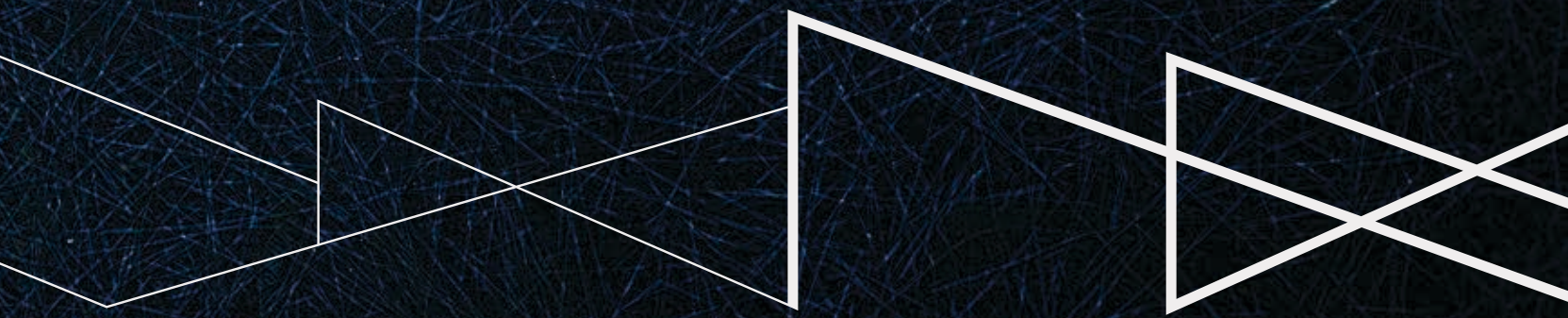
40years of ICN
Helping Local Win
1984 - 2024

PAST PRESENT AND FUTURE



Dr Phillip Toner and Emeritus Professor Roy Green, UTS

PAST

PRESENT AND FUTURE

“A key reason for the success of the ISO [ICN] has been its independence, the quality and professionalism of its staff and its ability to respond to inquiries in a short period of time’ (Australian Manufacturing Council, 1991).

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FOREWORD

DEPARTMENT OF INDUSTRY, SCIENCE AND RESOURCES

Strong economies have strong manufacturing sectors. That is the simple but powerful proposition that lies at the heart of the Albanese Government's ambitious $22.7 billion Future Made in Australia agenda.

Building our industrial muscle means more secure, well paid Australian jobs. Strong manufacturing enables our transition to Net Zero and leverages our abundant resources, from minerals to renewables. And it hardens our economic and national security resilience by reducing our reliance on foreign supply chains.

Procurement has a vital role to play in our approach. We know that by maximising opportunities for local businesses to participate in major projects, we can boost our capabilities and make sure we make what we need right here at home.

The Industry Capability Network (ICN) is key to achieving that goal. The world is changing fast but for four decades ICN has been an important hand on the shoulder of Australian businesses. As an intermediary between local suppliers and purchasers, it has helped them demonstrate their capability to grow and to innovate and to win more work. I commend them on their 40th anniversary.

The decades to come will be just as challenging as those past. But with our $22.7 billion Future Made in Australia plan, local businesses know the government has their back.

The new Community Benefit Principle the government is enacting under its National Interest Framework is all about creating stronger local supply chains by rewriting government investment rules. This complements the Australian Industry Participation (AIP) policy, which has created more opportunities for local businesses to demonstrate their abilities and win contracts.

As the Minister for Industry and Science, I make it my business to get up close and personal with Aussie businesses, whether it's in traditional industrial heartlands in Melbourne, the Illawarra and the Hunter or emerging powerhouses like Brisbane and Perth. Wherever I go, I see the can-do Aussie spirit on full display from the factory floor, to the lab and executive offices. In partnership with ICN and the organisations it represents, I look forward to further unleashing our industrial potential.

The Hon Ed Husic MP,
Minister for Industry and Science

AI GROUP

Congratulations to ICN on achieving its 40 year milestone. It's an achievement worthy of positive recognition and shows that stakeholders, industry and governments appreciate its contribution.

The Australian Industry Group (AiGroup) was instrumental in establishing ICN's predecessor, the Industrial Supplies Office (ISO) some 40 years ago.

As a result of the vision and collaboration between the then head of Ai Group in Victoria, Bob Herbert AM and the head of the Victorian Trades Hall Council, John Halfpenny, it was agreed that there was a need to support local procurement in the State and potentially on a national basis. The State and Federal Governments agreed, and as a result the ISO was established.

The ISO became ICN in 2003 and since then it has created opportunities for local industry to bid for work, enabled government to be aware of the capability of Australian businesses and helped promote Australian firms when competing for both government and private projects. It's played very strong supporting role in the business environment.

Now, more than ever, the role of the ICN at state and federal levels is especially important as the world appears to be dividing into trading blocs, and nations become more assertive of their domestic interests and industries.

The AiGroup recognises the positive role that ICN currently plays and, importantly, the increasing range of activities that it is capable of offering. We look forward to continuing to work with the ICN throughout Australia in the decades ahead.

Innes Willox AM
Chief Executive
AiGroup

ACTU

The Australian Council of Trade Unions is pleased to be part of the 40 years of success of the Industry Capability Network (ICN).

We have been part of this story since day one when well-known trade unionist John Halfpenny and Bob Herbert AM, then Director of the Metal Trades Industry Association set up, with funding from the Victorian Government, the first Industrial Supplies Office (later to change its name to ICN) in Geelong, Victoria.

That the organisation has survived and flourished for 40 years is a testament to this foresight, an unswerving commitment to Australian and New Zealand industry and jobs and the ability to push through even at the toughest of times.

With over $50 billion in wins to local businesses ICN has aided in the generation of strong economic benefits and jobs for Australian and New Zealanders. There is no doubt about their influence with major businesses, project procurement teams, government procurement officials and with that, able to be a true ally of small to medium businesses and jobs.

We will continue to stand with our ICN colleagues and be part of the story of success for the next 40 years and beyond.

I commend to you this important historical record, concise analysis and key recommendations from Phillip Toner and Emeritus Professor Roy Green. As you read through this white paper, we know you will recognize the critical role ICN plays and the promising future we aim to build together. I encourage you recommend this paper to your peers and to promote the work of ICN at every opportunity.

Michelle O'Neil
President, ACTU

EXECUTIVE **SUMMARY**

This study was prepared for the 40th anniversary of the founding of the Industry Capability Network (ICN). It provides a concise overview of the network's origins, rationale, methods of operation and administration, economic impact and reasons for its remarkable longevity and success over the past four decades. It concludes by considering ICN's prospects in an economic and political climate likely to be more conducive to its objectives, core competence and growth than that experienced over recent decades, particularly in the context of the broad-ranging 'Future Made in Australia' initiative. The following summarises the main points covered in each section and key findings.

History

Back row: 1999 - ISONET Directors Robert Keeley, David Kobelke, Rodger Hills, John Halfpenny, Rodney Bleathman, Roy Lilley

Front row: Robert Murdoch, Hellen Georgopoulos, David McLachlan (Chairman), Chris Neill (Secretary), Jim Box

The origins of ICN lie in the 1960s with international responses of nation-states seeking to maximise the gains to their domestic economies from large, one-off and non-renewable resource projects. In adapting to Australian circumstances, ICN differed in some important respects from these original models. This section also charts how ICN evolved its organisation, objectives and tools (especially the early and advanced use of IT) in response to a radically shifting policy and funding environment. For the first few decades ICN was focused primarily on import-substitution of manufactures. This was consistent with policy concerns of the time as Australia reduced tariffs, and macroeconomic decision-making was focused on reducing trade deficits. Over the past two decades, in response to shifting economic policy and changes to government procurement programs, ICN oriented to the goal of maximising 'local content' inputs from any domestic industry. Nevertheless, around one in seven ICN project 'wins' still directly involve manufactured inputs.

Arguably the most remarkable aspect of ICN's history is its very survival. ICN stands virtually alone in Australia's barren industry policy landscape in continuing intact through four decades of changing governments, shifting public sector budgetary priorities and large swings in dominant economic ideas. This longevity and success can be attributed to multiple causes. The most compelling is that ICN meets real-world market needs by remediating fundamental problems in public and private sector procurement and capabilities of local firms, thereby supporting economic growth.

> ICN stands virtually alone in Australia's barren industry policy landscape

Other reasons for ICN's success include its:

- methods to solve these problems are clearly articulated, subject to regular evaluation and demonstrably effective
- well-defined outcomes and unambiguous measures of success against stated objectives
- organisation, objectives and methods have evolved creatively in a rapidly changing economic and political environment
- governance model balances the efficiencies of centralisation with the benefits of decentralisation thereby stimulating flexibility in operation and innovation
- operation is not only self-evidently effective but also very efficient: an unintended legacy of extended financial stringency
- investment in new technology has been critical in the drive for efficiency and new revenue.
- longevity itself means ICN has had time to experiment, test ideas and correct and perfect its operational and administrative methods
- staff's professionalism, dedication and commitment to the public good.

Louise Wakefield, Derek Lark, Hon Pat Conroy MP, Warren Jansen, Mike Swart

Rationale for ICN

ICN's reason for its existence arises from the asymmetry of information in a market economy and well-established constraints on the participation of domestic firms generally, and small-medium enterprises (SMEs) in particular, in private and public sector procurement.

ICN representatives at Henderson Shipyard WA

What ICN Does

Over the decades ICN has evolved services and products to remediate these barriers to participation by acting as an intermediary between local suppliers and purchasers. Key to this intermediary role is ICN's engagement in state and federal government procurement programs that require public and private sector project proponents of projects above a threshold value to provide full, fair and reasonable bidding opportunities to local firms. This engagement has, from the beginning, been crucial to ICN facilitating the development of supply chains and delivering its services.

ICN has three core functions:

- It develops and operates the Gateway software system, which connects over 100,000 local suppliers with project proponents.
- It works with project proponents to structure their procurement process to maximise participation of all domestic firms, and SMEs in particular.
- It co-operates with SMEs to enhance their capability to ensure they understand and can satisfy the rigorous information requirements, accreditations and technologies demanded by major private sector project proponents and government.

More recently ICN has developed other products such as supply chain mapping, which is used to identify local capability, capability gaps and inform the development of policy to remediate these gaps.

The study finds that the level of ICN resourcing is inadequate. It constrains and distorts its capacity to deliver certain current services. Current funding and staff levels limits ICN in activities such as:

- helping SMEs form consortia to bid for larger projects
- allowing ICN staff to specialise and develop greater expertise in particular industries and technologies
- promoting ICN services to more suppliers and purchasers.

Limited resources also require ICN to focus on major projects to the disadvantage of small projects. Funding restricts ICN from developing novel products and services such as new software to meet industry need and embedding staff specialists on a full-time basis in major projects such as defence, health and agri-food companies. In the past dedicated Australian Government funding was provided for this activity under the Supplier Access to Major Projects (SAMP) program and proved highly successful. ICN officers also report they are constrained in assisting firms looking to invest in research and development (R&D) and commercialisation by co-operating with universities and government innovation promotion programs.

Peter Dutton Leader of the Opposition with representatives from Bridgeman including Adam Zarota, Bridgeman Owner and Managing Director (third from left)

Case Studies

The six case studies provided represent the diversity of industries, firm sizes, technologies and products of companies ICN assists. They also serve to illustrate the range of services provided by ICN to each company. These studies are supplemented with personal accounts from ICN consultants who have written a short 'day in my working life'. These demonstrate the breadth of problems confronted and solutions developed by ICN supply chain specialists.

Modelling the Impact of ICN

Since its inception in 1984 there has been a cumulative total of over $54b in project 'wins' to local firms assisted by ICN. This section uses national ICN project data for 2022-23 to chart the flow of project funds within and across the ICN state network and supplier industries.

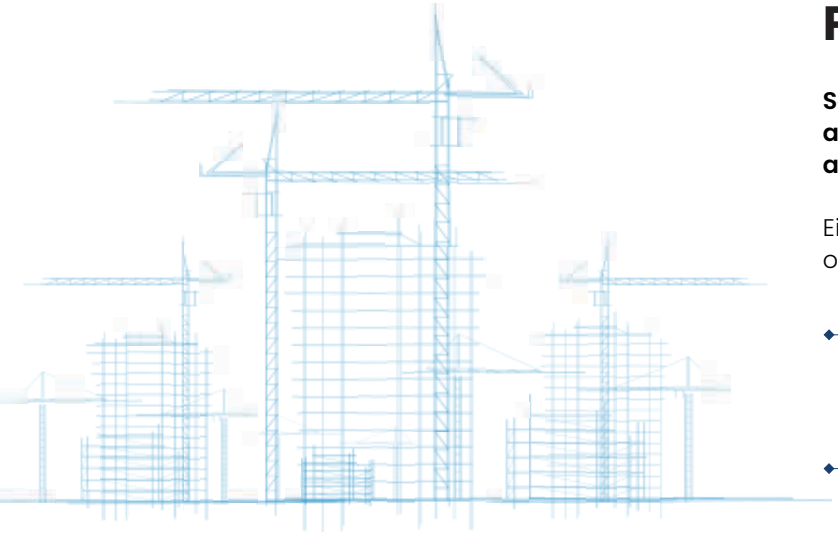
The main findings are that in 2022-23 ICN assisted firms with $2.7b of project 'wins' nationally, of which $756m, or 28%, was transferred from the state in which the project originated to supplier firms in other states. This demonstrates the large inter-state flow of project funds across the states and establishes that ICN operates as an integrated national network transferring work to the most efficient supplier regardless of their location. In the case of the Northern Territory and Western Australia, 53.5% and 35.1% respectively of work generated within the state was won by firms in other states.

ICN data also provides insights into the industry distribution of projects. ICN activity is concentrated in just four industries - transport, manufacturing, mining and construction - with these accounting for 93% of total ICN activity in 2022-23. Construction represents well over half (56.3%) of total ICN projects. It should be noted reliance on just one data point, 2022-23, could distort these results. This industry concentration is largely attributed to the fact that most projects involving ICN are classified as investment rather than consumption expenditures and the former is, by definition, comprised of two principal elements: built structures and equipment. The preponderance of construction is also a function of the shift some two decades ago in government procurement programs to be 'agnostic' regarding the industries supplying 'local content'.

Overseas Procurement Programs

Most, if not all, nations operate some form of preferential procurement program for SMEs applying to government purchases, usually in conjunction with complementary programs for capability development of these firms. Similar provisions can also apply to private sector purchasing especially for major projects. This section details these procurement and assistance programs in the United States (US) and references several other nations such as Canada, China and Mexico.

These overseas programs are instructive for Australia in how well procurement obligations are integrated into innovation promotion and other forms of business development support. Secondly, the US and many other nations have for decades mandated a proportion of government expenditure be 'set aside' for SMEs and within that specific categories are prescribed such as SMEs in disadvantaged regions. Around a quarter of US Federal Government expenditures are so mandated.



Plan for the future

Several suggestions are provided to strengthen ICN and its core role assisting local industry participation and capability development.

Eight of these are provided to improve the design of current procurement programs:

Aside from improving current ICN activity there is a compelling national need for ICN to significantly expand its future operations and capacity through better integration with industry policy design and program delivery. Such a role would complement and extend ICN's existing function since ICN would influence the purpose of, and assist delivering, programs directed at redressing those constraints on local suppliers it currently works to overcome. This proposed new role is one that ICN supply chain specialists envisage for themselves and are keen to participate in, subject to lifting the binding resource constraint outlined above.

ICN should be a central instrument in the government's policy pivot to renew sovereign industrial capability through schemes such as the 'Future Made in Australia' agenda. One among several new roles suggested for ICN is to leverage its data and expertise in software and capability analysis for supply chain mapping.

The study concludes by identifying several potential new funding sources for ICN and the necessity for continuing effort to lift recognition of ICN's past achievements, current role and future possibilities.

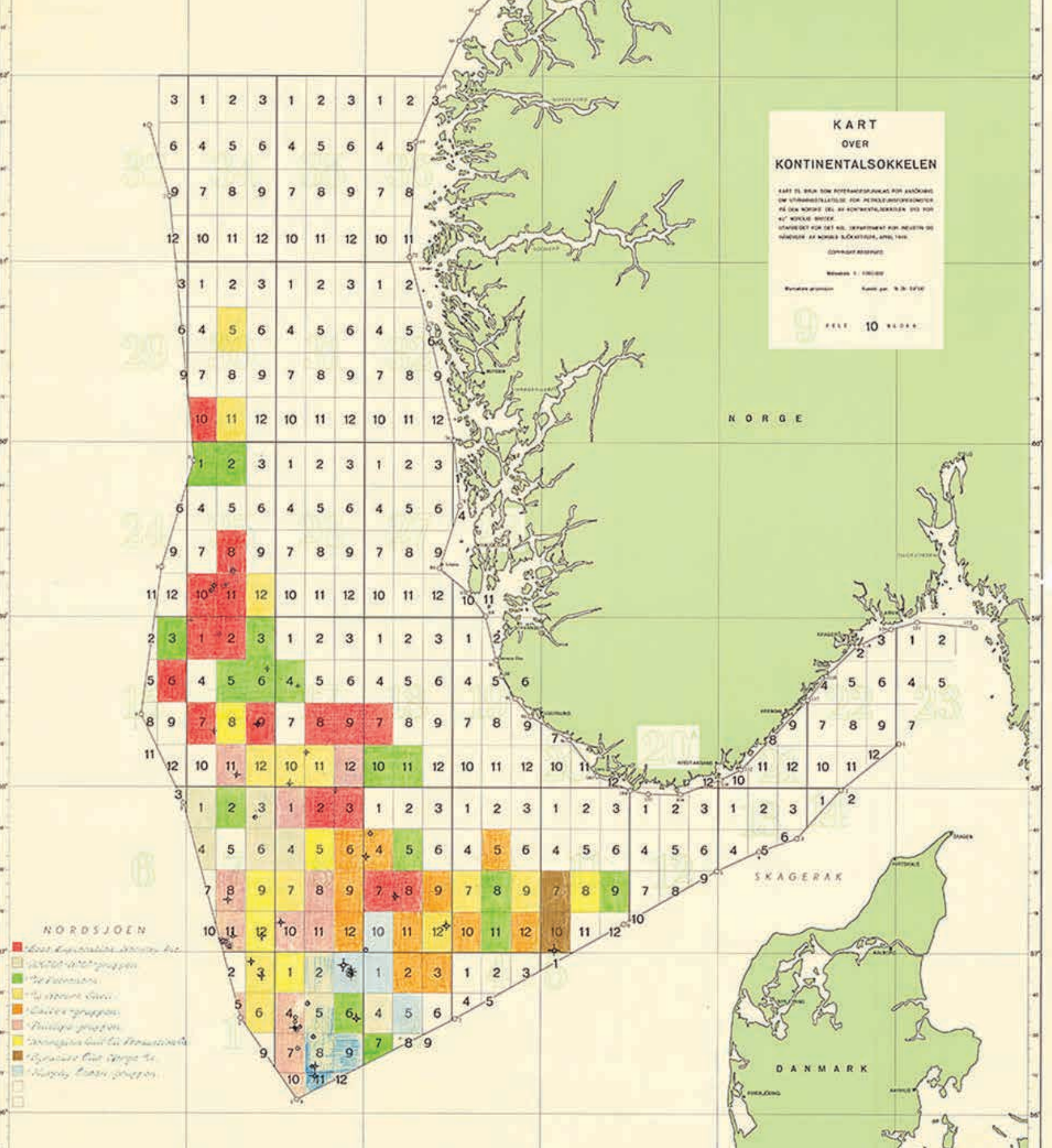
- ICN engagement with all procurement programs should be mandated and it should also be mandatory for project proponents to engage the services of ICN at the pre-design stage.
- Guidelines for project proponents to structure their bids to maximise local participation should be mandated and adequacy of compliance with these guidelines should be an explicit weight used in assessing bids.
- It should be mandatory for project proponents to provide a minimum agreed standard of feedback and timing for the delivery of this feedback to suppliers on the progress of their submitted expressions of interest (EOIs) and requests for tender (RFTs).
- The value of projects subject to procurement obligations should be halved.
- Consideration should be given to introducing a mandatory minimum proportion of local content and SME share of total expenditure, as for example, occurs in the US and other nations. Such a move should be subject to careful scrutiny before introduction.
- State procurement programs be harmonised to reduce compliance burden on purchasers.
- The SAMP program should be reinstated.
- It should be compulsory for detailed public disclosure of project proponents' acquittal of procurement obligations.
- Consideration should be given to imposition of penalties for failure to meet agreed levels of local content.


ACCESS HIRE

> **... substantial benefits to all contractual parties and domestic economies.**

HISTORY **OF ICN**

This section briefly charts the international origins of the ICN model; the radically shifting policy and funding context in which it operates; and how ICN has evolved in response over time through changes in its objectives, operations and administration. It finally reflects on some of the reasons not just for its remarkable survival but its success over the past four decades.


KART
OVER
KONTINENTALSOKKELEN
NORGE
SKAGERAK
NORDSJOEN
DANMARK

ORIGINS

The origins of ICN arose in innovative international policies to provide balanced and enduring economic benefits for nations developing large natural resource projects. In the late 1960s deep-sea oil and gas fields were discovered in the territorial waters of Norway. The Norwegian Government and local industry evolved institutions and agreements with international oil majors to not only extract and locally process oil and gas but also promote the use of domestic manufactured inputs into the sector. Achieving this meant overcoming a variety of barriers to full and fair participation of local industry to supply sophisticated manufacturing inputs to the oil and gas sector.1 In 1969 participation of competitive Norwegian inputs became a condition for issuing production licenses (Australian Manufacturing Council 1990). Importantly, these policies and 'local content' agreements 'never really departed from the prerequisite of international competitiveness' or that local industry must be internationally equivalent in terms of price, quality, delivery time and service (Nordås, Vatne and Heum 2003:66).

The Birth of the Norwegian Oil Industry - Energy People

This model has been emulated globally as an example of good practice providing substantial benefits to all contractual parties and domestic economies. Of relevance to Australia was the creation in 1973 of the British Offshore Supplies Office (BSO) designed to provide similar benefits to British industry, especially heavy engineering, following discovery of North Sea oil and gas (Cook and Surrey 1983).

Expertise in manufacturing and service inputs to the oil and gas sector developed through these policies enabled both Norway and the United Kingdom (UK) to later become world leaders not just in this sector, but to adapt these technologies and achieve similar success in the offshore wind industry over the past few decades through companies such as Equinor and Aibel (International Energy Association 2022).[2]

1. These agreements not only related to fair procurement procedures but also entailed joint ventures in manufacturing inputs, technology transfer, workforce training and R&D (www.oilandgasiq.com/strategy-management-and-information/articles/norway-a-local-content-success-story). To maximise the gains from large, one-off and non-renewable resource projects Norway in 1990 also instituted a sovereign wealth fund based on oil export revenue taxes. It is now valued at US$1.7trn (www.nbim.no).

2. Equinor is a majority state-owned international energy company that grew out of the former government-owned Statoil. It produces about 70% of all oil and gas output on the Norwegian shelf. 'The objective of state ownership of Equinor is to maintain a knowledge-based, high-technology company that has its main base in Norway. Equinor is run on a commercial basis' (www.norskpetroleum.no/en/framework/state-organisation-of-petroleum-activities).

The British Offshore Supplies Office (OSO) served as an initial stimulus in Australia when an officer in the Victorian Department of Labour familiar with the BSO advocated for the establishment of a similar body. The first Industrial Supplies Office (ISO) was established in Geelong Victoria in August 1984 (South Australian ISO 1996). Following the Victorian lead, an office was established in New South Wales in May 1985. By 1989 ISOs were established in all Australian states and the Northern Territory. There were just 10 staff in the first state ISO. By 1989 this had expanded to 40 staff nationally. Currently there are more than 100 employees across ICN. All ISOs were financially supported by state governments (Australian Manufacturing Council 1991). The New Zealand ISO was established in 1991 as a key means of effecting the 1983 Australia-New Zealand Closer Economic Relations Trade Agreement.

LAUNCH OF ISO AND **GROWTH OF ICN**

Although written nearly 30 years ago this statement of ISO objectives succinctly captures ICN's purpose today:

> *'ISO operates as an 'Honest Broker' to assist suppliers and manufacturers be fully aware of the commercial and technical requirements of major purchasers and ensures that those purchasers are equally aware of the supply capabilities of Australian firms. The purchaser always retains the discretion to buy Australian' (South Australian ISO 1996:8).*

From the beginning, and to this day, achieving these objectives requires employment of experienced engineers, procurement officers, market analysts, IT professionals, support staff and over more recent decades marketing experts.

In 1988 an Office of National Coordination was formed in Canberra (Industry Capability Network Limited 2020). This national office was established in recognition of the necessity for closer co-operation across the seven independently financed and managed ISOs. This was essential to reap the gains of scale economies such as investments in software and administration and to achieve the benefits of collaboration in information sharing and formal representation to national government. This office closed four years after opening. However, the imperative for national co-ordination and representation, especially with the Australian Government's dominant role in procurement and setting procurement protocols and standards, was recognised in the 1994 report by the Joint Parliamentary Committee on Industry Science and Technology, "Australian Government Purchasing. Policies: Buying our Future" (the Bevis Report). Among its recommendations was the establishment of a national procurement board and re-creation of a national ISO coordination body. ISONET Ltd opened its Canberra office in March 1995. In 2003, ISOs across all jurisdictions rebranded as the Industry Capability Network (ICN). A new logo was launched in 2010 and is still in use.[3] ICN is a federated alliance made up of the company members of Industry Capability Network Limited. The national office is financially supported by the Department of Industry, Science and Resources, ICNL Members, ICN Gateway subscribers and other stakeholders.

Tim Piper AM, Head - Victoria, AI Group and other dignitaries at the opening of the ICN Vic office 2023.

The ISO model, and subsequently ICN, differs in several important ways from the early international models in Norway and Britain. First, it was not dedicated to one sector, such as oil and gas, but focused initially at least on manufacturing industry (South Australian ISO 1996). This scope subsequently expanded to encompass service industries in recognition of their rising importance in the economy. Second, it did not have the strong explicit or implicit regulatory function, such as the OSO, to enforce 'local content' requirements (Australian Manufacturing Council 1991: 18). Third, it is state-based, rather than primarily an initiative of national government. ISOs were established in each state and territory, mostly as public companies limited by guarantee, were financially independent of other offices and operated autonomously. Some state offices were financially supported by their state governments, others were part of the state government while others received no state funding. The model remains to this day.[4] Finally, its prime focus is assisting small- and medium-sized local business - generally defined as a business with 200 or fewer employees - enter procurement supply chains for the private and public sectors.

3. A historical timeline of the national office, its role and evolution is provided in Industry Capability Network Limited (2020).
4. This decentralised structure arguably allows the network to be closer to industry needs and a dispersed ownership and financing may also be a factor in ICN's remarkable longevity. A single point of funding is also a potential single point of failure. This decentralised structure also has disadvantages such as the necessity to negotiate change and internal disputes within the national network.

> A notable feature of the organisation is its ability, and indeed its necessity, to adapt to changes in external economic policy and political environment.

CHANGING POLICY CONTEXT FOR **AND EVOLUTION OF ISO/ICN**

An important historical context for the introduction of, and support given to, the ISO concept was the decisive shift in Australian economic policy during the mid-1980s away from the system of tariff protection. This system came to be viewed as imposing excessive costs on industry and consumers and reduced the incentive to innovate and export. Alternative measures aimed directly at lifting the competitiveness of local industry, such as the so-called 'Button Industry Plans' (Sheehan et al 1994) were adopted. These began in 1984 for industries such as steel, motor vehicles, telecommunications equipment and pharmaceuticals. They linked government financial support for investment to achieving targets for productivity, exports and improved workplace relations. While the plans focused primarily on large corporations, enhancing the performance of SMEs was targeted through schemes such as the National Industry Extension Service (NIES). Created in 1986, this provided engineering and business improvement advice to foster quality assurance, innovation, business planning and exports for SMEs. The ISO concept, which aimed to address a variety of widely acknowledged and significant 'market failures' confronting Australian industry participation in major projects (Wholohan Grill and Partners 1988) and SMEs more broadly (Productivity Commission 1998), was consistent with this new policy direction and received immediate and wide support across Australia. The market failures are detailed in Rationale for ICN.

Importantly, then as now, the ISO concept received tripartite sponsorship from, industry (including employer associations), unions and government. For example, the Victorian ISO was strongly endorsed by the Metal Trades Industry Association (which evolved into the Australian Industry Group). Indeed, the association initially filled an early management role in the initial Victorian ISO (Australian Manufacturing Council 1991). This tripartite governance structure continues in some state based ICNs and at a national level. More broadly, continued bipartisan government support is key to ICN's continued survival as all major parties recognise its important function in advancing the interests of local industry.

A notable feature of the organisation is its ability, and indeed its necessity, to adapt to changes in external economic policy and political environment. For the first two to three decades in the life of ISO/ICN its focus was to 'assist major purchasers find local producers capable of supplying, competitively... equipment, goods, materials and services which may otherwise have been imported' (South Australian ISO 1996:1).[5] The prime goal was import replacement focused primarily on manufacturing industry. This was consistent with

the need to develop alternative measures to the tariff and address a principal economic concern at the time- the 'current account deficit' to which a persistent and growing excess of manufactured imports over exports contributed significantly. The beginning of the ISO also coincided with the start of a decades-long resource investment boom that both threatened to greatly worsen this deficit (at least in the project development/investment phase) but also offer enormous opportunity for local industry participation if given appropriate policy support. ISO/ICN was intended to be a key instrument in providing such support.

However, by the first decade of the 21st century conventional opinion had shifted to a much more relaxed attitude to current account deficits which in turn lowered official interest in import replacement and support for manufacturing industry (Reserve Bank of Australia 2007). This change in policy context was both reflected in, but also reinforced by, abolition of state government purchasing preference schemes.[6] This preference regime was subsequently replaced with other purchasing schemes, principally state and national Industry Participation Plans, which shifted purchasing criteria to 'full, fair and reasonable' bidding opportunities for local firms, and covered government and large private sector purchasing. Particularly important here was passage of the government *Australian Jobs Act 2013* (Cth) (Jobs Act).

The shift in conventional economic policy and creation of new purchasing schemes directly affected the objectives of ISO/ICN. For instance, the schemes recognised a formal or informal role for ISO/ICN in their operation and reinforced demand for business 'capability' analysis and advice from ISO/ICN to improve the competitiveness of firms. The schemes also broadened the scope of industries subject to procurement regulation. This, therefore, expanded the role of ISO/ICN, from mostly manufacturing inputs and 'import substitution' to maximising 'local content' in public and private purchases above a specified dollar threshold. Domestically produced services, such as construction, were now within the scope of ISO/ICN.[7] This shift was also a recognition of the declining significance of manufacturing in the economy with the rise of services.

Adaptation to this changing external policy environment is reflected in the revised objects of ICN as stated in its Memorandum of Association which include *inter alia*: 'The joint promotion and facilitation by members of Australian industry participation in the supply of products and services to any project that could lead to economic benefit' (ICN 2019:C2 (a)).

However, to anticipate a later observation, there has recently been a major shift in conventional policy within Australia and overseas. This represents a reversion to previous concerns about national industrial capability, industry diversification and sovereignty to be achieved through technological upgrading, innovation and increased scale of output. ICN can and should be a central player in policy development and program delivery in this transition. These matters are developed further under Plan for the Future.

5. A more complete statement of their purpose is: 'our foremost activity is import replacement; secondly, enhancing exports; thirdly, what we describe as 'aid to industry' and lastly enhancing the activities of Australian industry via the introduction of new technology and processes' (South Australian ISO 1996: 11). Even as late as 2012) it was stated that 'ICN delivers programs that are intended to meet specific government policy objectives, largely related to business sustainability, expansion and increased employment for the manufacturing sector in Australia'. (Industry Capability Network 2012:11)
6. These schemes applied mostly to manufactured goods and permitted a price differential of up to 20% in tenders to a state government between firms located within the state compared to those in another state. They had a widely acknowledged detrimental effect on production efficiency by encouraging establishment of sub-optimally sized plants across jurisdictions (Minister for Industry and Commerce 1989). The legacy of these policies, for example in rail rolling stock manufacture, and solutions to them, are still being sought nationally (www.industry.gov.au/publications/national-rail-manufacturing-plan).
7. The Jobs Act (2013) and the Australian Industry Participation Authority, which administers the Act, do not define 'local content' but instead use the term 'Australian opportunity' pertaining to goods and services supplied by any entity with an Australian Business Number or Australian Company Number. Conversely, 'overseas opportunities' are those supplied for a local project by an entity without such credentials.



MANAGING **DIVERSITY**

To foster inter-state cooperation and a unified approach to products and service delivery, three early initiatives were adopted and remain in place. The first was agreed Standard Operating Procedures to govern the activities and reporting requirements of state, territory and national offices (South Australian ISO 1996:11). These procedures are still produced as the National Operating Manual.

The second initiative was the continual use of IT to network offices as well as share information on:

- procurement opportunities
- supplier capabilities
- reporting and changing regulatory obligations.[8]

The central role of IT in the efficient functioning of ICN was established early, with the Bevis Report mentioned earlier recommending a national database of suppliers and purchasers. ISONET coordinated the roll out of common systems, hardware and software, including email across the network. Confirming the importance of innovation within one jurisdiction, and its diffusion the first national supplier database shared across the network in 1997, was based on a system originally developed in the WA office. Large investments over time in IT led to the launch of ICN Gateway in 2010, which provided, for example, online publication of project opportunities and expressions of interest from companies to supply contracts. Since then, a continuous stream of IT products has been issued. These are detailed in What ICN does. 'An IT working group of state Network office representatives, chaired by a state Executive Director, provides advice to ICNL on system enhancements and undertakes user acceptance testing'. (Industry Capability Network 2020:10).

> **An IT working group of state Network office representatives, chaired by a state Executive Director, provides advice to ICNL on system enhancements and undertakes user acceptance testing.**

Investment in IT has been a key factor in the network delivering and expanding services; recording progress against objectives and generating revenue to manage a long-term funding uncertainty and constraints.

The third initiative is that, from the beginning, the governance architecture balanced the benefits and challenges of centralisation and decentralisation.[9] Centralisation through a national office generates:

- scale economies in administration and IT
- consistency in representation to industry and government
- diffusion of learning and best practice and standardised branding.

Decentralisation is also crucial as this facilitates experimentation in services and adaptation to local circumstances. This flexibility and adaptation was, and is, necessary given the decentralised ownership and management of each state and territory office and the need to adjust services to large differences in economic structure across the jurisdictions. These differences arise for instance from the:

- level of financial and other support from state and territory governments
- composition of industries
- firm size
- degree of foreign ownership of major projects
- geographic dispersion of industry.

This balance between autonomy and central co-ordination is not only essential to manage a diverse network but also proved to be a critical source of innovation that continues to benefit all members and industry. A combination of regular national meetings, staff training and information dissemination ensures that improvements in services and administration generated in one jurisdiction are spread as best practice across the network.

8. The first information sharing system was based on fax machines, funded by the ICN National office, for each office. PCs were then rolled out with email and simple flat database, the Q&A software suite. An early report on the ISO exclaimed proudly that it would soon be possible 'to develop and install a mechanism by which all existing ISOs can electronically communicate between offices' (South Australian ISO 1996:12). This 'mechanism' was not a telephone, but the internet.
9. The South Australian ISO (1996) report suggested tensions and parochialism are inherent in an organisation operating collectively at a national level but with each office owned, financed and accountable in separate jurisdictions. It argued an important means of managing these tensions is data collection and information sharing which makes all operations transparent to the whole network. This solution holds to this day.

BUDGET **CONSTRAINTS**

Despite its considerable and documented achievements, the network has, over the decades, been under regular and often severe financial constraint. For example, some state offices had funding withdrawn completely and there were plans to abolish the national office in 1996, and a push by the Australian Government in 2002, 2010 and 2015 for full self-funding. Moreover, funding levels for state and national operations have fluctuated widely over the years as special programs to support ICN prove to be temporary, and large projects, like the Sydney Olympics, wax and wane (Industry Capability Network 2020).

Early in the life of the network, obtaining supplementary income through fee-for-service proved contentious (South Australian ISO 1996). These reasons included the practice of some major primes seeking to 'arbitrage' between ICNs for the lowest, or no, fee, and conflict over the distribution of rewards when a project 'win' involves assistance from multiple offices.

In 2015 the national office introduced a supplier subscription model for Gateway; while a basic profile was, and continues to be, free, paid subscriptions are available for increased visibility and value-added services. The supplier subscription model allowed ICN to continue despite a significant reduction in real Commonwealth funding. Across the network, offices offer additional services (such as supply-chain mapping) to bridge the deficit of insufficient government funding. Some offices have a fee-for-service structure for all their services. Over the past five or so years there has been a move towards more sustainable self-generated funding.

At present there are different funding models across jurisdictions. Some are fully funded by their state governments and operate as units within government departments, while others are fully government-funded but operate outside of government. Others receive some government funding and some receive zero government funding. The limiting effect of funding constraints on the capacity of ICN to fully meet demand for its services is considered in What ICN does.

Inland Rail: Narrabri to North Star – Phase 1

LONG-TERM FORMAL **ENGAGEMENT IN GOVERNMENT PROCUREMENT PROGRAMS**

Participation in state and federal government procurement programs has, from the beginning, been crucial to ICN entering supply chains and delivering services. For example, the Supplier Access to Major Projects (SAMP) program ran for 17 years from 1997 and, with funding of $21.4m over the full period, permitted ICN to embed procurement specialists within public and private sector major projects.[10] Other programs included Team Australia Automotive (TAA) from 2007 to 2012 to assist Australian Original Equipment Manufacturers (OEMs) enter the global supply chains of major automotive manufacturers in North America; and the Defence and Civil Offsets program, which required foreign defence primes to invest a proportion of the value of the imported content in Australian industries with the aim of developing new high technology export capabilities. Further detail on current and continuing programs is provided in What ICN does.

10. ICN (2017) provides a concise history of SAMP. Some of the key findings were that the long duration of the program was a major benefit as it allowed the program to be refined over time. An interesting observation about major projects in which ICN is involved, and which may be of current relevance, is that that supplier 'contracts did not occur until some 18 months after procurement plans were drawn up' complicating measurement of ICN's contribution to procurement outcomes and timing the value of project 'wins' (ICN 2017:11).

ICN SUCCESS AND **WHY IT WORKS**

Arguably, the most remarkable aspect of ICN is its very survival. ICN stands virtually alone in Australia's barren industry policy landscape in continuing, more or less intact, through four decades of changing governments, shifting public sector budgetary priorities and large swings in dominant economic ideas. It has not only survived but thrived. It took a little over a decade, from 1984 to 1996, for the organisation to accumulate $1.4b in contract 'wins' for local firms (South Australian ISO 1996). By April 2024 this had risen by an additional $52b. After discounting for inflation this is a cumulative $25.3b in 1996 dollars.[11] In real dollar terms this is an extraordinary compound rate of growth since 1996 of 11.2% p.a.

11. Based on Reserve Bank of Australia (2024) estimates of the annual compound inflation rate from 1996 to 2023.

Pluto LNG Plant

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… from 1984 to 1996, for the organisation to accumulate $1.4b in contract ‘wins’ for local firms.

This longevity and success can be attributed to many factors. The most compelling is that ICN meets real-world market needs by remediating fundamental problems in public and private sector procurement and capabilities of local firms, thereby supporting economic growth. Second, its methods to solve these problems are clearly articulated, subject to regular evaluation and are demonstrably effective.

Other factors include:

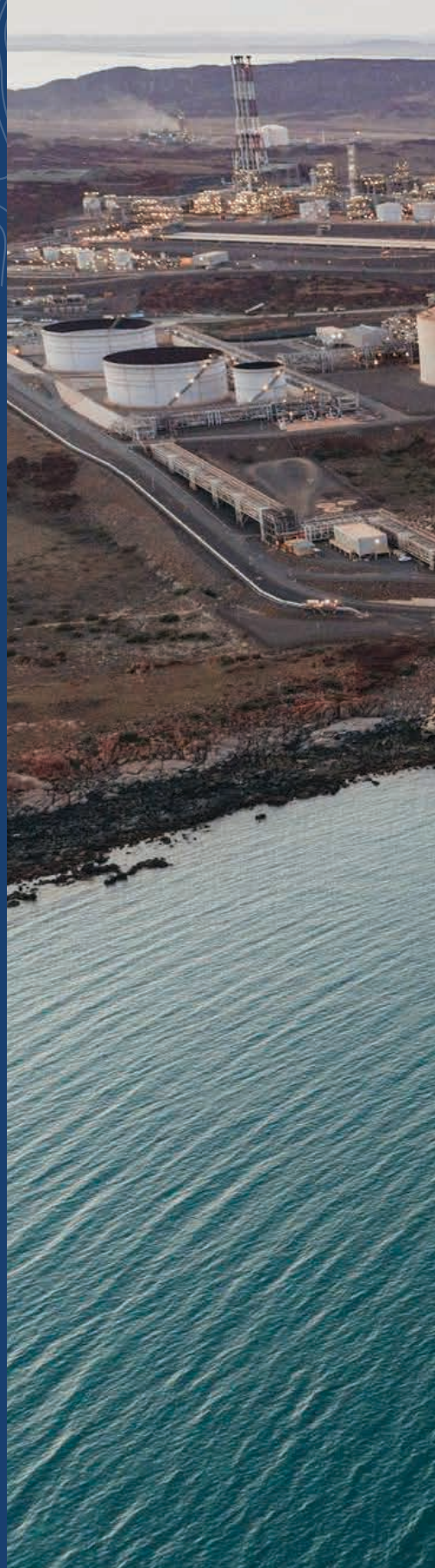
- its well-defined outcomes and unambiguous measures of success against stated objectives
- its organisational goals have evolved creatively to a rapidly changing economic and political environment
- its organisational goals have evolved creatively to a rapidly changing economic and political environment
- its governance model balances the efficiencies of centralisation with the benefits of decentralisation stimulating flexibility in operation and innovation
- its operation is not only self-evidently effective but also very efficient: an unintended legacy of extended financial stringency
- its investment in new technology has been critical in the drive for efficiency and new revenue
- its longevity means that it has simply had time to experiment, test ideas and correct and perfect its operational and administrative methods.

Plan for the future briefly considers the future possibilities and prospects for ICN. Finally, its success arises from the dedication and professionalism of its staff and their commitment to the public good.

RATIONALE **FOR ICN**

Since its inception, the core rationale for ICN is correcting market failure and 'the fundamental aspect of market failure which the ISO network addresses is related to imperfect information flows' (Australian Manufacturing Council 1991:25). Industrial policy today is much broader in its ambition, but the more specific focus of ICN has turned out to be a strength of the program.

Conventional economic theory identifies an essential role for market intermediaries such as the ICN, first in redressing impediments to the efficient functioning of markets and second, to the role of government supporting such intermediaries. Such market problems and the function of public policy in their redress have been well established and intensively analysed in the economic analysis of 'information' and 'transaction cost economics'. This section briefly outlines these arguments and identifies the specific roles of the ICN in providing solutions to these impediments.



ECONOMICS OF **INFORMATION**

Information is essential to the efficient functioning of markets but is also subject to a variety of 'market failures'.[12] For both buyers and sellers, identifying and acquiring information about commodities and market conditions can be costly. It is also subject to processing costs by information users as they analyse and evaluate information for their specific needs. An important source of these costs arises from the fact that for both buyers and sellers most goods and services, even basic commodities, are heterogenous in attributes such as:

- quality
- price
- technology
- location
- warranties
- after-market servicing
- durability
- upgrade and replacement cost
- commercial terms of use and sale.

For buyers and sellers, quantifying and weighting the desired attributes is complex and potentially costly. These so-called 'search and processing' costs arise from the time and expense expended in reducing the degree of ignorance among buyers and sellers about market conditions (Stigler 1961). Costs can be relatively trivial for buyers and sellers who transact standardised commodities frequently, though even here dispersion in market prices is commonly observed. However, information costs can rise substantially with commodities that, for example, are important to a buyer (seller) but only infrequently purchased (sold), are subject to rapid technological change or are customised to a buyers' needs.

Moreover, as argued by Arrow (1962:615) the market for information is subject to a fundamental and inherent 'paradox' as its 'value for the purchaser is not known until he has the information'. It is not possible for a buyer or seller to place an accurate price on information and, therefore, accurately assess the volume of resources to devote to search and processing costs. They would need to know the information beforehand to enable a calculation of costs and benefits of investment in obtaining the information.

The rational response by buyers and sellers to search and processing costs and uncertainty about the value of information is risk aversion and economising on obtaining information, both of which cause inefficiencies in market transactions (Arrow 1962). The sources, varieties and consequences of information gaps or 'information asymmetries' (Akerlof 1970) within and between buyers and sellers has been intensively scrutinised by Transaction Cost Economics (Williamson 1991). Buyers and sellers adapt to these circumstances by using 'second

Logan Hospital QLD construction

best' strategies such as reliance on 'trust, reputation and warranties, to overcome the credibility problems of information' (Productivity Commission 1998:74). Contracts are also commonly employed for risk reduction in important transactions, but these agreements are necessarily 'incomplete' in that they cannot traverse all contingencies. Terms may be subject to differing interpretation and contractual parties may act opportunistically. The scale and expense of commercial litigation in Australia confirms these problems are pervasive in the real world.[13]

While an important and necessary adaptation to uncertainty these strategies are not sufficient to fully correct the 'information problem'.

Indeed, such adaptive strategies, and others, may exacerbate the problem of market inefficiency (Williamson 1971). These other strategies may include:

- a preference for contracting with large firms (which disadvantages smaller firms)
- an excessive reliance on contracting with parties with whom one has previously dealt
- an excessive bias for familiar technologies
- an unbalanced focus by purchasers on price in assessing tender bids (as opposed to the more information intensive process of assessing whole-of life costs)
- firms minimising uncertainty through vertical integration.[14]

Another common effect of uncertainty in market transactions is heightened receptivity of buyers to branding and advertising, the effect of which may be to cement an incumbent's position in the market and discourage entry of superior competing products and services.

Problems arising from market failures in both information and adaptations to uncertainty apply with particular force to SMEs. This is addressed in more detail later in this section.

12. Indeed, the standard definition of market efficiency is "a market in which prices always 'fully reflect' available information" (Fama 1970).
13. For example, there are well over 350,000 civil cases (contract and tort) initiated each year in Australia (Johnson Winter Slattery 2023).
14. Vertical integration is a cause of monopoly. Arrow (1962:611-612) observed that market uncertainty results in 'discrimination against' what are perceived as 'risky enterprises. Historically, this discrimination applies to small business dealings with large firms or government; an outcome ICN seeks to redress.

Aside from search and processing costs and 'the problem of the purchaser's inability to judge in advance the value of the information he buys' (Arrow 1962:616) information is subject to another key market failure arising from its public or collective good properties (Samuelson 1954.15) It is in the interest of society that information about supply and demand conditions be accurate, widely distributed and free or minimal cost. Information will, in most circumstances, only serve to improve overall market efficiency if it has these attributes.16 However in combination, the last two desirable attributes, restrict private investment in information provision. The public good attributes of information and the resulting gap between what is desirable from society's point of view and what is feasible for a private investor to supply creates a market failure known as an 'externality'.

ROLE OF **GOVERNMENT**

Externalities warrant government intervention if the damage to market efficiency is sufficiently large, and the benefit of government intervention exceeds the cost of remediation (Productivity Commission 1998).[17]

There are sound additional economic reasons that such information collection and dissemination be supported by government and undertaken by a centralised agency 'where there are public good arguments, or natural advantages in government doing so' (Productivity Commission 1998:72). The most obvious advantage of a central agency is economies of scale in the collection, processing and dissemination of information as it is more economical to have one agency performing these tasks than many individuals duplicating these expenses (Stigler 1961 Arrow 1962). Centralised agencies also benefit from learning by doing (which is accelerated the larger the output of the agency) and from use of specialised labour and IT systems. Centralised agencies may also benefit from network effects. This is where the benefit to one user of a service increases directly with the number of other users. This applies to a centralised information broker where information is, for example, only available to subscribers but these subscribers are also an important contributor of information. Finally, a government agency is also less likely to be confronted by commercial incentives that may be perceived to influence the advice.

For the same reasons listed above, a centralised agency is also in a better position to identify problems in markets subject to information deficiencies and devise potential solutions through government policy. Highlighting these deficiencies and suggesting alternative procurement approaches is a legitimate task of such an agency.

15. These 2 properties apply to goods and services that are non-rival in that one person's consumption of a good does not limit consumption of the same good by another person and non-excludable as one person cannot deny another the opportunity to consume the same good.
16. Ideally market information is free since 'at any given price, the very nature of information will lead to a lower demand than would be optimal' (Arrow 1962:619). In other words, due to uncertainty about the value of information to the buyer any positive price on information will lower demand for information below what is best for a market economy. ICN (2012) provides a thorough account of ICN competitors in the information marketplace, and analysis of the incentives facing public and private information providers and how these can determine the range and types of services provided.
17. Applied to ICN these conditions are satisfied given that the large value of 'wins' to local firms confirms the scale of market failure and ICN's efficiency results in a high cost-benefit ratio.

PROVEN PROBLEMS FOR SMES IN PROCUREMENT AND **CONTRACTING PRACTICES**

The foregoing outlined the key theoretical rationale for the ICN derived from economic analysis of market failures endemic to information. A strong empirical rationale for ICN is also provided in Australian inquiries and research over the past half-century which confirm both the real-world scale of these market failures and the importance of a market intermediary in their redress.

As the Productivity Commission (1998) argues, there are sound reasons for assistance to SMEs given their disproportionate contribution to job creation, technical innovation, entrepreneurship and their wide geographic dispersion. However, SMEs also suffer from a variety of competitive disadvantages, constraints to growth and high business failure rates the cause of which is 'most commonly reflected in informational inadequacies in small firms' (Productivity Commission 1998:51).

Multiple inquires in Australia into private and public sector purchasing and related contracting practices have uniformly concluded these practices disadvantage Australian industry, especially SMEs. They also identify the critical role of the ICN in rectifying these problems.18 As early as 1974, the Scott Committee report into Australian Government procurement recognised the importance of purchasing policy 'in influencing a desirable structure of industrial development in line with government policy and community needs' (Department of Prime Minister and Cabinet 1974).

The main findings of these reviews into how private and public sector procurement disadvantages local suppliers, and the case for remedial action through institutions such as ICN, are usefully divided into factors that affect the demand side (purchasers) and supply side (local producers).

On the demand side local firms, especially SMEs, are hindered when governments and private sector purchasers:

- have inadequate knowledge of local capability
- have complex information requirements and/or difficult tender procedures precluding SME bids due to the time/expense in bid preparation
- use high value contracts excluding SMEs from bidding
- provide insufficient notice to tender - ideally notice should be given at the pre-design stage
- mis-apply the concept of 'value for money' as lowest price
- have inadequate data collection and public reporting on their purchasing activities
- use overseas standards in tenders that may impose costs/difficulties translating to Australian standards.

> Unless companies are well skilled in tendering, especially for international projects, they miss out. Bid preparation is usually resource intensive and failure to win a number of bids discourages companies from trying again. Explanations for unsuccessful bids are rarely given and companies may not necessarily learn from their failures.

When governments and purchasers use overseas design and engineering for projects/products/services, they tend to give preference to contractors and technologies that are familiar to designers and/or specify inputs from overseas suppliers that have been used before. Preference is also often given to suppliers in the same country in which the designers and/or project lead are head quartered. Alternatively, project proponents can preference supply from businesses which are affiliated to the proponent or where the proponent has a beneficial interest in the supplier.

It is also an issue when design projects as large volume/value units or modules in which all major components are bundled into a single unit. Alternatively, so-called turnkey projects comprise complete project engineering, procurement and construction and are typically let to large overseas conglomerates that can often supply all inputs internally or from related parties.

On the supply-side SMEs are disadvantaged by:

- inadequate knowledge of requirements for tendering to prime and/or tier 1 and or OEM - buyers and inexperience in constructing Expressions of Interest and Requests for Tender
- 'Unless companies are well skilled in tendering, especially for international projects, they miss out. Bid preparation is usually resource intensive and failure to win a number of bids discourages companies from trying again. Explanations for unsuccessful bids are rarely given and companies may not necessarily learn from their failures' (Ministry of Economic Development 2007: 19)
- inadequate capacity to identify market opportunities
- small scale that can constrain design expertise, physical output and balance sheet size and may preclude local firms from bidding, as well as increase borrowing costs and inhibit investment in training and new technology
- no experience in or resistance to working with other local firms in consortia to address the dis-economies of scale
- not having done the type of work requested, but having the capability to do so.

What ICN does considers in more detail how ICN responds to these impediments.

18. These inquires and studies include the Scott Committee (1974); Australian Science and Technology Council (1984); Inglis Committees (1985 and 1987); Bureau of Industry Economics (1987); Wholohan Grill and Partners (1988); Australian Manufacturing Council (1990; 1991); Industry Commission (1992); Standing Committee on Industry, Science and Technology (1994); Productivity Commission (1998); Joint Committee of Public Accounts and Audit (1999); Australian National Audit Office (2003); Department of Industry, Innovation, Science, Research and Tertiary Education (2012); Reserve Bank of Australia (2015) and Joint Select Committee on Government Procurement (2016). This list is far from exhaustive. Research by the OECD (2018) confirms these supply and demand side problems apply internationally. The same document provides case studies from 36 nations of government procurement methods designed to remedy these impediments. These matters are taken up in Overseas procurement programs.

SOVEREIGN CAPACITY **ARGUMENTS**

Internationally there has been a dramatic re-orientation in economic and political policy among key nation-states to give precedence to national sovereign supply capacity and creation of a more balanced and fully articulated industrial structure. This shift in policy internationally is the result of:

- geopolitical tensions
- gaps in critical domestic supply capacity exposed by COVID
- concerns that an unbalanced industrial structure drives growing inequality and destructive populism.

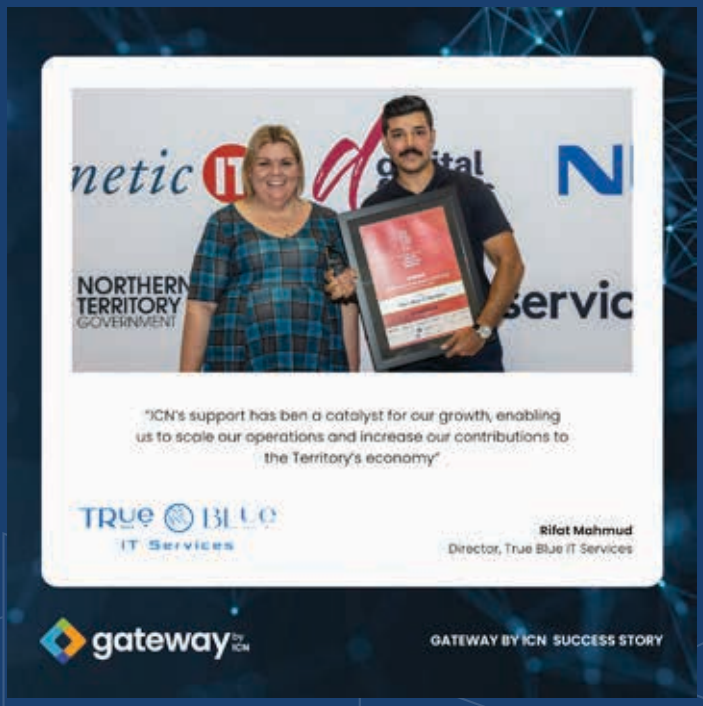
Governments are coordinating with industry to promote 'investing in their industrial base, their manufacturing capability and their economic sovereignty' (Prime Minister of Australia 2014). The proposed Future Made in Australia Act seeks to emulate these objectives, and institutions, such as the ICN, are ideally placed to realise these new national objectives.

In sum, the original theoretical rationale and empirical basis for establishing the ICN network in Australia remains sound. Indeed, the actual performance of ICN over the past four decades assisting local industry to grasp economic opportunities makes a compelling case for the effectiveness of the ICN model. Moreover, recent changes in the political economy of nation states have further reinforced the case for continued support of ICN.


"The ICN's capabilities, including project listings and industry advice, have been incredibly valuable. Connecting with major projects and supply chains has been crucial for our business growth. The support from the South Australian office has made a significant impact."
BIBBY MARINE LIMITED
Rick Newlyn
Australian Representative, Bibby Marine Ltd
gateway by ICN
GATEWAY BY ICN SUCCESS STORY


"By ensuring we have a Gateway by ICN listing, Birubi benefits by being aware of new and closing Expressions of Interest and are regularly invited to networking and business development opportunities."
Birubi Australia
Sue Abbott
CEO, Birubi Australia
gateway by ICN
GATEWAY BY ICN SUCCESS STORY


SQUEEZE
SWEEP
"ICN's platform connected me to invaluable networking and growth opportunities that I never imagined were within my reach. Your support has been instrumental in Firevolt's early success and ongoing growth."
FIREVOLT
Hayden Heath
Director, Firevolt Pty Ltd
gateway by ICN
GATEWAY BY ICN SUCCESS STORY


NORTHERN TERRITORY GOVERNMENT
"ICN's support has ben a catalyst for our growth, enabling us to scale our operations and increase our contributions to the Territory's economy"
TRUE BLUE IT Services
Rifat Mahmud
Director, True Blue IT Services
gateway by ICN
GATEWAY BY ICN SUCCESS STORY

John Holland - NAIDOC Week 2023

WHAT ICN DOES

Having laid out the theoretical and empirical rationale for ICN, this section describes the objectives and methods of ICN. It also covers the main products and services used to deliver the objectives and outlines some of the key government programs through which it delivers these services. It concludes with a short account of how ICN measures its success.

ICN OBJECTIVES

The principal objective of ICN is: 'The joint promotion and facilitation by members of Australian [and New Zealand] industry participation in the supply of products and services to any project that could lead to economic benefit' (ICN 2019:C2 (a)). In practice this means providing services to local suppliers and purchasers to ensure suppliers have a full, fair and reasonable opportunity to bid for and win public and private projects and meet the needs of purchasers.

Expressed in the most general terms, ICN acts as an intermediary to redress market failures in transactions between buyers and sellers. Achieving this objective improves market efficiency, lowers search and transaction costs, lifts competition and expands domestic investment, output and employment. Market impediments to local participation from information deficiencies and contracting practices are addressed by ICN's network of experienced industry procurement and supply chain specialists working co-operatively with buyers and sellers.

ICN METHODS

The following provides a summary of the principal methods used by ICN to assist suppliers and purchasers.

FOR SUPPLIERS

Advocate for local suppliers

- Advocate the use of domestic production to purchasers by highlighting the multiple advantages of local supply such as ease of communication, customisation of products and services, conformity with quality standards, after-sales service, reduced exposure to international supply chain risks, improved sovereign capacity and job promotion. Advocacy takes many forms such as direct contact with purchasers or advice to public and private sector procurement specialists about the correct implementation of 'value for money' procurement principles.

Identify and develop local capability

- Create a nation-leading database of local business capability.
- Provide advice to SMEs to identify and address their capability gaps in production, technology, and knowledge of purchaser's commercial practices and expectations for EOIs and RFTs. Map industry and/or product and service supply chains to assist local suppliers and government identify potential supply gaps and future business opportunities.

Assist local business identify potential buyers

- Search out and work with private and public sector project proponents to list projects on the ICN database and actively promote these opportunities to local business.

Encourage and assist local suppliers bid for major projects

- Use knowledge of suppliers' capabilities to search out and work with SMEs to submit EOIs and RFTs via the ICN database.
- Encourage project proponents to provide feedback to ICN and SMEs on the causes of failure and success in bids by local firms. Analyse and disseminate this data to SMEs.

Ensure full, fair and transparent local participation

- Work with purchasers to promote early project notification to suppliers, preferably at the pre-design stage. Adequate notice allows suppliers to schedule production to accommodate future orders, develop new production capacity or extend the range of products and services to satisfy new contracts and be fully informed of project proponents' expectations. This may entail SMEs investing in new technology or management capability to address their capability deficits
- Encourage project proponents to keep bidders up to date on progress with bids and the procurement process
- Overcoming barriers SMEs may confront seeking to participate in major projects. These barriers and solutions can include project proponents initially proposing the use of large discrete volume/value modules, engineering procurement and construct (EPC) contracts or turn-key project delivery methods. ICN negotiates with project proponents to 'unbundle' large projects into smaller 'work packages' making it more feasible for SMEs to bid. Alternatively, project proponent's initial designs may specify imported proprietary items, but ICN can suggest local alternatives that meet required performance needs
- An alternative solution by ICN to the problem of supplier small scale is fostering co-operation between SMEs to bid for larger projects or even promote joint ventures between suppliers and project proponents or OEMs that may entail technology transfer from the latter.

> Enquiries we receive generally require a considerable amount of lateral thinking from our team of professional consultants.

FOR PURCHASERS

Assist buyers meet procurement obligations

- Inform project proponents of Australian and state government procurement requirements work with proponents to meet their obligations and document how these obligations are satisfied.

Improve buyers' knowledge of local supply capability

- Inform project developers about potential local suppliers and their capabilities. Increasing the range and quality of suppliers enhances competition for proponents' work.
- Ensure validity and reliability over time of suppliers' capability claims. A key competitive strength of ICN is its investment in validating suppliers' capabilities.
- Apply data analytics to map local supply chains in detail.

Improve conformance of supplier bids with proponents' procurement standards

- Investigate the information and standards required by project proponents of suppliers submitting EOIs. Disseminate this information to potential local suppliers. This service increases the proportion of conforming bids and the probability of supply from a local firm.
- Recruit, encourage and assist local suppliers to make suitable bids.
- Promote and maintain a database for suppliers to efficiently submit conforming EOIs and RFT to project proponents.

Improve the efficiency of purchasers' procurement processes

- In co-operation with buyers, ICN uses its knowledge of supplier capability to prequalify local suppliers by asking competent suppliers to submit an EOI.
- Based on this information ICN may also develop a shortlist of suitable suppliers for purchasers to proceed to the next stage such as an RFT. This service is offered by some ICN offices.
- Assist purchasers efficiently manage the procurement process by offering ICN proprietary procurement software.

ICN thus serves a critical intermediary role of coordinating purchasing and investment decisions between buyer and seller. Applying these methods requires ICN industry specialists to extensively research suppliers' existing capabilities and project proponents' needs. ICN industry experts also maintain a knowledge of advances in a wide range of products, services, technologies and commercial practices relevant to the firms and industries they assist. As observed, nearly three decades of problem solving is central to the work of ICN: 'Enquiries we receive generally require a considerable amount of lateral thinking from our team of professional consultants' (South Australian ISO 1996:12).

Purchasers mostly fall into thee categories:

- Those looking to comply with Australian Industry Participation (AIP) obligations.
- Those dissatisfied with current suppliers or those looking at establishing new local supply chains as the purchasers is, for example, a new entrant to a particular market
- Those looking to meet environmental and social governance obligations or to improve integration with the local community.

Lateral thinking and problem solving remains central to ICN capabilities.

ICN PRODUCTS AND SERVICES

ICN objectives and methods are delivered through a range of products and services (icn.org.au/our-products-services) Over decades, ICN has invested heavily in software product development to efficiently realise the objective of maximising local industry participation. The principal products include the following:

GATEWAY

Gateway (gateway.icn.org.au) is the key product and has over 100,000 validated suppliers registered, with project proponents undertaking around 12,000 supplier searches per month. Gateway is essentially a topic- or word-searchable database linking supplier's capability to project proponents needing these capabilities. It's offered free to Australian and New Zealand suppliers, though improved visibility and functionality is provided for a modest annual fee.

Gateway is a user-friendly application but advice on its operation and how to optimise and customise supplier and project listings is also offered by ICN industry specialists (gateway.icn.org.au/how-it-works).

Gateway provides a widely distributed and efficient means for suppliers to create and communicate their company profile (icn.org.au/publications/icn-profile-user-guide), which summarises key information such as:

- products and services
- locations
- financials
- accreditations
- licenses
- insurances.

It also captures other important items like a company's interest in entering into joint ventures with other suppliers or with purchasers. More detailed data on supplier competence and experience can be provided using the Gateway Capability Statement (gateway.icn.org.au/capability-statements). This details information such as suppliers' facilities and services, and previous projects.

ICN devotes considerable resources to develop and maintain the currency of the taxonomies used to frame companies' capabilities. It consults with leading purchasers, suppliers, industry experts and professional associations relevant to each sub-industry or major product group on Gateway. From that ICN consultants compile a list of essential products, production processes and technologies that capture essential capabilities. For example, currently under the 'Defence' category, Gateway identifies 83 discrete capabilities that companies can nominate they hold. Gateway evolves in line with the broader economy so that new industries and product

gateway by ICN

insight by ICN

perspective by ICN

procure by ICN

> “
> … with project proponents undertaking around 12,000 supplier searches per month.

areas, such as renewable energy, are added when they develop sufficient scale to justify inclusion. Crucially, supplier data is independently verified by ICN specialists ensuring the integrity of decision-making based on Gateway information.

ICN identifies project proponents encourages them to list their projects on Gateway. Many project proponents also approach ICN directly. ICN industry specialists can assist proponents to define the scope of their project and form the project into detailed work packages suitably structured to the ICN supplier base. It also allows project proponents to automatically notify suppliers of new projects. Gateway issues on average 15,000 to 20,000 emails a day notifying suppliers of work package opportunities. Gateway also allows suppliers to submit an EOI and guides them to submit conforming bids that satisfy project proponent's contract criteria (icn.org.au/publications/eoi-user-guide).

Defence work is an increasingly large share of manufacturing and advanced service production in Australia. Entry into the supply chain and tendering requirements for Defence are particularly onerous. Gateway aids suppliers meet these unique requirements for example through online production of quad charts (gateway.icn.org.au/quad-charts).

Finally, Gateway also collects invaluable data to improve suppliers' performance such as the reasons proponents give for failure to pre-qualify, progress beyond the EOI stage or win a tender. It also permits proponents to generate reports describing how their procurement has met statutory requirements or enhance their social licence by itemising use of local supplies.

INSIGHT

A data analytic and visualisation tool drawing on 40 years of Gateway data to display project performance against benchmarks, procurement performance and EOI progress. For example, internal ICN data is linked to external data services to display geographic location and distribution of specific industry/product area capability; distribution of 'wins' as well as comparing past and current internal performance within an ICN office and across ICN offices.

PERSPECTIVE

Perspective (perspective.icn.org.au) is powerful analysis tool designed to:

- increase the understanding of business capabilities across regions and sectors
- assist with planning procurement to maximise local supplier engagement
- identify gaps in local supply.

A principal application of the product is generation of supply chain maps. For example, the Northern Territory ICN (ICN NT) developed a supply chain map and gap analysis for inputs into the onshore oil and gas sector (icn.org.au/publications/northern-territory-onshore-gas-support-industry-statement-of-capacity and perspective.icn.org.au/report/1). It developed a taxonomy of around 120 separate products and services for 1148 NT companies engaged in oil and gas exploration, drilling, extraction, maintenance and ancillary services. From that, ICN NT then:

Mike Swart, Craig Daly, Kristan Dooley, Donna Looney, Dr Tim Turner, Warren Jansen, Derek Lark, Karen Lenton, Rebecca Woods, Ken McCutcheon, Ariane Lopes, Beti Krstevski, Dusko Bajic

- developed a capability index based on the number of capable firms
- listed the firm size range, i.e. number of employees
- locations of operation
- aboriginal ownership
- accreditations (ISO; Australian Standards; etc).

Data was collated from Gateway records of local suppliers. Despite being a mature sector in the Northern Territory, gaps in local supply of inputs to the gas industry, such as logistics, satellite services, geological labs, medical services and waste treatment, were identified. Using this software, ICN NT has also mapped local supply chains in other sectors for specific clients.

An important innovation by the NT office in collaboration with the national office was enhancing *Perspective* by automating the previous time-consuming process of manually updating changes in supplier information in real time.

In 2023, ICN South Australia (ICNSA) used *Perspective* to map the state's incipient hydrogen sector. The mapping exercise identified:

- 2001 companies with current capacity relevant to the sector
- gaps in supply
- potential industry uses of hydrogen.

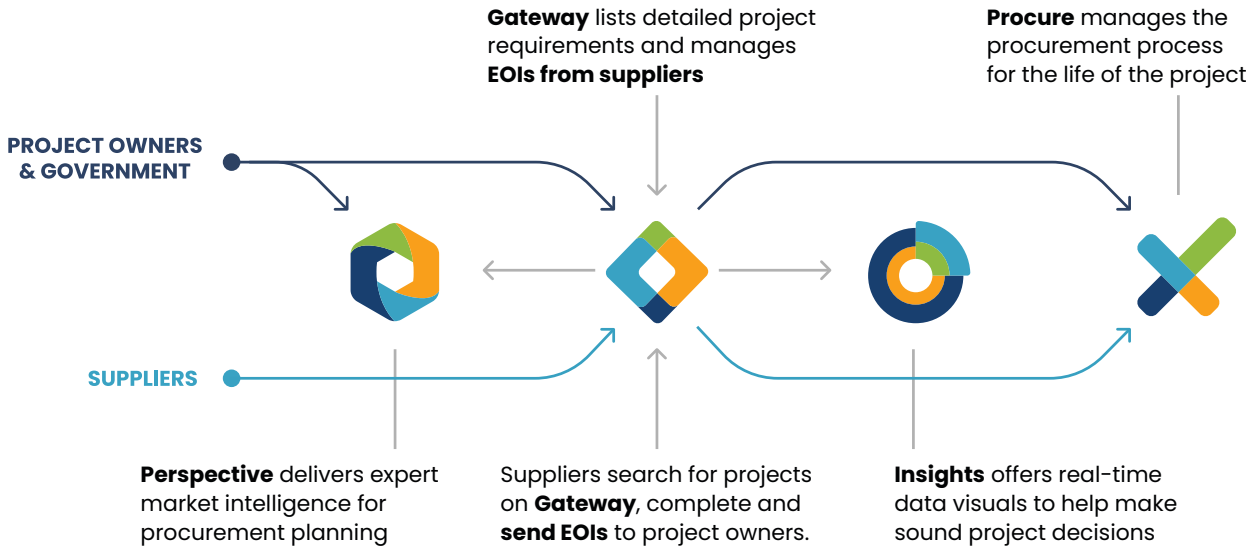
It was also used to develop potential policy solutions to fill these gaps. (icn.org.au/news/building-hydrogen-supply-chains and perspective.icn.org.au/report/95).

Another important use of Perspective is to draw on 40 years of ICN data to follow the evolution of individual companies over time such as their performance, structure, location and capabilities. This longitudinal database is a unique asset and permits for example an assessment of the impact of changes to businesses strategy or government industry policy on company operations and outcomes.

PROCURE

Procure (icn.org.au/our-products-services) is intended for project proponents. It streamlines the procurement and contract management process. This product is in the early stages of adoption. It is already used by an OEM in the Defence sector, among other industries.

Figure 1 shows the primary stages of supplier and project proponent engagement with ICN and the role of these various products at these stages.



The products described above are administered by the national office and are the key tools used in the operation of each ICN state and territory office. As observed before, considerable product development and innovation occurs at a state level and successes are rolled out across the whole network.

Two additional examples of state product innovation:

- Queensland ICN developed the Tier Barometer Assessment software to enable project sub-contractors to understand their position in the procurement chain and consequent procurement obligations. It also assists project proponents understand the maturity of firms in their prospective supply-chain in terms of their size and experience in projects of different size (www.icnqld.org.au/services/tier_barometer_assessment.html).
- ICN Victoria also developed an automated information management system (VMC) to support government and industry measure and report on the local, social and sustainable impacts of projects delivered through Victorian Government procurement (icn.org.au/icn_vic/vmc).

It is planned to extend these innovations across the network.

INDIGENOUS SUPPLIERS

Several states have developed software tools to promote and simplify identification of, and engagement with, indigenous business in local projects, as in the Northern Territory (ntacl.icn.org.au/map) and Queensland (icn.org.au/service/black-business-finder-qld-powered-by-icn-gateway). These ICN databases were an important contribution in the recent comprehensive study by the Melbourne Business School collating and analysing indigenous business units (Evans et al 2024).

ICN'S ROLE IN GOVERNMENT **PROCUREMENT PROGRAMS**

As noted in the History of ICN section, the key means for ICN to lift the participation of local firms in domestic and international supply chains is its role facilitating government procurement programs. These programs regulate selected public and private sector purchasing. Over the years ICN has become increasingly important directly and indirectly in delivering these procurement outcomes.

ICN is engaged in the following key national programs:

- Under the Jobs Act, government agencies and private firms proposing projects valued at more than $500 million are required to develop an Australian Industry Participation (AIP) plan (www.industry.gov.au/major-projects-and-procurement/australian-industry-participation). Similar obligations apply to contractors awarded government projects of $20 million or more. The objective of the AIP plan is to provide Australian business with full, fair and reasonable opportunity to supply goods and services to projects subject to the Jobs Act. ICN assists business and government achieve higher local content and supports the provision of compliance documentation as obligations are met (www.industry.gov.au/publications/guidelines-jobs-act-compliance-monitoring-and-enforcement)
- The Australian Industry Capability (AIC) plan (www.defence.gov.au/business-industry/industry-capability-programs/australian-industry-capability-program) is similar in intent to AIP plan but applies to defence procurement. It also has additional objectives related to technology transfer from foreign contractors and their investment in local industry capacity. ICN employs defence industry specialists to aid SMEs break into this growing field of work.
- Tariff Concession Orders (TCOs) are an Australian Government revenue concession that exists where there are no known Australian manufacturers of goods that are substitutable for imported goods. ICN is a 'prescribed organisation' under Paragraph 144 in Part 16 of the Customs Regulation 2015. ICN conducts research as part of TCO applications to provide advice as to whether 'substitutable goods' or 'potentially substitutable goods' are manufactured within Australia.

Karen Lenton, David Royle

Katherine Smith

ICN works with other government agencies such as the Australian Trade Commission (Austrade) to find local suppliers to fulfill export opportunities. It also assists the Australian Made Campaign Limited.

Aside from Australian Government programs similar procurement initiatives operate at a state level and equally ICN is important to their efficient operation. Examples include:

- ICN Victoria administers the Local Jobs First Program including policy advice, program evaluation, and program implementation (localjobsfirst.vic.gov.au/about/industry-capability-network-icn).
- ICN Victoria is central to the operation of the social procurement program (icn.org.au/icn_vic/vic-social-procurement) which includes targets for employment of women in trades on government funded construction projects (icn.org.au/icn_vic/what-we-do/building-equality-policy).
- ICN Queensland is involved in assisting firms comply with obligations under state renewable energy equipment supply plans (www.epw.qld.gov.au/__data/assets/pdf_file/0027/52677/renewable-energy-procurement-policy.pdf) (PDF 4.2MB).
- ICN South Australia supports head contractors fulfil their SA Industry Participation Policy obligations and maximise local supplier engagement, with particular focus on large infrastructure and construction projects in the state.

It is also important to note that ICN also generates a proportion of its work outside of these programs. It assists business and government agencies that seek the direct economic advantages of local supply and/or seek to enhance their social licence in the communities in which they operate.

MEASURING **SUCCESS**

Having provided a brief account of what ICN does it is also important to know how it knows if it is succeeding and the extent of that success. The key metrics for the main stakeholder groups are given in Table 1. All these metrics can be quantified and their performance over time evaluated.

Table 1. Key ICN metrics

Stakeholder	Metric
Suppliers	Number and value of new projects and work packages listed and won
	Visibility of their business to potential buyers (Number/value of requests for EOIs or RFTs)
	Number of searches for local suppliers
Project Proponents	Population of active suppliers to get work done
	Visibility of their work opportunities to potential suppliers (Number/value of requests for EOIs or RFTs)
	Number and value of new projects and work packages listed and won
	Extent of compliance with procurement standards
Government	Number and value of new projects and work packages listed and won
	Improvements in business capability (reduction in the value/number/proportion of work packages previously met by imports)

Bob Herbert, Hon Greg Combet AO

EFFECT OF RESOURCE CONSTRAINTS ON **CURRENT AND PROSPECTIVE ACTIVITIES**

It was observed in the History of ICN that ICN has been subject to persistent funding constraints. Accordingly, ICN managers and senior staff were asked to identify the adequacy of current resourcing and its effects on and prospective ICN operations. Their responses, expressed in their own words, are summarised in Table 2. Note each separate set of quotes is from a different ICN.

Table 2 Adequacy of current ICN resourcing

Distorts work of ICN	'With the current limit we are constrained from dealing with the smaller projects – and it is the smaller projects that SMEs have a better chance of working in.' 'It's the smaller projects that we aren't supporting due to limited resources.' 'A lack of resources may limit the services we can provide to suppliers and contractors within our database. Consequently, our focus may be disproportionately directed toward projects with robust mechanisms for seeking information from us. This imbalance not only limits our contact with suppliers but also restricts our efforts to enhance their capabilities. As a result, suppliers may continue to miss similar opportunities regularly.'
Limits business development	'[Cannot]'have a key account management strategy, so that ICN is engaged for more projects from existing project proponents.' 'We're also reactive with enquiries from government and industry, i.e. we respond with a good level of service to requests that come to us but aren't actively undertaking business development to receive more requests.'
Limits support for manufacturing	'We would also do more to support manufacturing, as it is being reinvigorated after 2 to 3 decades of neglect.'
Limits supplier capability assessment	'For supplier site visits, we're also reactive and respond to their invitation rather than actively seeking a site visit.' 'We also rely extensively on the ICN Gateway system's automation as well as suppliers that are proactive with their ICN profiles, rather than doing a lot of chasing behind the scenes.'
Limits supply chain mapping	'Supply chain mapping … there is probably much more we could do, given the chance.'
Limits ICN staff specialisation	'Due to our focus on multiple industries, we sometimes need to adopt a "jack of all trades" approach, utilising the same resources across different sectors. These sectors often have distinct challenges and prerequisites, particularly regarding local industry engagement.'

Limits SME consortia formation	'Building consortia is not something we have had much success with. I believe the reason for this is that trust is fundamental to a reasonable arrangement being established for all parties. This cannot start when the RFT is published – too late. It needs to start with a friendship and then exploration of ideas before it can form into a commercial collaboration. If we could, we would have staff to create events on a regular basis that bring companies together so that those friendships can be enkindled.' 'We would hold more events, especially for manufacturers, to help them learn from each other and collaboratively solve problems … The outcome would be collaboration for larger opportunities, but also sounding boards for companies to share their problems with and seek third party input. An extension of this idea would be formation of clusters – a well proven concept that no one wants to put effort into. ICN has the contacts, but we are not resourced to do it.'

Respondents were also asked to identify what new services and activities they would like to introduce or expand if resourcing constraints were lifted.

Table 3 Effect of resource constraints on new ICN activity

Cannot develop/ adapt essential software	'We would like to roll out a…version of the Victorian VMC, as well as the NT Automated Enquiry System (AES). Both of these systems will improve our state's local industry participation goals.' 'Creation of tools to inform the industry of their standing relative to major projects.'
More industry/ sector specialists in growth areas	'We would have more sector specialists – staff who are conversant with emerging industries and can find ICN's strategic purpose and exploit it. The SAMP project did a good job of this.' 'We would also like to be even more embedded in Defence programs, as these provide opportunities to develop local manufacturing for local and export opportunities – these capabilities can result in flow on effects to non-defence sectors. The health, food and agriculture sectors could also benefit from a stronger focus on local manufacturing opportunities but would require a more hands-on approach including extensive networks in these sectors.'
Innovation promotion	'Commercialisation of research/innovation is another area where we would like to be more hands-on, for example connecting potential manufacturers and users with new technologies, so that they can co-design new innovative products and services.' 'We would create a Gateway for researchers and industry…ICN could connect companies with the right researchers if we had created a database of capabilities of each institution and its key staff…we have many contacts with companies that are in need of staged research'.
Improve definition of 'local content'	'Definition, benchmarking and evaluation of local content'.

The key conclusion from these responses is that among ICN managers and senior officers there is considerable agreement on the adverse impact of resourcing constraints on current activities and that ICN could expand its services and activities into new important fields.

Nick Babic – Stilcon

CASE **STUDIES**

Several ICN specialist were asked to provide an account of a typical working day. These fascinating accounts make the work of ICN concrete and demonstrate the diversity of issues, industries, firm sizes and specific problems ICN works to solve. Their stories comprise the first part of this section. What follows are case studies of ICN's role in specific projects. Each project example is prefaced with a short description highlighting the features of the project and how they relate to issues raised in this report.

Alan Bush on a site visit to ABBFAB

A DAY IN THE WORKING LIFE OF AN **ICN CONSULTANT**

ICN specialists were asked to write about a typical day in their working life. The results were remarkable and confirm the very broad range of activities and expertise industry specialists are required to master and their dedication to the public good.

EDDIE IVAR, SUPPLY CHAIN MANAGER, ICN SA

A typical day in the life might involve working with a prime or lead contractor to develop content for its project page on Gateway by ICN. This will include uploading work package scopes to invite expressions of interest from suppliers and assisting in drafting questions to help with the shortlisting process.

Once the page is published with open work packages, I will search the database for suitable suppliers to notify of the opportunities. While the EOI process is underway I receive queries from potential respondents. These may be as simple as walking them through the online platform or seeking clarification around the scopes of work.

Behind the scenes I also undertake searches for potential suppliers in response to scopes of work provided by my clients. These opportunities aren't visible on the Gateway project pages, but rather are requested by my clients on a confidential basis.

To improve my knowledge of local capabilities I am often on the road visiting local businesses. This provides a great opportunity to see a company's facilities and discuss in greater detail their current activities and future aspirations, hone the content in their company profile, and share information on ICN's current project activities.

Other activities to help me keep in touch with local industry include attending conferences and industry briefings, and on some occasions, delivering a presentation on ICN's services. I'm also involved in delivering ICN's profile improvement workshops. I represent the South Australian office on the IT Working Group to continually improve our IT tools; and I chair the ICN's Renewables Working Group, which is a forum for each office to share market intelligence on upcoming opportunities in that sector.

TAMIKA CHIER, SENIOR POLICY IMPLEMENTATION ANALYST, ICN VIC

I am a Senior Policy Implementation Analyst at ICN Victoria with nearly two years of dedicated service. At ICN, my primary responsibility involves implementing the Victorian State Government's Local Jobs First (LJF) Policy on behalf of the Department of Jobs, Skills, Industry and Regions.

The LJF Policy seeks to help develop local industries, create jobs and boost economic activity across Victoria. My work focuses on collaborating closely with various government agencies and guiding them through the end-to-end policy implementation process, evaluating Local Industry Development Plan commitments and ensuring compliance by contractors and suppliers.

In addition to my policy duties, I lead the Benchmarking Working Group, a dynamic assembly of talented colleagues spanning different teams within ICN Victoria. Our collective objective is to delve into research, determine local content percentages and understand supply chain capacities.

I am deeply passionate about effecting positive change, both professionally and personally. Collaboration is my forte, and I thrive on the collective strengths of my team. The future is bright, and I am beyond excited to be a part of this journey.

ALAN BUSH, SENIOR INDUSTRY CONSULTANT, ICN NT

My typical day as an ICN consultant usually begins with checking my calendar for any scheduled meetings or appointments. This daily event sets the tone for my day, allowing me to plan my tasks accordingly.

A critical part of every day is the monitoring and processing of general enquiries for local sourcing through the Automated Enquiry System (AES). These come via government, commercial and private channels, and cover all industry sectors not limited to but include mining, oil and gas, government, defence and the general construction industry. We provide a quick turnaround, putting local suppliers forward to maximise opportunities for local sourcing.

I then proceed to work on various work packages, typically related to resources. This involves producing documentation to support local companies, which are then sent to clients or customers.

Part of my role also includes site visits for new companies for Gateway registrations, providing me an opportunity to interact directly with the businesses I support.

Throughout the day, I may also be involved in industry mapping exercises for local Government or various other institutions. This involves analysing and understanding the industry landscape, which is crucial for strategic planning and decision-making.

Keeping up to date with general company updates is also a key part of my role. With around 2800 live toolbox companies in the Northern Territory, these updates, which are KPI-related, provide valuable insights into the performance and progress of these companies.

I also assist companies with EOI registrations on Gateway projects, provide group presentations relating to the organisation and respond to phone calls in relation to project developments in the NT and sometimes Australia wide.

In addition to these tasks, I may also assist with any office walk-ins, be present during any industry briefings, attend interstate conferences on behalf of the NT and contribute to any internal meetings related to operations. These activities provide opportunities for networking, knowledge sharing, and collaboration, all of which are integral to my role as an ICN consultant.

In summary, my day in the life of an ICN consultant is diverse and engaging, filled with opportunities to make a significant impact in the industry. It's a role that requires a blend of strategic thinking, industry knowledge, and excellent communication skills.

PROJECTS

Six project case studies are provided illustrating the diversity of industries serviced by ICN and its range of customised services to suppliers and project proponents. Each study is prefaced with a short statement noting its significance. The case studies, notably the two mega-resource projects, also show the dominance of foreign head contractors, in both cases Bechtel, and confirm the many barriers to local participation detailed in Rationale for ICN. The case studies also demonstrate the critical intermediary role of ICN in maximising local supply opportunities.

VICTORIAN TRAMS AND TRAINS

This case study reveals the important role of ICN in assisting the Victorian State Government divert $550m to local suppliers for the manufacture of new trams and trains after the prime contractors originally planned fully imported rolling stock. It also demonstrates the importance of government procurement programs (Victorian Local Industry Participation Plan) in creating a framework to negotiate local content and the central role of the SAMP program in providing resources for ICN to prove the capability of local manufacturers to global transport equipment suppliers. The benefits included not just direct boost to output and jobs but enhancements to local capability an opening up export opportunities.

At the beginning of the twenty-first century the Victorian government sought to modernise its tram and train fleet with the placement of a large order with French and German suppliers Alstom and Siemens. These companies originally planned that only the rolling stock maintenance would occur in Australia as the new rolling stock was to be manufactured at current European facilities. However, the Victorian Government applied significant pressure to increase the use of Australian components in the new vehicles and engaged Industry Capability Network (ICN) to work with both Alstom and Siemens to market test Australian capability. Consequently, ICN worked with Alstom and Siemens to develop Local Industry Participation Plans, which provided the mechanism for potentially increasing Australian content in the new vehicles. ICN's relationship with Alstom and Siemens was facilitated by the provision of $117,000 in funding through the Australian Government's SAMP program.

The SAMP program enabled ICN to engage a consultant to identify capable and competitive Australian industry that could supply componentry for the new rolling stock. To assist in the implementation of the Local Industry Participation Plans, ICN has organised six industry rail trade missions to Europe in collaboration with the Victorian Government. These meetings enabled the Australian companies to brief the Europeans on their respective capabilities and past achievements in supplying Australia's transport needs. These missions were a key reason for success of Australian suppliers. ICN assistance, made available through the SAMP program, resulted in orders to Australian industry of over $550 million. A significant result when the original plan was for the supply of fully imported rolling stock.

Finally, several local companies, for example supplying glass, CCTV, air conditioning and cabling, won export contracts based on of their success with the Victorian project.

RE-SHORING LIGHT AIRCRAFT MANUFACTURE

Brumby aircraft is an important example of the advantages of local supply for both customers and producers. In the early 2020s Brumby aircraft re-shored its manufacturing of light aircraft from China to Cowra in NSW. It also shows ICN's role in helping the company diversify into new industries, such as defence and wind turbines, using its engineering and manufacturing capability.

Before the pandemic hit, Australian light plane maker Brumby Aircraft manufactured in China for cost reasons. However, it now has its home base in Cowra in NSW Central West . Within two years of COVID hitting the cost of manufacturing and shipping from China doubled. The result of shipping container delays and expanded costs caused a lot of stress for owner Paul Goard: *'Manufacturing in China used to be cheap and easy. Now, it's expensive and slow.'*

Instead of giving up, Paul noticed that the change in the economy and conditions presented an opportunity to pivot. Now, his Cowra facility is focused on manufacturing some planes at home, while extending local manufacturing capabilities to produce parts and equipment for other industries. This is where ICN NSW came in. When he connected with ICN, he saw a lot more potential to get things going. *'Tendering sites weren't helpful but David from ICN has really opened our eyes to what's out there.'*

As Paul explains, *'We have a range of skills at our local facility, from welding to painting and machining. I'm able to move away from only focusing on aviation to become a supplier for industries like defence and alternative power (such as wind farms). The team at ICN will share knowledge and connect me with the supply chain so I can look at tenders and expand into new areas.*

'They seem really professional and you have people you can talk to like David, who will take the time to come to you and go through things. You don't get that elsewhere.'

By relocating manufacturing to his location in Australia, Paul is also excited to create jobs for the local area. *'We've put plans into council to double our factory, which is already big. We're looking forward to focusing on commercial manufacturing, and we have the machinery and the manpower to make almost anything.'*

Paul is excited to expand into new manufacturing opportunities. *'We have so many skills and we have the talent here in Cowra, where we originally built our first planes. I'm very confident about ICN and I'll be relying on their help to get it right. The pride in buying Australian-made and owned has also always been big, and the other benefit is shorter turnaround times'.*

More information on the company is at www.brumbyaircraft.com.au.

AMRUN, CAPE YORK, RIO TINTO BAUXITE EXPORT PROJECT

In 2015 Rio Tinto embarked on a major investment project for a new bauxite, mineral beneficiation and export facility in Amrun, Cape York, Queensland. This case study is important in highlighting the important role of the AIP program in framing procurement obligations for the project proponent, ICN's central role in organising procurement opportunities, including capability development of firms by linking them with support programs, and demonstrating the priority to local supply of inputs across a broad range of industries. The project provided $2.1b to the Australian economy of which $1.5b was sourced from Queensland companies. The project was completed in 2019.

The Amrun bauxite development was a mega-project involving inputs from construction (mine development, roads, ports, water supply and housing), manufacturing (conveyors, mineral beneficiation) and services (IT and automation). Rio Tinto was committed to providing access to opportunities for local and indigenous businesses. All businesses needed to demonstrate that they were commercially, technically and economically capable and competitive. Rio Tinto, the project proponent, appointed Bechtel Australia Pty Ltd as the project's EPC manager.

The project was subject to an AIP plan and ICN hosted a dedicated project page on the ICN Gateway website.

Note that the SAMP ceased in 2017, so ICN was more restricted in providing dedicated personnel to the project. Local and state supply businesses were encouraged to register their interest against either the full or partial scope EOIs and were required to complete initial screening questions relevant to commercial, health, safety, environmental compliance and risk management. The ICN Gateway was deemed a valuable resource in helping to shape bid lists and inform tier one contractors of local and Indigenous business capability. The project received more than 1,350 full scope and 2,010 partial scope registrations through the ICN Gateway project page. Additionally, Rio Tinto engaged the ICN Queensland to:

- present at supplier briefings in Weipa, Cairns and Brisbane
- produce a 'Far North Queensland Indigenous Business Directory' to promote indigenous business capability to Rio Tinto and its tier one contractors
- facilitate a supplier capability development program in collaboration with the Queensland Department of State Development and Department of Aboriginal and Torres Strait Islander Partnerships throughout Far North Queensland
- provide regular performance reporting regarding local and indigenous industry participation.

CASTECH

This study from around 2014 is an excellent example of ICN assisting an established company extend beyond its customer base in mining and general engineering into a new sector - Defence -by supplying cast parts to the Collins submarine sustainment program. This diversification of markets and engagement with a prime contractor also had the corollary benefit of exposing the firm to more stringent quality and other requirements which improved the firm's capability and in turn opens further business opportunities. This diversification in demand for its output is important to the firm's financial viability.

Castech is a South Australian privately owned company and leading supplier of metal castings to its traditional markets in mining and engineering. ICN assisted the 67-year-old company diversify into new growth markets. *'Five years ago, the defence sector for us was unexplored territory,' Castech Business Development Manager Jeff Green said. 'ICN, in particular Defence Industry Supply Consultant, David Land, was instrumental in opening the right corporate doors for us.'*

ICN has been working closely with Australian Submarine Corporation (ASC) to identify capable Australian supplier for part of its Collins Class Sustainment Program. The company supplied multiple castings to the Collins Class submarines at the ASC Osborne facility.

'ICN is helping get us on the radar of major national and international defence companies and there are some very positive developments on the horizon both in maritime and on land'.

The ASC contract was a major win for Castech. It now has access to a new sector and a strong long-term growth outlook.

'Thanks to the support of ASC, we are now in the thick of the action with our first major defence contract and a long-term growth outlook.

'The strong partnership with ASC has given us the opportunity to maintain profitable business growth as well as give our local sub-contractors ongoing work'.

The rigorous standards required of a defence industry supplier have given Castech the opportunity to review and improve its own operations. The results are technical and process improvements as well as workforce upskilling, putting Castech in good a position for future work.

'This has generated even greater benefits to the business – not just for our Defence prospects, but also right across target industry sectors. It's been a very thorough process but we're now on an expansion path that previously was not open to us.'

Castech continues strongly and highlights its advanced technical capabilities. Read more at castech.net.

DARWIN LIQUIFIED NATURAL GAS (LNG) PLANT

In the first decade of this century, ICN was central to maximising local content in this $1.8b project, the largest resource construction project undertaken in the Northern Territory. Especially important was early involvement of ICN at the project design stage facilitated by the project being subject to an AIP plan and use of the SAMP program, which gave additional ICN resources for this involvement. The case study also illustrates issues identified earlier in this report including prime contractors using non-local engineering standards that initially excluded potential local suppliers. ICN facilitating inter-firm collaboration to overcome the difficulty small firms have participating in large projects and the role of major contractors transferring technology for local firm capability development.

ICN was brought on board in the early stages of planning for the ConocoPhillips-funded Darwin LNG export facility project to work with the company's procurement team and provide advice on Australian standards and technical issues specific to the region. This early involvement was facilitated by the SAMP program, granting ICN NT additional resources, and that the project was subject to an AIP plan. Throughout the project, ICN worked closely with the project's EPC company, Bechtel. At completion date, the project had exceeded its Australian content target of 51%. The SAMP grant allowed an ICN consultant to travel to the project office in the US to work closely with key people within the project team.

This early involvement by ICN created strong working relationships with both ConocoPhillips and Bechtel. In 2006, ConocoPhillips won the Australian Petroleum Production and Exploration Association 'AIP Award' for this project. The project also benefited from access to ICN's extensive network of consultants, including utilising expertise of a specialist gas consultant from ICN's WA office for a period of three weeks. Due to the size of the project, many tasks were beyond the capabilities of existing Northern Territory suppliers so local companies collaborated on larger tasks, encouraging inter-state procurement of goods and labour. For example, Queensland steel fabricator Dartbridge supplied a major pipe spool package and later collaborated with Darwin based Steelcon to supply other Darwin jobs.[19]

Bechtel originally specified the installation of US standard fire hydrants in the plant, but ICN advised that this be switched to British Instantaneous Coupling fire hydrants to align with local emergency services equipment. This prevented non-compliance to Australian standards and the subsequent costs for correction. Bechtel's favourable experience with Australian companies during the project supported its confidence in their global capabilities. As a result, it issued invitations to several of the Australian companies involved in the plant's construction to quote on other projects. EC&C, a structural steel specialist from Darwin, is one such company to have caught Bechtel's attention. The company was responsible for manufacturing the roof of the gas storage tank, the largest above ground LNG storage tank in the world.

In addition, the requirements of ConocoPhillips, Bechtel and its tier one contractors, led local suppliers to improve their capabilities through adoption of new technology, investment in new equipment and better workplace practices. For example, Thiess gave locals on-the-job training in welding 9% nickel, which requires a specialised procedure.[20] Others received on-the-job training for cryogenic insulation lagging. Both ICN and ConocoPhillips regard their working partnership, which was made possible by their SAMP grant, a success. ConocoPhillips now references ICN in its ongoing procurement documentation and promotes ICN's free services to potential suppliers during its tendering process.

19. A pipe spool is a prefabricated piping system comprising components such as pipes, flanges and fittings typically used to connect longer pipe sections. They are used extensively in chemical, oil and gas industries.

20. Nickel steel is widely used in the oil and gas industry due to its resistance to corrosion and high pressures and temperatures (nickelinstitute.org/en/about-nickel-and-its-applications/nickel-alloys-in-energy-and-power). Transferring this technology opened new and important sectors to the firms involved.

REGULATORY TECHNOLOGY SOFTWARE

This case study from 2022 to 2023 is important in showing ICN operates across diverse industries and firm sizes. In this example a small software development company. Green2View, assists companies with environmental and social governance (ESG) compliance and reinforces the importance of ICN using its networks to support small business.

Green2View is an Australian-owned and operated software company from Victoria that assists organisations report and manage their ESG obligations. As such it operates in the regulatory technology (RegTech) field and offers data benchmarking and data analytics to monitor sustainability metrics and emission-generating activities.

Having an ESG policy is becoming mandatory for the larger end of the construction and infrastructure industry. The International Sustainability Standards Board is set to release rules that will harmonise corporate environmental disclosures across the world. This will soon flow down to smaller businesses as they will need to report their ESG policies and activities to take on contracts with larger providers who are committed to meeting specific international standards.

Green2View's founder Evelyn Moore connected with ICN NSW after a recommendation from a colleague in the infrastructure industry. *'With ESG becoming more and more of a requirement, we realised ICN would be a great way to find out about upcoming projects and keep across what's going on,'* she said.

'Ian Hudson from ICN NSW has been so good to work with. We have had regular conversations about what Green2View is doing and what opportunities exist. I have never come across anyone in a role like him who has been so supportive. When he hears of opportunities on government panels for example, he will ring me and let me know. He also helped Green2View to connect with the RegTech Association a couple of years ago. Since making that connection, we have been an active participant with them as well as winning the ESG Excellence Award globally last year. This has opened a huge number of doors for us and helped us speak with a lot of industry-specific consultants. We have also partnered with Microsoft on a global level.'

For more on the company see www.green2view.com.

MODELLING THE **IMPACT OF ICN**

This section uses national ICN administrative data for 2022-23 to chart the flow of project funds within and across the ICN state network and supplier industries. This analysis provides important insights into the industry concentration of ICN activity and the benefits of ICN to the national economy, such as the efficient allocation of demand to the most productive local suppliers.

Key points from the data include:

- The total value of work generated within the network was $2664.6m. The Northern Territory and Western Australia contributed 66% of total work generated. This seems to be due to large resource related projects occurring at the time.
- Of this total work generated, $735.1m was generated by public and private sector project proponents within identified states but won by businesses in other states (row 2). Thus, nearly 28% of total work 'won' by ICN nationally was allocated across the network from one state to another. This supports the contention that ICN state offices operate co-operatively in the distribution of project opportunities. In doing so ICN plays an important role improving the flow of economic information and distribution of production across Australia to the most efficient producers. Indeed, in the case of the Northern Territory and Western Australia, 53.5% and 35.1% respectively of work generated within the state was won by firms in other states (Row 3). By contrast the other states allocated around 5 to 6% of work generated within the state to other states.
- Large differences across states in the proportion of work generated but supplied by another state arguably reflects large differences across states in the size and complexity of their economies. Put simply, some states have more inter-industry linkages resulting in a much higher degree of self-sufficiency in production with less need for inter-state imports. Further, larger state economies not only have more industry sectors, but the large size of their market promotes increased specialisation of production. These specialised producers require a national rather than just state market to justify their investment and so have sufficient capacity to satisfy most national demand. For example, Queensland supplied $373.5m of orders to other states and this represented the equivalent of 183% of work generated internally within Queensland (rows 4 and 5). Interestingly, almost all of this inter-state work to Queensland came from the other resource rich states of Western Australia and Northern Territory and could reflect the location of specialised firms in Queensland focused on the supply of inputs to resource projects.
- It is important to note the forgoing data is for one year only so that both the size of each state's project opportunities and distribution of these across other states is likely to vary over time.

INTRA AND INTER-STATE FLOW OF PROJECT FUNDS

Table 4 shows the flow of project funds within and across the state ICN network for 2022-23. This data is important as it demonstrates the large inter-state flow of project funds across the states and establishes that ICN operates as an integrated national network efficiently allocating project activity to those states most capable of supplying this demand.

Table 4 ICN National Transactions. 2022-23

Row		NSW	NT	QLD	SA	VIC**	WA	Total
1	Work generated within the state $*	$247.3m	$455.0m	$215.9m	$221.2m	$229.9m	$1,295.2m	**$2,664.6m**
2	Work generated within the state but won by another state $	$15.2m	$243.3m	$11.0m	$11.6m		$454.0m	**$735.1m**
3	Work generated within the state but won by another state (2/1)%	6.1%	53.5%	5.1%	5.3%		35.1%	**27.6%**
4	Work from other states to the state $	$83.5m	$104.1m	$373.5m	$26.8m	$91.0m	$55.8m	**$735.1m**
5	Work from other states to the state (4/1)%	36.0%	49.2%	182.3%	12.8%	39.6%	6.6%	**27.6%**
6	Total work for state $***	$315.6m	$315.8m	$578.4m	$236.3m	$320.9m	$897.0m	**$2,664.6m**
7	State as % of total (6/$2.664.6b)%	11.8%	11.9%	21.7%	8.9%	12.0%	33.7%	**100%**

* Work generated within the state is the value of wins within a state facilitated by that state ICN. For example, $247.3m for NSW (row 1) generated in NSW of which $15.2m (row 2) was won by enterprises in other state.

** Inter-state transactions from Victoria to other states are not available.

*** Row 6 is the sum of rows (1) – (2) + (4).

INDUSTRY COMPOSITION **OF PROJECTS**

ICN data also provides insights into the industry distribution of projects comprising the great bulk of ICN project opportunities. Table 5 shows in ascending order the most important industries in terms of their share of total ICN projects in 2022-23.

Table 5 Consolidated ICN win data by industry, 2022-23*

	Share of total
Professional, scientific & technical services	1.5%
Wholesale trade	1.7%
Electricity, gas, water & waste services	2.5%
Transport, postal & warehousing	4.9%
Manufacturing	11.2%
Mining	20.2%
Construction	56.3%
Total	98.4%

*All industries with less than 1% of the total were excluded.

ICN Vic and ICN National Office representatives

The key points from the data include:

- ICN activity is concentrated in just four industries. Transport, manufacturing, mining and construction account for 93% of total ICN activity in 2022-23. Further reinforcing this concentration is that just one industry, construction, represents well over half (56.3%) of total ICN projects.
- The ICN administrative data base classifies projects to 14 industries so that the seven other industries not listed in the table represent only 1.6% of total ICN activity.

Several reasons explain this industry concentration. First, ICN activity is focused on major projects, driven largely by government procurement programs which specify a high dollar value before public or private expenditures are included in their program scope. Such large expenditures are typically investments rather than consumption expenditures and investment is, by definition, comprised of two principal activities: construction of buildings and structures, and manufacture and installation of equipment.[21] These are supplied by the construction and manufacturing industries respectively. In addition, mining investment is quite volatile but over the long run accounts for around 40% of total national private investment in construction activity (Australian Bureau of Statistics 2024 Cat No 5625.0 Table 6). Second, major projects are funded by a broad range of private sector industries and government, but ICN classifies these projects according to the industry supplying the investment goods and services, which in most cases will be construction services and/or manufacturing. Finally, as explained in the History of ICN section, since around 2013 the focus on import replacement and manufacturing has shifted more to lifting local content by maximising opportunities for domestically registered enterprises across a broad range of project opportunities and industries. Manufacturing industry remains an important priority for ICN, but these changes have resulted in a rising proportion of construction-related activities being serviced by ICN.

21. This is simplified as investment can also include R&D and software development, but these are minority expenditures in aggregate.

OVERSEAS **PROCUREMENT PROGRAMS**

Most, if not all, nations operate some form of preferential procurement program usually in conjunction with complementary programs for capability development of local SMEs. Similar provisions can also apply to private sector purchasing especially for major projects. Given the scale and diversity of these measures the following is necessarily limited and only seeks to establish firstly, the existence of these programs and second, provide some sense of their scale and scope. Nevertheless, this short description also offers some important lessons for Australian policy and practice.

Descriptions of government procurement policies typically begin with a statement of both the importance of SMEs to economic development, in terms of employment, promotion of innovation and entrepreneurship but also note the intrinsic barriers to SMEs successfully bidding for larger public and private sector projects (Asian Development Bank 2013; OECD 2018).22

The United States has particularly well-resourced assistance to small business for advice in tendering to government and capability development to improve their ability to supply government. Two particularly important US Federal Government initiatives include the Procurement Technical Assistance Centres (PTACs) (www.aptac-us.org/about-us/) and the US Small Business Administration (www.sba.gov/federal-contracting/contracting-assistance-programs).

PTACS were established in 1985 under the aegis of the US Department of Defense (DOD) and operate in every state, with over 300 offices employing over 500 people. PTACS have a similar objective to the ICN as they 'form a nationwide network of dedicated procurement professionals working to help local businesses compete successfully in the government marketplace. PTACs are the bridge between buyer and supplier, bringing to bear their knowledge of both government contracting and the capabilities of contractors to maximize fast, reliable service to our government with better quality and at lower costs.'23 Despite being funded by the DOD PTACS services apply to all US Federal Government procurement. They provide a wide range of services including:

- registering firms on the US Federal Government procurement database
- advice on certification for government contracting
- marketing to government
- organising networking meetings with government procurement officers
- notification of bid opportunities
- assistance with bid preparation
- technical assistance with issues such as quality assurance, packaging, transportation, accounting and auditing of contracts.

PTAC claims $24b in contract wins to SMEs in 2023 (www.aptac-us.org/contracting-assistance/successes).

The Small Business Administration (SBA) was established in 1953 as a US Federal Government agency 'to aid, counsel, assist, and protect the interests of small business' (www.sba.gov/about-sba). SBA provides a wide range of services including loans, technical advice and, importantly, administers the mandated requirement that 23% of US US Federal Government procurement be allocated to small business. These mandated quotas are known as 'set-asides'. Three broad types of set-asides are used:

- 'Competitive set-asides' apply when at least two small businesses could perform the work in which case the government allocates the contract exclusively for small businesses. This happens automatically for all government contracts under $150,000.
- 'Sole-source contracts' can be issued where only a single SME can fulfill the requirements of a contract.
- Separate prescribed set-asides for certain socio-economic groups comprising women owned business (5%), disadvantaged small business (5%), veteran owned businesses (3%) and businesses in nominated disadvantaged regions (3%).

There are also separate provisions for contracts that are too large for SMEs to supply requiring prime contractors develop subcontracting plans to use SMEs (www.sba.gov/federal-contracting/contracting-guide/types-contracts).

In addition, the SBA is also the agency responsible for administering the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. (www.sbir.gov/about). These competitive programs allow SMEs to collaborate with public research institutions to commercialise products and services and undertake applied R&D. They operate in a logical progression from a scheme to determine a firm's capability and the quality and feasibility of its innovation to a scheme for final product development. Publicly supported research institutions like universities, public research and non-profits are required to set-aside a mandated proportion of their total revenue to fund these SME R&D programs. Linking government procurement and innovation programs under one central agency is important in 'closing the loop' for a small business seeking to develop products and services for prospective government contracting.

Aside from the US, other nations including Japan, Korea and Mexico have statutory levels of procurement (a prescribed share of value of total contracts) allocated to SMEs. Others have 'targets', such as the UK (33%) and Canada (50%), and these appear on track to being met (OECD 2018:120). China has particularly rigorous SME procurement requirements. In 2012 China legislated 30% of the government procurement budget be set aside for purchases from SMEs with 60% of these reserved contracts to be awarded to small or micro enterprises. Larger business is also encouraged to form consortia with SMEs with a price preference of 2-3% award to such proposals (Asian Development Bank 2013). As far as can be determined these policies, introduced in 2012 still apply in China.

This section demonstrated the extent and diversity of procurement policies for SMEs and highlighted the importance of mandated procurement policies and complementary initiatives to develop firms' capability to improve their competitive position in supplying to government. These observations are taken up in the next and final section.

When ICN facilitates work for local business the expenditure by the business (known as the direct) effects ripples through the wider economy as other businesses in the supply chain benefit and additional incomes are spent on many of other businesses (both of these are known as indirect effects).

Appendix 1 provides estimates of the value of direct and indirect effects based on the industry distribution of the South Australia ICN wins for 2022-23.

22. OECD (2018) provides case studies of 36 OECD and non-OCED nations' SME procurement policies.

23. In 2023 the PTACS had a name change to APEX Accelerators but are still under the DOD.

PLAN FOR THE FUTURE

This section sets out suggestions to strengthen ICN and its core role in assisting local industry participation and capability development. These include:

- changes to the design of current procurement programs
- a significantly expanded role for ICN in promoting industry policy programs that lift firm capability such as the Industry Growth program
- participation in sovereign capability programs such alignment with the Future Made in Australia initiative
- identifying additional new funding sources
- continuing efforts to lift the recognition of ICN.

IMPROVEMENTS TO CURRENT **PROCUREMENT PROGRAMS**

Government legislated procurement programs designed to promote the use of domestic inputs exist in all states and territories and the Australian Government operates the AIP plan applicable to general government expenditure. ICN is explicitly identified in the Jobs Act, which created the AIP, as supporting 'the AIP National Framework by managing a national database of industry capability and project opportunities – the ICN Gateway' (Department of Industry, Science and Resources 2023:165). ICN is also seeking to develop its role in the Australian Industry Capability (AIC) program which applies to Department of Defence purchases. There are grounds for some optimism regarding this expanded role in AIC since ICN is referenced in the recent Defence Industry Development Strategy (Department of Defence 2024: 24) in recognition of ICNs core strengths in supply chain mapping, capability analysis and capability development:

> *Defence is building its industry and market intelligence, which will offer greater insights into the capability and capacity of defence industry. This is critical for the early stages of developing capability initiatives and informing industry engagement, solicitation and tender evaluation strategies. Access to analytical tools, market research and industry engagement is key to delivering capability at speed. The Industry Capability Network platform is a key example of an industry data source that is capable of supporting this approach.*

However, despite this recognition, ICN engagement in these procurement programs is limited, voluntary and not as effective as it could be. This results in reduced benefits to local industry and constrained ICN operational performance. Eight changes to procurement program design are therefore recommended:

- It should be mandatory for the Australian Industry Participation Authority, which responsible for administering the Australian Government procurement program, to require project proponents engage the services of ICN. Similar provision should apply to the AIC program. This should occur at the earliest possible stage in the bidding process, preferably at a pre-design stage. This would enable ICN to inform proponents early of local supplier capacity and advise proponents how best to structure their bid to maximise local content. Early notice would also allow local suppliers maximum time to prepare EOIs.
- It should be mandatory for project proponents to engage ICN immediately upon winning a contract to enable ICN to continue pre-bid involvement with potential local suppliers. Earliest possible notice to potential suppliers of projects enables them to adjust future production schedules, modify their products/services to customers' needs and consider investments in new capacity.
- Guidelines for project proponents to structure their bids to maximise local participation should be mandated and adequacy of compliance with these guidelines should be an explicit weight used in assessing bids by the AIP Authority and AIC. Similar obligations should be placed on first (OEM) and second tier contractors to the project proponent.

- It should be mandatory for project proponents to provide a minimum agreed standard of feedback and timing for the delivery of this feedback to suppliers on the progress of their submitted EOIs and RFTs and reasons for unsuccessful bids. Many project proponents and major contractors do provide excellent feedback for example, via in-person meetings with suppliers. Others provide more generic and limited advice.
- The value of projects subject to an AIP plan could be lowered from the current $500m threshold for private sector projects to $250m, and from $20m for public sector projects to $10m.
- Consideration should be given to introducing a mandatory minimum proportion of local content and/or SME share of total expenditure, as for example, occurs in the US and other nations. Such a move should be subject to careful scrutiny before introduction.[24]
- State procurement programs across jurisdictions differ substantially in the threshold value of projects subject to the program and role ascribed to ICN. These large differences impose costs on firms bidding for projects across states as they need to incorporate these differences into their bidding processes and contract systems. Further, given that projects can sometimes be funded by both state and federal governments firms can 'arbitrage' across jurisdictions to select a program with least onerous requirements.[25] Accordingly, it is recommended procurement programs should be harmonised across all jurisdictions.
- The SAMP program should be reinstated. This ran for 17 years to 2014 and provided full- time dedicated ICN officers on placement inside major project proponents and tier one suppliers to lift local participation. As noted previously, evaluations found it was highly successful with cost-benefit ratios exceeding 1:100 (ICN 2017). Finally, it should be compulsory for public disclosure of project proponents' acquittal of AIP obligations and consideration should be given to imposition of penalties for failure to meet agreed levels of local content.[26]

24. Industry policies are replete with unintended consequences. For example, prescribing minimum levels of content could become a maximum target for procurement officers to achieve. Also setting an initial target level is not simple. Too low and local industry is disadvantaged. Too high and project costs and quality may suffer. An example demonstrates this complexity admirably. According to the Department of Finance (2024) Commonwealth Procurement Rules (CPRs) include commitments to source at least 20% by value of all procurement from SMEs and at least 35% of contracts valued up to $20 million from SMEs.
These are not mandatory targets but 'commitments'. Over the past 5 years the value of procurement going to SMEs has averaged around 27.5%. In 2022-23 SMEs won 40.8% of contracts valued up to $20m (www.finance.gov.au/government/procurement/statistics-australian-government-procurement-contracts).
Now, it could be that these commitments were set too low initially and the resulting 'over-performance' easily achieved. Nevertheless, it shows the difficulty in setting an initial mandatory level and that there could have been some peril in setting the SME target at a mandatory 20%. Measures to redress these complexities could include making the use of ICN mandatory for projects subject to procurement programs, requiring project proponents explain why they could not find a local supplier and/or having ICN make written assessments of such explanations. In addition, there could be a requirement to review any mandated level every 4 years or so with a view to increasing the mandatory level.

25. If a project is covered by both federal and state government procurement obligations project proponents may, with approval of the Australian Industry Participation Authority, select which jurisdiction's program to which it will be subject (www.industry.gov.au/sites/default/files/user-guide-for-developing-an-australian-industry-participation-plan-procurement.pdf) (PDF 2.8MB)

26. There are problems with the completeness and utility of public data on the Australian Industry Participation Authority website about current, pending and completed projects subject to federal government procurement (www.industry.gov.au/major-projects-and-procurement/australian-industry-participation/major-projects-establish-or-upgrade-australian-facilities/major-project-aip-plan-summaries). For example, a random sample of major project AIP plan summaries for the private sector reveals that the supply of items such as wind towers and large synchronous condensers are claimed to provide 'opportunities for Australian entities' and 'overseas entities. As far as can be determined large synchronous condensers are not made locally and the last steel wind tower was manufactured in Australia in 2020 as the local industry is effectively defunct. All towers are imported, largely from China (Toner 2024). (A tower is simply the metal tube supporting the nacelle and blades). Claims of local supply opportunity would appear to arise from the Authority's definition of an 'opportunity' since it encompasses both 'supply' and 'installation'. It would be difficult to exclude the possibility of an Australian entity being engaged in some way with 'installation' since imported wind towers and large synchronous condensers are objects of great mass and require for example transport from port, cranes, concrete foundations, precision construction, balance of plant and grid connection. There is considerable local capacity to supply these services. These ambiguities arise from the excessively broad classification of 'opportunities' used by the Authority at least as they appear in publicly available documents.

The foregoing was focused on improvements to the current ICN business model and enhancing the role of ICN in current procurement programs. However, there is a compelling national need for ICN to significantly expand its methods and ability to further lift local content and develop local capacity by better integration with industry policy design and program delivery.

Nation-states globally, including Australia, are pivoting to support improved national sovereignty over essential products, services and technologies. Complementing this push for enhanced sovereignty over production is the necessity to decarbonise Australia's energy system and promote value-adding industries to transform Australia into a 'renewable superpower'. The ICN database and its intelligence on industry structure, technology and capacity and its intermediary role linking purchasers and suppliers are a vital national resource to effect this transformation. ICN must be a central agency in this pivot.

Realising this ambition requires ICN first to extend its role to advise government in the design of current and future industry development programs directed at expanding and improving local suppliers' capabilities and second, to assist in the implementation of these programs. Such a role would complement and extend ICN's existing function since ICN will influence the purpose of and assist delivering programs directed at redressing those constraints on local suppliers it currently works to overcome. As shown in What ICN does this new role is one that ICN officers envisage for themselves and are keen to participate in subject to lifting the resources constraint on ICN.

Specific new and expanded roles for ICN could include the following:

- ICN's expertise in analysing industry needs in terms of product and service supply gaps, technologies and management capacity should be recognised by its formal inclusion in federal and state industry policy planning and program design. ICN can also leverage its expertise and data in capability analysis and supply chain mapping for building sovereign industrial capability in certain sectors (e.g. battery manufacture) and identifying and managing supply chain risks.
- ICN should be formally engaged in assisting industry departments to identify capability gaps and other constraints on local industry participation in major projects and craft efficient and effective solutions. ICN's deep knowledge of business will be an invaluable resource in crafting practical programs.
- ICN should be resourced to partner in the delivery of programs that address capability gaps and other constraints on firms' performance. What ICN does identified such a role as a critical need for local business as ICN is in the position to identify business constraints and their causes but lacks the resources to fully assist firms effect important areas of change. Because of its vast intelligence on industry capability, capability gaps and close connection to individual businesses ICN is an ideal program partner. ICN can fulfill two specific roles. First, it will promote participation in programs among firms it identifies with current capability gaps especially in business planning, marketing, process improvement, identification and introduction of new technologies, export and product and service R&D. These are the core targets of many

INTEGRATE ICN INTO INDUSTRY POLICY **DESIGN AND PROGRAM DELIVERY**

Intract Australia

industry policy programs currently deployed and under development. Second, having both a policy development and program delivery role, ICN will be in the invaluable position of closing the feedback loop from intention (program design) to outcome (practice) and back to incrementally improve program design. This would include also feedback to the relevant department administering a program regarding any issues firms may have with their application. application assessment and type, duration and quality of program services delivered. A concrete example would be if ICN worked with companies to identify their capability gaps and promote participation in the Industry Growth Program, which provides a broad range of funding and advice to firms to redress many of the impediments to competitiveness of local suppliers. ICN is ideally placed to have this intermediary role in the Future Made in Australia, both in the resilience stream and renewables /energy transition stream.

- ICN should also be better integrated with Austrade to identify actual and potential export opportunities for local producers. In the past ICN cooperated with Austrade and under the SAMP program organised trade delegations of local producers to promote exports. As noted in the Case Studies section this role proved highly successful. The SAMP program ceased some years ago.
- ICN is ideally placed to address the crucial deficiency in Australia's innovation ecosystem, especially applying to SMEs, of poor integration of demand from firms seeking to innovate with the supply of scientific and engineering talent in universities and public research institutions. ICN can act as an intermediary between such firms and the many outreach programs conducted by these institutions. An example of such an outreach program is that run by the CSIRO targeting SMEs (www.csiro.au/en/work-with-us/funding-programs/sme?)[28]

27. It was noted in the case study ICNs assistance to Rio Tinto's Amrun project that ICN facilitated local suppliers' participation in Queensland government capability improvement programs.

28. Several hundred SME development and innovation programs are funded by state and federal governments. These programs impose a high administrative barrier to entry for SMEs and are subject to high levels of wasteful duplication and multiplicity (Toner et al 2023). ICN, acting as an intermediary, is ideally placed to assist firms navigate these programs and reduce the gross inefficiency of each SME having to familiarise themselves with their scope and requirements.

ADDITIONAL **RESOURCES**

ICN has the potential to make a much greater contribution both to current enterprise development and to the jobs and industries of the future. What ICN does showed the deleterious effect of resource constraints on the ability of ICN to meet current needs of suppliers and purchasers. Meeting current demand and any expansion in ICN's role, as envisaged above, will require additional resourcing.

Priority should be given first to reinstate the successful SAMP program. This will require a direct injection of funds from state and/or federal governments.

ICN promotion of state and Australian Government industry development programs could, for example, be on a fee-for-service basis. This could be allocated by ICN to acquire specialist skills and undertake staff training to develop expert knowledge of current and future industry development programs and ICN's means to effectively promote and evaluate them. Similar fee-for-service schemes could apply to Austrade, for example, for access to the Gateway database of firm capability and promotion of Austrade export opportunities among ICNs client base.

Aside from such measures and more direct federal and state government funding, ICN has the potential to lift its own revenue raising by means such as 'licencing' the ICN model to other nations. ICN could seek a reasonable rate of return for access to 40 years accumulated knowledge and software in how to establish and optimise a scheme to lift local business participation in major public and private sector projects. International economic development institutions such as the International Monetary Fund, Asian Development Bank, and United Nations could fund such knowledge transfer. The Department of Foreign Affairs and Trade could seek to disseminate this model within the Indo-pacific region targeted specifically at increasing economic opportunities for these nations to supply their own domestic markets but also lift integration of these economies with Australia. In addition, the vast company intelligence ICN generates from its industry experts and data from Gateway and capability analysis could be licenced on a confidential basis to university and market researchers and information brokers.

CONTINUE TO LIFT **RECOGNITION OF ICN**

Despite its great success, high efficiency and longevity there remains a gap in public recognition of ICN. Earlier it was observed that multiple government inquiries into procurement and industry policy have identified the need for and provided support to ICN. Unfortunately, there are also examples of such inquiries apparently remaining ignorant of ICN despite these inquires covering topics directly germane to the role, responsibilities and outcomes of ICN. One example is the House of Representatives Standing Committee on Infrastructure, Transport and Cities (2021) *Government Procurement*: *A sovereign security imperative*, whose terms of reference included 'inquire into and report on procurement practices for government funded infrastructure and the potential to enhance the sovereign capability of the Australian industry' (xvii). Despite the report canvassing thoroughly all issues to do with procurement and constraints on local industry ICN received only a brief one sentence mention (p.126). Similarly, the House of Representatives House Standing Committee on Industry, Science and Resources (2023) *Sovereign, smart, sustainable Driving advanced manufacturing in Australia* was charged with investigating the scope for and constraints on growth of advanced manufacturing. The study canvassed many of the impediments SME manufacturers face that are covered by ICN and highlighted the important role of government procurement. ICN receives not a single mention in the report.

Of even greater concern was the initial framework for the now disbanded Industry Growth Centres, which requested development of a manufacturing database in isolation from, and hence effectively duplicating, the work of the ICN. Given the government's funding limitations, it would have made sense in this area as well as others to pursue a more integrated approach. Hopefully this gap in recognition of the ICN's current and potential contribution can be overcome. The ICN is itself doing its best to address this gap by pursuing a new approach: 'We will move on from telling our audience about our products and services to showing them how ICN provides value' (ICNL Annual Report 2022-23:12).

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APPENDIX 1 – ECONOMIC IMPACT ANALYSIS: SOUTH AUSTRALIA

SUMMARY

The economic impact analysis was undertaken for South Australia in 2022-23 based on the value of individual contract wins facilitated by Industry Capability Network (ICN). Each individual win was assessed for its contribution to different industry sectors.

For 2022-23, the contract wins were assessed across the following industries: Manufacturing (46%), Professional, Scientific and Technical Services (12%), Education and Training (0.3%), Construction (5%), Transport, Postal and Warehousing (36%), and Administrative and Support Services (2%).

As there is no data on the counterfactual case of what would occur without ICN support, a conservative approach was taken. Multiplier effects have not been applied and a smaller contribution than the total contract wins facilitated was calculated, as explained under 'Key Methodology points'.

The economic impact of the value of ICN facilitated contract wins in SA is estimated based on the direct expansion in activity due to expenditure across the industry sectors mentioned above. The estimated Gross State Product (GSP) impact is $143 million over 2022-2023.

GSP Impact Summary

Year	Contract wins ($m)	Total GSP impact ($m)
2022-23	209.3	143.0

KEY METHODOLOGY POINTS

An input-output model was used to derive the direct and production-induced impact from the immediate expansion in activity resulting from expenditure on the ICN facilitated contracts. This model captures the immediate expansion in activity resulting from investments in relevant sectors to support initiatives, which, in turn, stimulates related industries. The input-output model highlights the interdependencies among industries.

A key industry sector for facilitated contract wins was the defence sector - including infrastructure and manufacturing.

THE IMPACT FROM THE EXPANSION IN ACTIVITY DUE TO INVESTMENT IN INFRASTRUCTURE THAT WILL SUPPORT THE DELIVERY OF THE INITIATIVES (DIRECT AND INDIRECT IMPACT)

Using an input-output model, the win value of Industry Capability Network (ICN) facilitated contracts was inputted in the following industries: Manufacturing, Professional, Scientific and Technical Services, Education and Training, Construction, Transport, Postal and Warehousing, and Administrative and Support Services.

In 2022-2023, the value of ICN facilitated wins in SA was $209.3 million. As a result, the value of these contracts would generate a direct and flow-on production-induced GSP impact of $143 million and support 1,083 FTEs over 2022-2023.

Impacts from expansion in activities due to investment in supply chain capabilities.

Year	Investment for initiatives ($m)	Impact from expenditure on defence infrastructure					
		Direct FTEs	Production induced FTEs	Total FTEs	Direct GSP impact ($m)	Production induced GSP impact ($m)	Total GSP impact ($m)
2022-23	209.3	672.1	411.1	1083.2	83.4	59.6	143.0

ADDITIONAL ECONOMY-WIDE BENEFITS OF EXPENDITURE **ON DEFENCE INFRASTRUCTURE AND MANUFACTURING**

Investments in defence infrastructure produce substantial direct, indirect, and induced economic effects. Direct effects include immediate job creation and industrial activities, such as hiring construction workers and engineers. Indirect effects emerge through the supply chain, where increased demand for materials and services stimulates further economic activity among suppliers. Induced effects occur when employees spend their earnings locally, boosting sectors like housing, food, and entertainment. Reports highlight how these investments not only create jobs but also enhance economic resilience and GDP growth (BIS Oxford Economics, 2018; Lockheed Deloitte, 2023).

For example, BAE Systems' activities in 2017 demonstrated a multiplier effect of 2.0, meaning every dollar of output generated two dollars in economic benefit (BIS Oxford Economics, 2018, p.7). This underscores the broad economic ripple effects from defence investments. Moreover, the Hunter Class Frigate Program is a prime example, with an expected GDP multiplier of 2.3 in 2028, showing that each dollar contributed by BAE Systems will boost the economy by 2.3 dollars (BIS Oxford, 2018, p. 22).

As an alternative method for estimating the economic impact, these multipliers can be applied to the ICN SA projects that were related to defence infrastructure and defence manufacturing instead of using the input-output model for these contracts.

Under this methodology, it is estimated that ICN-facilitated contract wins related to the defence industry have a potential GSP impact of $281 million in 2022-23.

Using the input-put model for the remaining contracts which were unrelated to the defence industry, the GSP impact is estimated to be $55.0 million in 2022-23.

Combining these two methods, the total value of ICN contract wins is estimated to generate a GSP impact of $336 million in 2022-23.

FOOTNOTES

1. BIS Oxford Economics (2018). *The Economic Contribution of BAE Systems in Australia*. Available at: https://www.baesystems.com/en-media/uploadFile/20210404051327/1434623092503.pdf
2. Deloitte (2023). *2022 Economic Impact Lockheed Martin Australia*. Available at: https://www.lockheedmartin.com/content/dam/lockheed-martin/au/documents/Economic%20Impact%20Australia%202022.pdf

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APPENDIX 2 – REFERENCES

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