



**Australian Government**  
**Department of Industry,  
Innovation and Science**

# Industry Growth Centres Initiative

Background Information for Cooperative Research  
Centre Applicants

**MAY 2018**

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# Introduction

The Australian Government wants to foster economic growth, community development and sustainable job creation through higher levels of collaboration, research commercialisation and innovation.

Domestic and international evidence shows that industry research collaboration is increasingly important in driving business and economic growth, and delivering impact from public investments in research.

This paper highlights Growth Centres' identified Industry Knowledge Priorities – research and knowledge gaps for their sectors, which are the broad Cooperative Research Centre (CRC) application themes Growth Centres would support CRC applicants in pursuing.

CRC applicants in the Growth Centre sectors are encouraged to align their applications with the key themes, vision and/or Industry Knowledge Priorities of relevant Growth Centres, and to engage early and directly with relevant Growth Centres to leverage their sector expertise.

## Industry Growth Centres and Cooperative Research Centres

### Growth Centres

The Industry Growth Centres Initiative (the Initiative) is helping Australian firms to be more internationally competitive by enabling industry sectors to build capability and stronger industry systems through a collaborative, industry-led approach. There are six Growth Centres operating in sectors of competitive strength and strategic priority, including the:

- Advanced Manufacturing Growth Centre (AMGC);
- Cyber Security Growth Centre, known as AustCyber;
- Food and Agribusiness Growth Centre, known as Food Innovation Australia Limited (FIAL);
- Medical Technologies and Pharmaceuticals Growth Centre, known as MTPConnect;
- Mining Equipment, Technology and Services (METS) Growth Centre, known as METS Ignited; and
- Oil, Gas and Energy Resources Growth Centre, known as National Energy Resources Australia (NERA).

Growth Centres link capability and industry need through national networks, and highlight industries' knowledge requirements to the research and education sectors as targets for

collaboration efforts. This will help industry to better capitalise on Australia's excellent research and development capabilities.

All six Growth Centres have published Sector Competitiveness Plans, a strategic vision that highlights opportunities and activities to boost productivity and drive cultural change in Growth Centres' sectors. Each Plan contains Industry Knowledge Priorities, a summary of knowledge and technology gaps in their sectors – addressing these gaps through collaborative research will underpin innovation and enhance productivity and competitiveness in each sector.

## Growth Centres role in facilitating CRC applications

Growth Centres have a role in leveraging, aligning and targeting collaborative research effort to address their sectors' research and knowledge gaps.

Growth Centres can also provide applicants with guidance prior to submission. At this early stage, the Growth Centres can provide advice and facilitate connections for CRC applicants. They can also provide applicants with advice on their application's potential impacts for growth sectors and advise on pathways to commercialisation for research proposed in applications. For example, Growth Centres may be able to:

- Help create linkages between potential participants, in particular between researchers and industry;
- Help target a project's scope to ensure it aligns with industry needs; and
- Suggest where alternative funding options may be more suitable for a proposal

CRC applicants in the Growth Centre sectors are encouraged to align with the key themes, vision and/or Industry Knowledge Priorities of relevant Growth Centres, and to engage early and directly with relevant Growth Centres to leverage their sector expertise.

## Industry Knowledge Priorities - Summary

Industry Knowledge Priorities for each sector are summarised in the table below. CRC applicants in the growth sectors are encouraged to consider these priorities when developing applications relevant to a Growth Centre's sector.

CRC applicants are also encouraged to consult each Growth Centre's Sector Competitiveness Plan for further details about industry needs within their sectors:

- Advanced Manufacturing, known as [AMGC](#)
- Cyber Security, known as [AustCyber](#)
- Food and Agribusiness, known as [FIAL](#)
- Medical Technologies and Pharmaceuticals, known as [MTP Connect](#).




### **Industry Growth Centres Initiative**

- Mining Equipment, Technology and Services, known as [METS Ignited](#)
- Oil, Gas and Energy Resources, known as [NERA](#)

The summarised Industry Knowledge Priorities also include those developed in collaboration with CSIRO for [Growth Centre sector 'roadmaps'](#).




## Growth Centre research and knowledge priorities

Common knowledge priorities across all Growth Centres include: developing and adopting technology and systems associated with automation; digitisation; advanced materials; and environmental impact and sustainability.

<a href="#">Advanced Manufacturing</a> 	<a href="#">Cyber Security</a> 	<a href="#">Food and Agribusiness</a> 
<ul style="list-style-type: none"> <li>• Robotics and automated production</li> <li>• Advanced materials and composites</li> <li>• Digital design and rapid prototyping</li> <li>• Sustainable and life cycle manufacturing</li> <li>• Additive Manufacturing</li> <li>• Sensors and data analysis</li> <li>• Materials resilience and repair</li> <li>• Bio-manufacturing and biological integration</li> <li>• Nano, micro and precision manufacturing</li> <li>• Augmented or virtual reality systems</li> </ul>	<ul style="list-style-type: none"> <li>• Emerging cyber threat prevention, detection and response technologies.</li> <li>• New strategies and techniques for identity authentication and authorisation in the cyber domain</li> <li>• New approaches for shared responsibility of cyber security</li> <li>• Ensuring security, privacy, trust and ethical use of emerging technologies and services, including: cloud computing, cyber physical systems (Internet of Things – or connected products), machine learning, big data and data analytics, and mobile applications.</li> </ul>	<ul style="list-style-type: none"> <li>• Protection from climate change, pests and disease through improved systems that target food safety</li> <li>• Protection from biosecurity risks</li> <li>• Genetics, novel technologies and processing techniques to produce highly differentiated, value added foods</li> <li>• Feeding the growing and ageing population with functional, nutritious and personalised foods</li> <li>• Models to identify emerging global markets and value chains including understanding the logistics of getting products to market or consumer</li> <li>• Novel ways of predicting consumer and market insights</li> </ul>

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<p><a href="#"><u>Medical Technologies and Pharmaceuticals</u></a></p> 	<p><a href="#"><u>Mining Equipment, Technology and Services</u></a></p> 	<p><a href="#"><u>Oil, Gas and Energy Resources</u></a></p> 
<ul style="list-style-type: none"> <li>• Clinical specialty and therapy areas including geriatrics, infectious disease, precision medicine and immunology</li> <li>• Areas of science including antimicrobial resistance, biomedical engineering, and regenerative medicine</li> <li>• Devices, diagnostics and informatics products and services including bionics, smart devices, implants, point of care diagnostics, and wearable devices</li> <li>• Accelerated pharmaceutical development</li> </ul>	<ul style="list-style-type: none"> <li>• Building capable, innovative and collaborative export-savvy businesses.</li> <li>• Advanced explorations, mining and extracting technologies</li> <li>• Advanced automation and mining beneficiation technologies e.g. selective mining, comminution, classification, reducing tailings/reject streams, in-situ recovery, small scale robotics for continuous mining, bio-leaching and nano-technology</li> <li>• Advancing knowledge and understanding of modular solutions, standardisation and interchangeability</li> <li>• Improved mining energy efficiency and remediation</li> <li>• Improved social sustainability and safety</li> <li>• Advancing sensors, data analytics and data/information systems including connectedness and human machine interfaces</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance efficiency in operations and maintenance</li> <li>• Understand and unlock Australia's resources base</li> <li>• Commercialise technology and research</li> <li>• Enhance skills and business capabilities to support automation and digitisation</li> <li>• Pursue a sustainable and low carbon energy future</li> <li>• Develop new markets and business models</li> </ul>

# How to engage with Growth Centres

You can network with the Growth Centres at the various conferences and industry events the Growth Centres display in the news and events sections of their websites.

## Connect with the Growth Centres

Growth Centres can provide advice and facilitate connections for CRC applicants. Applicants in the Growth Centre sectors are encouraged to connect with Growth Centres and discuss proposals early in the development process.

<b>Growth Centre</b>	<b>Website</b>	<b>Email</b>
<a href="#">Advanced Manufacturing</a> known as Advanced Manufacturing Growth Centre (AMCG)	<a href="http://amgc.org.au/">http://amgc.org.au/</a>	<a href="mailto:enquiries@amgc.org.au">enquiries@amgc.org.au</a>
<a href="#">Cyber Security</a> , known as AustCyber	<a href="http://www.acsgn.com/">http://www.acsgn.com/</a>	<a href="mailto:info@acsgn.com">info@acsgn.com</a>
<a href="#">Food and Agribusiness</a> known as Food Innovation Australia Limited (FIAL)	<a href="http://www.fial.com.au/">http://www.fial.com.au/</a>	<a href="mailto:info@fial.com.au">info@fial.com.au</a>
<a href="#">Medical Technologies and Pharmaceuticals</a> known as MTPConnect	<a href="http://www.mtpconnect.org.au/">http://www.mtpconnect.org.au/</a>	<a href="mailto:info@mtpconnect.org.au">info@mtpconnect.org.au</a>
<a href="#">Mining Equipment, Technology and Services</a> known as METS Ignited	<a href="http://www.metsignited.org/">http://www.metsignited.org/</a>	<a href="mailto:enquiries@metsignited.org">enquiries@metsignited.org</a>
<a href="#">Oil, Gas and Energy Resources</a> known as National Energy Resources Australia (NERA)	<a href="http://www.nera.org.au/">http://www.nera.org.au/</a>	<a href="mailto:francis.norman@nera.org.au">francis.norman@nera.org.au</a>