QSi

Queensland Semiconductor Initiative

BUSINESS PLAN

Establishing Australia's First Sovereign Short-Run Semiconductor Foundry

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v2.4 amendment:	Specialty compound-semiconductor supply-concentration strategic-context insert into §2.1, reconciled to Market Context Note v1.0 and cross-referenced to Risk Register v3.5 (R06).
v2.5 amendment:	Standing throughput assumption of 3 Aug 2026 adopted: production minimum 125 wpw = 42% of Fab 1 theoretical capacity (~300 wpw per Fab 1 Capacity Model 2026 v2). Wafer-throughput sensitivity and R23 risk text reframed from the 125 wpw design point (30–50 wpw ramp scenarios removed) to the 125 wpw production floor; cross-references updated to Risk Register v3.6 and finance sheet v21.

STRICTLY CONFIDENTIAL —**2026**

Queensland Semiconductor Initiative Pty Ltd (ACN 673 414 296)

Not for distribution. Full financials under separate NDA.

Contents

Executive Summary

QSi is establishing Australia's first sovereign short-run compound-semiconductor and silicon-carbide (CS/SiC) fabrication capability. The business serves customers whose supply chains must not depend on foreign control — defence, AUKUS-aligned programmes, medical device manufacturers, power electronics customers (grid infrastructure, renewable energy, electric vehicles), and specialty industrial users. Fab 1 is scheduled for operational commissioning in 2028. Total programme capital is A$270M, structured as a blended private capital + government co-investment + pre-procurement revenue + equipment finance package or build-own operate for non-core infrastructure.

The Company operates at the intersection of three structural shifts:

(a) The sovereign semiconductor moment. Australia currently has no domestic short-run foundry. Defence customers, intelligence agencies, and critical-infrastructure providers accept this dependency today but will not accept it indefinitely. The National Reconstruction Fund, Future Made in Australia, and AUKUS Pillar II frameworks have established semiconductor fabrication as a declared national strategic priority.

(b) The specialty chemistry growth wave. Global demand for compound semiconductors (GaN, GaAs) and silicon carbide (SiC) is growing 15-20% CAGR through 2030, driven by defence electronics, power electronics, RF communications, and optoelectronics. Global supply capacity is constrained; specialty short-run capacity is particularly scarce.

(c) The trusted microelectronics requirement. AUKUS programmes require trusted microelectronics assurance within the coming decade. Current supply chains cannot credibly demonstrate this. A sovereign Australian fab, commissioned from 2028, will be the natural reference supplier to the trusted-supply-chain customer base through to 2040 and beyond.

Key economic indicators

Metric	Year	Value
Fab 1 programme cost	2026-2028	A$250M
Series A private capital target	2026	A$100M
Government co-investment target	2026-2028	A$105M
Revenue at Fab 1 operational scale	2030	A$35M
Revenue at programme maturity	2032	A$54M
Total Assets at programme maturity	2032	A$265M
Enterprise NPV to 2040, 7% discount	2026 base	A$1,087M (all grants)
Break-even IRR	2026 base	23.1% (100% equity)
Workforce at Fab 1 open	2028	~80 FTE
Workforce at programme maturity	2032	~180 FTE

Competitive thesis in one paragraph

QSi does not compete with leading-edge logic foundries (TSMC, Samsung, Intel) — that is a different market altogether. QSi's competitive positioning is at the intersection of four hard-to-replicate moats:

(a) Australian sovereign status (structurally unavailable to foreign competitors);

(b) Commonwealth and State government co-investment (committed and advancing);

(c) DISP/DTCA/AUKUS compliance infrastructure (multi-year to replicate); and

(d) specialty chemistry positioning (niche scale protects from large-foundry entry). The business is designed to stand on commercial revenue from 2028 onwards, not on perpetual subsidy.

1. Business Overview

1.1 Company profile

Legal name	Queensland Semiconductor Initiative Pty Ltd
ACN	673 414 296
Jurisdiction	Australia; registered office Queensland
Company type	Australian proprietary limited company (to be amended on Series A close)
Registered office	2-4 TIMBARRA DRIVE , BEECHMONT QLD 4211
Principal place of business	TBD, Brisbane, Queensland
Date of incorporation	4 December, 2023
Founders	Paget Hargreaves, Anthony Christian, Dr Stewart McGlashan
Current stage	Fab 1 capital raise active
Target Fab 1 commissioning	2028

1.2 Mission, vision and values

Mission.

To establish Australia's sovereign semiconductor fabrication capability at the defence-industrial node, enabling Australian and allied customers to design, manufacture, test and deploy trusted microelectronics without foreign-controlled supply-chain exposure.

Vision.

By 2032, QSi is Australia's trusted-microelectronics reference supplier: operating fabs, recognised as the default semiconductor capability for Australian defence, AUKUS Pillar II programmes, specialty power electronics, and trusted medical device manufacturing. Integrated assurance services are the differentiated wrapper around the production business.

Values.

- Sovereignty. Every commercial decision is tested against the Company's purpose of building Australian sovereign capability.
- Trust by design. Customer trust is built through demonstrated compliance, verifiable supply-chain integrity, and engineering excellence — not through assertion.
- Patient execution. The programme timeline is multi-year. The Company deliberately rejects shortcuts that compromise the long-term position.
- Integrity. The Company operates under zero-tolerance policies for bribery, corruption, foreign influence, and safety or environmental compromise.

- Queensland commitment. Local workforce, local supply chain where feasible, local community engagement, local partnerships with universities and TAFE.

1.3 Business model

QSi's business model is not a single revenue stream but a layered set of complementary activities that reduce volatility and protect margin. The layers are:

Layer	Revenue source	Margin profile	Commencement
Assurance Services	Chip testing, PQC audit, trust-certification	High (50%+)	2027
Process Development Services	Customer process qualification, contract development	Moderate (30-40%)	2027
Foundry Production — Specialty	GaN, SiC, GaAs wafer manufacturing	Moderate (25-35%)	2028
Pre-procurement Programmes	Committed defence/government pre-procurement	Fixed pricing, moderate margin	2027-2028
Integrated Services	Fab + Assurance packaged for defence customers	Higher (35-45%)	2029
Specialty Materials and R&D	AUKUS-aligned development programmes	Project-based	2029+

The Assurance Services and Process Development layers begin generating revenue from Phase 1 (fabless operations), providing early cash flow and customer relationship depth. These revenues underwrite part of the Phase 2 capital requirement and provide operational experience for the fab commissioning team.

The 2026 National Defence Strategy explicitly anticipates this revenue architecture: sovereign defence industrial businesses 'must be commercially viable' and some 'will likely need additional revenue streams beyond Defence to remain commercially viable and internationally competitive', drawn from adjacent industries or global exports (NDS ¶8.8). QSi's mixed defence-and-commercial model — defence and AUKUS demand anchored by medical device, power electronics, and specialty industrial customers — is the structure the policy framework expects of sovereign industrial entrants.

2. Strategic Context and Rationale

2.1 The sovereign semiconductor gap

Australia's semiconductor dependency is a quantifiable strategic exposure. The country imports essentially 100% of its advanced microelectronics requirements. Defence customers rely on multi-hop international supply chains that cannot be audited end-to-end. Intelligence agencies and critical-infrastructure operators accept this dependency today under geopolitical conditions that are not guaranteed to persist.

Three specific dimensions of the gap:

(a) Geographical concentration. Leading-edge logic fabrication is concentrated in Taiwan (TSMC ~65% global market share), South Korea (Samsung), and mainland China. Specialty compound-semiconductor and SiC capacity is concentrated in the US, China, Japan, Taiwan and a small number of European locations. No significant Australian domestic capacity exists today.

(b) Supply chain trust. Even where offshore supply is obtainable, the sub-tier supply chain (mask-making, test, assembly, packaging) involves further foreign exposure at each stage. AUKUS customer programmes increasingly require supply-chain provenance verification — something current offshore arrangements cannot credibly provide.

(c) Regulatory exposure. Export controls (US ITAR/EAR, EU equivalents), sanctions regimes, and political volatility (particularly around Taiwan Strait) create compounding exposure to supply disruption. A domestic Australian fab eliminates these exposures for customers whose applications require it.

Specialty-materials concentration. Specialty compound-semiconductor and silicon-carbide supply is geographically concentrated, and uneven across materials in ways that bear directly on trusted supply. Gallium arsenide (GaAs) merchant foundry capacity is heavily concentrated in Taiwan — Asia-Pacific accounts for roughly 60% of the GaAs wafer market (Mordor Intelligence, 2025), anchored by WIN Semiconductors (the world's largest pure-play GaAs foundry) and AWSC. Silicon carbide (SiC) is shifting rapidly toward China, which held about 40% of global wafer and epiwafer capacity in 2024 and is expected to exceed 50% within five years (Yole Group). Gallium nitride (GaN) RF device fabrication — the radar and electronic-warfare workhorse — remains Western- and Japan-led, but depends on an upstream chokepoint China controls almost entirely: approximately 98% of the world's refined gallium (US Geological Survey).

The materials chokepoint is the decisive point: a radar-grade GaN-on-SiC device can be fabricated entirely within allied jurisdictions and still rely on a Chinese-controlled element at the base of its bill of materials. China's 2023–2024 export controls on gallium and germanium — including a December 2024 ban on exports to the United States, and a temporary suspension to November 2026 that nonetheless preserves the prohibition on US military end uses — demonstrate that this leverage is active, not theoretical. QSi's

sovereign, trusted, short-run capability is therefore a direct response to a demonstrated dependency, not a hypothetical one (see §11.4, R06; Market Context Note v1.0, data room).

2.2 Australian industrial policy alignment

QSi's strategy aligns with the declared Australian industrial policy framework on several axes:

Policy framework	**QSi**** alignment**
National Reconstruction Fund (NRF)	Priority sector — semiconductor fabrication; sovereign capability framing; A$80M co-investment target
Future Made in Australia	Critical technology / sovereign capability alignment; manufacturing and skills development
Queensland Sovereign Industry Development Fund (SIDF)	Matched-grant structure; Queensland-based operations; A$20M co-investment target
Industry Growth Fund (IGF)	Strategic industry focus; A$5M co-investment target. Fund presently on hold.
AUKUS Pillar II	Trusted microelectronics assurance; advanced capabilities collaboration
Defence Industrial Capability Plan	Sovereign defence industrial base; DISP membership
Invest Queensland	State-level industrial attraction and support
2032 Olympic and Paralympic Games	Infrastructure and supply-chain opportunity alignment
2026 National Defence Strategy and Integrated Investment Program	Self-reliance elevated to formal strategic objective; A$425B IIP commitment over the decade; reduction of "concentrated sources of foreign supply" as primary investment focus; QSi process portfolio (§4.2) maps to five IIP capability priorities — guided weapons and explosive ordnance (most actively funded line in the current cycle), electronic warfare, autonomous and uncrewed systems, space and cyber, undersea warfare
Defence Industry Development Grant — Sovereign Industrial Priorities	Up to A$1M, 50% matched; sequenced before any Fab 1 equipment commitment that the grant could fund
ASCA Innovation Challenges	Direct contract funding mechanism (recent challenges to A$8M+); active monitoring under the Development Director

The alignment is cross-party and structural. Sovereign supply-chain and AUKUS commitments are bipartisan in Australia. The 2026 NDS elevates self-reliance to a core strategic objective — defined as reducing critical dependencies, including 'dependency on a concentrated source of foreign supply', through sovereign defence industrial investment and stronger allied industrial partnerships (NDS Chapter 3). The companion 2026 IIP

allocates approximately A$425B in capability investment over the decade to 2035-36, within total Defence funding of A$887B and a trajectory to approximately 3.0% of GDP by 2033-34. The political window for this programme is open now, and assets commissioned in this window will be the reference capability for at least the next decade.

The forthcoming 2026 Defence Industry Development Strategy will update the seven Sovereign Defence Industrial Priorities; the 2024 priorities remain current until superseded. The 2026 DIDS release is a named monitoring trigger in the Company's governance suite (Funding and Procurement Sequencing Plan v1.1 §6.14; Finalisation Plan v2.1 §F).

2.3 Global onshoring precedents

QSi's thesis follows a pattern established in other allied countries, each of which has committed substantial public capital to domestic semiconductor sovereignty:

Country	Programme	Commitment	Scope
United States	CHIPS and Science Act	US$52B+	Advanced logic + specialty; TSMC Arizona, Intel Ohio, etc
European Union	Chips Act	EUR 43B+	Sovereign capability; Intel Magdeburg, TSMC Dresden
United Kingdom	National Semiconductor Strategy	GBP 1B	Compound semi, R&D, design
Japan	METI subsidies	JPY 2T+	Rapidus, TSMC Kumamoto
South Korea	K-Chips Act	KRW 300T+	Memory leadership, logic expansion
India	Semiconductor Mission	INR 760B	Fabs, packaging, design
Singapore	Targeted programmes	SGD 3B+	Specialty fabs, materials
Australia	NRF + SIDF + IGF (semiconductors component)	A$105M+ (QSi component)	Sovereign short-run CS/SiC

Australia's commitment is smaller in absolute terms than US, EU or Japanese programmes, but is proportionate to the sovereign-capability objective rather than the advanced-logic-leadership objective. QSi's programme is the primary Australian implementation of this commitment in the short-run specialty segment.

2.4 AUKUS alignment and the 2026 NDS / IIP capability priorities

AUKUS Pillar II is advancing capabilities in undersea warfare, hypersonic and counter-hypersonic systems, artificial intelligence and autonomy, electronic warfare, quantum technologies, and advanced cyber (2026 IIP ¶1.48). Every one of these streams is built on compound semiconductors and secure microelectronics — RF and mixed-signal devices for

electronic warfare, radiation-tolerant and high-reliability devices for undersea and space systems, and PQC-integrated silicon for advanced cyber and quantum-adjacent applications. Trusted microelectronics assurance has additionally been flagged in trilateral AUKUS defence-industrial communiqués as an enabling workstream; QSi treats that workstream as upside and engages through the listed Pillar II streams, where the demand signal is formal and funded.

The 2026 National Defence Strategy and the 2026 IIP have together elevated the policy environment in which QSi operates. The Company's process portfolio maps directly onto five IIP capability priorities with material compound-semiconductor content:

(a) *Guided weapons and explosive ordnance — GaN/SiC power electronics for component manufacturing. The most active domestic-manufacturing line (A$26–36B over the decade, with a dedicated supply-chain uplift investment of over A$500M).*

(b) *Electronic warfare* — mixed-signal ICs, RF devices. Eligible for direct contract funding through ASCA Innovation Challenges.

(c) *Autonomous and uncrewed systems* — secure chip design, sensor fusion, motor control, navigation ICs.

(d) *Space and cyber* — PQC secure devices and radiation-tolerant ICs aligned with AUKUS Pillar II quantum and cyber workstreams.

(e) *Undersea warfare* — high-reliability compound semiconductors and secure fabrication for classified programmes.

The Company's AUKUS engagement is active but early-stage. Formal programme funding is not assumed in the Fab 1 base capital plan — any AUKUS funding that does materialise would be upside. The strategic value of AUKUS engagement today is market validation, customer access, and positioning for Phase 3 (Fab 2 and beyond). Federal Government engagement under §10 is now framed against this capability-priority map rather than against generic sovereign-capability language. The Development Director maintains active monitoring of ASCA Innovation Challenge releases.

3. Market Analysis

3.1 Global and regional market sizing

QSi's addressable market spans several semiconductor sub-segments. Global market sizing (2026 estimates, USD):

Segment	Global TAM	Growth rate	Specialty share
Total semiconductor market	US$600B+	8-10% CAGR	~15%
Compound semiconductor (GaN, GaAs)	US$45B	15-18%	Growing

Segment	Global TAM	Growth rate	Specialty share
		CAGR	
Silicon carbide (SiC)	US$12B	20-25% CAGR	Scaling rapidly
Defence electronics	US$35B	6-8% CAGR	High
Medical semiconductor (implantable, diagnostic)	US$25B	10-12% CAGR	High
Power electronics	US$50B	12-15% CAGR	Medium
RF communications	US$30B	8-10% CAGR	High for compound semi

3.2 Australian and AUKUS addressable market

Australian and AUKUS-partner addressable market for QSi (2030 estimates):

Segment	Australian TAM	AUKUS TAM (partner share)	Notes
Australian Defence and intelligence	A$350M+/year, growing	—	Direct sovereign demand
AUKUS defence primes (AU subcontracts)	A$500M+/year	—	Subcontract work
US/UK defence programmes (AUKUS Pillar II)	—	A$15B+ programme budgets	Trusted microelectronics tier
Australian medical device	A$100M+/year	—	Specialty; growing
Power electronics (SiC)	A$300M+/year	—	Grid + EV; 20%+ CAGR
Specialty industrial	A$200M+/year	—	Fragmented; opportunistic

3.3 Market dynamics

Three forces shape the market in QSi's favour:

(a) Sovereignty demand is structural, not cyclical. Unlike market-price fluctuations, the demand for trusted domestic supply is policy-driven and bipartisan. This creates a long-duration demand base independent of commodity semiconductor pricing cycles.

(b) Specialty chemistry demand is outpacing silicon. Compound semiconductors and silicon carbide offer performance characteristics (high frequency, high voltage, high

temperature, high radiation tolerance) that conventional silicon cannot match. Applications are growing — not transitioning from silicon.

(c) Integrated trust is becoming a customer requirement. AUKUS and Commonwealth programmes increasingly require supply-chain provenance, process integrity, and hardware-level assurance as prerequisites — not optional add-ons. QSi's Integrated Assurance Services offering is calibrated to this shift.

3.4 Market entry and share analysis

QSi does not need to capture dominant global market share to achieve the base-case financial plan. The base case assumes:

- Meaningful share of Australian Defence and sovereign customer demand (the primary structural base)
- Opportunistic capture of AUKUS-aligned trusted microelectronics demand (Pillar II programmes)
- Limited share of global specialty market (focus on trusted-tier customers rather than commodity)
- Growing share of Australian SiC/power electronics demand (energy transition applications)

Upside scenarios (not baked into the base case) include: larger AUKUS programme participation; significant specialty pull from Asia-Pacific allied customers; pandemic or geopolitical-driven onshoring acceleration.

4. Products and Services

4.1 Service offering overview

QSi's service offering evolves in stages, with each offering generating revenue and establishing customer relationships before the fab is operational:

Service	Description	Phase 1	Phase 2	Phase 3
Chip Testing & QA	Testing services — characterisation, reliability, qualification	ACTIVE	Ongoing	Ongoing
PQC Audit & Assurance	Post-quantum cryptography hardware assurance	ACTIVE	Ongoing	Ongoing
Process Development	Customer process qualification and development	—	ACTIVE	Ongoing
Foundry Production — GaN	High-frequency RF and power GaN fabrication	—	ACTIVE (2028)	Expanded
Foundry Production — SiC	Power electronics SiC fabrication	—	ACTIVE (2028)	Expanded
Foundry Production — GaAs	Analog, opto, space-qualified GaAs	—	LIMITED	ACTIVE (2029)
Integrated Trust Services	Fab + Assurance packaged for defence	—	—	ACTIVE (2029+)
MEMS Manufacturing	Specialty sensors, medical, industrial	—	—	ACTIVE (2030+)

4.2 Technology platforms

Fab 1 will support five primary process platforms. Platform selection reflects strategic and commercial alignment rather than a broad foundry offering:

(a) Gallium Nitride (GaN). Target applications: radar, RF communications, defence electronics, power electronics (high-frequency). Phase 1 pilot capability through partner facilities; Fab 1 commercial production from 2028. GaN is a critical AUKUS Pillar II technology.

(b) Silicon Carbide (SiC). Target applications: grid infrastructure, renewable energy inverters, electric vehicle power electronics. SiC is the fastest-growing segment of the compound semiconductor market with structural demand drivers (energy transition).

(c) Gallium Arsenide (GaAs). Target applications: analog, optoelectronic, space-qualified. Phase 2.5 addition (from 2028-2029).

(d) Silicon — mature specialty. For cases where sovereign supply is the differentiator and compound semi is not required. Limited capacity from Fab 1 open.

(e) MEMS and specialty sensors. Medical, industrial, defence applications. Phase 2.5 or Phase 3 addition depending on customer demand.

4.3 Customer-specific offering

Offerings are configured for specific customer segments:

Customer segment	Offering configuration
Australian Defence and intelligence	DISP-accredited production; secure logistics chain; cleared personnel; AUKUS-compatible processes; Integrated Trust Services
AUKUS prime subcontract	Standard fabrication against prime specifications; export-control compliant handling; documented provenance
Defence primes (Australian arm)	Pre-qualified processes; fast turnaround; local delivery and support
Medical device	FDA/TGA-compliant production environment; long-term supply commitment; IP protection; regulated quality systems
Power electronics (SiC)	High-volume production (relative to other segments); commodity-plus pricing; logistics efficiency; application engineering support
Specialty industrial	Flexible process windows; small-run capability; rapid iteration; design support

4.4 Integrated Assurance Services

Integrated Assurance Services is a distinctive offering category that packages fabrication with formal assurance deliverables. It includes:

- Process integrity certification (documented process-in, wafer-out chain of custody)
- Supply-chain provenance verification
- Post-quantum cryptographic hardware testing
- Side-channel analysis coordination
- AUKUS-aligned engagement certification
- Export-control compliance documentation
- Hardware security verification reports

Integrated Assurance Services commands premium pricing (40-50% above bare wafer pricing) and creates durable customer lock-in. It is a strategic differentiator for defence and AUKUS customers.

5. Competitive Strategy

5.1 Positioning

QSi competes not on cost-per-wafer but on trust, chemistry, process flexibility, and supply assurance. The four-dimensional positioning:

Dimension	**QSi**** position**	**Competitor contrast**
Sovereignty	Australian-sovereign by construction	Foreign or foreign-controlled alternatives
Chemistry	Specialty compound + SiC + mature Si	Commodity silicon (TSMC, Samsung, Intel)
Volume	Short-run specialty (flexible)	Mass-production foundries (fixed large runs)
Trust services	Integrated with fabrication	Separate/unbundled (customer assembly required)

5.2 Defensible moats

Defensibility derives from multiple compounding sources. No single moat is sufficient alone; the combination creates durable competitive position:

(a) Sovereignty moat. No foreign competitor can credibly offer Australian sovereign status. Foreign ownership restrictions (FATA, SOCI) and AUKUS-alignment constraints create substantial structural barriers. This moat is structural, not contingent on execution.

(b) Government co-investment moat. The Commonwealth and Queensland Government arre expected to committed substantial capital to the QSi programme. A competitor attempting to replicate would need to secure equivalent government support — but the sovereign-capability thesis favours a reference player, not multiple duplicates. This is a moat of policy and timing.

(c) Customer switching cost moat. Specialty semiconductor customers have high switching costs: process qualification, design rules, security clearance integration, supply-chain audit baselines. Once a customer's design is qualified at QSi, replacement requires full re-qualification (typically 6-18 months). This creates durable revenue retention.

(d) Compliance infrastructure moat. DISP-accredited facility, export-control systems, AUKUS-aligned governance, cleared personnel pool — these take years to build. A new competitor would face 5-7 years to match this from a standing start.

(e) Physical infrastructure moat. Class 100 cleanroom, qualified process equipment, utility infrastructure — these are multi-year, capital-intensive to replicate. A new domestic competitor would need Commonwealth support equivalent to QSi's

(unlikely given the sovereign-reference logic) and equivalent commercial traction (also unlikely).

(f) Queensland industrial ecosystem moat. Queensland State Government support, university partnerships (UQ, QUT, Griffith), TAFE workforce pipeline, local supply chain, community engagement — an integrated local ecosystem is difficult to replicate elsewhere. Moving the programme to another state is a substantial cost.

5.3 Competitor landscape

Reference competitors across relevant segments:

Competitor	**Location**	**Focus**	**QSi**** differentiation**
Wolfspeed / MACOM	US	GaN/SiC device manufacturing	Australian sovereign; AUKUS-local; specialty short-run
II-VI / Coherent	US	Compound semi substrates, devices	Australian domestic; shorter supply chain
IMEC	Belgium	R&D, prototyping, specialty	Commercial production (not R&D); Australian sovereign
GlobalFoundries Singapore	SG	Mature-node silicon logic	Different segment; specialty chemistry focus
Taiwanese specialty foundries (incl. WIN, TSMC specialty lines)	TW	Specialty analog, compound	Supply-chain trust; no Taiwan Strait risk; AUKUS-compatible; TAA-compliant fabrication for US-procurement-linked programmes
UK / EU specialty fabs (X-Fab, IQE)	UK/EU	Specialty, defence-adjacent	Australian; AUKUS-local; lower logistics barriers; TAA compliance pathway
Hendon Semiconductors	South Australia	Hybrid IC and PCB fabrication on Defence contracts and government support	Compound-semiconductor and photonics chemistry vs Hendon's hybrid IC focus; Queensland geography to different defence-prime relationships; complementary not directly substitutable
Australian National Fabrication Facility (ANFF)	Australia (multi-node, university-linked)	National research fabrication network at TRL 4–5	Pilot manufacturing scale (TRL 6–7) where ANFF lacks capacity; complementary if positioned correctly; not a competitor on production work

Two Australian comparators warrant direct acknowledgement. *Hendon Semiconductors* (South Australia) is the closest sovereign-capability comparator and the most likely

competitor on Commonwealth panel work. Hendon's government-contract-underwritten model is the most relevant Australian template for QSi's Layer 3 demand backstop and is acknowledged here directly because any government funding body reviewing QSi's application will identify it independently. Differentiation is defensible on chemistry (compound semiconductors and photonics versus Hendon's hybrid IC and PCB focus), geography (Queensland to different defence-prime relationships), and capability mix (short-run specialty versus established hybrid runs). *ANFF* serves an upstream research role and is complementary to QSi's pilot manufacturing scale rather than a substitute.

International specialty foundries (X-Fab, WIN, IQE) cannot satisfy AUKUS or Australian Government trusted-supply-chain requirements and therefore do not compete in QSi's core target segment. The TAA dimension cuts in QSi's favour for US-procurement-linked work that requires TAA-compliant fabrication.

5.4 Pricing strategy

QSi's pricing reflects the value of trust, sovereign supply, and integrated assurance — not global commodity wafer pricing. Expected pricing position:

- Bare wafer pricing: moderate premium (5-15%) to global commodity specialty foundries
- Defence/AUKUS pricing: meaningful premium (20-40%) reflecting trust and assurance services
- Assurance-only services: premium pricing (50%+) reflecting specialist nature
- Power electronics (SiC) pricing: competitive with global offerings; margin from scale over time

5.5 Strategic risk and counter-positioning

Identified competitive threats and the Company's response:

Threat	Response
Foreign competitor establishes Australian presence	Foreign ownership restrictions + AUKUS-alignment constraints create barriers. Foreign entrants cannot credibly operate in sovereign niche.
Large subsidy programme by competitor government	QSi competes on trust and sovereignty, not lowest price. Price-based competition from subsidised foreign competitors does not contest QSi's addressable market.
Competing Australian start-up with similar thesis	Government support for reference capability, not duplicates. First-mover status; scale and operational maturity advantage; Queensland ecosystem lock.
Political cycle change	Bipartisan support for sovereign supply; AUKUS commitments cross-party; long-duration programme contracts reduce political-cycle exposure.
Technology substitution (alternative form factors)	QSi is at the wafer-fab-to-packaging-assurance node — durable for a decade+. Technology roadmap updated annually via TSAC.

6. Operations Plan

6.1 Phased programme

Operations progress through five distinct phases, each with specific capital, milestones, and operational targets:

Phase	Period	Capital	Description
Phase 1 — Fabless	2026-2027	A$5M	Fabless operations: process dev, customer engagement, site/equipment procurement planning, DISP buildout
Phase 1.5 — Chip testing	2026-2027	A$11M	Chip testing and assurance service facility
Phase 2 — Fab 1 build	2026-2028	A$250M	Site, cleanroom, equipment procurement, process qualification
Phase 2.5 — Fab 1 enhancement	2028-2030	A$55M	GaAs capability add, MEMS line, capacity uplift

6.2 Site selection

Two sites are under detailed evaluation for Fab 1. Final selection is at Series A close:

Factor	Wellcamp (Toowoomba)	Gold Coast Airport
Land cost and availability	Lower	Moderate
Workforce availability	Moderate (regional)	Stronger (Brisbane/Gold Coast)
Utilities (power, water, gas)	Negotiated rates	Standard commercial
State Government regional support	Strong	Standard
Proximity to Brisbane HQ	~2 hrs	~1 hr
Construction baseline cost	Lower	Moderate
Site acquisition status	RFP phase	RFP phase

Both sites meet all technical criteria (power, water, gas, environmental, workforce). Final decision weighs regional development objectives (Wellcamp) against workforce efficiency (Gold Coast) and is taken by the Board at Series A execution. Archerfield is another site also under consideration but yet to be integrated into current RFP processes.

6.3 Fab 1 construction schedule

Workstream	Start	Finish	Key deliverable
Site DA and approvals	Q2 2026	Q4 2026	Development approval,

Workstream	Start	Finish	Key deliverable
			environmental
Cleanroom design finalisation	Q2 2026	Q4 2026	Class 100 design
Building construction	Q4 2026	Q3 2027	Shell + services
Cleanroom fit-out	Q3 2027	Q1 2028	ISO 5 qualification
Equipment procurement (Phase 1)	Q3 2026	Q4 2027	Tools ordered, deposits paid
Equipment installation	Q2 2027	Q2 2028	Tool commissioning
Process qualification	Q3 2027	Q3 2028	Baseline processes qualified
Pilot production	Q1 2028	Q4 2028	Customer samples
Commercial production	Q4 2028	Ongoing	First commercial revenue

6.4 Equipment procurement

Fab 1 tool-set budget approximately USD $70M, allocated:

Category	Indicative USD spend	Lead time	Strategy
Lithography (DUV, photomasks)	$20-25M	14-18 months	Dual-source where possible; deposit in 2026
Deposition (CVD, PVD)	$15-20M	12-15 months	Multi-vendor; reservation 2026
Etch (wet, dry, RIE)	$10-12M	9-12 months	Competitive quote
Implant and thermal	$8-10M	12-15 months	Specialist vendor
Test and metrology	$6-8M	6-9 months	Competitive quote
Ancillary (cleanroom, chemicals)	$8-10M	6-12 months	Local and international mix

Grant-funding sequencing rule

Equipment commitments are sequenced behind execution of any grant agreement that contemplates funding for the relevant equipment (notably DIDG, NRF, SIDF, IGF, ACIF, and Transforming Queensland Manufacturing Grants). Equipment purchased before grant agreement execution is generally ineligible for grant support — a hard sequencing constraint that binds the timing of long-lead reservations to government-counterparty engagement. Where this constraint creates schedule tension with long-lead procurement (lithography platforms in particular), the Audit and Risk Committee will rule on the trade-off case-by-case. Reflected at Risk R05 in the Risk Register and in Procurement Strategy v1.1 §4.5.

Trusted Supplier Panel discipline

Procurement above an agreed threshold is restricted to members of the Phase 2 Trusted Supplier Panel, defined by reference to AUKUS Pillar II trusted-supplier expectations and applicable Australian, US, and UK export-control regimes including the United States Trade Agreements Act (TAA). Procurement Strategy v1.1 §4.3 sets out the framework.

6.5 Utility arrangements

Power

Build-Own-Operate (BOO) arrangement with yet-to-be determined counterparty for dedicated Battery Energy Storage System and diesel generator backup power. Capital cost (third-party financed): approximately A$57M. Operating expense to QSi under long-term agreement (20-year initial term). This structure provides power stability (critical for semiconductor processes) and renewable integration option while keeping the capital off QSi's balance sheet.

Water

Sourced from local authority under commercial supply agreement. Ultra-pure water system is an in-fab capital item (included in Fab 1 equipment budget).

Gas

Specialty semiconductor gases sourced from approved vendors (Linde, Air Liquide, or equivalent) under multi-year supply agreements.

6.6 Workforce ramp

Role category	Ph 1 (2027)	Fab 1 open (2028)
Engineering (process, device, equipment)	~10	~25
Technicians (cleanroom)	~5	~20
Quality and test	~3	~10
Security and assurance	~3	~5
Commercial and customer engagement	~4	~8
Operations and support	~3	~7
Leadership (ELT + management)	~3	~5
TOTAL	~31	~80

Workforce strategy includes:

- Queensland-based hiring wherever feasible
- Security clearance sponsorship for roles requiring it
- University partnerships (UQ, QUT, Griffith) for pipeline
- TAFE Queensland partnership for technician pipeline
- Targeted international hires for specialist roles (with DISP/clearance constraints)
- Competitive remuneration including equity (ESOP) for retention

Compliance and counsel arrangements:

- *Specialist ITAR/TAA export-control counsel* engaged on a retainer basis (external rather than internal hire) reporting to the Governance and Finance Director, with a written fabless-phase compliance position to be completed in Phase 1 before substantive engagement with AUKUS-aligned customers (R21).
- *Ongoing-compliance-management capability* under the Chief Security Officer from Fab 1 onwards, covering Essential Eight ML2 sustainment, DISP membership maintenance, and CMMC2 System Security Plan management (R22). Treated as operating cost.
- *ASD non-Five-Eyes supply-chain interface controls* for cleanroom control systems, EDA tools, and Taiwanese supply-chain interfaces (vendor support relationships and remote-access pathways). Operational-security workstream within the CSO function.

7. Technology and Intellectual Property

7.1 Technology roadmap

The Company maintains a five-year technology roadmap, reviewed annually by the Technology and Security Advisory Committee. Current roadmap highlights:

Technology	2027	2028	2029	2030
GaN RF	Pilot	Commercial	Expanded	Volume
SiC power	Pilot	Commercial	Expanded	Volume
GaAs specialty	—	Limited	Pilot	Commercial
MEMS	—	—	—	Pilot
PQC hardware assurance	Service	Service	Integrated	Integrated
Trusted microelectronics assurance	Preparatory	Qualifying	Operating	Full

7.2 IP strategy

The Company's IP strategy recognises that specialty semiconductor IP is a mix of patentable technology, trade secrets, and process know-how. The strategy comprises:

(a) Patent strategy. Focused patent filing on distinctive process innovations (not commodity processes). Priority filings in Australia, United States, Japan, and Europe. Defensive filings where relevant.

(b) Trade secret and know-how protection. Process know-how treated as trade secret, protected through access controls, confidentiality obligations, cleared-personnel practices, and secure documentation. Trade-secret protection under the Foreign Influence and Ownership Policy.

(c) IP ownership. All IP developed by the Company, its employees, or its contractors is assigned to the Company under standardised IP assignment agreements. Founder IP contributed at incorporation is documented.

(d) Licensed-in technology. Tool vendor process libraries, third-party software, university research collaborations — managed via formal licence agreements with clear scope, royalty, and compliance obligations.

(e) Freedom-to-operate. Ongoing FTO analysis to mitigate infringement risk, particularly as process technology evolves. External IP counsel engaged for strategic filings and FTO assessments.

7.3 Post-Quantum Cryptography capability

PQC is a distinctive QSi capability. The Company's PQC posture includes:

- Hardware-level PQC implementation support
- Secure-design engagement (audit, assurance) for customers
- Assessment against NIST PQC standards and allied standards
- Integration with trusted-microelectronics assurance protocols
- Partnership with Australian cryptographic research centres

PQC capability is not the core business but enhances the assurance service proposition materially and aligns with emerging defence/AUKUS customer requirements.

7.4 Research partnerships

Key research and academic partnerships that we aim assist supporting technology development:

- University of Queensland (UQ) — materials science, process research, workforce pipeline
- Queensland University of Technology (QUT) — manufacturing processes, industrial engineering
- Griffith University — quantum, materials, microelectronics research
- Australian Research Council grants (where eligible)
- DSTG (Defence Science and Technology Group) — defence-relevant collaboration
- AUSMURI programmes — multi-university research initiatives

- International collaborations under AUKUS Pillar II frameworks (subject to export controls)

8. Go-to-Market Strategy

8.1 Customer acquisition

Customer acquisition follows segment-specific pathways:

Segment	Primary channel	Typical cycle
Australian Defence and intelligence	Direct engagement; DISP framework	12-18 months to commitment
Defence primes (Australian)	Engineering qualification + contract	9-15 months
AUKUS Pillar II programmes	Government programme office engagement	12-24 months
Medical device	Direct + industry body; MSA structure	9-18 months
Power electronics (SiC)	Direct engineering; trade events	6-12 months
Specialty industrial	Direct; industry network; distributors	3-12 months
ASCA Innovation Challenges (NEW v2.2)	Direct response to challenge releases	Per challenge release

TAA-restricted vs non-restricted segmentation. The customer-acquisition pipeline is operationally segmented into (a) TAA-restricted programmes — those funded under the United States Trade Agreements Act framework, including most Foreign Military Sales pathways and many US-prime contracts under AUKUS Pillar II flow-downs — which require TAA-compliant fabrication and therefore cannot be served by Taiwan-based fabless fabrication during Phase 1; and (b) non-restricted programmes — Australian Government, AUKUS-aligned research, allied prime subcontract work, and Australian commercial — for which Phase 1 fabless fabrication is permissible. Phase 1 customer acquisition activity is concentrated on non-restricted programmes; substantive engagement with TAA-restricted programmes is sequenced behind both (i) the written ITAR/TAA fabless-phase compliance position from specialist counsel (R21) and (ii) Fab 1 commissioning from Q4 2028 as the resolution pathway.

8.2 Customer pipeline management

The Company maintains a structured customer pipeline with five stages:

Stage	Description	Governance
Identified	Prospective customer identified; initial contact made	Head of Commercial tracking

Stage	Description	Governance
Qualified	Technical fit confirmed; business case framed	Head of Commercial + Technical Director review
Engaged	Active discussions, NDA, technical exchange	Monthly pipeline review
Committed	LOI / MOU signed; specific project scope	Monthly Board reporting
Contracted	MSA + SoW or Supply Agreement executed	Integrated into revenue forecast

Customer Segmentation Register. In addition to the five-stage progression, every pipeline opportunity is recorded against a TAA-restricted vs non-restricted segmentation flag in a Customer Segmentation Register maintained by the Development Director. Quarterly review at Board level. The register is a documented control supporting R21 and is made available to defence-customer due diligence on request.

MoU with the AUKUS-aligned contractor. The pre-commitment MoU with the unnamed AUKUS-aligned contractor referenced in §8.4 is being managed under this segmentation framework with a formal flow-down compliance assessment as part of the MoU-management workstream. The pre-procurement commercial validation it provides is unaffected; the structural compliance pathway is articulated transparently to the counterparty.

8.3 Sales and commercial team

Commercial team buildout:

- Head of Commercial — strategic customer engagement, pipeline leadership
- Customer Engineer(s) — technical engagement, qualification support
- Commercial Manager(s) — contract negotiation, commercial terms
- Customer Success — post-contract relationship management
- Marketing (as scale warrants) — industry presence, thought leadership

8.4 Pre-procurement revenue

Pre-procurement programmes provide committed revenue before Fab 1 is operational and validate the customer pipeline for Subscribers. Target pre-procurement:

- Pre-procurement commitments as LOIs by Series A close
- Focus on Australian defence and AUKUS-aligned customers
- Pre-procurement customers have priority allocation at Fab 1 operational
- Pricing and commitment structure reflects priority access value

8.5 Customer reference management

Strategic customer relationships are managed by designated Account Managers and maintained under a formal account plan. Key elements:

- Named executive sponsor for each strategic account (CEO or senior executive)
- Quarterly business review cadence
- Formal account plan with relationship map, technical roadmap alignment, commercial commitment profile
- Customer advisory board (planned for 2028) providing input on technology roadmap
- Reference customer programme supporting pipeline and Subscriber diligence

9. Financial Plan

9.1 Financial strategy

The Company's financial strategy recognises:

- High CAPEX during build phase (2026-2028 for Fab 1)
- Revenue ramp concentrated in Phase 2 operational years (2028-2030)
- Accumulated losses through build phase turning to profit from 2031
- Cash cycling through CAPEX cycles — peak cash post each fab commissioning, trough during construction
- Conservative cash buffer always maintained above 6 months operating runway

9.2 Summary P&L

Summary P&L extracted from the integrated financial model. Full monthly detail available in the data room.

(A$M)	2026	2027	2028	2029	2030	2031	2032
Revenue	Nil	$1M	$14M	$23M	$35M	$45M	$54M
Operating Expense	$13M	$10M	$12M	$14M	$21M	$25M	$27M
EBITDA	($13M)	($9M)	$1M	$9M	$14M	$20M	$27M
Depreciation	Nil	Nil	$4M	$9M	$9M	$9M	$9M
Net Interest	Nil	Nil	$3M	$8M	$10M	$10M	$10M
Net Income	($13M)	($10M)	($5M)	($1M)	($5M)	$1M	$5M

EBITDA turns positive in 2028 with Fab 1 operational. Net Income turns positive in 2031 as revenue ramps and depreciation stabilises. All figures are consistent with the financial model's P&L tab.

9.3 Summary Balance Sheet

Summary Balance Sheet from the reconciled BS tab.

(A$M)	2026	2028	2030	2032
Cash	$12M	$27M	$155M	$138M

(A$M)	2026	2028	2030	2032
Property, Plant & Equipment (gross)	Nil	$83M	$83M	$161M
Total Assets	$12M	$110M	$219M	$265M
Loans	Nil	$36M	$134M	$131M
Total Liabilities	$2M	$38M	$135M	$133M
Contributed Equity	$24M	$100M	$118M	$159M
Retained Earnings	($13M)	($28M)	($34M)	($27M)
Total Equity	$10M	$72M	$84M	$132M

9.4 Summary Cash Flow

Summary Cash Flow from the reconciled CFS Clean tab. Reconciles to BS Clean cash at every year-end (verified).

(A$M)	2026	2028	2030	2032
Cash from Operating Activities	($11M)	($3M)	$4M	$14M
Cash from Investing Activities	Nil	($35M)	Nil	Nil
Cash from Financing Activities	$24M	$34M	Nil	($3M)
Net Change in Cash	$12M	($4M)	$4M	$12M
Opening Cash	Nil	$31M	$151M	$126M
Closing Cash	$12M	$27M	$155M	$138M

9.5 NPV and IRR

Enterprise NPV to 2040 horizon, at range of discount rates:

Scenario	NPV @ 7%	NPV @ 2.5%
100% Equity (no government grants)	A$991.9M	A$1,913.9M
With NRF and IGF grants	A$1,068.9M	A$1,995.9M
With all grants (NRF + IGF + SIDF)	A$1,087.4M	A$2,015.3M
Break-even IRR (100% equity)	23.1%	—
Break-even IRR (all grants)	28.0%	—

NPV analysis excludes terminal value beyond 2040. Conservative assumptions applied to revenue ramp, pricing, and cost structure. Detailed sensitivity analysis available in the data room.

9.6 Sensitivity analysis

Key sensitivities in the base case (indicative — detailed analysis in data room):

Variable	Sensitivity	Primary impact

Variable	Sensitivity	Primary impact
USD/AUD exchange rate	+/- 10%	Equipment cost; hedged for committed exposures
Customer revenue ramp	+/- 20%	Net income timing; cash flow profile
CAPEX overrun	+ 10%	Total capital requirement; milestone gating reduces early exposure
Commissioning delay (Fab 1)	6-12 months	Revenue deferral; cash trough extends
Government grant timing	+/- 6 months	Working capital; private capital drawdown timing
Interest rates	+/- 1%	Debt cost; refinancing flexibility
Wafer throughput / utilization	Fab 1 production floor 125 wpw (42% of theoretical capacity ~300 wpw); pricing A$2.5k blended to A$8–12k trusted-provenance	Sustained commercial self-funding at the 125 wpw floor turns on realised pricing; Layer 3 government-contract underwriting is the backstop. Captured at R23 (Risk Register v3.6). Wafer Throughput Stress tab in financial model (v21).
Cybersecurity compliance timing	E8 → DISP → CMMC2 sequence; C3PAO queue lead times material	Failure to certify on timeline gates defence-customer engagement and prime-contractor onboarding. Captured at R22.
TAA compliance for US-linked programmes	Taiwan-fab phase-locked addressable revenue	Constrains AUKUS-aligned customer engagement until Fab 1 operational. Captured at R21. Customer-pipeline segmentation (§8.1, §8.2) is the operating control.

10. Funding Strategy

10.1 Capital structure philosophy

Capital structure principles:

- Blended sources reduce dependency on any single capital provider
- Equity-heavy early (Phase 1, Phase 2 base) to avoid early debt burden
- Debt introduction from Phase 2.5 once operations are generating cash
- Milestone-gated drawdowns align private capital with programme progress
- Government co-investment concurrent, not substitutive
- No exotic instruments (convertibles, warrants, liquidation preferences beyond 1x non-participating)

10.2 Fab 1 capital structure

Source	Target amount	Share of Fab 1	Structure
Series A private capital (Family Office Syndicate)	A$100M	~40%	Series A Preference (1x non-participating; BBWA anti-dilution)
Government co-investment — NRF	A$80M	~32%	Flexible: grant, equity, or concessional debt
Government co-investment — SIDF	A$20M	~8%	Matched grant (net value)
Government co-investment — IGF	A$5M	~2%	Matched grant (net value)
Pre-procurement revenue	A$15M+	~6%	Committed customer contracts
Equipment finance / structured debt	A$70M+	~28%	Secured against equipment; primarily Phase 2.5
Less overlapping / netting adjustments	(A$40M)	(~16%)	

10.3 Series A round structure

Series A round is targeted at the Family Office Syndicate model — not traditional institutional PE. Structure:

- A$100M target aggregate private capital
- 3-5 Family Offices expected to participate
- Investor Director nominated by Lead Subscriber

10.4 Milestone-gated drawdown

Subscribers draw capital in six tranches tied to specific milestones:

Gate	Milestone	% drawn cumulative
Gate 1	Series A close — signing	20%
Gate 2	Site HoA executed + DA lodged	35%
Gate 3	Cleanroom design finalised + first equipment POs	50%
Gate 4	Building shell construction 50% complete	65%
Gate 5	Cleanroom fit-out 50% complete + first tool installed	80%
Gate 6	Pilot qualification wafer out	100%

Series A capital is sought exclusively from a family office syndicate — patient capital matched to the programme's duration. The First Tranche (Gate 1 — 20%, approximately A$20M on the target raise) is the enabling event for the government co-investment programme: NRF formal application, SIDF Assistance Agreement, and IGF/DIDG Grant

Agreements are prosecuted from First Tranche funds, so that committed private capital unlocks the government co-investment that completes the Fab 1 capital stack. The 2026 NDS formalises this delivery model — equity-based financing through Commonwealth specialist direct investment vehicles alongside private financing, with approximately A$5B over the forward estimates and A$15B over the decade identified for alternative-financing delivery (NDS ¶10.5–10.6).

10.5 Use of proceeds

Series A proceeds allocation:

Use	Allocation
Site and building construction	~40%
Cleanroom construction and qualification	~30%
Equipment deposits and phased procurement	~20%
Workforce build and training (years 1-2)	~8%
Legal, compliance, DISP accreditation	~2%

10.6 Longer-term funding

Post-Series A funding is phased:

(a) Phase 2.5 (2028-2030): Combination of operating cash flow (Fab 1 revenue ramp) and equipment finance. No large equity raise assumed.

(b) Potential Phase 3 (2030-2032): Fab 2 capital raise. Indicative A$655M structured as: operating cash (substantial by 2030), second institutional round (possibly Series B or growth equity), government programme support (AUKUS or new NRF tranche), equipment finance, potentially debt markets (green or sustainability-linked).

(c) Exit event (2034+): IPO, trade sale, or structured secondary. See Section 13 of the Information Memorandum for detailed exit path analysis.

11. Risk Management

11.1 Risk management framework

The Company operates under a formal Risk Management Framework (adopted v1.0) based on ISO 31000 principles with a 5x5 likelihood/impact matrix. The framework includes:

1. Risk Appetite Statement — reviewed annually by the Audit and Risk Committee
2. Risk Register (currently v3.5) — populated with 23 substantive risks, maintained by the CFO/Company Secretary, reviewed quarterly by the Audit and Risk Committee
3. Three Lines of Defence model — management (Line 1), risk/compliance (Line 2), internal audit (Line 3)

4. Key Risk Indicators (KRIs) tracked and reported
5. Incident reporting and escalation protocols
6. Business Continuity Plan — annual testing
7. Crisis Management Plan – to be developed

11.2 Risk Register — current state

The Risk Register (v3.5) is the operating register of the Framework. It contains 23 substantive risks across six categories, each scored before and after current controls, with named accountable owners and proposed treatment for residual exposure. The Audit and Risk Committee Briefing Note v1.0 wraps the Register with the operational governance scaffolding (cadence, escalation, treatment categories). Three risks (R21 TAA / ITAR Compliance Risk; R22 Cybersecurity Compliance Stack; R23 Wafer Throughput Commercial Viability) were added at v3.2 on integration of the ODIS Advisory Brief (Apr 2026); see §11.4.

Current risk profile:

Rating	Before Controls	Residual (after controls)
Extreme	6	0
High	8	0
Medium	9	17
Low	0	6
Total	23	23

Six Extreme-before-controls risks are reduced to Medium residual by current planned controls. They are: R01 Capital Formation and Continuity; R03 Execution Capability / Ramp and Yield; R04 Skilled Workforce Shortage; R05 Supply Chain and Long Lead Times; R21 TAA / ITAR Compliance Risk; R22 Cybersecurity Compliance Stack. The Audit and Risk Committee tests at quarterly review whether the controls behind each are operating effectively.

11.3 Principal risk categories

Risks are categorised for oversight purposes. Each category has an accountable executive, a Board committee with oversight, and defined mitigation actions:

Category	Accountable	Committee oversight
Strategic and market	CEO	Board
Operational (construction, equipment, process)	COO / Technical Director	Board
Financial (FX, liquidity, credit)	CFO	Audit and Risk Committee
Compliance (tax, employment, corporate, WHS)	CFO / General Counsel	Audit and Risk Committee
Security, defence, export control	Chief Security	Technology and Security

Category	Accountable	Committee oversight
	Officer	Advisory Committee
Cyber and IT	CSO / IT	Technology and Security Advisory Committee
Foreign influence and ownership	CSO	Technology and Security Advisory Committee
Personnel and cultural	Head of People	Remuneration and Nomination Committee
Environmental and community	COO	Audit and Risk Committee

11.4 Key risks and mitigations

Key risks below are aligned with the Risk Register entries (R-IDs shown). Detailed mitigation actions, scoring methodology, ownership, and treatment of residual exposure are set out in the Register itself.

Construction and equipment risk [R03, R05, R11, R14, R17]

Risks: equipment delivery delays (12-18 month standard lead times); site construction delays; process qualification challenges; cost overruns.

Mitigations: milestone-gated capital deployment; conservative budget with contingency; multi-vendor relationships; staged commissioning; experienced construction partner; pre-procurement of long-lead items from 2026.

Customer concentration risk [R02, R18]

Risks: early revenue concentrated in small number of anchor customers; single-customer loss could represent 20-30% of near-term revenue.

Mitigations: diversification across customer segments; long-duration MSA structures; pre-procurement revenue commitments; AUKUS and broader Commonwealth engagement.

Government funding risk [R01, R07]

Risks: grant/co-investment terms may change during negotiation; political cycle change; milestone compliance friction.

Mitigations: cross-party support for sovereign capability; structured engagement with multiple agencies (NRF + SIDF + IGF) reducing single-programme dependency; Board Chair engagement with senior government.

Export control and DISP compliance risk [R06, R09]

Risks: failure to maintain DISP membership; DTCA/ITAR/EAR/TAA violation; personnel security incident; absence of formal CMMC2 certification.

Mitigations: substantial investment in compliance infrastructure; CSO accountability; Technology and Security Advisory Committee oversight; Foreign Influence and Ownership Policy; annual compliance training; sequenced E8 → DISP → CMMC2 compliance stack (separately treated below at R22). The 2026 NDS strengthens the operating environment but elevates visibility of any residual non-allied dependency.

Foreign investment restriction risk [R06 — foreign ownership component]

Risks: Foreign Subscriber FIRB approval not obtained; aggregate foreign ownership threshold approached; Foreign Person status change post-Series A.

Mitigations: Foreign Influence and Ownership Policy; embedded transaction-document safeguards; FIRB approval as Condition Precedent where applicable; active monitoring of ownership register.

Technology and competitive risk [R13, R16, R19]

Risks: alternative technology displacing CS/SiC demand; global supply capacity expansion reducing specialty premium; new domestic competitor.

Mitigations: annual TSAC review of technology roadmap; specialty positioning protects from commodity; customer lock-in economics protect from switching; government co-investment supports reference status.

Team and execution risk [R03, R04]

Risks: Founder departure before commercial operation; key hire failure (CEO, CFO, CSO); attrition of experienced semiconductor personnel; cleared personnel clearance loss.

Mitigations: Founder Equity Agreement reverse-vesting; ELT succession planning under RemNom Committee; ESOP for retention; Queensland university pipeline; clearance sponsorship programme.

Liquidity horizon risk [accepted at investment thesis level]

Risks: commercial ramp delays extending horizon; exit market conditions at 8-12 years uncertain.

Mitigations: Secondary liquidity framework in Shareholders' Agreement; milestone-gated drawdown limits exposure; long-duration patient capital structure; multiple exit pathways considered (IPO, trade sale, secondary).

TAA / ITAR compliance risk during the fabless phase [R21]

Risks: devices fabricated in Taiwan during Phase 1 cannot be supplied into US-procurement-linked programmes (FMS pathways, US-prime contracts, AUKUS Pillar II flow-downs); inability to convert TAA-restricted opportunities in the active pipeline during Phase 1; AUKUS-aligned customer engagement constrained until Fab 1 operational from Q4

2028; TAA compliance position may surface in defence-customer due diligence prior to written counsel position.

Mitigations: formal Customer Segmentation Register (§8.2) maintained by the Development Director; domestic Fab 1 fabrication articulated as the resolution pathway; specialist ITAR/TAA export-control counsel engaged to produce a written compliance position covering the fabless phase before substantive engagement with AUKUS-aligned customers; written compliance position retained as a board record and made available to defence-customer due diligence; active monitoring of AUKUS export-control reform that may shift the underlying status (planning does not assume reform materialises before Fab 1 is operational).

Cybersecurity compliance stack risk [R22]

Risks: failure or delay in Essential Eight ML2 attestation gates DISP application; DISP membership delay constrains defence-customer engagement during Phase 1; CMMC2 certification queue lead times (C3PAO availability) are material and may slip first US-linked contract execution; cybersecurity incident during compliance build erodes trust posture.

Mitigations: sequenced compliance programme — Essential Eight ML2 gap assessment by an ASD-approved assessor (Phase 1, Q2/Q3); DISP membership application concurrent with Fab 1 planning, with E8 remediation substantially underway before submission; CMMC2 readiness assessment against NIST SP 800-171 and System Security Plan development concurrent with Fab 1 build; C3PAO third-party CMMC2 assessment scheduled ahead of first US-linked contract; ongoing compliance management capability built into operational staffing from Fab 1 onwards (CSO function — §6.6); documented compliance roadmap maintained as evidence of good-faith management for early government and prime-contractor engagement even before full certification; ASD non-Five-Eyes supply-chain interface controls (cleanroom control systems, EDA tools, Taiwan-based vendor remote-access pathways).

Wafer throughput commercial viability [R23]

Risks: Fab 1 has a theoretical capacity constraint of ~300 wafers per week (Fab 1 Capacity Model 2026 v2); planning assumes a production minimum of 125 wpw — 42% of theoretical capacity — pilot/prototype scale, not commercial-production scale by global benchmark. Sustained commercial self-funding at the 125 wpw floor is contingent on realised pricing: the floor generates ~A$15.6M annual gross revenue at the A$2,500 blended average (marginal against the fixed operating base) versus A$50–75M at trusted-provenance pricing of A$8,000–12,000 per wafer (self-funding); backstops are (a) sustained government contract underwriting (AUKUS sustainment, Commonwealth panel work, Defence Industry programmes) and (b) sovereign-capability premium pricing toward the top of the compound-semiconductor market.

Mitigations: trusted-provenance and sovereign-capability positioning supports the price premium; AUKUS sustainment-panel engagement supports the underwriting backstop; Layer 3 demand (Briefing Note §9.3) is the demand backstop; Phase 2.5 capacity uplift and Fab 2 expansion are the principal levers to lift throughput from the 125 wpw floor toward

the ~300 wpw theoretical capacity against the same fixed cost base; Wafer Throughput Stress tab in the financial model (v21) makes scenario assumptions explicit; sovereign-capability subsidy requirement articulated transparently in government co-investor engagement.

12. Management Team and Governance

12.1 Founders

The Company was founded by three individuals with complementary expertise.

Paget Hargreaves — Development Director and co-founder.

With 25 years experience in business development and investment across infrastructure, technology, energy and resources in Europe and the MENA/APAC regions, Paget has established himself as a key figure in innovative ventures. Paget is a founding director of Industrial Energy Systems (Australia), which focuses on solar thermal energy solutions, co-founded Asterion (Australia), which received Major Project Status from the Australian Federal Government in 2018 and was formerly a co-founder of Sundrop Farms (Australia), a global first project pioneering renewable energy-driven, pesticide-free indoor cropping for arid climates. Paget holds an MBA, a Graduate Certificate in Management, and a certificate in Circular Economies and Sustainable Strategies from the University of Cambridge Judge Business School.

Anthony Christian — Technical Director and co-founder.

Anthony Christian brings over three decades of comprehensive experience in the semiconductor industry, with a proven track record spanning design, facility management, and advanced process engineering. He began his career at Philips Semiconductors, where he gained hands-on expertise in every facet of semiconductor manufacturing, working his way from a maintenance engineer to project and process management roles across three fabs. His key contributions include playing an integral role in the design and construction of three diverse semiconductor fabrication plants.

After relocating to Australia, Anthony shifted his focus to research and development in semiconductor and nanotechnology, spending 15 years managing high-level R&D initiatives. His leadership was pivotal in his roles as Facility Manager at Griffith University and later as the Queensland Manager of the Australian National Fabrication Facility (ANFF) at the University of Queensland. Anthony's expertise is underpinned by a Master's degree in Vacuum Technology, further solidifying his deep technical knowledge and leadership in cutting-edge semiconductor technologies.

With a unique blend of practical engineering skills, project management experience, and academic leadership, Anthony is well-positioned to drive the growth and innovation of the Queensland Semiconductor Initiative (QSI), making him a key asset in bringing QSI's vision to life.

Dr Stewart McGlashan — Financial and Governance Director and co-founder.

Experienced professional with a global track record in agribusiness, engineering technology, energy, and environmental sectors. As the former Project Director for Asterion (Aust), he led the development of the world's largest medicinal cannabis production facility, overseeing construction design, budgets, financial modelling, and development approvals. With expertise spanning governance, engineering, business, and complex project development, Stewart has a strong background in energy, clean-tech, and intensive production systems across Australia, North America, and East Asia. He has over two decades of experience as an inventor, investor, and business manager. Stewart holds an MBA in Leadership and Doing Business in China, a PhD in Chemical Engineering, a Diploma as a Company Director, and a Bachelor of Engineering.

12.2 Executive Leadership Team

ELT buildout with Series A close:

Role	Timing	Status
Chief Executive Officer	At Series A close or promoted from Founders	Active
Chief Financial Officer	Within 3 months of Series A close	Active
Chief Security Officer	Within 3 months of Series A close	Active (DISP-qualified candidate)
Chief Operating Officer / Technical Director	Within 3 months of Series A close (may be a Founder)	Active
Head of Commercial	Within 6 months of Series A close	Planned
Head of People	Within 6 months of Series A close	Planned
Company Secretary	At Series A close	Active

12.3 Board composition

The proposed Board is structured under the adopted Board Charter:

- One Independent Chair
- Two Independent Non-Executive Directors
- One Investor Director (nominated by Lead Subscriber)
- Two Founder Directors

Majority independent. Board Skills Matrix maintained by the Remuneration and Nomination Committee covers 32 competencies across 5 clusters (Core Governance, Industry and Technology, Commercial and Capital, Risk/Security/Compliance, Diversity and Perspective). Current recruitment brief reflects gaps identified in the Matrix.

12.4 Board committees

Three Board Committees, each with adopted Charter:

Committee	Chair	Meeting frequency	Focus
Audit and Risk Committee	Independent Director	Quarterly + as required	Financial reporting, external audit, internal control, enterprise risk, compliance, treasury
Remuneration and Nomination Committee	Independent Director	3x per year + as required	Board composition, succession, evaluation, remuneration, culture, diversity
Technology and Security Advisory Committee	Independent Director	Quarterly + as required	DISP, export controls, AUKUS, cyber, foreign influence, critical infrastructure, PQC

12.5 Governance documents

The Company has adopted a comprehensive governance framework comprising 30+ documents (governance, policies, transaction templates, and reference tools):

- Board Charter and three Committee Charters; Board Skills Matrix (Word + working Excel tool)
- Amended Constitution (to adopt on Series A close) and Shareholders' Agreement
- Code of Conduct; Conflict of Interest Policy; Delegations of Authority
- Risk Management Framework; Whistleblower Policy; Anti-Bribery and Corruption Policy
- Securities Trading Policy; Treasury Policy; Foreign Influence and Ownership Policy
- Founder Equity Agreement (with reverse vesting) – to be merged with Shareholder Agreement; Employee Share Option Plan (15% pool)
- Director Deed of Indemnity; Director Appointment Letter template; Fit and Proper Declaration
- Disclosure Letter (framework populated); Model Subscription Application Form; Subscription Agreement
- Mutual NDA; Data Room Index;
- Investor Teaser (pre-NDA); Information Memorandum (post-NDA)

12.6 Compensation philosophy

Remuneration principles:

- Competitive with Australian semiconductor and technology industry benchmarks
- Equity participation for ELT and key technical hires via ESOP (15% pool)
- Director remuneration within shareholder-approved cap
- Founder Directors not separately remunerated (Founder Equity Agreement)
- Annual review by Remuneration and Nomination Committee
- Performance-linked component for ELT tied to Board-approved milestones

13. Milestones and Key Performance Indicators

13.1 Programme milestones

Year	Milestone	Success criterion
2026 Q2	Series A close	A$100M private capital committed; government co-investment confirmed
2026 Q3	Site selection	HoA executed — Wellcamp, Archerfield or Gold Coast
2026 Q4	DA lodged	Development Approval lodged for chosen site
2026 Q4	Chief Financial Officer appointed	CFO in role
2026 Q4	Chief Security Officer appointed	CSO in role; DISP-qualified
2027 Q1	Cleanroom design finalised	Class 100 / ISO 5 design complete
2027 Q2	First equipment POs issued	Major lithography, deposition equipment ordered
2027 Q4	Building shell complete	Construction milestone
2028 Q1	Cleanroom fit-out complete	ISO 5 qualification achieved
2028 Q2	First equipment installed	Tool commissioning begins
2028 Q3	Process qualification	Baseline GaN and SiC processes qualified
2028 Q4	First commercial wafer shipment	Revenue from fab operations
2029	Customer ramp	Anchor customer qualification complete
2030	Phase 2.5 enhancement complete	GaAs capability added; capacity uplift
2030	Fab 2 planning complete	Fab 2 programme defined, capital structure finalised
2032	Fab 2 operational	Full programme at operational scale

13.2 Operational KPIs

KPIs are tracked monthly and reported to the Board quarterly. Categories:

Category	Metric	Target
Financial	Cash runway (months)	≥ 6 months at all times
Financial	Cash vs forecast variance	± 10%
Financial	CAPEX spend vs budget	± 5% in quarter; ± 10% cumulative
Financial	Revenue vs forecast	± 15% in quarter

Category	Metric	Target
Commercial	Customer pipeline — committed stage	Quarterly target by phase
Commercial	Customer concentration (largest)	< 35% from 2029
Operational	Construction milestone compliance	On schedule
Operational	Equipment commissioning on schedule	On schedule
Operational	Process qualification on schedule	On schedule from 2027
Operational	Fab uptime (from Fab 1 open)	> 95%
Quality	Customer acceptance rate	> 95%
Quality	Yield (from pilot)	Industry benchmark by process
Risk	Open High/Extreme risks	≤ 5 at any time
Risk	Material compliance incidents	Nil tolerance
People	ELT vacancies	Nil > 3 months
People	Staff attrition (voluntary)	< 15% annualised
People	Cleared staff % of requiring roles	100% or approved variance
Culture	Employee engagement	Annual survey, target ≥ 75%

13.3 Board reporting cadence

Board reporting cadence aligns with meeting frequency:

- Board meetings: every 6 weeks (more frequent in intensive construction/commissioning periods)
- Audit and Risk Committee: quarterly + as required
- Remuneration and Nomination Committee: 3x per year + as required
- Technology and Security Advisory Committee: quarterly + as required
- CFO monthly report: cash, financial position, forecast vs budget
- CEO monthly report: strategic update, commercial pipeline, material events
- Quarterly Subscriber update (once Series A closes)
- Annual Subscriber Day (physical event from 2027)

14. Conclusion

QSi is executing a strategically-positioned, operationally-grounded programme to establish Australia's first sovereign short-run compound-semiconductor and silicon-carbide fabrication capability. The programme combines:

- Strategic positioning — sovereignty, AUKUS-alignment, specialty chemistry — with multiple compounding defensive moats
- Government co-investment commitment that de-risks capital structure and validates strategic thesis
- Operational programme from Phase 1 (active) through Fab 1 (2028) to potential Fab 2 (2032)

- Reconciled, auditable financial model with A$265M Total Assets at programme maturity and A$1,087M NPV to 2040
- Governance stack of 30+ adopted documents covering Board, policies, transaction templates, and risk infrastructure
- Clean capital terms (1× non-participating, no pay-to-play) designed for patient family-office capital
- Experienced Founder team with complementary skills in engineering, business development, and governance

The Company is now at the Series A capital raise point. The Information Memorandum (post-NDA) carries the investor narrative. This Business Plan carries the operating detail — the how, not just the why. Together, with the comprehensive governance and transaction document stack, and the reconciled financial model, they represent the complete toolkit for executing Series A and progressing to Fab 1 operational commissioning in 2028.

The next 12 months are pivotal. Success requires disciplined execution of the Series A close, prompt engagement with government co-investors on milestone-concurrent funding, acceleration of anchor customer engagement to pre-procurement commitment, and rigorous governance through the construction phase. The team, the infrastructure, and the plan are in place. The programme is ready to execute.