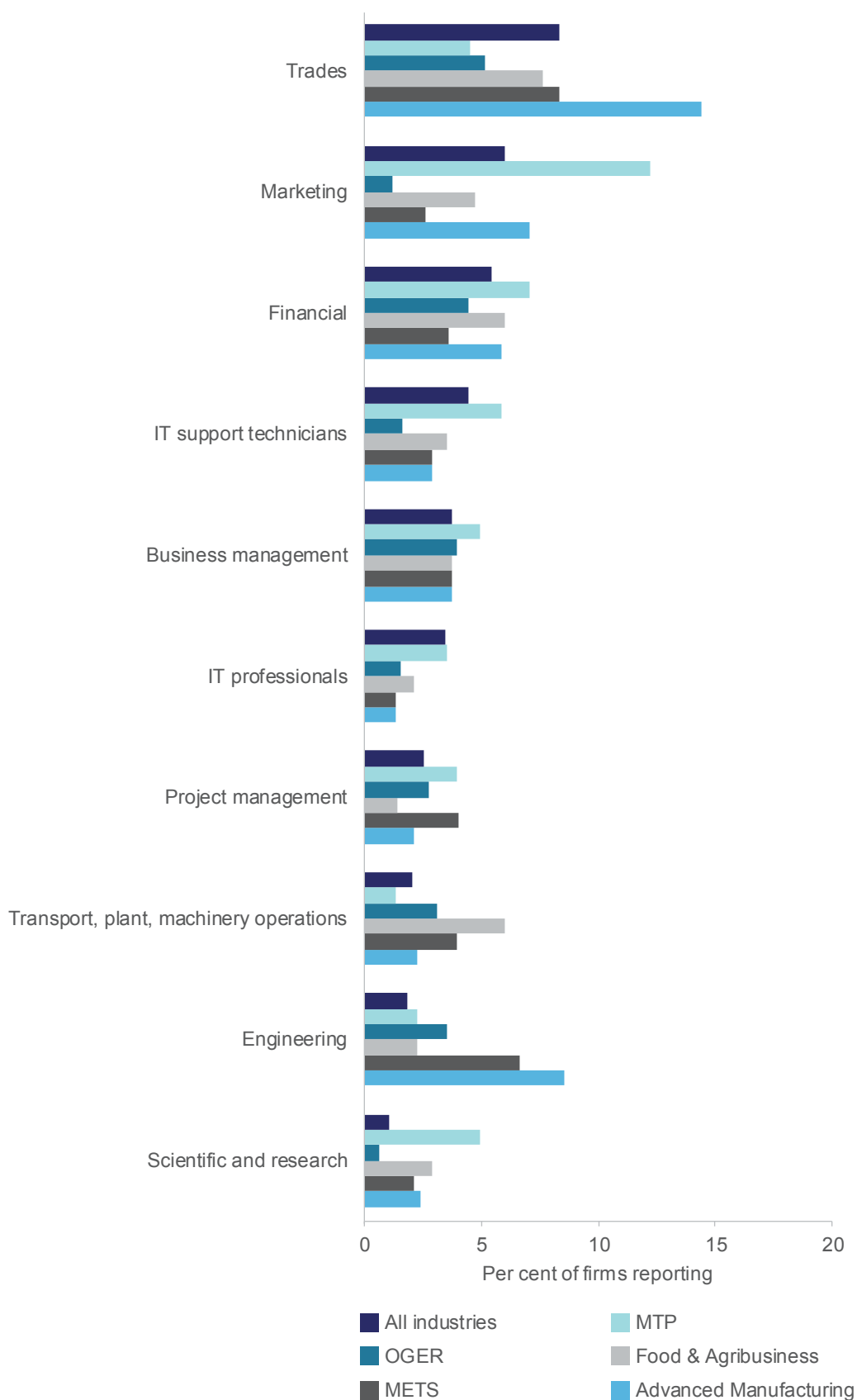
## Enhancing management capability and workforce skills

Another objective of the IGCs is to address management capability and future workforce skill needs. This is important for growth as business leadership and a highly skilled workforce can drive productivity growth and innovation, and facilitate new market entry.

Trades and financial skills were among the top skills deficiencies for most of the growth sectors and business management skills were reported in the top half of skills gaps for all growth sectors.<sup>144</sup> Figure 8.4 reflects ABS data and shows the proportion of firms per growth sector that report skills shortages in certain areas.

<sup>144</sup> Four of the five growth sectors cited trade skill shortages or deficiencies as their biggest skill shortage area in undertaking core business activities. Advanced Manufacturing firms were most likely to be affected by this shortage (14 per cent of respondents). The Medical Technologies & Pharmaceuticals sector reported marketing as their biggest skills shortage. Advanced Manufacturing and Mining Equipment, Technology & Services firms listed engineering skills as their second largest skills shortage for their industries. Oil, Gas & Energy Resources and Medical Technologies & Pharmaceuticals firms reported financial skill shortages as their second largest shortage. Food & Agribusinesses reported financial skills along with transport, plant and machinery operations as their second most prevalent skill shortage areas. Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 16.

Figure 8.4: Skills shortages or deficiencies in undertaking core business activities by sector, 2013–14



Notes: Figure shows proportion of firms per growth sector reporting a skills shortage or skills deficiency used or needed by businesses in undertaking its core business activities. Figure ordered by all-industries benchmark (highest skills shortage areas to lowest).

Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 16

The IGCs have also identified the following common skills that are needed to improve competitiveness and growth (see Table 8.2).

**Table 8.2: Challenges to growth relating to skills gaps or deficiencies**

***Business management and leadership skills<sup>(a)</sup> (particularly in SMEs)***

Business management and leadership skills are important for competitiveness as all elements of a business need to be brought together, often with limited resources. For example, owner-managers need to have a broad range of skills, which can be difficult to acquire with few or no staff.

METS Ignited provided the example of some small family firms not recognising the need to supplement their skills with outside management expertise. Or being reluctant to bring in outside expertise when they do recognise the skills gap.

For the AMGC, improving business management skills could mean more firms transitioning from lower value added activities (such as traditional manufacturing) to higher value added activities (such as design, branding, marketing and pre- and after-sales services).

Most firms in the Food & Agribusiness sector, are non-exporting and further improvement in business management skills could lead to exporting status.

***Business development skills<sup>(b)</sup>***

Business development skills such as marketing, branding and sales are important for growing a firm. FIAL and METS Ignited specifically mentioned a lack of sales and marketing skills in their sectors, particularly in smaller, family-owned businesses.

Many SMEs lack the business development skills to successfully launch products into the market or to gain sufficient customer exposure to their products. Differentiating a product based on brand rather than price will also ensure Australian firms are more competitive internationally. MTPConnect noted that global sales and marketing capabilities are essential to achieving a return on the development costs of a product, leading to many Australian medical technology and pharmaceutical firms striking IP licensing deals with larger global players.

***Business regulatory skills***

Firms need a solid understanding of regulations such as competition and consumer laws, environmental legislation, import and export regulations and financial reporting requirements. Without it, a firm will struggle to comply properly with those regulations and may have difficulty growing the business. In particular (as noted by MTPConnect), skills gaps exist in the areas of regulatory knowledge of overseas systems and market access. The cost of this gap was noted by FIAL, who provided examples of firms not using efficient export pathways (geographical routes).

***Skills for the jobs of tomorrow***

It is difficult to predict the exact skills that will be needed for emerging industries. However, the jobs of the future will almost certainly require a highly skilled workforce, including skills that can take advantage of technological changes and big data analytics. Some sectors have the skills required for today, but lack the skills needed in the near future. These include data and predictive analytics and digital capabilities. According to NERA, some resource firms currently have access to large quantities of data, but do not know what they want from the data or what problems it could help solve.

**Notes:** (a) Interestingly, the data contrasts this view, with ABS data showing only 4 per cent of Advanced Manufacturing, Food & Agribusiness and Mining Equipment, Technology & Services firms reporting business management skills shortages, not even making the top three shortages in those sectors. This discrepancy



may be due to the large number of small family run business owners who do not see a management skills shortage or deficiency in their business, where one actually exists. Medical Technologies and Oil, Gas & Energy Resources also recorded low values of firms reporting a shortage of business management skills. MTPConnect and Oil, Gas & Energy Resources agree with these results, they are not seeing a significant skills deficit in these sectors. Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 16.

(b) ABS data somewhat supports FIAL's claim that there is a skills deficit in the Food & Agribusiness sector, with marketing reported as the fourth highest skills shortage (out of 10). However, the ABS data for the Mining Equipment, Technology & Services sector does not support the view of a marketing skills shortage in the sector, listed eight out of a possible 10 skills shortages. The data show Medical Technologies & Pharmaceuticals firms reported marketing as their biggest skill shortage with 12 per cent of respondents experiencing this skill shortage area. Seven per cent of Advanced Manufacturing firms reported this skills shortage, the third highest in their sector. Only 1 per cent of Oil, Gas & Energy Resources firms reported a marketing skills shortage. Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 16.

The IGCs are helping to develop the business capability and management skills of their sectors. FIAL has created three online directories to help businesses identify technical capabilities and training courses. The directories help businesses find the information they need reducing search transaction costs.

METS Ignited supported the Mining Equipment, Technology & Services Innovation Mentoring Programme in collaboration with Austmine to develop the skills required for innovators to succeed in today's fluid market environment.

Growth Centres suggested that increasing awareness of the need to improve management capability skills (especially for SMEs) and bringing in external talent would also help to increase the skills available to a firm.

Universities and Vocational Education and Training organisations have a role to play in equipping employees with the skills for the jobs of tomorrow such as data analytics. METS Ignited will work with TAFE and university networks to develop certificate programs for METS SMEs in skills gap areas such as marketing and sales, business development, partnering and collaboration and finance and capital markets.

NERA will work on addressing training and education needs to ensure the industry is prepared for the production phase, particularly in maintenance and technical operational knowledge.

The IGCs will also work with government skills programmes such as the Industry Skills Fund to help firms identify skills needs. Besides funding employee training, the Business Management element of the Entrepreneurs' Programme aims to devise strategies for business improvement.

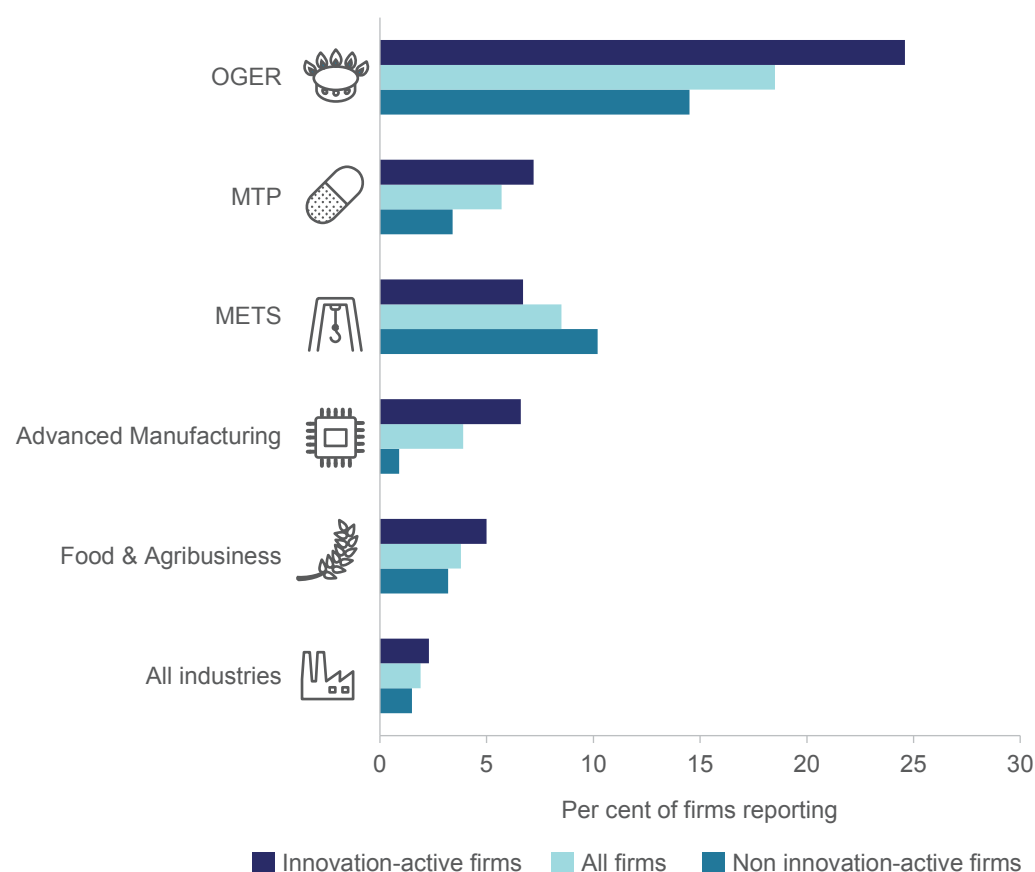
## Improving access to global supply chains and international opportunities

Growth sectors are more export-oriented than other sectors of the Australian economy.<sup>145</sup> However, the IGCs noted there was an opportunity to improve international market access, and further increase exports. Exporting and participating in global supply chains provides access to additional customers.

Australian firms are not alone in trying to access opportunities in foreign markets and compete against foreign firms vying to break into supply chains. However, with a number of Free Trade Agreements now in force (including with Korea, Japan and China), Australian firms have better access to important markets and an improved competitive position for their exports.

Figure 8.5 shows the proportion of firms per growth sector whose main source of income comes from overseas. Figure 8.6 shows the proportion of firms per growth sector that received any income (regardless of amount) from directly exporting goods and/or services.

Figure 8.5: Firms with main source of income from overseas, 2013–14



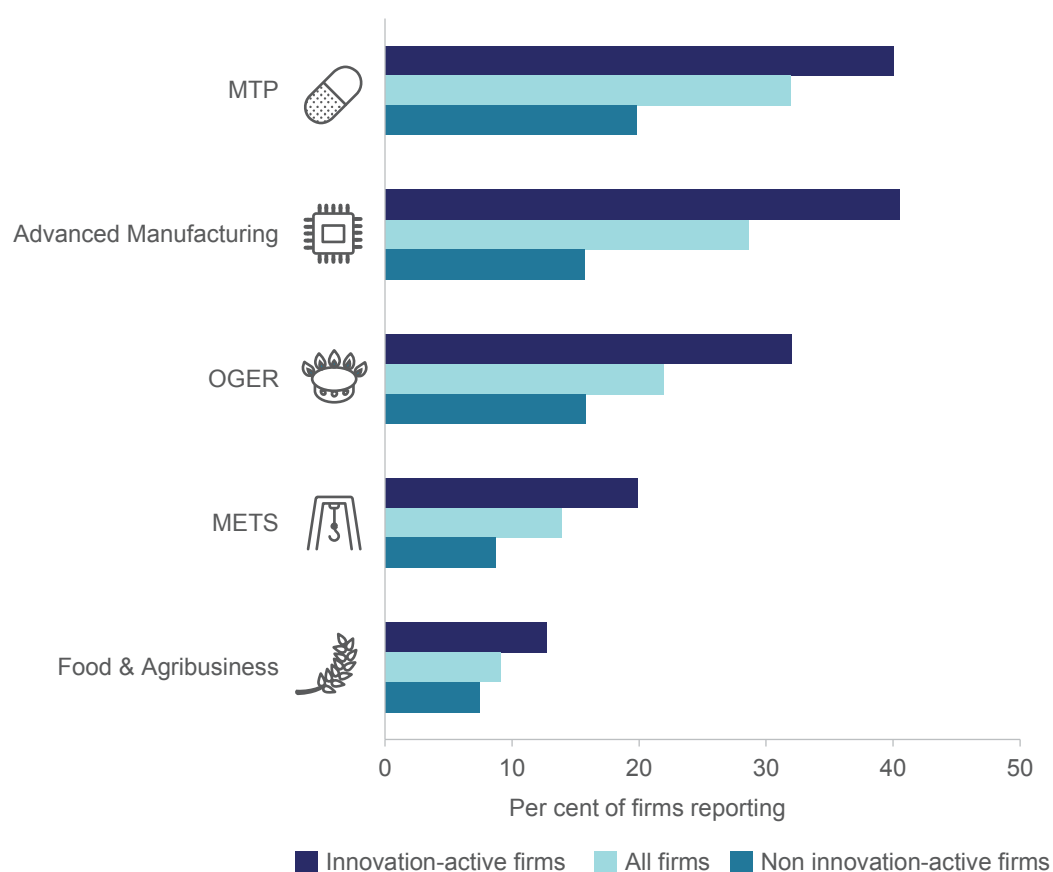
**Notes:** Figure shows proportion of firms per growth sector whose main source of income came from overseas. Figure is ordered by innovative-active firms (most reported to least reported).

**Source:** ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 5

<sup>145</sup> ABS data show that all five growth sectors reported higher percentages of firms whose main source of income came from overseas, compared to the all-industries benchmark. The Oil, Gas & Energy Resources sector had the highest percentage of firms earning their main source of income from offshore (19 per cent of respondents), followed by the Mining Equipment, Technology & Services sector (9 per cent of respondents). Innovative firms in all growth sectors were more likely to receive their main source of income from overseas than non-innovative firms except for Mining Equipment, Technology & Services. In relation to firms that earned some income from exports (regardless of amount), the sectors with the highest percentages of respondents with some income from exports were Medical Technologies & Pharmaceuticals (32 per cent) and Advanced Manufacturing (29 per cent). Innovative firms were also more likely to earn some export income than non-innovative firms in every growth sector. Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, tables 4 and 5.



Figure 8.6: Income received from exports, 2013–14



*Notes:* Figure shows proportion of firms per growth sector that received any income (regardless of amount) from directly exporting goods and/or services. Figure ordered by innovation-active firms (most reported to least reported).

*Source:* ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 4

During consultation, the IGCs raised the following common challenges to accessing international markets (see Table 8.3).

Table 8.3: Challenges to growth relating to accessing international markets

*Difficulties accessing global supply chains and competition from foreign firms*

Local firms may find it difficult to access global supply chains because they are often competing against large, well-established foreign firms. FIAL noted that in the food industry, around 40 firms supply more than 80 per cent of the food consumed in Australia, with most of these firms being multinationals such as Kellogg's.

Similarly, METS Ignited raised the difficulties for METS firms accessing the global supply chains of tier 1 miners. These firms have to compete against large, established foreign owned METS firms such as Caterpillar. Targeting lower-tier opportunities may provide more opportunities which may then lead to opportunities in higher tiers.

*Many Australian firms lack global scale*

SMEs are often successful domestically, but need to grow to compete internationally. Scale helps firms improve capital efficiency and reduce costs. Scale can be achieved by expanding the business, arranging mergers and joint ventures, or collaborating with other firms.

Any consolidation of firms to achieve scale needs to be undertaken within the bounds of competition policy. However, achieving global scale in Australia is not feasible for the pharmaceuticals and biotechnologies sub-sectors of the Medical Technologies & Pharmaceuticals sectors. The domestic market represents less than two per cent of the global market and so is not large enough to support a high number of firms. For this reason, pharmaceuticals and biotechnologies firms work closely with overseas firms to achieve global scale.

*Lack of a unified, cohesive Australian brand overseas*

Some IGCs raised concerns about the lack of unified branding of Australian sectors to international markets. Too many Australian brands can result in a lack of focus and confuse overseas markets. An ad-hoc and fragmented approach to marketing, and too many brands representing Australia overseas were put forward by the IGCs as potential problems. FIAL counted a large number of brands representing Australia, States, regions and industries in the Food & Agribusiness industry.

*Lack of exporting plans*

An export strategy ensures a firm:

- acts on well-researched information
- has analysed and assessed the best options
- has the resources to become a viable exporter
- creates confidence with lenders
- understands competitive pressures
- plans to maintain and increase its market share.<sup>(a)</sup>

FIAL estimates that roughly three quarters of exporting firms in the sector do not have an exporting plan. According to the AMGC, many firms have an Australian focused mindset without sufficient consideration given to developing products and services for export markets.

*Behind the border restrictions*

Different foreign markets have different rules and requirements that can be complex to navigate. MTPConnect highlighted restrictions in foreign markets for Australian firms, such as the requirement to work with wholly government-owned firms through joint ventures. Navigating foreign IP systems can also increase the difficulty of doing business, especially protecting IP in a joint venture context. While these kinds of restrictions and requirements are part of doing business internationally, they do present additional challenges for exporting firms.

Notes: (a) Austrade (2006) *Guide to Developing an Export Strategy*

The IGCs have identified possible solutions to these issues, and are working to smooth the path for firms to access international markets and global supply chains.

For example, FIAL piloted workshops with the Export Council of Australia and industry to tailor content and delivery that will help businesses develop export strategies and marketing plans. It also created an online searchable tool to connect Australian export ready companies with international buyers. The eCatalogue currently profiles more than 700 Australian export-ready companies and 1,100 international buyers.

FIAL noted that the industry could promote a unified brand and marketing approach when selling overseas while maintaining different marketing strategies and brands for the domestic market (i.e. compete domestically and collaborate internationally). FIAL coordinated the 'Australia' stand at Gulfood 2016 (an international food trade show), showcasing food products from across the country. This was the first time Australia was represented at Gulfood as a unified brand on a single stall with representation from four State Governments. FIAL facilitated more than 675 supplier connection requests at the show, and a further 150 connections after the event.

AMGC will work with its sector to not just compete on price, but also to offer the customer a competitive product using value differentiation through:

- product quality (design and technology)
- reliability and reputation (on time and in full delivery)
- flexibility
- safety and transparency
- service support (pre- and post-production).

According to MTPConnect, Australian firms that are developing business plans and international engagement strategies need access to information on market opportunities. Understanding the requirements for doing business offshore can be challenging. The IGCs will work with Austrade and other organisations such as the Export Council of Australia to help firms understand these requirements, and help develop export plans and provide export training.<sup>146</sup>

The recent establishment of an IP Counsellor in China may help firms navigate the Chinese IP system. The IP Counsellor will not only provide Australian businesses with expert guidance on protecting and enforcing IP in China, but also give confidence to Chinese manufacturers and consumers about the value of innovative Australian products.

The Government is also working to reduce 'behind border' and technical restrictions through Free Trade Negotiations and can help the Growth Centres implement solutions to address 'behind border' restrictions.

Finally, The IGCs will work with the Entrepreneurs' Programme initiatives such as the Supply Chain Facilitation to connect firms with both existing and new markets.

<sup>146</sup> For instance, FIAL has commenced a joint project with the Export Council of Australia.



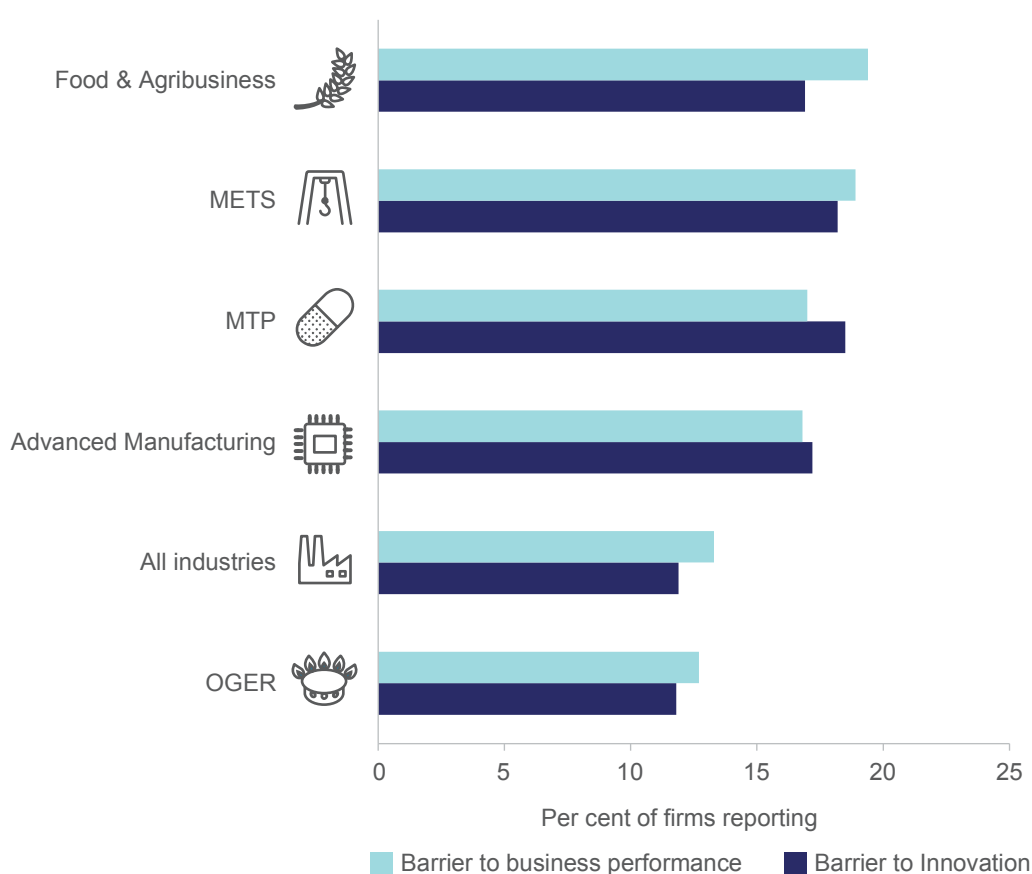
## Optimising the regulatory environment

Some regulations are necessary to protect people and the environment, to correct market failures, and to ensure smooth market operation. However, some regulations place requirements on firms that are disproportionate to the benefit provided. In these situations, regulations may negatively affect further development.

Regulatory reform is the final key objective of the IGCs in improving the competitiveness of sectors. Regulation and its impact on Australian businesses was explored in detail in Chapter 3 of the *Australian Industry Report 2015*.

Firms in all growth sectors report government regulations and compliance as either on par with/or more of a barrier to growth than the all-industries benchmark. Figure 8.7 shows firms in growth sectors reporting government regulations and compliance as a barrier to business performance and innovation.<sup>147</sup>

Figure 8.7: Government regulations and compliance as barriers to performance and innovation, 2013–14



*Notes:* Figure shows proportion of firms per growth sector reporting that government regulations and compliance were a barrier to performance and innovation in their firm. Figure ordered by government regulations and compliance as a barrier to business performance (most reported to least reported).

*Source:* ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, tables 13 and 14

In consultations with the Growth Centres, the following regulatory issues were raised (see Table 8.4).

<sup>147</sup> ABS data show that between 17 and 19 per cent of firms in four of the five growth sectors reported government regulations and compliance as a barrier to business performance, surpassing the all-industries benchmark. Oil, Gas & Energy Resources firms saw this as less of an issue, with 13 per cent responding, on par with all-industries. In relation to barriers to innovation, between 17 and 19 per cent of Advanced Manufacturing, Mining Equipment, Technology & Services, Food & Agribusiness and Medical Technologies & Pharmaceuticals firms rated Government regulations and compliance as a barrier to innovation, above the all-industries benchmark. Oil, Gas & Energy Resources firms rated this barrier on par with all-industries (12 per cent). *Source:* ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, tables 13 and 14.

Table 8.4: Challenges to growth relating to regulatory issues

**Harmonisation of standards<sup>(a)</sup>**

The way standards are referenced in regulation across Australian jurisdictions lacks harmony. In addition, there are cross-jurisdictional issues relating to the implementation of national regulations. NERA and METS Ignited provided examples of different workplace health and safety (WHS) regulations in different States and Territories, resulting in firms needing to provide multiple WHS briefings at different mine sites. Other examples include different jurisdictional requirements for trades licencing, electrical safety and fire protection. Internationally too, there are a vast range of country-specific standards and regulations.

This results in Australian suppliers having to re-design products and services for overseas markets. For example, some METS products exported to the United States require the use of certain input components. That means METS suppliers need to import those components from the United States to use in their products before they can export the product. Much of the equipment used in the global oil and gas industry is engineered to industry-specific standards such as the American Petroleum Institute standards which means Australian suppliers need to undertake additional design, testing and compliance certification.

**Inter-business regulation**

Much of the red tape firms deal with is self-imposed by industry. A 2016 report by Deloitte stated that self-imposed regulations cost \$134 billion per year in compliance costs.<sup>(b)</sup> By comparison, public sector regulations impose \$67 billion per year in compliance costs.<sup>(c)</sup>

In the food industry, supermarkets often require suppliers to meet private quality assurance standards. Some firms are subject to more than 100 compliance audits, collectively costing the firm more than \$1 million per year. While this partly results in Australia's excellent reputation for food production, there must be a balance between ensuring food safety and an appropriate amount of regulation.

**Policy stability**

Uncertainties about policy consistency can negatively affect firm investment. The IGCs agreed that consistency, persistency and the coordination of policy in areas such as tax incentives, IP laws and grant funding were important for growth. Stability in these areas gives firms confidence to invest in commercialisation, collaboration, skills and pursuing international markets. It also assures firms that they can engage in growth activities knowing the rules and requirements are likely to remain somewhat consistent.

**User pays model**

Government policy is to apply a cost recovery model for services where appropriate. Growth Centres reported that some firms perceive user pays models, such as those administered by Austrade and the Therapeutic Goods Administration (TGA), as a disincentive to seek advice and approvals seeing the fees as being disproportionate to the gain. However, there may be a lack of visibility regarding the fees charged and the range of services covered by those fees. For example, the fees TGA charge cover a range of services that extend beyond advice and approvals of medicines. The fees also cover compliance, pharmacovigilance activity, adverse-event monitoring and ensuring medicines and medical devices are constantly monitored to ensure risks to the Australian public are proactively managed.

Before an application will be processed, the TGA charges application fees that are dependent on the risk and complexity of the product. Their fees can range from \$0 to more than \$230,000, with the highest fees limited to a small percentage of applications.

*Notes:* (a) All growth sectors ranked adherence to standards in the bottom three barriers to innovation. Seven per cent of Medical Technologies & Pharmaceuticals firms reported standards as a barrier and this was the highest amongst the growth sectors. Source: ABS cat. no. 8170.0, *Characteristics of Businesses in Selected Growth Sectors*, table 13.

(b) Deloitte (2014) *Getting Out of Your Own Way*, p. 35

(c) Ibid

The IGCs are working to overcome these challenges. For example, NERA is working to better align standards used in the oil and gas industry in Australia with international best practice, and across jurisdictions in Australia.

AMGC and Standards Australia are participating in the Prime Minister's Industry 4.0 Taskforce. The Industry 4.0 initiative, a collaboration between government and industry in Germany and Australia, is considering a range of issues relevant to the transition to tomorrow's industries, including standards, research and innovation, network security, legal frameworks and workforce impacts.

FIAL is undertaking a Food Safety Auditing Project in partnership with the Australian Food and Grocery Council and major retailers to address the cost, frequency and unnecessary duplication of food safety audits in Australia.

METS Ignited is involved in a project on interoperability standards across the minerals value chain, focused specifically on surface mining equipment. It is expected to lower entry barriers and reduce development costs for third-party vendors and providers.

The TGA is consulting with a number of groups (including MTPConnect) around a model to better support how SMEs navigate regulatory processes.

Some IGCs held the view that some regulations provided benefits for the sector and that Australia's regulatory regime is a competitive strength for Australian sectors that have a reputation for adhering to high quality standards.

For example, the food industry enjoys a good reputation overseas for safe, high quality products. For the two resources growth sectors (METS and OGER) environmental regulations and local industry participation requirements can provide projects with a social license to operate. (These regulations and requirements ensure that Australian firms have opportunities to tender for work on projects.)

These are areas of strength for Australia and Australian resource projects are generally regarded as best practice when it comes to minimising environmental impacts. This is a competitive strength for Australia and the IGCs will explore opportunities to export this know-how.

The Government is also pursuing regulation reform through business simplification. It will simplify the way firms do business by reducing overlapping approvals between jurisdictions, and creating seamless mechanisms for interacting with governments such as one-stop shops. This will allow firms to focus on growing their business, providing jobs and increasing investment.

Governments have international obligations that encourage the use of international standards wherever appropriate. Recently-signed Free Trade Agreements attempt to build on these obligations by further reducing 'behind border' restrictions through harmonising the use of international standards in regulation.

## Summary

A number of common themes emerged across the Industry Growth Centers. These are summarised in Table 8.5.

Table 8.5: Summary of findings

Objective	Finding
Increasing collaboration and commercialisation	<p>Australia's growth sectors are good at collaborating compared to other sectors in our economy. But international comparisons against other countries suggest they need to improve. There is also a lot of room for improvement with rates of commercialisation. The IGCs identified common challenges to further growth in their sectors:</p> <ul style="list-style-type: none"> <li>■ lack of early collaboration</li> <li>■ commercial pressures and difficulty in securing funds for commercialisation activities</li> <li>■ viewing other firms as a threat rather than opportunity to collaborate</li> <li>■ risk aversion to new innovation</li> <li>■ mismatches between research being undertaken and the research needs of industry.</li> </ul> <p>The IGCs noted how R&amp;D investment largely drives commercialisation and innovation, and the importance of moving away from undirected R&amp;D towards investment with more commercial potential.</p>
Enhancing management capability and workforce skills	<p>While data show gaps in trades and financial skills, the IGCs are focused on addressing the following skills gaps to achieve further growth:</p> <ul style="list-style-type: none"> <li>■ business management</li> <li>■ business development (e.g. marketing)</li> <li>■ regulatory skills</li> <li>■ skills for the jobs of tomorrow.</li> </ul> <p>Business management skills gaps were particularly common in SMEs. The increasing need for a highly-skilled workforce where Australia has a competitive cost advantage will be an important focus for the IGCs.</p>
Improving capabilities to engage with international markets and global supply chains	<p>The IGCs commonly note the following challenges in accessing international markets:</p> <ul style="list-style-type: none"> <li>■ difficulties accessing international supply chains</li> <li>■ lack of scale of Australian firms</li> <li>■ lack of common branding</li> <li>■ lack of exporting plans</li> <li>■ a limited understanding of 'behind border' restrictions of doing business in that country.</li> </ul>

Objective	Finding
Identifying regulations that are unnecessary or over-burdensome	<p>Common regulatory issues impeding growth noted by the IGCs include:</p> <ul style="list-style-type: none"> <li>■ a lack of consistency of regulation (particularly inter-jurisdictional requirements)</li> <li>■ inter-business regulation</li> <li>■ policy stability and regulatory settings</li> <li>■ the user-pays model.</li> </ul> <p>The Government has a role to play in reducing unnecessary regulation and supporting and expediting the work of the Growth Centres.</p> <p>Ultimately, the IGCs are best placed to address challenges to growth at the sector level. They will address issues affecting growth, as outlined in each sector's Competitiveness Plan.</p> <p>The IGCs will achieve success by getting sectors to work smarter and more collaboratively with each other to succeed in new markets. They have begun addressing these challenges, and early results are starting to emerge.</p>





