

Semiconductor Sector Service Bureau (S3B) – Expression of Interest

S3B is a new NSW Government-funded initiative designed to enhance the capability, workforce, market connectedness and competitiveness of NSW and Australia’s semiconductor sector. The creation of S3B was a primary recommendation of the [Australian Semiconductor Sector Study](#). This document outlines the grant process for S3B and seeks Expressions of Interest from organisations or consortia to host the S3B.

Grant process

The Office of the NSW Chief Scientist & Engineer (OCSE) and R&D NSW are administering the competitive grant process for S3B and will support S3B once it is established. This grant process is outlined below.

1. S3B workshop

The Hon. Gabrielle Upton MP and Professor Hugh Durrant-Whyte, the NSW Chief Scientist & Engineer, hosted a public online workshop about the S3B proposal on 28 September 2021. The workshop was attended by over 120 industry, research, and government stakeholders working in the semiconductor or related industries. The workshop sought feedback on S3B’s proposed functions and business model.

The workshop validated the S3B initiative, proposed business model and functions. Feedback provided has been incorporated into the revised S3B proposal at **Appendix A**. A detailed specification of requirements for S3B will be provided at the Request for Proposal (RFP) stage.

2. Expressions of Interest

The Office of the NSW Chief Scientist & Engineer (OCSE) and R&D NSW are seeking Expressions of Interest (EOIs) from organisations with a presence in NSW to host S3B. EOIs will be accepted from:

- (a) An organisation with a presence in NSW,
- (b) A consortium of organisations, led by an organisation with a presence in NSW.

Examples of organisations with a presence in NSW include organisations with:

- (a) A registered business address in NSW, or
- (b) Office location(s) in NSW, or
- (c) Employees based in NSW.

Host organisations could include, but are not limited to, universities, research organisations, public or private companies, partnerships and not for profit organisations.

EOIs will not be shortlisted. The purpose of the EOI stage is to promote and ensure that the community is sufficiently aware of the opportunity and prepared for the RFP stage.

All organisations or consortia who submit an EOI will be provided with RFP documentation and will be invited to participate in an online information session on the RFP.

To submit an EOI please complete the form at Appendix B and submit it via email to carlos.bowkett@chiefscientist.nsw.gov.au by 9am on Monday 1 November 2021.

3. Request for Proposal

A detailed RFP including a specification of requirements for S3B will be provided to all organisations or consortia who submitted an EOI.

Following the release of the RFP documentation, the OCSE and R&D NSW will host an online information session at **2-3pm on 10 November 2021*** with EOI participants. This will provide an opportunity for prospective grant applicants to ask questions regarding the specification of requirements.

Only organisations or consortia which have submitted a completed EOI form will be eligible to respond to the RFP. However, organisations or consortia may add additional partners to their proposal after submitting an EOI.

Proposals will be evaluated by an evaluation panel appointed by the NSW Chief Scientist & Engineer. The panel will be responsible for reviewing proposals, interviews and making grant recommendations to the NSW Chief Scientist & Engineer.

Timeline

- Expressions of Interest – EOIs close at **9am on 1 November 2021**
- Information Session – **2-3pm on 10 November 2021***
- Request for Proposal – Proposals must be received by **5pm on 3 December 2021***
- Proposal evaluation – December 2021
- Funding recommendation and contract issued – January 2022

*Note that the timings of the Information Session and RFP are indicative and will be confirmed upon release of the RFP documentation.

Further information

If you have any questions regarding S3B or the grant process, please contact:

Carlos Bowkett
Senior Manager – Strategy and Programs,
Office of the Chief Scientist & Engineer | R&D NSW
Email: carlos.bowkett@chiefscientist.nsw.gov.au

Appendix A – S3B Summary

Background

The [Australian Semiconductor Sector Study](#) examined Australia’s semiconductor sector’s capabilities, needs and opportunities, and is based on over 100 one-on-one and group interviews with sector leaders. The primary objective of the study was to determine if, where and how NSW and Australia might more meaningfully participate in the global semiconductor value chain.

A primary recommendation of the study was that a Semiconductor Sector Service Bureau (S3B) be established. S3B will aim to enhance the capability, workforce, market connectedness and competitiveness of NSW and Australia’s semiconductor sector. S3B will cover all stages of the semiconductor value chain; from the core semiconductor value chain (for example, materials, design, IP, and fabrication) to the significant intermediate and end-markets for semiconductors.

S3B Business model

Host organisation

S3B will be hosted by an organisation with a presence in NSW; or a consortium of organisations, led by an organisation with a presence in NSW. The host will be responsible for establishing S3B and providing administrative support to S3B in accordance with a contract between the NSW Government and the host organisation or lead organisation (in the case of a consortium).

While the host will support S3B and facilitate its success, S3B will operate with a high degree of autonomy. The independent Board of S3B will set the strategic direction of S3B, and the S3B Director will lead the operations of S3B.

Operating model

S3B will be operated by a small staff of at least 4 full-time equivalent employees and led by the S3B Director. Organisations or consortia that submit a proposal to host S3B are welcome to propose operating models, provided they cover the functions outlined in this document.

Governance

S3B will be governed by an independent Board comprising representatives of industry, research organisations and government. Members should have experience in the semiconductor sector and/or with similar entities to S3B in other sectors. The Board should include members with experience and relationships in the international semiconductor sector, including in major supply chain geographies such as the United States, Europe, Taiwan, Japan, Singapore, South Korea and/or China. The Board will also include the S3B Director and a representative of R&D NSW. The host will be responsible for identifying potential Board members.

Engagement

S3B’s primary stakeholders will include:

- NSW businesses involved in the design of semiconductors,
- NSW, Australian and international businesses and organisations involved in the fabrication and assembly of semiconductors,
- NSW businesses or local, state or federal government organisations that are end users of semiconductors.

S3B’s secondary stakeholders will include Australian organisations involved in:

- The research, development and commercialisation of semiconductor products and services,

- The semiconductor material supply chain (extraction and processing),
- The design of semiconductors,
- The end uses of semiconductors.

S3B will also establish strong relationships with other stakeholders including:

- International businesses and organisations involved in semiconductor design and intellectual property,
- International businesses and organisations that are end users of semiconductors,
- The NSW Government, the Australian Government and international governments in major semiconductor geographies,
- International semiconductor industry associations and standards bodies.

S3B will be expected to engage with stakeholders through meetings, private and public workshops, events and conferences. S3B will be expected to have productive working relationships with international stakeholders, undertaking necessary international meetings and travel to establish, manage and leverage those relationships. S3B will be guided by its stakeholders in how it delivers its services – potentially establishing an industry advisory group for this purpose.

Funding

S3B will be primarily funded by the NSW Government. The NSW Government is offering a grant of up to \$4 million to the selected provider to host S3B for five years. Funding for S3B will be made available through the [Emerging Industry Infrastructure Fund \(EIIF\)](#). The EIIF is an initiative of the [Turning ideas into jobs: Accelerating R&D in NSW Action Plan](#).

Additional funding streams could include financial and in-kind support from the host organisation, other organisations and the Commonwealth Government. Grant applicants are not required to offer financial or in-kind contributions to cover a portion of the S3B project costs, and no indication of these contributions is required at the EOI stage. However, financial and in-kind contributions from applicants to cover a portion of the S3B project costs will be welcomed and assessed as part of the proposal evaluation process at the RFP stage. The RFP documentation will provide additional information on the evaluation process and methodology.

S3B is specifically designed to assist NSW and Australian businesses to participate in the semiconductor supply chain. Therefore, in general, S3B will not operate on a fee-for-service basis. However, where S3B services for a particular client become sufficiently resource intensive, S3B may seek to recover costs from that client to ensure S3B has sufficient capacity to service other clients.

Location

S3B must be located at [Tech Central](#) and this will be a requirement of the grant funding. The host organisation or consortia will be expected to organise appropriate office space for S3B within this precinct. Depending on the growth and scale of semiconductor facilities and industry in the Western Parkland City, S3B's location may be reconsidered in the medium term.

Related initiatives

The Commonwealth Government has launched the [Supply Chain Resilience Initiative \(SCRI\)](#) to address critical supply needs and respond to future supply chain disruptions for critical products. For the next phase of this work, the Commonwealth Department of Industry, Science, Energy and Resources (DISER) is developing a Supply Chain Management Plan (SCMP): Tranche 2 – which focuses on semiconductors and telecommunications equipment. DISER has advised that SCMP Tranche 2 will be used to inform the development of policy options to address identified

vulnerabilities in the supply chains for products in these categories, which may include grant funding through the second round of the SCRI grant program, expected to open by the end of 2021.

The successful host organisation and S3B will be encouraged to engage with the SCRI and any other relevant Commonwealth semiconductor sector initiatives, to seek further funding and pursue opportunities to offer additional functions and semiconductor sector support through S3B.

S3B Functions

S3B will address market frictions and failures that curtail Australia and NSW's ability to participate in global semiconductor markets. S3B will have four key functions:

1. Providing **brokering services** to Australian semiconductor 'fabless' design firms, startups and scaleups, research organisations and universities to help them to access the most appropriate semiconductor fabrication, packaging, assembly and test facilities globally, on attractive commercial terms.
2. Supporting **access to semiconductor design micro-credential courses**.
3. Providing global semiconductor **market intelligence and linkages** relevant to Australian semiconductor entrepreneurs and innovators, including startups, small and medium-sized enterprises, researchers and universities, as well as policy makers.
4. Fostering a more **connected and market-aware semiconductor ecosystem** in Australia and NSW that includes Australian and international businesses, research organisations and government.

Detail on these functions is provided below.

1. Brokering services

Australian businesses, particularly startups and scaleups, find it difficult to identify, select, engage and manage outsourced semiconductor fabrication services. These activities are often critical because certain fabrication suppliers and processes have chip design optimisation implications which should be accounted for from the beginning of chip architecture design. These activities are time-consuming and costly. Further, every firm goes through this learning process anew.

Even for the very largest semiconductor fabricators such as TSMC, startups and research projects are often 'competing' with much larger fabless companies (such as Qualcomm, Broadcom) for limited capacity and time. Fabricators evaluate each project even at the earliest stages for future commercial relationship potential. Brokering on behalf of many Australian projects, S3B will consolidate the collective relationship potential with fabricators and improve access.

S3B will also provide an experienced eye over the commercial terms associated with the brokered arrangement, streamlining the legal and administrative processes associated with semiconductor fabrication. Over time this will bring a 'best practice' set of learnings for subsequent projects and partnerships.

2. Semiconductor micro-credential courses

S3B promote and facilitate access to internationally recognised semiconductor design micro-credential courses under a New Education and Training Model (NETM) pilot. However, S3B will not deliver nor administer this NETM Pilot. The Western Parkland City Authority (WPCA) is developing the NETM pilot. The NETM will deliver high-quality, industry-relevant micro-credentials to address identified and emerging skills gaps to enable and accelerate the growth of high-value, advanced industries in the Western Parkland City. The course content will be developed by a private semiconductor training provider(s) and run in collaboration with a NSW university(ies):

- The private training provider(s) will provide the curriculum, main course content and live (virtual) instruction (lectures and labs).
- The NSW university(ies) will provide the lab facilities for the course content.
- S3B will facilitate access to the courses by promoting them to prospective students and companies, and connecting graduates and employers.

The proposed curriculum for the first three micro-credentials will cover general semiconductor design skills. Note that the course framework and content is still in development and subject to change.

It is intended that this package of courses will be the first in a series of stackable micro-credentials on semiconductor design developed and delivered to students from 2022 to 2025. Over time, additional specialised micro-credentials will be facilitated in response to S3B identified market demands, opportunities and skills gaps.

The NSW Government proposes to fund the New Education and Training Model (NETM) micro-credential courses during the pilot phase (2022 to 2025) through a separate process to this S3B grant process. We expect funding for the NETM to shift to a model involving student fees and industry contributions from 2026 onwards.

3. Market intelligence and linkages

S3B will offer a strategic and functional semiconductor market intelligence capability. The global market knowledge collected and assessed is not just statistical or ‘macro-market’ level. Rather, it will be granular – at the level of individual markets, technology development trends, competitor assessments and specific present and future business conditions. This information will inform Australian and NSW semiconductor firms of emerging industry and technology trends and help them respond.

The S3B market intelligence function will also cover ‘linkages’ between the global end-use ‘customer’ and Australian and NSW startups, scaleups and researchers. These linkages are critical to effective commercialisation, including to establish the desirability and viability of a semiconductor business endeavour, and validate key assumptions about what the market needs and values. S3B will not provide incubation or startups hub-type services but will be complementary to these services.

4. Ecosystem development

Innovation ecosystems are a key foundation for prolonged industry growth and sustainability. At present, no entity or organisation represents, coordinates or fosters collaboration in the semiconductor sector in Australia or NSW. S3B will take on that role and seek to foster an ecosystem for demand and supply of opportunities, talent, enterprise and local investment in semiconductors. It will provide introductions between industry partners, researchers and early-stage commercialisation skill sets (for example, in IP, legal, finance, marketing, sales, venture capital and recruiting). S3B will also develop and share relevant analyses of critical issues and trends in the semiconductor industry and markets, galvanising the community and advocating on the industry’s behalf.

In coordinating the Australian and NSW semiconductor ecosystem, the S3B could provide visa assessment assistance to promote more timely access to critical semiconductor-related skills. S3B could also provide representation at international events and conferences (such as those setting global industry standards) which are valuable networking and market intelligence opportunities.

Appendix B – Expression of Interest form

The information provided in this form will not be assessed as part of the S3B grant process. By submitting this form, you will receive the S3B Request for Proposal (RFP) documentation when it is released.

1. Applicant type	
<input type="checkbox"/>	(a) An organisation with a presence in NSW,
<input type="checkbox"/>	(b) A consortium of organisations, led by an organisation with a presence in NSW.
If (b), indicate the partner organisations in your consortium:	

2. Provide evidence of your organisation’s presence in NSW	
<i>Mark the checkboxes below for your organisation and provide information. Consortia should provide evidence of a presence in NSW for their lead organisation.</i>	
<input type="checkbox"/>	(a) Registered business address of the organisation is in NSW
<input type="checkbox"/>	(b) Office location(s) of the organisation is in NSW
<input type="checkbox"/>	(c) Employees of the organisation are based in NSW
<input type="checkbox"/>	(d) Other
If (a), provide registered business address:	
If (b), provide office address(es):	
If (c), provide an approximate number of FTEs in NSW:	
If (c), provide an approximate number of FTEs in all geographies:	
If (d), provide detail on your organisation’s presence in NSW:	

3. Contact details	
<i>Consortia should provide contact details for their lead organisation. The RFP documentation will be provided to this contact via the email address provided below.</i>	
Organisation name:	
Contact name:	
Contact position:	
Contact phone:	
Contact email:	

4. Provide a brief summary of your organisation or consortium's capability relevant to S3B.

Please limit your response to less than 300 words. This response will not be assessed as part of the grant process.

Submit this form via email to carlos.bowkett@chiefscientist.nsw.gov.au by 9am on Monday 1 November 2021.

Privacy

The information you provide in this form will only be used for the purpose for which it was collected. By submitting this form, you consent to storage, use and disclosure of your personal information in accordance with the Office of the NSW Chief Scientist & Engineer's privacy policy.

While we will keep this form confidential as a matter of policy to the extent consistent with our legal obligations, we may be required to release it under the *Government Information (Public Access) Act 2009* (NSW) or other lawful requirement.