Background

The retreat from industrial policy in Australia over past decades has promoted a shift in Australia's industrial structure from domestic value-adding and manufacturing towards the bulk export of raw minerals and unprocessed agricultural products. Some have argued that endeavours to secure a minimum level of industrial capability would be anti-trade, anti-competitive, and protectionist. Such an approach has resulted in Australia now having the lowest level of manufacturing self-sufficiency in the OECD. However, arguments to maintain a level of self-sufficiency have increased in prominence as global supply chains were disrupted by the COVID-19 pandemic. The increasingly widespread concern that Australia's industrial base was not able to supply essential products to support the health and well-being of Australians during the pandemic has forced Australian policymakers to pay greater attention to sovereign capability in industries beyond defence. While the Australian Government's Modern Manufacturing Initiative (MMI) is welcome it is not a substitute for a national sovereign manufacturing strategy.

Sovereign capability concerns the industrial, economic, logistical, research and educational capabilities required by a country to achieve objectives including safety, defence, health and wellbeing, food security, energy and key materials supply, infrastructure security, and environmental sustainability.

Sovereign capability addresses what we must be able to make and do, to achieve some level of self-sufficiency in areas where it matters most.

Sovereign Capability

The concept of sovereign capability is linked with self-sufficiency. But a precise definition of sovereign capability and how it should be measured is contested. The defence industry is the only industry with a dedicated sectoral strategy, explicitly built on the concept of sovereignty. Sovereign capability cannot be achieved without the ability to manufacture at least some of your own products. Production extends past the direct manufacture of goods, but direct production is almost always the condition to successfully capture other high-value activities such as design, systems integration, and through-life support.

To build sovereign capability, the government must invest time and effort into identifying which capabilities it requires to achieve the required degree and type of self-sufficiency.

Australia and the rest of the world

The development of a comprehensive national strategy to understand and act on our strengths and vulnerabilities is needed in Australia. Despite public anxiety about the lack of self-sufficiency revealed by the pandemic, the response has been below scale with limited attention to sovereign capability. This contrasts with the United States Biden administration, which has conducted a top-down review of the state of its supply chains, and domestic industrial capabilities in key sectors such as lithium-ion batteries, semiconductors, and pharmaceuticals. In other countries, sovereign capability is wrapped up within their defence and industrial policies, highlighting the connection between industrial policy and sovereign capability.

Definitions and measurement of sovereign capability and industrial participation are extremely loose and minimalist for major projects in Australia. Minimum levels of Australian content are not mandated. This creates opportunities for underachievement, or even avoidance of, local content and dollar value goals. Largescale taxpayer-funded public projects and private projects extracting Australia's mineral and energy resources frequently use low levels of Australian technology and inputs, particularly at the high end, and Australia's capacity to add value to its internationally significant raw materials prior to export has declined over the past two decades.

Three key areas for action

1. A new policy environment

Different policy settings across different industries encourage behaviour which is not always in the national interest. In defence, multinational corporation (MNC) lead customers are positively expected to commit to certain levels of local production and value chain development. In energy and resources however, policy favours the export of unprocessed raw materials and a low degree of self-sufficiency. A similar situation is true for medical devices and pharmaceuticals.

We recommend:

- A national policy with clear national goals for sovereign capabilities, including sectoral policies for development of key industry verticals and greater domestic production.
- Identifying those priority areas by researching critical gaps and a comprehensive supply chain analysis.
- Increased willingness by the national government to negotiate with MNCs for local production and associated supply chain development.
- Stronger front-end contractual obligations and agreements with MNCs, primes and other large companies involved in major projects (e.g., defence, mining and resources, energy) to ensure local content and industry participation. These contracts would specify not only dollar-value targets for local industry benefit, but also set goals for Australian participation/content in direct production, design, systems integration, other critical technologies, and extending Australian industrial sovereign capabilities over time.

> **Supply chain analysis:** the Biden administration, through executive order, has conducted a comprehensive top-down review of their supply chains to rebuild domestic manufacturing capacity and grow the economy.
>
> Their first review covers semiconductors, high-capacity batteries, rare earth elements, and pharmaceuticals.

2. Building production capabilities

In almost all cases the presence or absence of production capabilities determines whether other high-end capabilities relating to design, systems integration, technological innovation, and overall operational capability can be captured.

We recommend:

- Creation of industry sector and development plans to secure local production in identified priority areas.
- Adopting a portfolio approach to key projects and the development of sovereign capability, building scale and opportunities for acquisition of capabilities across projects, both within and across sectors, and setting quantitative and qualitative targets for projects against industrial and sovereign capability criteria.
- The creation of an expert national authority responsible for setting and monitoring of these targets. This authority would also be responsible for identifying ways of aggregating projects within and across sectors to build scale, synergies, and complementarities (e.g., between naval shipbuilding, resources and other heavy engineering).

3. Government to lead

The government has a significant role to play in building Australia's sovereign capability, including as a purchaser of goods and services. Advanced procurement is used as an industrial policy extensively in the US, Europe and across Asia, but is underdeveloped in Australia. More generally, a coherent industrial strategy is needed to help steer the future development of our industrial structure in directions beneficial to all Australians.

We recommend:

- The development and adoption of a comprehensive national manufacturing strategy with an authoritative national body such as a National Manufacturing Strategy Commission.
- The development and adoption of national goals and strategies relating to self-sufficiency in energy generation, basic metal production such as aluminium and steel, and explicit secondary processing and value adding strategies for a portfolio of Australian natural resources.
- Stronger agreements concerning continuity of access and use in relation to infrastructure. This applies to both Australian and foreign owners of such assets.

A practical vision for securing Australia's sovereignty

The report details in Section 6 how Australian's sovereignty can be secured across five key industries: health, defence and space, energy, resources, and infrastructure, science, communications and technology, and advanced manufacturing. The table below summarises our vision.

Health	Defence	Energy, resources, and infrastructure	Science, communications, and technology	Advanced manufacturing
A national health system able to **independently** sustain essential emergency operations. **Essential manufacturing capabilities** in personal protective equipment, pharmaceutical and drug manufacturing. A **national strategy** for production capabilities, working with key multinationals to develop the supply chain. **Early warning systems** utilising big data and artificial intelligence to predict and pre-empt coming crises. Mandate **publicly available data** on the supply chain in key areas of PPE, medical devices, drugs, and pharmaceuticals. **Review** critical gaps in supply chains through government mandated analysis.	An ADF with command, control, and combat systems which can be **independently** operated. **Essential manufacturing capabilities** including design, systems integration, operation, sustainment, and repair. **Build strong provisions** into contracts with primes and other lead customers to build Australian value chain participation. Increase **domestic sustainment** and through-life support activities and use this to increase domestic manufacturing over time. **Review** critical gaps in supply chains through government mandated analysis.	**Essential capabilities** to store and refine local gas and oil. Meeting mandated **minimum oil and petroleum reserves**, and additional and repurposed storage infrastructure. Achieve **energy self-sufficiency** through an orderly planned transition to zero-carbon generation. Use the **carbon-free transition** to achieve greater supply chain stability and materials sovereignty, such as steel and aluminium production. Ensure essential national services are supported and protected by systems which can be controlled securely and **independently**. **Review** critical gaps in supply chains through government mandated analysis.	An **ecosystem** which protects Australia's interests against bad actors. Building **mission-oriented institutions** focused on achieving outcomes required for the development of sovereign capabilities. **Sustained and continuous investment** in schools, TAFEs, universities, and research institutions to build a highly capable workforce. Investment in research institutions to increase **research translation**. Development and use of Australian **sovereign cloud** capabilities to protect and store sensitive data. **Review** critical gaps in supply chains through government mandated analysis.	Become internationally competitive in the adoption and development of advanced manufacturing technologies through a **national manufacturing strategy**. Build strong **onshore industry verticals**, with a focus on developing capabilities within the other key industries. Change the approach to MNCs and foreign direct investment to agree to levels of **local production** of required goods and services. Analyse the **value chain** to identify the points with the highest positive impacts on economic development and self-sufficiency. **Review** critical gaps in supply chains through government mandated analysis.